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# **Economic and Social Development**

30<sup>th</sup> International Scientific Conference on Economic and Social Development

Editors:

**Khalid Hammes, Igor Klopota, Milica Nestorovic**

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## GLOBALISATION AND CHALLENGES OF THE MODERN WORLD: EDUCATION AND KNOWLEDGE MANAGEMENT

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### **ABSTRACT**

*Nowdays we may observe two concept of societies as well as economies, in relation to the knowledge and its usage: industrial concept of economy and post-industrial concept of economy. Industrial concept of economy relies on the legal frame of OUN Conventions about protected rights of schooling and education, improved by human resources strategies of the organisations. Those strategies are focused to enable continuous investing in employee knowledge and skills to maintain and increase employee performance. The other concept is focused on the market position and profit as well, but due to everyday technology improvements which have been changing both the science and knowledge as well, this concept put in center higher level of their usage, which includes creativity, innovations, joint work, collaboration resulted with collective intelligence, verification in professional practice etc. But, this approach do not ends there – the final aim is to improve decision making. This aim for many organisations stays a little bit hidden, it is not properly detected, as those organisations rely on high and expensive technology, expecting that business results will appear automatically upon investment in it. This does not necessarily happen. Therefore, the activity of managing knowledge is not only highly appreciated, but necessary, in fact. Such activity is professional occupation of the Knowledge management. The certain part of the Knowledge management is Education management, with its specific goal – to improve student learning. But, organisations must know what to ask and what could be expected by engagement of Knowledge management, internally and externally, so their business analysis and plans could be stir properly*

**Keywords:** *knowledge, creativity, innovation, information, decision making*

### **1. INTRODUCTION**

There is a certain difference between approach to knowledge in industrial and post-industrial economies. Such difference is caused by the improvements in information technology (IT), technologies in general, followed by “explosion of the knowledge”. [Hannay L. M., 2009:2] In industrial society (market), Human Resource Management Strategy has been established as a “set of activities and decisions that enable continuous investing in employee knowledge and skills to maintain or increase employee performance” [Tomicic-Pupek K., Pihir I., Kolaric J., 2017:678] In other words, education can “guarantee that employees have the right knowledge and skills needed to perform their work now as well as in the future”. [Zivcicova E., Gullerova M., 2017:526] Thus, education is considered as a service [Nikolaevna N., Vasilevna V. E., 2017:85] directed by the “labor market, competition, political factors, economic factors, labor law changes, technology changes and the like”. [Tomicic-Pupek K., Pihir I., Kolaric J., 2017:680] The legal frame for such an approach was created after World War II, by The United nations (OUN) Conventions related to schooling and education:

- Universal Declaration of Human rights (adopted on 1948), the right to school proclaimed;
- International Pact on Economic, Social and cultural rights (adopted on 1966), the right to education proclaimed.

The legal frame includes European Community Charter of fundamental social rights of workers (adopted on 1989), with the right to professional training proclaimed. [Kulic Z., 2015: 51, 52, 53].

Contemporary conditions of work are subject to constant changes and this reflects to the employees who are asked to response to such changed conditions for job performance. Due to technology developments and global progress “time usability of knowledge gets shortened”. University degree is one of the job requirements, but also one of the presumptions for continuous learning, professional training and improvement. [Kulic Z., 2015: 157] “Training and development of employee competences are aimed at improving the skills and abilities the employee currently possesses and which employees must develop to be ready to perform tasks in the future” [Tomicic-Pupek K., Pihir I., Kolaric J., 2017:679] Such a formulation means that right to professional training is not only right but the obligation of the employees at the same time, caused by the requests and modernisation, and in order to afford them to include in the work process in nowadays conditions. Therefore, corporate strategy mostly includes the special funds for additional trainings and education. [Brajic V., 1983:189, 190] The educational process must be in accordance with the changed concept of science. Science is not any more pure “tool” for research of real world but it becomes, more and more, the creator of the world as an object of scientific research (Leevenger). [Brncic J., 1971:7] Due to changes in science, the knowledge by itself has been changed a lot.

## **2. CHANGES IN KNOWLEDGE AND POST - INDUSTRIAL ECONOMIES KNOWLEDGE MANAGEMENT STRATEGIES**

The contemporary characteristics of the knowledge are:

- a) continual learning
- b) creativity and innovation
- c) social component (joint work)
- d) verification in professional practice
- e) culture support of the knowledge workers
- f) innovation based on culture of trust
- g) collective intelligence (created by collaboration of knowledge workers)
- h) professional dialogue [Hannay L. M., 2009:2-10] (sharing the information) [Petrides L. A., Nodine T.R., 2003:2]

In order to fulfil all the characteristics of the contemporary knowledge, the organisations need to manage knowledge, and such an activity is usually performed by knowledge management, internally and externally. [Petrides L. A., Nodine T.R., 2003:4]. Their aim is to enhance information sharing across its internal division as well as to share information about their outcomes. Internal knowledge management is at top of the CEO's agendas, and is taking place in functional departments as Human Resources (HR) and Information Technology (IT). [Hansen M. T., Nohria N., Tierney T., 1999:10] Externally, knowledge managing may be provided by management consulting firms. [Hansen M. T., Nohria N., Tierney T., 1999:1] Knowledge management could be found in organisations in the field of education, health (managing best education and health care), manufacturing computers, [Hansen M. T., Nohria N., Tierney T., 1999:5] corporate sphere, public organisations. [Hannay L. M., 2009:3], legal management. Knowledge management helps corporate organisations to increase profit, while public organisations are responsible for some aspects of common goods, and in education primary purpose is – student learning. But this is the first level of the goals only. Thus, in post-industrial knowledge based economies, productivity and growth are largely determined by the rate of the technical progress and accumulation of knowledge. Therefore, in such societies the concepts are exchanged (comparing to industrial societies). Changed knowledge based paradigm looks as follows: individuals who “share the resulting learning” in organisations, providing feed back to each other [Hannay L. M., 2009:5], and, by such collaboration, fostering of collective intelligence in order to promote innovation. [Hannay L. M., 2009:7]

The focus of the knowledge is on solving an authentic “problem of practice”. [Hannay L. M., 2009:9] The final goal is improved decision-making through organisation.[ Petrides L. A., Nodine T.R., 2003:25]. Knowledge management find out that investing in technology and information culture does not necessarily improve decision-making. [Petrides L. A., Nodine T.R., 2003:7] Therefore, knowledge management brings together three core organisational resources-people, processes and technologies, to enable the organisation to use and share information more effectively.

People – means professional team work by actively engaging groups of staff, which built relationships, trust and expertise, and this is called “communities of practice” while knowledge management is maintaining their “user” control.

Processes – knowledge assessments , audits, maps and improvement plans helps to establish robust processes to enable people to get information they need and such processes lead to more informed decision making.

Technology and information system - promotes the tracking and exchange of useful information across departments. [Petrides L. A., Nodine T.R., 2003:11]  
But, there is no uniform approach to managing knowledge.

### **3. TWO STRATEGIES OF MANAGING KNOWLEDGE**

There are two strategies in managing knowledge:

Codification strategy – the strategy center in many companies is computer. Knowledge is carefully codified and stored in databases, where it can be assessed and used easily by anyone in the company; Personalization strategy – in other companies knowledge is closely tied to the person who developed it and shared mainly through direct person-to-person contacts. The chief purpose of computers at such companies is to help people communicate knowledge, not to store it. The advantage of the codification is that the documents are available without spending any time tracking down and talking with people who had first developed them. The personalization, on the other hand, is focused on dialogue between individuals. Knowledge that has not been codified, and probably couldn't be, is transferred in brainstorming sessions and one-in-one conversations, achieving the deeper insights by going back and forth on problems they need to solve (using not only meetings and face-to-face sharing knowledge, but videoconferences, telephone, e-mail. [Hansen M. T., Nohria N., Tierney T., 1999:2-4] Codification can, therefore, refer both tacit and explicit knowledge. In contrast, personalization encourages individuals to share their knowledge directly. Information technology plays a less important role, as it is only facilitates communication and knowledge sharing. Nevertheless, companies need a method for viewing all customer and market-related information in an integrated way. Through customer relationship management software applications, they observe the interaction of customers with an organisation. [Omar A. A.,2017:317] There must be explained that it is because explicit knowledge can be acquired , codified and transferred through logical deduction, and ‘can be aggregated at a single location, stored in objective forms, and aggregated without the participation of the knowing subject. In contrast, tacit knowledge is intuitive and unarticulated, personal and contextual and acquired through practical experience. [Hannay L. M., 2009:3] Due to such a difference between explicit and tacit knowledge and urge for both, effective firms excel by focusing on one of the strategies and using the other in a supporting role. [Hansen M. T., Nohria N., Tierney T., 1999:4].

#### **4. EDUCATION MANAGEMENT**

Educational management, also sometimes known as educational administration is commonly associated with elementary and secondary schools as well as institutes of higher learning like colleges and universities. Educational management professionals can also be found in governmental agencies, private companies and not-for profit organisations. Educational management acts as policy makers, researchers or consultants to help evaluate and develop ways to enrich the educational system (most of them are licenced teachers and principals). Educators create tacit knowledge about the best educational practice and their task is continual improvement of student learning. [Hannay L. M., 2009:5,6] Knowledge management in education can be thought of as a framework or an approach that enables people within organisation to develop set of practices to collect information and share what they know leading to (...) more informed decision making, throughout the organisation to advance and improve student learning. [Petrides L. A., Nodine T.R., 2003:10,11,25] Sometimes, some teaching strategies are most successful with some certain demographic groups. [Petrides L. A., Nodine T.R., 2003:5] Similarly, time management skills are observed among the students being participants of the research organised at Kadinhani Faik Icil Vocational School in the 2015-2016 academic year: time management skills among the students show a change according to demographic structures (gender, the branch of high school they graduate from, and whether or not they are trained about time management (seminar, conferences etc.)). [Cagliyan V., Zerenler M., Isiklar Z. E., 2017:219, 221] Some researchers give to religion important place in education, by its social role. Religion gives social support outside the home to the student population, by combating loneliness and isolation, which could be the problem among this population. [Osmanovic N., 2017:67] Some researchers emphasise the place of religion in creative future. Religion, being close to ideology, directs society and development trends towards creative future. [Nuhic M., 2017:75].

#### **5. CONCLUSION**

Knowledge is not about schooling and education only, directed by the labor market, competition, political factors, economic factors, labor law changes, technology changes. It is firmly connected with changes of science, becoming more and more creator of the world. Thus, continuous investing in employee knowledge and skills to maintain or increase employee performance is not the only aim of managing knowledge. The organisations in post industrial society expect from investing in knowledge the impact on solving an authentic problem of practice. This is professional task of knowledge management, to improve creativity and innovation, using explicit and tacit knowledge, sometimes as main and sometimes as supportive method, and by this approach to reach the main goal – improving more informed decision making. The exchange of information, internal and external, supported by technologies, must be open process in organisations (education, health, legal, corporate, public, manufacturing etc). Information sharing is the core of the new project, the concept of innovation communities. The participants of the open communities in their interaction develop exchange of information about products and changes in the processes of innovation. The newest approach is “crowdsourcing” with its ratio that mass of individuals is the origin of knowledge, affording more intelligent and quick solving of problems in business of organisations and firms. Such an approach is very efficient in the early phase of innovative practice, when research faces, at first sight, unsolvable problem. On the contrary, closed innovative model was based on approach - the control is the key of success of innovation (ones cannot rely on somebody else's ideas). [Getejanc V., Stanojevic Lj., 2016:204, 205] Share of information is firmly connected with managing knowledge, but we must have in mind that, although there is a certain difference between explicit and tacit knowledge and appropriate strategies to implement them

(codification and personalization), there is urge for both: owing to that, effective firms excell by focusing on one of the strategies and using the other in a supporting role.

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## **CULTURE, ART AND BUSINESS - POSSIBILITIES FOR INFRINGEMENT AND INVESTMENT PROFITS**

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### **ABSTRACT**

*There is a trend in the world of increasing interest in investing in culture and art, and it is predicted that this market will be one of the most important segments of investment of potential investors in the future. Human nature is rarely guided only by human motives, so investment in culture and art has always had a business component in itself, with the goal of making profits through such an investment. Those who own capital (money) tend to diversify their property by investing in culture and art, believing that the value of their investment will increase over time. Cultural and artistic resources become interesting to investors by design and they become products through the process of presentation and interpretation. In order to increase the interest of investors, these products must be maintained, shaped and prominent. It is important to ensure their effective marketing management, and at the same time provide investors with an incentive legal framework, different benefits, attractiveness and potential benefit. Starting from the above, this paper focuses on analyzing the possibilities and key problems of investing in culture and art. It ends with a brief analysis of the opportunities for improving investment in this field in the Republic of Serbia and recommendations that, in practice, can lead to the improvement.*

**Keywords:** *investment, cultural and artistic resources, market, cultural and artistic attraction*

### **1. INTRODUCTION**

Investing in culture and art provides financial support to the preservation, revitalization and promotion of arts and cultural heritage assets, contributing to the financial and organizational independence of cultural institutions and organizations. This investment is also an investment in the development of a country, it also possesses an ethical dimension which is imperative in all advanced societies. Adequate incentives for investing in culture and art have not only material, but also so-called intangible effects, such as the development of consciousness and the care of their own artistic values, the creation of a cultural identity and a positive image of the community. Investing in culture and art is a treasure that remains forever. Investments are a prerequisite for their development, and these investments are at the same time a result of the material and spiritual progress of the entire human society. By investing in culture and art, we invest in the past of our future. Only investments can develop creativity, the splendor of folklore, the abundance of cultural and artistic wealth in museums, historic cities and buildings that have a monumental and mythical spirit. The originality, diversity and abundance of such cultural and artistic resources is determined by the interest of potential investors in this field. Investments provide the necessary source of income, encourage the professional management of cultural goods and their marketing, enable better control over the use of cultural and artistic

potentials and create their better image in the public. Where is the border between, on the one hand, culture and art, and, on the other, business and profits, and who determines the true value of the artwork? The old prejudice about artists and cultural workers living on the verge of poverty has changed today. Modern technologies and market rules forced them to think more and more as entrepreneurs, and their potential financiers to develop new mechanisms for investing in the cultural and artistic industries, such as artistic accelerators, and that the realized profit is not measured solely by money.

## **2. DEVELOPMENT OF INVESTMENT IN CULTURE AND ART**

Culture and art can be regarded as a set of material and spiritual values (processes, changes, and creations) that have emerged as a consequence of the material and spiritual investment of man in nature, society and thinking, without which there would be no human society in the simplest form of organization. Investing in culture and art, either through a form of a special fund, either in a traditional way or in some other way by buying from artists, private owners, galleries ... has a significant future. Today, the circulation of money in the field of culture and art brings high profits, and collectivism is no longer just the passion of the rich, but also part of the strategy of investment funds. It is about expanding the portfolio of investors, in which the place will be found next to shares, bonds, real estate ... culture and art as well.<sup>1</sup> Access to culture and art as an investment is not new. Making money by selling art is also art. Many great artists owe their development and success to collectors - patrons, who bought their works and thus enabled them to live from their work. For centuries it was a church and nobility, and from the beginning of the 19th century this role was taken over by the emerging bourgeoisie. At the beginning of the 20th century, wealthy American industrialists bought artwork and genuine collections to prove their position of cultural elite, not just money, compared to old European aristocracy. Later, in the second half of the twentieth century, as major investment in art, we have advertising and computer software giants, such as Saatch & Saatchi, Bernard Arnault (LVMH), Francois Pinault (PPR, Sothebys, Gucci Group) and Bill Gates (Microsoft). A newer phenomenon is a class of investors originating from Hedge and Private Equity funds and large Asset Management Firms. Hedge funds are the most aggressive type of investors, specializing in a specific way of investing in public and private enterprises, raw materials and currencies, locally and globally, with the goal of making a positive return on investment, regardless of the state of the economy. This way of investing for the past 20 years has been created by giants such as Soros, Paul Tudor Johnes, Steve Cohen, Stephen Swartzman, Luis Bacon and many others. Hedge funds create a huge amount of capital for their investors, and in this process they earn hundreds of millions, and in some cases billions of dollars a year. Steve Cohen, one of the largest businessmen in America today, the founder and chief manager of SAC Capital Partners, a fund that has brought him billions of dollars, is one of the greatest collectors of modern art. Investors like him have a "problem" where to invest so much capital. Often, their choice is exactly investment in culture and art, viewing it as a safe investment. In this class, investors from America are dominated by a modern capital market and incentive legal and financial regulations.<sup>2</sup> Culture and art are almost completely instrumentalized in economic terms, regardless of whether they are financed from the private or public sector. Art works are no longer seen as objects of enjoyment, but as an alternative form of assets, which enables creation of very interesting business opportunities. In its regular annual financial statements, Deloitte focuses on culture and art, considering the area of their creation, operation and exchange in the private market. Tapestry artworks, such as paintings and sculptures, play a particularly important role in the management of personal property, and in the years of crisis and economic

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<sup>1</sup> In 2007, M. Rothko's painting *White Center* was sold at the auction and reached an incredible price of 72.84 mil. USD, whilst the previous owner, David Rockefeller, bought it for 10,000 USD in 1960.

<sup>2</sup> Customized according to: <http://www.vreme.com/cms/view.php?id=509715> (date of access: 4.4.2018.)



slowdown, many investors resort to buying artistic works rather than precious metals, believing that their value will remain the same or the time of growth. The value of artwork is directly related to the state of the economy. Today's very high values that art works accomplish at the auctions in Christy and Sotheby are mainly funded by people who have earned capital through capital markets, either as company owners or through speculation. In many countries, culture and art are recognized as an important factor of economic growth and development. Governments of these countries are encouraging and assisting in organizing various cultural and artistic events and developing various support programs. The economic effects of such investments are beyond expectations. Investing in culture and art has long-term extremely positive effects on the economy, reveals the latest German research.<sup>3</sup> As with other markets, so in this market, the following factors influence the volume of investments:

- the wealth of potential investors or the total resources available;
- the expected rate of return on investment, measured in relative relation to the rate of return on other investments;
- risk, or degree of uncertainty related to the expected rate of return;
- liquidity, or the ease with which this product can be converted into cash as a form of property; tastes and preferences of consumers, and a number of other less important factors.<sup>4</sup>

### 3. INCENTIVES AND MANAGEMENT OF INVESTMENTS IN CULTURE AND ART

The basic principle of investing in culture and art is the same as for investment in the capital market - to buy cheap and sell expensive. The question is how to evaluate what and when to buy, or when to sell? In this way, this investment becomes similar to investing in shares or bonds on the stock exchange. However, in the case of shares, the company's annual reports on the company's operations give a focus on the purchase decision and the possible direction of the price movement of that stock in the future. When investing in culture and art, there are no annual reports - the decision is largely subjective. It is obvious that when assessing such products, perceptual factors play an extremely important role. In an attempt to reduce the degree of subjectivity, in recent years, in some markets, statistical methods of price monitoring have been investigated, to find some objective factors relevant to making a decision to invest in culture and art. As at the stock exchange, indices have been formed, so there are, for example, Picasso index or Star Master Index. Many investors coming from the corporate world or the world of finance just correspond to such a system in which everything is transferred to figures, indexes and charts. But the basic problem is that Picasso's work is not the same as any other work of Picasso. Unlike stocks - every Microsoft action is the same as any other. The illiquidity that characterizes culture and art represents at the same time a great advantage and a major disadvantage when approaching them as an investment. Culture and art react more slowly to changes in the economy than, for example, real estate, and even slower than the stock market. This means that artistic prices can remain unnaturally depressed, even if the prices of other assets grow, or vice versa. The market and investment in this area have been booming in the 1980s, and this can be seen as a delayed reaction to inflation from the 1970s. This boom has experienced its climax right after the collapse of the stock market in 1987, and it ended after the collapse of the real estate market in the early nineties. Due to the specificity of this market, the state should encourage laws to stimulate potential investors, companies and corporations to invest in culture and art, and in return receive relief or partial tax exemption. In this way, the state is relieved of its obligations to invest its resources in this field, and culture and art are

<sup>3</sup> Study under the title "*Музика у ваздуху: Социјални поврат инвестиција у култури*" (Music in the Air: Estimating the Social Return to Cultural Amenities) [http://www.rtv.rs/sr\\_lat/zivot/kultura/ulaganje-u-umetnost-podstice-ekonomiju\\_576946.html](http://www.rtv.rs/sr_lat/zivot/kultura/ulaganje-u-umetnost-podstice-ekonomiju_576946.html) (date of access: 7.4.2018.)

<sup>4</sup>Popović M. (2008), Art market: a case of fine arts (p. 29.) [http://www.repec.mnje.com/mje/2008/v04-n08/mje\\_2008\\_v04-n08-a08.pdf](http://www.repec.mnje.com/mje/2008/v04-n08/mje_2008_v04-n08-a08.pdf) (date of access: 4.4.2018.)

gaining in quality. Without a quality law that would regulate the field of investment in culture and art, there is no big interest in these investments. One of the more popular financial models created to help cultural and artistic projects, aims to link successful experiences of technological startups with so-called creative businesses. Thus, in London, several large artistic accelerators were established, which, in the face of technological, bring together young artists in one place and "help them to help one another", so that their many ideas turn into reality. The interest of the investors behind the accelerator is the same as in the case of their colleagues in the information technology sector: young creators have a creative environment and the possibility of exchanging ideas with the like-minded people, advisory and bureaucratic help, often and financially, and in turn, the organizers receive a share in the final value of the realized ideas. Behind most of the English accelerators of this type, one of the most important financiers is the state, who recognized that through this kind of communication with young creators, they will contribute to the development of national culture in the years to come. In the West, the "investor angel" is especially widespread. In the world of culture and art, they have taken over the role of former patrons - the artists they finance, providing money for their projects, providing advice and, more importantly, important contacts in the business world. However, artists and cultural organizations by their definition do not realize exclusively monetary earnings, so the return of invested funds in their case is somewhat different than in the classical economy. Investors in this case will not acquire money, but the influence, which today is extremely valuable currency, just as it was through the whole human history. It's mostly about multimillionaires who know little about modern culture and art, or they do not know anything, but they manage their money on advice from experts to increase their own prestige or possibly accomplish another tax deduction. Today, it is increasingly obvious that culture and art are a commercial product that is offered to investors. However, it is not enough to have only a rich artistic and general cultural heritage, it needs to be able to manage it. In order to encourage the interest in investing in culture and art, it is important to ensure an adequate legal framework and effective marketing management. In this regard, the main components of this product are: quality of promotional material, first visual impression, approach, ambience, presentation, presentation and interpretation of artistic resources, etc. Cultural and artistic products are not, for example, The very buildings or objects from the past are already a product of their interpretation. These resources must be for investors and a source of emotions, they must provide a certain experience - from the resource you need to create an attraction. The most popular form of financing cultural and artistic projects, which emerged thanks to the technological revolution in the last decade, is the crowdfunding model, when a lot of individuals invest some of the funds for an artist. The most famous platform of this type is Kickstarter, due to which, a few years ago, donation laws were changed in most US states. Although it is possible to invest money in Kickstarter and similar services in many other non-artistic projects, this kind of financing was originally created to help artists who do not have enough funds for their work. The number of types of funding and the institutional framework often imply that artists must somehow mitigate their vision of the world in order to meet the criteria of their investors, whether big investors, city municipalities or numerous audiences that invest "dinar per day" in their projects. Sometimes the value of a cultural and artistic work was measured by its authenticity, and today it depends on the demands of the market. Therefore, the Financial Times concludes that thanks to changes in the financing of works of art, this market has seen unprecedented growth in the history of mankind over the past decade, but at the same time it has also affected the importance of the importance of the artists in society and "deflected" their criticism in exchange for go on the market and a stable source of revenue. Management in culture and arts differs from management in manufacturing and service companies, primarily because of their specificity. The specificity of management in culture and art stems from the fundamental difference between the aims of an artistic or cultural organization, which does not aim at the profit and

goals of a business organization. Cultural institutions are product oriented, and business organizations are on the market. However, in order for these institutions to successfully perform their social function, their managers must take into account their target market, as well as the managers of business organizations. Cultural institutions and artists face increasing competition today. They should develop the needs of the audience (and the investor) so that it is able to absorb the product, rather than creating a product dictated by the needs of the existing society.<sup>5</sup>

#### **4. OPPORTUNITIES FOR INVESTING IN CULTURE AND ART IN SERBIA**

Numerous elements of culture and art in Serbia, such as material and spiritual arts or manifestations, represent a significant potential for the development of investment by potential investors. However, these resources are generally not converted into designed products and still often only make up potentials, which can be developed through investments of interested investors. Good initiatives and projects for investing in culture and art are still at the level of individual, with no incentive institutional environment, continuous marketing and synergy of all relevant actors. In Serbia, funds for financing or co-financing cultural art projects and projects, are provided in the budget of the Republic, the autonomous province budget and the budget of local self-government units, and are allocated in accordance with the regulations regulating state aid control and other laws.<sup>6</sup> Policy and strategy of investing in culture and art is not best defined at the state or local level. Due to the unclear goals and priorities of development in this area, invisions are happening spontaneously and without plan. The cultural and artistic potentials of Serbia are great, but due to the lack of planning and shortcomings in the area of incentive institutional regulations, management and market orientation are also great. There is a lack of systematic research, evaluation and studies in the field of potential that offers culture and art to the owners of capital, which would provide a clear insight into the current situation and provide a basis for the projection of short-term and long-term investment goals. Legislation in Serbia does not stimulate artistic and cultural institutions for better results, and late decision-making on financing makes programs, especially artistic events and manifestations, subject to change. It is necessary to create such institutional ambiance that would create a general impetus for stimulating the development of investments in culture and art, especially in the part of regulating how to share responsibilities and share profits among the main actors. In this sense, the state has a particularly important role in developing and encouraging these investments. Good examples of other countries should be applied and adapted to the available cultural artistic resources of Serbia. First, we need to identify the most attractive material, and especially the immaterial cultural and artistic heritage and potentials of Serbia. Then an active way of intercepting to attract investors should be devised. Leading good examples of other countries and developing awareness of the importance of investing in the development of culture and art, Serbia can significantly improve, or improve its position in this increasingly demanding market. Young artists can hardly live from their work in Serbia. Foreign banks<sup>7</sup> and corporations did not start investing in this area, mainly because they lack the legally prescribed tax reliefs that are the main motive for such an investment. Also, there is a lack of private money, that is, an informed group of investors who want to invest part of their capital in culture and art. It would probably be easier for them to have the words of J. Paul Getty in mind: The 20th Century Varvars can not be transformed into culturally civilized human beings until they begin to appreciate and love art. Having in mind, of course, in mind tax deductions, which were additionally very motivated by this American rich in his development and love for art.

<sup>5</sup> Kolber F., *Marketing in Culture and Art*, Belgrade, Klio, 2010. (p.20).

<sup>6</sup> Law on Culture "Official Gazette of RS", no. 72/09, 13/16 and 30/16

<sup>7</sup> Some of the world's largest banks have highly developed departments for investing in art, whilst an ever-increasing number of financial institutions are established in rich economies, where investment in art is the only field of activity.

## 5. FINAL CONSIDERATIONS

In many developed countries, culture and art are recognized as an important factor of economic growth and development. Governments of developed countries are encouraging and assisting in the organization of various cultural and artistic events and developing various programs of support for young artists. For the successful placement of products of culture and art on the market, it is necessary to know the motives of potential investors, and to have information about whether they are satisfied with the offered ones. This product should be formed as an attractive product, it is an important way of artistic interpretation of places, history, people, etc., because only in this way can an environment that attracts investors create. In line with trends in the market, it is necessary to include all those components of attractiveness that are important to investors in the design of cultural and artistic offerings. The development and growth of investment in culture and art can be explained as a result of wider social and economic trends of modern times, but also as a factor of integration of cities, states and peoples. Investing in culture and art ideally fits into the growing trend of globalization, as well as returning to old values that reveal originality and specificity. As the investment market grows in this area, its focus is shifting sharply from the preoccupation and the desire of the investors to possess a certain artistic work, towards a much wider field and an endeavor to achieve great profit through investments in culture and art. The consequence of the inability to standardize values in the field of culture and art and the illiquidity of this market is the lack of ability to track the value of portfolios of such assets. In order to measure their performance over time, investors should be able to find out how the prices of artwork they own. But this is only possible to find out by the act of selling this artwork. On the other hand, many experts advise that it is impossible to succeed in making profits by investing in culture and art, if they are viewed exclusively as earnings. Often it is said that it is on the way to earning money in the world of culture and art, one of the crucial factors is that the investor buys those works he has and is usually inclined, and will love to approach the making of the collection. Such a collection has the greatest chances to increase the value and bring a high return on investment.<sup>8</sup> Investing in culture and art is a chance of a Serbian, insufficiently developed art market. Artistic potentials are insufficiently presented, interpreted and promoted, so they are not adequately included in the offer that can be attractive to potential investors.

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## RELATIONAL LEADERSHIP COMPETENCIES AND EMPLOYEES' WORK OUTCOMES – INSIGHT INTO PRACTICE

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### ABSTRACT

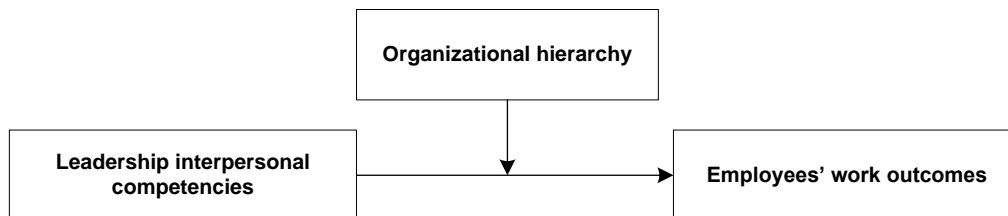
*Relational leadership and emotional intelligence are cornerstones of contemporary approaches to leadership and management. As suggested by leader-member exchange (LMX) theory, the relationships between leaders and followers are crucial in providing motivating working environment and thus may have significant effects on work outcomes on all levels of organization. The aim of this paper is to shed further light on the relationship between leader's relational competencies and followers' (employees') work outcomes. Number of factors have potential to moderate presumed relationship, especially work context related factors, such as organizational hierarchy, which is in the background of mentioned relationship. Therefore, potential moderating effects of organizational hierarchy are also examined in the paper. For this to be accomplished, based on the most important contributions from the literature, a conceptual model has been designed and empirical research was conducted. Collected data from 125 managers and other employees, related to relational leadership competencies being demonstrated by their superiors, and work outcomes achieved, were processed via SPSS 23.0 and Microsoft Excel. Obtained results, based on descriptive statistics and bivariate analysis, offered interesting results and confirmation of majority of proposed theoretical propositions. Namely, results confirm the existence of moderate to strong positive causal relationship between relational leadership competencies (independent variable) and employees' work outcomes (dependent variable). On the other hand, several relations being tested produced surprising and puzzling results, and therefore indicated propositions for future researches.*

**Keywords:** *Competencies, Emotional intelligence, Relational leadership, Work outcomes*

### 1. INTRODUCTION

Relational leadership and emotional intelligence are cornerstones of contemporary approaches to leadership and management. In adapting to complex and rapid changing contemporary business environment, the rising necessity for organization to continuously change requires transformational and servant leadership. Leaders have important role in setting examples related to values, behaviors and accomplishments expected from employees, especially in the times of change and transformation. The relational aspect of leadership, i.e. the interaction between leader and follower, has become one of the main focuses of leadership researches. Interpersonal relationships 'are seen as the most important facet of leadership effectiveness, i.e. personal qualities of a leader, such as emotional intelligence, a leader's mind, integrity and high moral standards, and personal courage, build effective relationships through motivation and empowerment, leadership communication, team leadership, and embracing diversity' (Daft, 2014, p. 18). In this sense, leader-member exchange (LMX) theory emphasizes that leaders should create special, unique relationships with all subordinates, and when these relationships are of high quality, the goals of a leader, the followers, and the organization are all advanced (Northouse, 2013, p. 169). Therefore, the relationships between leaders and followers are crucial in providing motivating working environment and thus may have significant effects on work outcomes on all levels of organization. These relationships are key predictor of focal employee attitudes and performance outcomes (Epitropaki et al., 2016, p. 1078). On the other hand, in order to compete on highly demanding global market, organizations are in the constant pressure to be agile, flexible, integrated and innovative in order to survive and to succeed

(Matić, 2010, p. 140). In response to issues such as global competition, rapid rates of innovation, and organizational downsizing, organizations are trying to achieve more with less and have greater employee performance standards, as today's employees are expected, besides being productive, to be more proactive and involved in their work (Frazier & Bowler, 2015, p. 841). In order to achieve mentioned desired outcomes from their employees, organizations place their hopes in management system, especially leaders and leadership demonstrated. According to Boyatzis (2006, p. 124) competencies have been shown to differentiate outstanding managers and leaders from their less effective counterparts. Therefore, leaders' competencies, especially interpersonal ones, play crucial role in providing motivating work environment and thereby achieving desired employees' work outcomes. On the other hand, Bolden and Gosling (2006, p. 152) emphasize that often there is over-reliance on leadership competencies and unrealistic expectations of performances are then created. Following all previously discussed, the main research question raised in this paper is: 'what is the role of leaders' interpersonal competencies in achieving desired employees' work outcomes and whether hierarchical factors, related to the work context, moderate this role' (Figure 1).



*Figure 1: Research model*

## 2. THEORETICAL FOUNDATIONS

### 2.1. Leadership competencies

According to Boyatzis (2008, p. 6), 'competency is defined as a capability or ability, it is a set of related but different sets of behavior organized around an underlying construct, called intent.' When it comes to of leadership, competencies are largely being perceived in terms of leader's behavior and built relations. Leadership competencies are focused on softer interpersonal qualities of a leader (Bolden & Goslin, 2006, p. 150). There are number of different conceptualizations of leadership competencies frameworks in the relevant literature. Namely, Goleman et al. (2002, p. 39) emphasize the importance of emotional intelligence in order to lead, and in this sense differentiate personal competence (self-awareness and self-management) and social competence (social awareness and relationship management), while Sydänmaanlakka, (2001) emphasizes interpersonal competencies as one of the most important group of leadership competencies (in: Sydänmaanlakka, 2003). Majority of mentioned conceptualizations in terms of leadership interpersonal competencies include competencies such as openness, empathy, empowerment, motivation, relationship building, self-awareness, managing crisis situation/conflicts, etc.). Hence, the investigation of the leadership interpersonal competencies (LIC) in this paper will be based on above listed competencies.

### 2.2. Employees' work outcomes

Work outcomes refer to the employees' attitudes and contributions related to their work. According to the Aryee et al. (2002, p. 270), work outcomes include following dimensions of employees' work attitudes and contributions: job satisfaction, turnover intentions, organizational commitment, organizational citizenship behavior and task performance. Similar conceptualizations are also offered by relevant literature' influential researches such as Parker et al. (2003), Meisler & Vigoda-Gadot, (2012) and Epitropaki et al. (2016).

In order to investigate employees' work outcomes (EmWO) in this paper, research approach developed by Aryee et al. (2002) will be adopted.

### 2.3. Organizational hierarchy

Hierarchy is an integral part of human social organization, defined with supervisors, groups and clear chain of command, affecting how people relate to each other, how information flows and how organizations evolve and transform over time (Brown et al., 2015, p. 2012). Hierarchy is a vertical ordering of organizational roles according to their relative authority – a classification of people according to authority and rank (Jones, 2004, p. 41). For Wright & Noe (1996, p. 139-144) organizational hierarchy is a pattern of reporting relationship in the organization, whose primary characteristics (1) chain of command, i.e. who report to who, (2) vertical specialization, i.e. the extent to which the organization limits jobs according to responsibility required, and (3) span of control, i.e. number of people under a manager's direct supervision. It is also a starting and one of the simplest and most popular integration mechanism in the organizations, by which organization coordinates its parts to achieve desired outcomes. Therefore, for the purpose of this paper, organizational hierarchy will be investigated in the terms of vertical differentiation.

### 3. METHODOLOGY

With the aim of providing answers to main research questions raised in this paper, empirical research was conducted during 2017. The research instrument was a questionnaire, designed in accordance with the most important theoretical contributions, discussed in previous text, related to LIC, EmWO and organizational hierarchy. Questionnaire was given to employees and managers in order for them to evaluate their superiors' LIC and their own work outcomes. All questions related to the researched concepts were in a form of closed-type questions with Likert's 5-point scale. In cases like this, when Likert-type scales are used, it is suggested that Cronbach's alpha coefficient for internal consistency reliability is calculated and reported for any scales or subscales (Gliem & Glim, 2008, p. 88). Number of scholars, such as George and Malery (2003, p.231) emphasize that this coefficient needs to be at least .7, whereas values very close to 1.0 may indicate item redundancy. For two concepts, investigated in this paper, calculated Cronbach's alpha coefficients indicate that internal consistency reliability of items used in scales were excellent for interpersonal competencies (.912), and good for work outcomes (.879) (Table 1). Reported coefficients suggest that produced results, based on used items and scales are consistent measures of mentioned concepts.

*Table 1: Reliability statistics (Cronbach's Alpha) for measurement scales (N=123-125)*

Reliability Statistics			
Scale	Number of items	Cronbach's Alpha	Interpretation
Interpersonal competencies	6	.912	Excellent
Work outcomes	14	.879	Good

Filled questionnaires were enrolled in and processed using SPSS 23.0 and Microsoft Excel, whereas Microsoft Visio served as tool for producing graphical presentations of results obtained. Research sample constituted 125 managers and employees from various companies (Figure 2). Privately owned companies (80.4%), especially companies in private domestic ownership, dominated researched sample. In the sample, companies of all ages, sizes and activities were present. In this sense, 23.2% of the sample were commerce companies, whereas more than half of the companies had up to 100 employees. Respondents were males and females (56.5% vs. 43.5%) of all ages, from those who not long ago entered the world of labor to those being close to twilight of their careers. Sample was dominated with high school (41.9%) and university diploma (32.2%) qualification and workers with more than 20 years of service.



Finally, three major groups of employees: first line employees, workers in offices and managers were significantly present in the sample. Considering all listed characteristics of the research sample, it can be concluded that the research sample was representative for investigation of LIC, EmWO and organizational hierarchy.

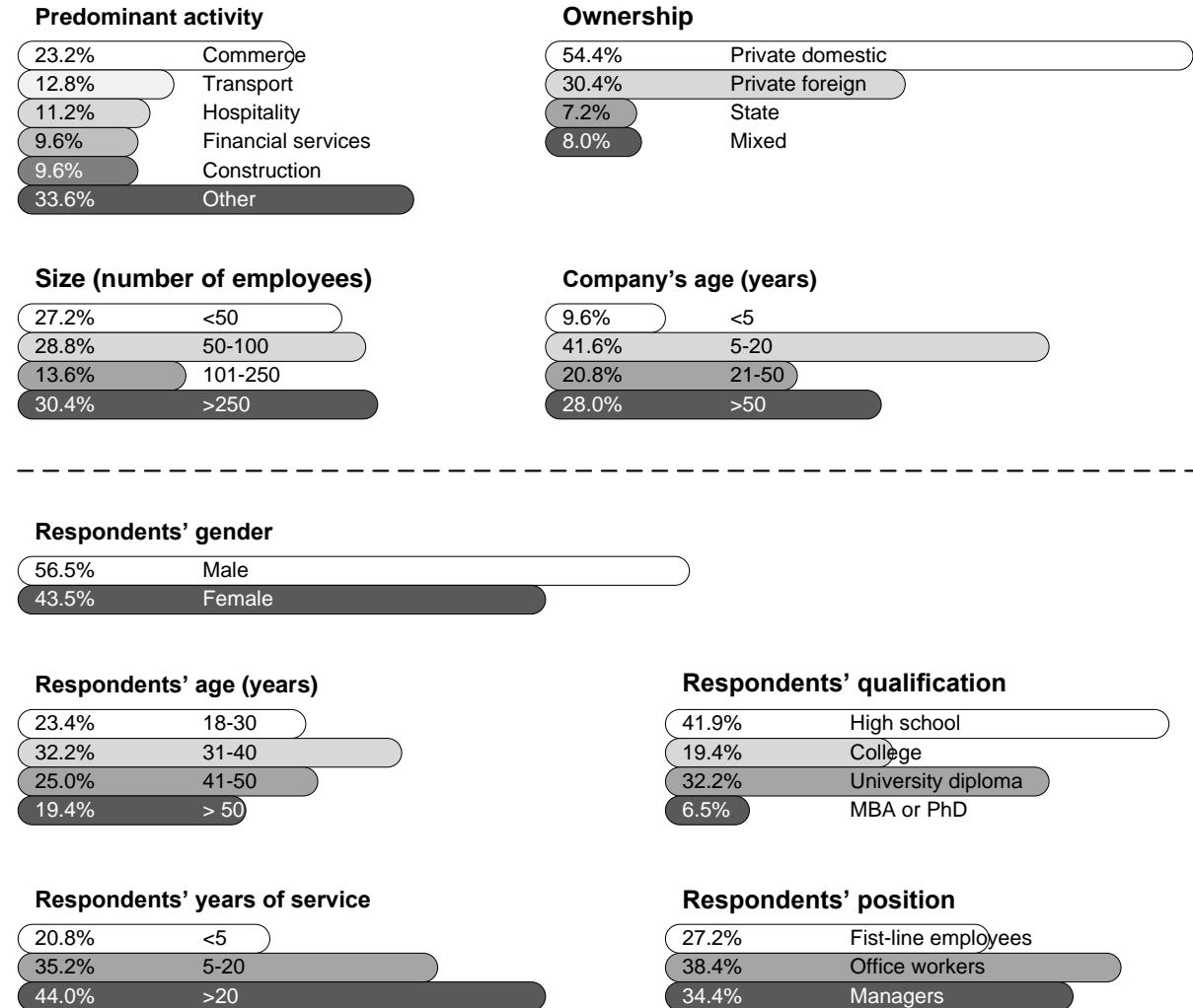


Figure 2: Characteristics of respondents and companies in the research sample (N=123-125)

#### 4. FINDINGS

Obtained research results, related to LIC, indicate that these leaders in researched companies possess these competencies in medium to large amount (Figure 3). Overall mean value of 3.57 supports this insight. Apart from this, results suggest that leaders possess very balanced set of interpersonal competencies, where all groups of competencies are present in similar amounts. When considering specific areas of LIC, leaders possess persuasive and integrative competencies related to company's goals in largest amount, followed by conflict resolution competencies and emotional intelligence. Competencies that are present the least are self-assessment competencies, suggesting that leaders in researched companies have certain barriers related to critical reflection of their own behavior and influences of that behavior. Although there is a plenty of space for improvement (maximum value = 5), LIC are present in very significant amount, suggesting that leaders pay great attention to this group of competencies. This is very important when considering the demands of contemporary business environment and the importance of these competencies in survival and almost continuous transformation of today's companies.

Emotional intelligence			
Mean	SD	Min	Max
3.59	.82	1.67	5.00
Goals			
Mean	SD	Min	Max
3.66	.82	1.33	5.00
Motivation			
Mean	SD	Min	Max
3.53	.88	1.00	5.00
Communication			
Mean	SD	Min	Max
3.55	.83	1.00	5.00
Conflict resolution			
Mean	SD	Min	Max
3.61	.84	1.00	5.00
Self-Assessment			
Mean	SD	Min	Max
3.48	.85	1.00	5.00
INTERPERSONAL COMPETENCIES			
Mean	SD	Min	Max
3.57	.72	1.14	5.00

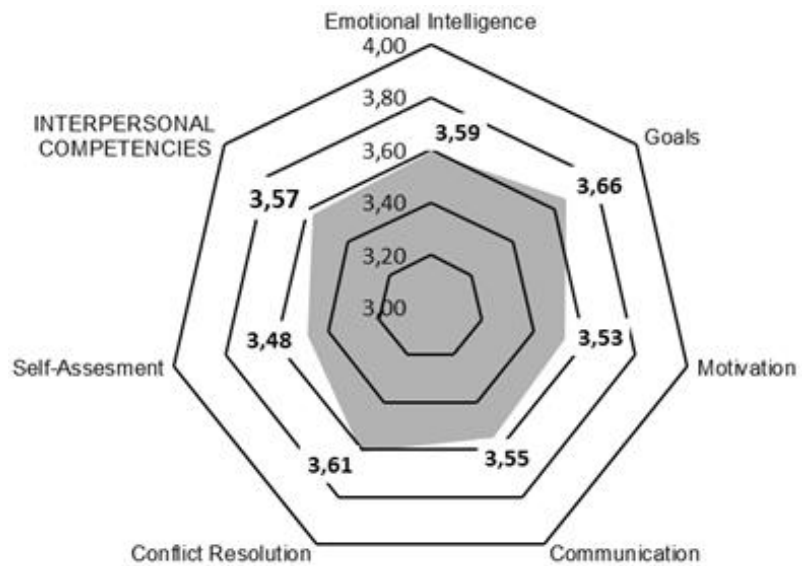


Figure 3: Leadership interpersonal competencies in researched companies (N=125)

With the regards to LIC, results related to EmWO show greater amount of variations (Figure 4). Overall level of EmWO is 3.54 (from 1 to 5), indicating medium to high level of work outcomes. The area of work outcomes which stands out from the rest is organizational commitment (3.79), which is on significantly higher level than the rest of work outcomes areas. This suggests that employees in researched companies, although their job satisfaction is the least developed work outcome (3.44), remain committed to current company and work environment. Despite being unsatisfied in significant amount, which is accompanied with also lower level of task performance (3.50) and organizational citizenship behavior (OCB) (3.52), these employees are still to develop serious turnover intentions. This leads to a conclusion that researched employees, although aware that things can and need to be better in their companies, do not take initiative to change much, starting from their own choice of place to work to the effort of improving chosen work environment.

Task performance			
Mean	SD	Min	Max
3.50	.71	1.80	5.00
Job satisfaction			
Mean	SD	Min	Max
3.44	.95	1.00	5.00
Turnover intention			
Mean	SD	Min	Max
3.56	.83	1.00	5.00
Organizational commitment			
Mean	SD	Min	Max
3.79	1.02	1.00	5.00
OCB			
Mean	SD	Min	Max
3.52	.75	1.17	5.00
WORK OUTCOMES			
Mean	SD	Min	Max
3.54	.61	1.57	5.00

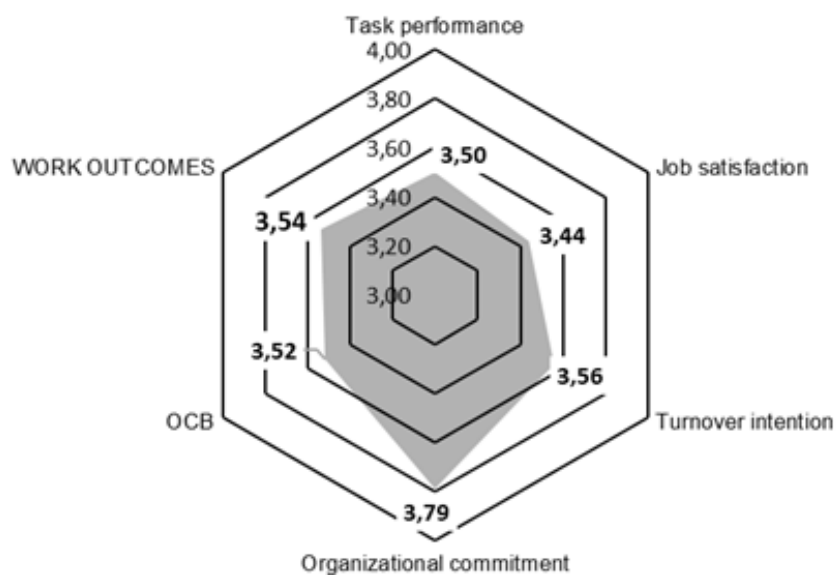


Figure 4: Employees' work outcomes in researched companies (N=123-125)

In order to investigate the effects of LIC on EmWO, linear regression analysis was conducted (Table 2). Regression results offer comprehensive and interesting results related to researched effects. Explanation of total variations in dependent variables by independent variables is in some models very small, to those where this levels are respectable, i.e. large (e.g.  $R^2=.615$ ). Correlation coefficients between testes variables range from weak to very strong (e.g.  $R=.784$ ). All produced regression models are statistically significant ( $p \leq .05$ ). Obtained regression equations suggest that LIC, as a whole, and their specific areas, have moderate to strong effects to EmWO. This is especially evident for organizational citizenship behavior, followed by job satisfaction and task performance, areas which are significantly more receptive to demonstrated LIC, compared to turnover intentions, and especially organizational commitment. When considering specific areas of LIC, competencies related to goals, followed by emotional intelligence, communication and motivation, have larger effects on EmWO, compared to conflict resolution and self-assessment. Again, turnover intention and organizational commitment are the least receptive areas of work outcomes to demonstrated specific LIC. The strongest specific causal relationships identified are effects of communication and goals on organizational citizenship behavior. Besides organizational citizenship behavior, effects of emotional intelligence and communication on job satisfaction also stand out from the rest of causal relationships. Presented results are somewhat puzzling and generally indicate that there are lot of other influential factors, apart from LIC, which shape employees' work environment and consequently their work outcomes. Obviously, big and long-term decision to leave the company is something which is more resistant to demonstrated LIC, compared to job satisfaction and closely related everyday engagement in performing tasks within own organizational role, and especially in improving the surrounding working environment and organization as a whole. In order to provide additional insights into the causal relationship between LIC and EmWO, a moderating role of organizational hierarchy has been investigated. In this sense, moderating role of three most important characteristics of organizational hierarchy were investigated. Obtained results for vertical specialization, i.e. number of different hierarchical levels in the company, and centralization, i.e. locus of decision-making in organization, especially the most important decisions, indicate that there is no moderation by these factors (separately) in

*Table following on the next page*

*Table 2: The effects of leadership interpersonal competencies on employees' work outcomes (linear regressions) (N=123-125)*

Regressions					
	Model Summary			ANOVA	Regression equation
	Model	R	R <sup>2</sup>	Sig.	
Emotional Intelligence	1	.538	.289	.000	Task performances = 1.838 + 0.463 x Em. Intelligence
	1	.459	.210	.000	Job satisfaction = 1.535 + 0.530 x Em. Intelligence
	1	.406	.164	.000	Turnover Intention = 1.981 + 0.395 x Em. Intelligence
	1	.259	.067	.004	Org. Commitment = 2.633 + 0.323 x Em. Intelligence
	1	.660	.436	.000	OCB = 1.337 + 0.607 x Em. Intelligence
	1	.590	.348	.000	WORK OUTCOMES = 1.973 + 0.437 x Em. Intelligence
Goals	1	.545	.297	.000	Task performances = 1.793 + 0.467 x Goals
	1	.449	.202	.000	Job satisfaction = 1.550 + 0.516 x Goals
	1	.411	.169	.000	Turnover Intention = 2.049 + 0.413 x Goals
	1	.261	.068	.003	Org. Commitment = 2.610 + 0.323 x Goals
	1	.694	.481	.000	OCB = 1.204 + 0.633 x Goals
	1	.604	.364	.000	WORK OUTCOMES = 1.916 + 0.444 x Goals
Motivation	1	.553	.306	.000	Task performances = 1.946 + 0.441 x Motivation
	1	.472	.223	.000	Job satisfaction = 1.657 + 0.505 x Motivation
	1	.377	.142	.000	Turnover Intention = 2.315 + 0.353 x Motivation
	1	.269	.072	.002	Org. Commitment = 2.699 + 0.310 x Motivation
	1	.710	.504	.000	OCB = 1.390 + 0.604 x Motivation
	1	.599	.358	.000	WORK OUTCOMES = 2.095 + 0.410 x Motivation
Communication	1	.572	.327	.000	Task performances = 1.782 + 0.484 x Communication
	1	.472	.223	.000	Job satisfaction = 1.531 + 0.537 x Communication
	1	.352	.124	.000	Turnover Intention = 2.317 + 0.350 x Communication
	1	.228	.052	.010	Org. Commitment = 2.799 + 0.280 x Communication
	1	.740	.548	.000	OCB = 1.136 + 0.671 x Communication
	1	.597	.357	.000	WORK OUTCOMES = 1.997 + 0.435 x Communication
Conflict resolution	1	.475	.226	.000	Task performances = 2.066 + 0.398 x Conflict Resolution
	1	.417	.174	.000	Job satisfaction = 1.746 + 0.469 x Conflict Resolution
	1	.320	.103	.000	Turnover Intention = 2.425 + 0.315 x Conflict Resolution
	1	.181	.033	.044	Org. Commitment = 3.001 + 0.219 x Conflict Resolution
	1	.631	.398	.000	OCB = 1.481 + 0.566 x Conflict Resolution
	1	.510	.260	.000	WORK OUTCOMES = 2.218 + 0.368 x Conflict Resolution
Self-assessment	1	.494	.244	.000	Task performances = 2.073 + 0.411 x Self-Assessment
	1	.406	.165	.000	Job satisfaction = 1.862 + 0.453 x Self-Assessment
	1	.312	.097	.000	Turnover Intention = 2.503 + 0.304 x Self-Assessment
	1	.307	.094	.001	Org. Commitment = 2.509 + 0.369 x Self-Assessment
	1	.602	.362	.000	OCB = 1.662 + 0.535 x Self-Assessment
	1	.543	.294	.000	WORK OUTCOMES = 2.193 + 0.388 x Self-Assessment
<b>INTERPERSONAL COMPETENCIES</b>	1	.617	.381	.000	Task performances = 1.352 + 0.602 x INTERP. COMP.
	1	.519	.270	.000	Job satisfaction = 1.008 + 0.681 x INTERP. COMP.
	1	.423	.179	.000	Turnover Intention = 1.832 + 0.484 x INTERP. COMP.
	1	.293	.086	.001	Org. Commitment = 2.315 + 0.414 x INTERP. COMP.
	1	.784	.615	.000	OCB = 0.602 + 0.818 x INTERP. COMP.
	1	.668	.447	.000	WORK OUTCOMES = 1.539 + 0.561 x INTERP. COMP.

*Figure following on the next page*

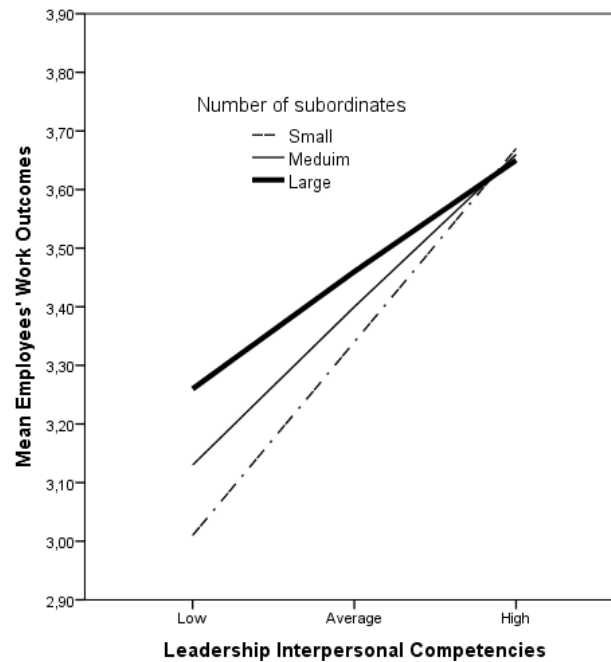


Figure 5: Simple slope moderation analysis examining the moderation by number of direct subordinates in the effect of interpersonal competencies on employees' performances (N=123)

the effects of LIC on EmWO. For the third factor tested - a span of control, i.e. the number of leader's direct subordinates, a moderation in the effects of LIC on EmWO has been determined (Figure 5, Appendix). Namely, LIC matter the most for EmWO when there are small number of subordinates. In situations where there are large work teams and groups, the effects of LIC do exist, but these effects are weaker compared to medium-sized and especially small work teams and groups. Therefore, the effects of LIC on EmWO are moderated by the number of leader's direct subordinates, where the larger the leader's team/group is, the weaker the effects are of leader's demonstrated interpersonal competencies on team/group members' work outcomes.

## 5. CONCLUSION

Research conducted in this paper further emphasizes the importance of leadership interpersonal competencies in achieving desired employees' work outcomes and sheds additional light on the causal relationship between leader's interpersonal competencies and employees' work outcomes. Obtained results suggest that there are a moderate to strong effects of leadership interpersonal competencies on employees' work outcomes. These effects, surprisingly, are not moderated by centralization and number of management levels in organization, while the number of leader's direct subordinates moderates mentioned effects in a way that the larger leader's team/group is, the weaker are the effects of leader's interpersonal competencies on team/group members' work outcomes. These and other insights presented in the paper also raise important research questions, thus providing the potential directions for future researched in this area. Finally, research conducted in this paper has several limitations in terms of sample size and composition which need to be taken into consideration while analyzing and using presented results.

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## APPENDIX

Output from the PROCESS procedure for SPSS for a moderation analysis examining the moderation by number of direct subordinates in the effect of leadership interpersonal competencies on employees' work outcomes

```
*****
Model   : 1
Y       : Em_WO
X       : INT_C
W       : Numb_Sub

Sample
Size:   118

*****
OUTCOME VARIABLE:
Em_WO

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      ,5320      ,2831      ,2459     15,0027      3,0000     114,0000      ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant    3,4030    ,0461    73,7508    ,0000    3,3116    3,4944
INT_C        ,4223    ,0668    6,3223    ,0000    ,2900    ,5546
Numb_Sub     ,0586    ,0405    1,4469    ,1507   -,0216    ,1389
Int_1        -,1192    ,0485   -2,4594    ,0154   -,2152   -,0232

Product terms key:
Int_1      :      INT_C      x      Numb_Sub

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W      ,0380      6,0485      1,0000     114,0000      ,0154
-----
      Focal predict: INT_C      (X)
      Mod var: Numb_Sub      (W)

Conditional effects of the focal predictor at values of the moderator(s):

      Numb_Sub      Effect      se      t      p      LLCI      ULCI
-1,2373      ,5697    ,0979    5,8188    ,0000    ,3758    ,7637
-,2373      ,4505    ,0699    6,4451    ,0000    ,3121    ,5890
,7627      ,3314    ,0699    4,7422    ,0000    ,1930    ,4698

Moderator value(s) defining Johnson-Neyman significance region(s):
      Value      % below      % above
1,8587      94,0678      5,9322

Conditional effect of focal predictor at values of the moderator:
      Numb_Sub      Effect      se      t      p      LLCI      ULCI
-1,2373      ,5697    ,0979    5,8188    ,0000    ,3758    ,7637
-1,0373      ,5459    ,0909    6,0024    ,0000    ,3657    ,7260
-,8373      ,5220    ,0845    6,1769    ,0000    ,3546    ,6895
-,6373      ,4982    ,0788    6,3257    ,0000    ,3422    ,6542
-,4373      ,4744    ,0738    6,4252    ,0000    ,3281    ,6206
-,2373      ,4505    ,0699    6,4451    ,0000    ,3121    ,5890
-,0373      ,4267    ,0672    6,3538    ,0000    ,2937    ,5598
,1627      ,4029    ,0657    6,1284    ,0000    ,2726    ,5331
,3627      ,3790    ,0657    5,7664    ,0000    ,2488    ,5093
,5627      ,3552    ,0671    5,2905    ,0000    ,2222    ,4882
,7627      ,3314    ,0699    4,7422    ,0000    ,1930    ,4698
,9627      ,3075    ,0738    4,1676    ,0001    ,1614    ,4537
1,1627      ,2837    ,0787    3,6042    ,0005    ,1278    ,4396
1,3627      ,2599    ,0845    3,0767    ,0026    ,0925    ,4272
1,5627      ,2360    ,0909    2,5971    ,0106    ,0560    ,4161
1,7627      ,2122    ,0979    2,1687    ,0322    ,0184    ,4061
1,8587      ,2008    ,1014    1,9810    ,0500    ,0000    ,4016
1,9627      ,1884    ,1052    1,7899    ,0761   -,0201    ,3969
2,1627      ,1645    ,1130    1,4563    ,1481   -,0593    ,3884
2,3627      ,1407    ,1210    1,1628    ,2474   -,0990    ,3804
2,5627      ,1169    ,1293    ,9042    ,3678   -,1392    ,3729
2,7627      ,0930    ,1377    ,6757    ,5006   -,1798    ,3658

Level of confidence for all confidence intervals in output: 95,0000
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## THE ANALYSIS OF IMPELEMENTATION ASPECTS OF EFQM BUSINESS EXCELLENCE MODEL

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### ABSTRACT

*The EFQM Excellence Model was introduced at the beginning of 1992 as the framework for assessing applications for The European Quality Award. It is a widely used organisational framework in Europe and has become the basis for a series of national and regional Quality Awards. The EFQM Excellence Model is a practical tool to help enterprises to do this by measuring where they are on the path to Excellence; helping them understand the gaps; and stimulating solutions. It is applicable to organisation irrespective of size and structure, and sector. The aim of paper is to find out what kind of factors impacts the EFQM Business Excellence Model implementation. The tasks: 1) to describe the EFQM model, 2) on the basis of theoretical knowledge, to develop a questionnaire on the factors and their impacts on the EFQM Business Excellence Model use of enterprises, 3) based on the survey results, to draw conclusions and make proposals to reduce the barriers to the model implementation in Latvian enterprises. The methodology consists of a descriptive analysis in order to determine the importance factors. In the research were also used interviews with experts and organized focus groups. In the focus groups participated 20 representants of various areas of enterprises. The experts were from the Quality area. The survey results show that the most important positive factors that drive Latvian enterprises to implement the EFQM are internal motivations, and that the most important barriers are related to the lack of the lack of time , lack resources – financial and human. The structure of barriers is made up of 3 groups: behavioral and cultural barriers, resource barriers, and organizational barriers. In the research was noticeable the coincidence of both expert and focus group results, pointing out the fundamental importance of the support of top management to EFQM use in the enterprises. Referring to possible delaying factors, the opinions did differ.*

**Keywords:** enterprises, excellence, implementation

### 1. INTRODUCTION

The European Foundation for Quality Management (EFQM) was founded in 1988 with the objective of helping European companies to become competitive in the international marketplace. One of the first decisions of this foundation was to create the European quality prize, following the example of the American MBNQA (Malkolm Baldrige National Quality Award)(Conti, 2007). The pillars of these prizes are quite similar since all of them are based in the TQM (Total Quality Management) philosophy. The EFQM Excellence Model was introduced in 1991 as the framework for organizational self assessment and as the basis for judging entrants to the European Quality Award, which was awarded for the first time in 1992. The benefits of the EFQM Excellence Model: 1) it identifies the weaknesses and strengths areas of an organization; 2) it provides a basis for comparison with other kinds of organizations, 3) it delivers a picture of how successful an organisation is, 4) it defines aspirations for the organisation's capability and performance; 5) it helps an organisation to identify areas for improvement EFQM model (Angeli, 2009). The EFQM Excellence Model is a non-prescriptive framework that recognizes there are many approaches to achieving sustainable organizational excellence. Excellence can be defined as the outstanding practice in managing the organization and achieving results based on fundamental concepts, which include: results orientation, customer focus, leadership, processes and facts, involvement of people, continuous



improvement and innovation, mutually beneficial partnerships, and responsibility. Behaviours, activities or initiatives based on these concepts are often referred to as Quality Management (Dahlgaard, Chen, Jang & Dahlgaard-Park, 2013). The important fact is that Model can be applied to any organisation, regardless of size, sector or maturity. The EFQM Excellent Model to conduct self-management in many domains, such as education, ( Saraiva, Da Rosa & d'Orey, 2001), social (Olaru, Stoleriu & Sandru, 2011; Marrewijk,, Wuisman, Cleyn, Timmers & Linnanen, 2004) , health (Minkman, Ahaus & Huijsman, 2007; Nabitz, Brink & Jansen, 2005; Sa'nchez, Letona, Gonza'lez, Garcí'a, Darpo'n & Garay, 2006) , management (Yang, Dale & Siow, 2001) and strategy (Naylor, 1999). The EFQM Excellence Model takes into account a number of different concepts. It ensures that all the management practices used by an organisation form a coherent system that is continually improved and delivers the intended strategy for the organisation. Some internal and external reasons exists that lead companies to implement TQM through the EFQM excellence model. The aim of paper is to find out what kind of factors impacts the EFQM Business Excellence Model implementation. Methods applied in the paper: analysis of scientific publications, analysis of the experts and focus group data.

## 2. DISCUSSION

Despite the general acceptance of the EFQM model among academics and practitioners, researchers warn that organizations have encountered problems applying the model (Kim, Kumar & Murphy 2010). Kanji warns that despite the fact that TQM and Business Excellence became very popular ideas during the last decade, organizations face considerable difficulties and problems when trying to measure their overall performance in a bid to identify strengths, as well as areas for improvement, and to prioritize efforts (Kanji, 2001). The EFQM model content following concepts (Fundamental concepts, 2012):

- Leading with vision, inspiration & integrity – organisations have leaders who shape the future and make it happen, acting as role models for its values and ethics.
- Adding value for customers – organisations consistently add value for customers by understanding, anticipating and fulfilling needs, expectations and opportunities.
- Creating a sustainable future – organisations have a positive impact on the world around them by enhancing their performance whilst simultaneously advancing the economic, environmental and social conditions within the communities they touch.
- Developing organisational capability – organisations enhance their capabilities by effectively managing change within and beyond the organisational boundaries.
- Managing with agility – organisations are widely recognised for their ability to identify and respond effectively and efficiently to opportunities and threats.
- Harnessing creativity & innovation – organisations generate increased value and levels of performance through continual improvement and systematic innovation by harnessing the creativity of their stakeholders.
- Succeeding through the talent of people – excellent organisations value their people and create a culture of empowerment for the achievement of both organisational and personal goals.
- Sustaining outstanding results – excellent organisations achieve sustained outstanding results that meet both the short and long term needs of all their stakeholders, within the context of their operating environment.

The EFQM excellence model approach contains a number of criteria that are divided into sub-criteria and are designed to address every aspect of enterprises. The EFQM model is based on 9 criteria and argues that excellent results with respect to Performance, Customers, People and Society are achieved through Leadership driving Strategy, People, Partnership and Resources,

as well as Processes, Products, and Services. The EFQM Excellence Model defines self-assessment as a comprehensive, systematic, and regular review by an organization of its activities and results referenced against the EFQM Excellence Model (Kim, Kumar & Murphy, 2010). The latest version of the EFQM Excellence Model was announced in 2012. (Fig. 1).

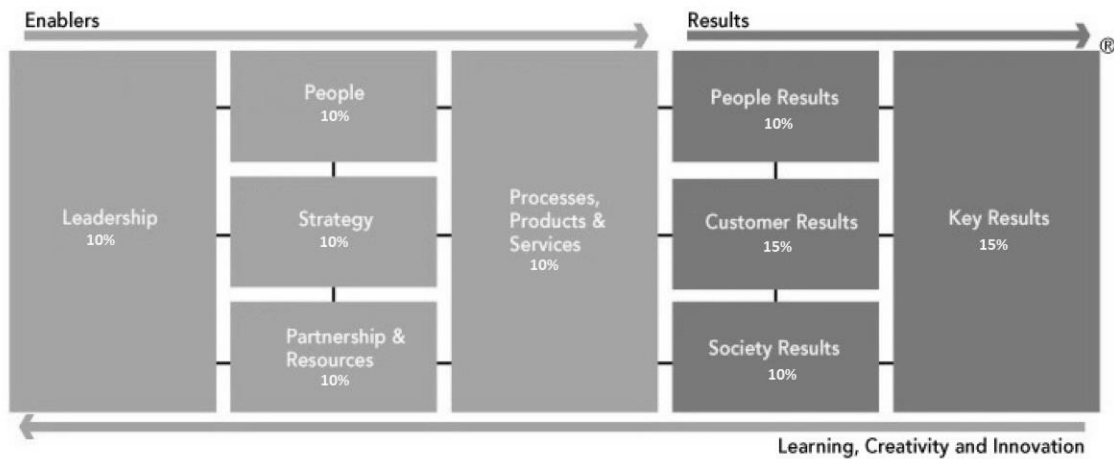


Fig 1. The EFQM excellence model (International Journal of Production Economics, 2010)

5 of these criteria are "enablers" and 4 criteria are "results". The "enabler" criteria cover what an organisation does and how it does it. The "enabler" and "results" are 500 points each. The "results" criteria cover what an organisation achieves. The arrows show the dynamic nature of the Model, showing learning, creativity and innovation helping to improve the enablers that in turn lead to improved results. The Model has 32 subcriteria. The arrows emphasize the dynamic nature of the model. They also show that innovation and learning help to improve enablers, which in turn lead to improved results. The self-assessment process based on the EFQM Excellence Model results of subcriteria. The self-assessment allows the organization to discern its strengths, as well as areas in which improvement can be made. Therefore, the EFQM Excellence Model could be used as an engine of improvement, as comparisons of results with internal targets, competitors or similar organizations and 'best in class' organizations could (should) be used to prioritize and drive improvement. The process of self-assessment positively affects the key results of the organisation (Escrig & de Menezes, 2016). The lot of internal and external reasons exist for EFQM implementation. Table 1. shows reasons for implementation the EFQM model.

Table following on the next page

*Table 1. External and internal reasons for EFQM implementation (author created by Gómez-López, Serrano-Bedia & López-Fernández, 2015)*

<b>Type of reasons</b>	<b>Authors</b>	<b>Reasons</b>
Internal reasons	Taylor (1995), Withers and Ebrahimpour (1996), Carlsson and Carlsson (1996), Idris et al. (1996), Tsiotras and Gotzamani (1996), Skrabec et al. (1997), Beattie and Sohal (1999), Huarng et al. (1999), Lee and Palmer (1999), Fuentes et al. (2000), Withers and Ebrahimpour (2000), Mathews et al. (2001), Withers and Ebrahimpour (2001), Escanciano et al. (2001), Sun and Cheng (2002), Gotzamani and Tsiotras (2002), Magd and Curry (2003), Corbett et al. (2003), Heras et al. (2006), Prajogo (2009), Heras- Saizarbitoria et al. (2011),	Companies survive Optimise necessary resources Corporate-level decision Improve internal productivity and organisation Costs reduction of companies Motivate employees Improve product/service quality Base to improve its own quality management system
External reasons	Taylor (1995), Tsiotras and Gotzamani (1996), Carlsson and Carlsson (1996), Withers and Ebrahimpour (1996), Buttle (1997), Huarng et al. (1999), Beattie and Sohal (1999), Lipovatz et al. (1999), Anderson et al. (1999), Lee and Palmer (1999), Fuentes et al. (2000), Torre et al. (2001), Escanciano et al. (2001), Ebrahimpour (2001), Gustafson et al. (2001), Mathews et al. (2001), Poksinska et al. (2002), Corbett et al., Sun and Cheng (2002) (2003), Magd and Curry (2003), Heras et al. (2006), Prajogo (2009), , Heras-Saizarbitoria et al. (2011), Withers	Market trends Improve company's image Government pressure Suppliers pressure Competitors pressure Customers demand Improve competitive position of company Increase market share of company Meet national and international market demand Operate in global markets Show effectiveness of management systems Anticipate future customers demand Commercialisation advantages Required for competing in sector

Here can see that exist a lot of different reasons what could to impact successful EFQM implementation. The internal factors include such as companies survive, costs reduction of companies, product/service quality and others factors, but as external reasons could be Increase market share of company, pressure of suppliers, government, Customers or market demand and others. Table 2. shows Barriers to implementing the EFQM model.

*Table 2. Barriers to implementing the EFQM ( author created by Gómez-López, López-Fernández & Serrano-Bedia, 2015).*

Type of barriers	Authors
Lack of customer Orientation Complexity of model Resistance to change Lack of top management motivation and participation Lack of top Management training Lack of employees' motivation and participation Lack of employee training Lack of physical and financial resources Ineffective management team Lack of time Lack of commitment/ Implication Lack of leadership Departmental Barriers Work overload Lack of clear measurement systems Complexity of model	Mathews et al. (2001), Beer (2003) Soltani et al. (2005) Angell and Corbett (2009) Dahlgaard- Park (2009) Mann et al. (2011) Heras-Saizarbitoria et al. (2011)

Table shows the important barriers what could to impact EFQM model implementation. There are lack of leadership, lack of time, lack of management training, work overload, resistance of change and others factors, The evaluation scores on the EFQM Excellence Model are calculated by multiplying the predetermined weights of each criterion. The problem is that there is no difference among industries, it is not objective, and the results are questionable. A well-tested self-management tool must be objective and demonstrate the following advantages: it meets customers' needs and the expectations of service quality in the results; it identifies areas of improvement and increases corporate competitiveness with the help of benchmarking. The results of survey analysis of 10 experts and analysis of focus groups of 20 participants were used for empirical research. The author used the 5 point Likert scale for factors evaluations. The lot of contributing and interfering factors pointed that exists impact EFQM model implementations in enterprises. The Table 3 shows the main statistical indicators of assessments of focus groups' on contributing factors.

*Table following on the next page*

*Table 3. The main statistical indicators of focus group assessments on contributing factors  
(Source: the author's created)*

<b>Contributing factors</b>	<b>Mode</b>	<b>Median</b>	<b>Arithmetic mean</b>	<b>Standard deviation</b>
Investor initiative	3	3.0	3.0	1.1
Desire to improve the company's operating results	3	3.0	3.4	1.2
Staff support	4	4.0	4.2	0.9
Employees Initiative	5	4.5	3.9	1.3
Management Support	5	5.0	4.4	0.9
Management Initiative	4	4.0	4.0	0.9
Availability of financial resources	4	4.0	4.3	0.6
Availability of information resources	3	3.5	3.6	0.8
Chance to receive the prize	2;4	3.0	3.0	1.1
Company's strengths and weaknesses awareness through self-assessment	3	3.5	3.5	1.1
Competitor activity screening as an input to continuous business improvement	3	3.0	3.4	1.0
Partners proposal	4	4.0	3.7	1.1
Special events (seminars, conf.) dedicated to quality issues	4	3.5	3.4	0.9
Support from Quality associations	3	3.0	3.2	1.0
companies examples of positive experiences	4	3.5	3.3	1.0
electronic self-assessment tools	4	4.0	3.6	1.0
Increasing competitiveness	4	4.0	3.9	0.9
The company's image improvement	5	4.5	4.3	0.9

The focus groups participants very high evaluated contributing factors “management support” (arithmetic mean – 4.4, median – 5, mode - 5), “the company's image improvement” (arithmetic mean – 4.3, median – 4;5, mode – 5) “availability of financial resources” (arithmetic mean – 4.3, median – 4, mode – 4), “staff support” (arithmetic mean – 4.2, median – 4, mode – 4) and “management Initiative”( arithmetic mean – 4. median – 4, mode – 4). Lower the focus group evaluated contributing factors “investor initiative” (arithmetic mean – 3.0, median – 3, mode – 3), “chance to receive the prize” (arithmetic mean – 3.0, median – 3, mode – 2;4), “support from Quality associations” (arithmetic mean – 3.2, median – 3, mode – 3). (see Table 4)

*Table 4. The main statistical indicators of experts assessments on contributing factors contributing factors (Source: author's created)*

<b>Contributing factors</b>	<b>Mode</b>	<b>Median</b>	<b>Arithmetic mean</b>	<b>Standard deviation</b>
Investor initiative	4	4.0	4.2	0.9
Desire to improve the company's operating results	4	4.0	3.9	0.7
Staff support	4	4.0	3.9	0.7
Employees Initiative	4;5	4.0	4.0	1.2
Management Support	5	5.0	4.9	0.3
Management Initiative	5	5.0	4.9	0.3
Availability of information resources	4	4.0	3.9	0.7
The company's image improvement	3	3.5	3.6	1.3
Company's strengths and weaknesses awareness through self-assessment	3	3.0	3.1	1.1
Availability of financial resources	2;3	3.0	3.0	1.3
Competitor activity screening as an input to continuous business improvement	3	3.0	3.2	1.1
Partners proposal	4	4.0	3.4	1.0
Chance to receive the prize	3	3.0	2.4	1.6
Special events (seminars, conf.) dedicated to quality issues	3;4	3.5	3.5	0.8
Support from Quality associations	4	3.5	3.1	1.1
Companies examples of positive experiences	4	4.0	3.9	0.7
Electronic self-assessment tools	5	4.0	4.0	1.1
Increasing competitiveness	3	3.5	3.6	1.0

Regarding the contributing factors, the opinion of focus group members and experts tends to differ, emphasizing “availability of financial resources” (arithmetic mean of focus group - 4.3, median - 4.0, mode - 4 ; arithmetic mean of experts - 3.0, median 3.0; mode - 1;3), “management initiative” (arithmetic mean of focus group - 4.0, median - 4, mode - 4 (arithmetic mean of experts - 4.9, median - 5.0, mode - 5), “availability of information resources” (arithmetic mean of focus group - 3.6, median 3.5, mode - 3; arithmetic mean of experts - 3.9, median - 4.0, mode - 4 ). As the contributing factors, the concurring opinion is observed regarding the “support from quality associations” (arithmetic mean of focus group - 3.2, median - 3.0, mode - 3; arithmetic mean of experts - 3.1, median - 3.5, mode - 4; “increased competitiveness” (arithmetic mean of focus group - 3.9, median 4.0, mode - 4 ; arithmetic mean of experts - 3.6, median - 3.5, mode - 3 ), “special events (seminars, conferences) dedicated to quality issues” (arithmetic mean of focus group - 3.4, median - 3.5, mode – 4; arithmetic mean of experts - 3.5, median - 3.5; mode - 3;4). Table 5 shows the main statistical indicators of focus group assessments on interfering factors

*Table 5 The main statistical indicators of focus group assessments on interfering factors  
(Source: author's created)*

<b>Interfering factors</b>	<b>Mode</b>	<b>Median</b>	<b>Arithmetic mean</b>	<b>Standard deviation</b>
Lack of funding for man excellence-driven approach	4	4.0	4.1	0,9
Lack of employees' knowledge and skills	5	4.0	3.9	1.0
Lack of employees' support	3	3.5	3.7	1.1
Resistance from employees	5	4.0	3.6	1.2
Lack of management support	5	5.0	4.4	0.9
Lack of management knowledge about model	5	4.0	4.0	1.1
Lack of the company's internal knowledge on the model application	4	4.0	3.6	1.0
Costs of purchase of the Excellence Model self-assessment tool	3;4	3.0	3.2	0.8
Possible bureaucracy	3	3.0	2.9	1.1
Lack of time	4	4.0	3.6	1.1
Lack of training	4	4.0	3.8	0.8
Unawareness of business performance improvement self-assessment methods unawareness (unnecessary spending of money)	3	3.0	3.0	1.0
Lack of Management motivation	5	4.0	3.8	1.3
Lack of competition	3	2.0	2.3	1.2
Consumer indifference / lack of interest on the company's success	2	3.0	3.0	1.3
Partners' disinterest	3	3.0	3.0	1.1
Investors' disinterest	3;4	3,0	3.1	1.2
Lack of positive examples	4	3.0	2.8	1.2
Lack of information from Quality society	2;4	3.0	2.9	1.2

The participants of focus groups higher evaluated interfering factors “lack of management support” (arithmetic mean – 4.4, median - 5, mode – 5), “lack of funding for man excellence-driven approach” (arithmetic mean – 4.1, median - 4, mode – 4), “lack of management knowledge about model” (arithmetic mean – 4, median - 4, mode – 5) and “lack of employees' knowledge and skills” (arithmetic mean – 3.9, median - 4, mode – 5). The participants of focus groups lower evaluated interfering factors “lack of competition” (arithmetic mean – 2.3, median - 2, mode – 3), “lack of positive examples” (arithmetic mean – 2.8, median - 3, mode – 4), “lack of information from Quality society” (arithmetic mean – 2.9, median - 3, mode – 2 and 4) and “possible bureaucracy” (arithmetic mean – 2.9, median - 3, mode – 3). Table 6 shows the main statistical indicators of experts assessments on interfering factors.

*Table 6 The main statistical indicators of experts assessments on interfering factors (Source: author's created)*

Interfering factors	Moda	Median	Arithmetic mean	Standard deviation
Lack of funding for man excellence-driven approach	1;4	4.0	3,0	1.8
Lack of employees' knowledge and skills	4	4.0	4.0	1.5
Lack of employees' support	4	4.0	4.0	0.8
Resistance from employees	4	4.0	4.0	0.9
Lack of management support	5	5.0	4.9	0.3
Lack of management knowledge about model	5	5.0	4.6	0.7
Lack of the company's internal knowledge on the model application	4	4.0	3.9	0.6
Costs of purchase of the Excellence Model self-assessment tool	2	2.5	2.7	1.3
Possible bureaucracy	2	2.5	2.6	1.5
Lack of time	4	3.5	3.2	1.4
Lack of training	3	3.5	3.8	0.9
Unawareness of business performance improvement self-assessment methods unawareness (unnecessary spending of money)	5	4.5	4.4	0.7
Lack of Management motivation	4	4.0	3.7	1.3
Lack of competition	3	3.0	2.5	1.1
Consumer indifference / lack of interest on the company's success	3	3.0	2.6	1.2
Partners' disinterest	3	3.0	2.9	1.1
Investors' disinterest	3;5	3.0	3.2	1.5
Lack of positive examples	3;4	3.0	3.1	1.0
Lack of information from Quality society	4	4.0	3.5	0.7



The experts very high evaluated “lack of management support” (arithmetic mean – 4.9, median – 5, mode – 5), “lack of management knowledge about model” (arithmetic mean – 4.6, median – 5, mode – 5) and “unawareness of business performance improvement self-assessment methods unawareness” (arithmetic mean – 4.4, median – 4.5, mode – 5). The variation of evaluations were low (standard deviation – 0.3, 0.7, 0.7 points, range – 1, 2, 2 points, respectively). Lower the expert evaluated interfering factors “lack of competition” (arithmetic mean – 2.5, median – 3, mode – 3), “possible bureaucracy” (arithmetic mean – 2.6, median – 2.5, mode – 2), “consumer indifference / lack of interest on the company's success” (arithmetic mean – 2.6, median – 3, mode – 3), and “costs of purchase of the Excellence Model self-assessment tool” (arithmetic mean – 2.7, median – 2.5, mode – 2). The most important concurring opinion is observed regarding the interfering factors such as, “partners' disinterest” (arithmetic mean of focus group - 3.0, median - 3.0, mode - 3; arithmetic mean of experts - 2.9, median - 3.0, mode - 3), “investors' disinterest” (arithmetic mean of focus group - 3.1, median - 3.0, mode - 3; arithmetic mean of experts - 3.2, median - 3.0, mode - 3; 5), “lack of positive examples” (arithmetic mean of focus group - 2.8, median - 3.0, mode - 4; arithmetic mean of experts - median - 3.0, mode - 3).

Regarding the impeding factors the opinion of focus group participants and experts tends to differ such as, “lack of management knowledge about model” (arithmetic mean of focus group - 4.0, median - 4.0, mode - 5; arithmetic mean of experts - 4.6, median - 5, mode - 5), “lack of funding for man excellence-driven approach” (arithmetic mean of focus group - 4.1, median - 4.0, mode - 4; arithmetic mean of experts - 3.0, median - 4.0, mode - 1; 4), “lack of employees' knowledge and skills” (arithmetic mean of focus group - 3.9, median - 4.0, mode - 5; arithmetic mean of experts - 4.0, median - 4, mode - 4).

### 3. CONSLUSION

- As for external contributing factors, the concurring opinion is observed regarding the “support from quality associations”, “increased competitiveness” and “special events (seminars, conferences) dedicated to quality issues”. Regarding the internal contributing factors, the opinion of focus group members and experts tends to differ, emphasizing availability of information resources”, “availability of financial resources”, “management initiative”.
- Mostly, the concurring opinion is observed regarding the external impeding factors (partners' disinterest, investors' disinterest, lack of positive examples), meanwhile regarding the internal impeding factors the opinion of focus group members and experts tends to differ. (“lack of management knowledge about model”, “lack of funding for man excellence-driven approach”, “lack of employees' knowledge and skills”).
- The opinion shows that both experts and focus group are aware of impeding and contributing factors to the implementation of EFQM. Therefore, in order to reduce the negative impact of different impeding factors to the implementation of EFQM model to the companies it is essential to ensure the availability of information regarding the advantages and benefits of EFQM model application supported by the user experience stories.
- The Society for Quality EFQM working group should promote the EFQM model application possibilities for self-evaluation, so that enterprises are able to assess their own strengths and weakness areas and should inform of model benefits.

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# THE CO-CREATING OF SUSTAINABILITY-ORIENTED VALUE IN SUPPLY CHAIN MANAGEMENT

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## ABSTRACT

*The co-creating of value in the supply chain plays an important role for sustainability. Focal firms, voluntarily and/or under the pressure coming from consumers, the public and other stakeholders, have embedded sustainability in their value chains, supply chains and, more broadly observed, their business as a whole. The focal firm cannot create a value on its own, so that, in the paper, an analysis is conducted of the co-creating of the value in the context of sustainability. The main purpose of the paper is to present an integrated framework for embedding sustainability in the supply chain.*

**Keywords:** *Co-creating of value, Supply chain management, Sustainability-oriented value*

## 1. INTRODUCTION

The sustainability of an entire supply chain (SC) depends on each actor's behavior (in the SC). A firm is only as sustainability-oriented (SO) as its consumers, suppliers and all other partners are. Firms can use the integrated framework for embedding sustainability in the SC as a "pattern" for the co-creating and prosumption of the SO value in the SC (Rakic & Rakic, 2017b). The paper concentrates on the co-creating of a sustainability-oriented value in the SO SCM as a pathway for achieving sustainability. The remainder of the paper is organized as follows: Section I deals with co-creating value as an important sustainability issue. Section II describes co-creating value. This paper emphasizes the transformation of the concepts such as the sustainable value and the generic value chains towards sustainability. Section III discusses the transformation of sustainable value to SO value. Section IV analyzes the transformation of the generic value chain to the SO internal value chain. In Section V, our integrated framework for embedding sustainability in the supply chain is introduced. Finally, Section VI concludes with a summary. We have conducted the content-based literature review method. It started from searches of electronic databases, such as: Directory of Open Access Journals (DOAJ), Emerald Management Xtra (Emerald), EBSCO Academic Search Premier, EBSCO Business Source Complete, Google Scholar, Scopus & Science Direct (Elsevier), Springer/Kluwer and Wiley Online Library (Wiley) (the databases are listed in alphabetical order).

## 2. CO-CREATING VALUE

Once the web and ubiquitous connectivity appeared for the first time, and was put in the hands of millions of citizens, new social interactions were introduced and the democratic and decentralized force of participating in society beyond institutional boundaries became free from restraints. The spawning of new manners in collective engagement, cooperation, and value co-creation continued, thanks to these forces. The single move leaders must make, and the most important one, is reflected in the necessity of their recognition of individuals' centrality, no matter whether they are playing a role of a customer, an employee or another stakeholder, whoever they may be, and their experiences as humans as a novel ground for the creation of value.

Today's business and society have been heading for a new view of co-creative engagement among individual persons and institutions – within and outside enterprises – based on an individual's perception and his/her human experience (Ramaswamy & Gouillart, 2010). According to the argumentation expressed by Johnson (2010) with respect to large groups in his work: *Where Good Ideas Come From*, it is not about a crowd itself becoming wise, but rather about individual persons connected with each other becoming smarter (Ind, Fuller & Trevail, 2012, p. 3). Numerous authors highlight the significance of the co-creation of value (Prahalad, 2004; Prahalad & Ramaswamy, 2000, 2004a, 2004b; Prahalad & Krishnan, 2008; Ramaswamy & Gouillart, 2010). Originally, the focus was put on the co-creating of a unique value and experiences with customers (Prahalad, 2004; Prahalad & Ramaswamy, 2000, 2004a, 2004b; Prahalad & Krishnan, 2008). Only later, apart from customers, are employees, suppliers, partners and other stakeholders mentioned (Ramaswamy & Gouillart, 2010). In the paradigm of the value co-creation, the scope of the value creation shifts from being a supplier-driven process to a customer-driven one (Vargo et al., 2008), though it is primarily a joint and interactive process between the supplier and the (end) customer, as both parties operate within each other's processes (Lacoste, 2016). Following the concept of the co-creation of a unique value with customers, an active role the customer plays in the creation of value must be recognized. One important feature with respect to a new market is singled out – the customer is referred to as a novel source of firm-related competences. The competences possessed by the customer are dependent on the knowledge the customer has and the skills he/she has acquired, on his/her being ready to learn and make experiments as well as on his/her capability of taking part in an active dialogue. Taking an account of the new role played by the customer, the competence can be said to be a function of the collective knowledge which is at hand throughout the entire system, i.e. in an expanded network that consists of customers, traditional suppliers, manufacturers, investors and other business partners. The role the customer plays is being altered. No longer is it possible for firms to act by themselves, nor can such firms make designs of their products, or develop their manufacturing processes, fix prices, design marketing messages and have control over the distribution channels without having to recognize the customer's influence. It is the customer who tends to affect every single segment of the business system. In possession of new tools and not being satisfied with the choices he or she has at hand, the customer desires to have an influence and take part in the process of the co-creation of value jointly with his/her firm. The interaction between them is the basic ground for the generation of a new system intended for the co-creation of a unique value (Prahalad & Ramaswamy, 2000). The basic transformation in creating value is the one from a firm-centric view of the value creation process (the traditional supply-chain system) to a co-creation view, centered around individuals (the network of experiences). According to the traditional theory of the firm, the unit of an analysis is the firm, whereas the basis for value is products and services. According to an emerging reality, the unit of an analysis is the nodal firm, whereas the basis for value is the co-creation of experiences. Firstly, from the firm-centric supply/demand perspective, the firm in the traditional supply-chain system buys inputs from its suppliers, manufactures products for the consumer segments, only to later have the products distributed via its channels to the targeted consumer segments. Actors in the traditional supply-chain system are: suppliers, the firm, channels and consumer segments (Figure 1a). Secondly, according to the individual-centric experience perspective, the firm develops a network of experiences, an infrastructure that is considered necessary in order to conduct an effective co-creation through personalized experiences (Figure 1b).

*Figure following on the next page*

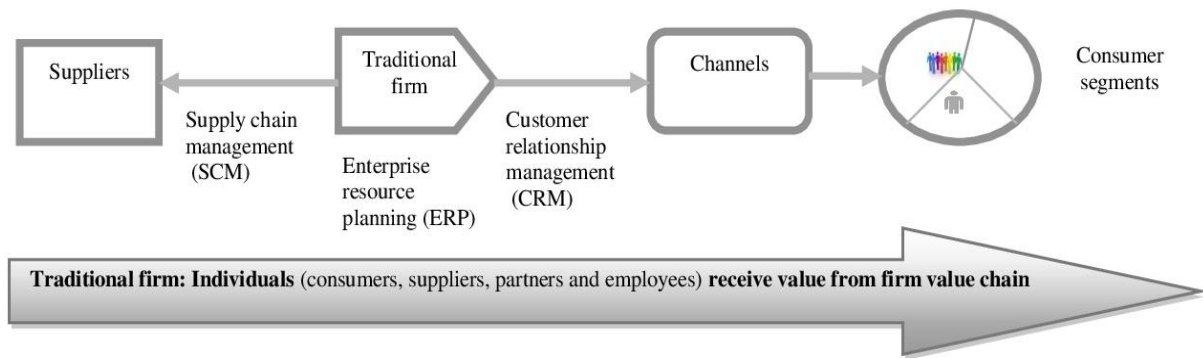
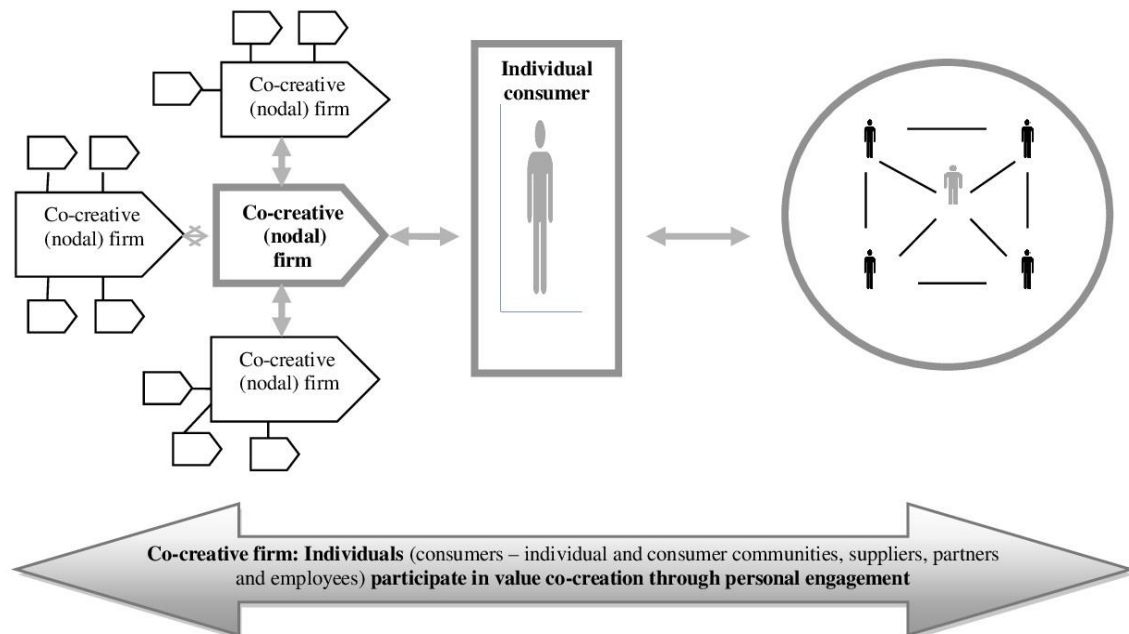


Figure 1a: The basic transformation in creating value – from traditional firm-centric supply/demand perspective (Drafted and adapted according to: Prahalad and Ramaswamy, 2004a, p. 96; Ramaswamy & Gouillart, 2010, p. 6)



Unique value to the individual consumer through personalized co-creation experiences:

- Consumer-firm interaction is the locus of value co-creation
- Individual co-creation experience is the basis for value
- Multiple channels are gateways to experiences
- Infrastructure must support heterogeneous co-creation experiences
- Enhanced network, including consumer communities, is the locus of core competence

Figure 1b: The basic transformation in co-creating value and experiences – to individual-centric experience perspective (Drafted and adapted according to: Prahalad & Ramaswamy, 2004a, p. 97; Ramaswamy & Gouillart, 2010, p. 6)

The infrastructure makes it possible for managers to enter competition with respect to experiences. Through such an experience network, components, products, or even information, are not merely interlinked, although the traditional supply chain is incorporated in it. The traditional supply chain is still an important item; no physical movement of products and services will vanish. The supply chain will, in a manner possible to predict, undergo a metamorphosis.

Communities are also emboldened by such a network of experiences, by establishing links between the supplier, the dealer, and support staff, on the one hand, and the consumer, on the other, as well as between consumers. Firms which are deemed to be contributive in the context of intellectual leadership, enter into coalitions and spurt ahead pathways for products, information and expertise, are referred to as nodal firms (Prahalad & Ramaswamy, 2004a). Nodal firms set the rules and allow for a free flow, but with adequate restraints. The nodal firm is in the heart of it and has an influence on the ecosystem as a whole, through a shared framework for the manner in which the consumer should be served; such a nodal firm also sets the standards and establishes customer interfaces. They all must make a joint effort with that respect. The nodal firm does not own the others, but rather cooperates and co-opts them so as to come up with a complex solution. This represents a move from the ownership- and control-based models to those privileged-access- and influence-based ones. The alleged nodal networks have ever-increasingly been treated as and considered to be the norm (Prahalad & Krishnan, 2008). “The future belongs to the co-creative enterprise” (Ramaswamy & Gouillart, 2010, p. 7). The re-defining of the way in which individuals, such as customers, employees, suppliers, and other stakeholders are engaged in firms is an inseparable part co-creation; simultaneously, they are included in the process of the creation of value and engaged in enriched experiences. Co-creative enterprises must create value together with individuals, in which process customers and all the other external stakeholders, on the one hand, and employees and all the other internal stakeholders, on the other, are included. An enterprise’s capacities for its growing continuously and resiliently are generated by the linking points that exist between the co-creation of an external value and the co-creation on the management part within that very same enterprise. When co-creative enterprises are concerned, their individuals take part in the designing of value by personally engaging and on the grounds of their own experiences (Figure 1.2). There are many different forms of engagement platforms, ranging from the product itself, via live meetings, websites and retail stores, all the way to mobile phones, call centers, private- and open-community spaces. The technology is not so much relevant as the philosophy driving such engagement is (Ramaswamy & Gouillart, 2010). Firms must dedicate efforts to the expansion of their mindsets and managerial and organizational practices to the whole diamond of value creation (Ramaswamy, 2009). The nature itself of co-creation is such that it is not about “build it and they will come”, but rather about “build it with them, and they are already there” (Ramaswamy, 2009). Co-creation implies both the means and the end, as it were, in a continuous cycle (Ramaswamy, 2009). The processes of co-creation should be focused on the value chain as a whole, thus integrating different stakeholders (at least the consumer and the supplier) so as to minimize negative social and environmental impacts and cherish sustainable development. Given the fact that the supplier and the customer are exposed to different challenges in the process of co-creation, it is necessary that a clear outline and specific incentives should exist in an ongoing partnership (Arnold, 2015). Value is always co-created by the customer: Without applying an offering, there is no value, either – value determination essentially relates to experience and perception (Payne, Storbacka & Frow, 2008). Co-creation related to sustainability implies the combining of resources, knowledge and capabilities between different actors in the market, for the purpose of improving products and services, even the value chain, through sustainability criteria (Arnold, 2015).

### **3. FROM SUSTAINABLE VALUE TO SUSTAINABILITY-ORIENTED VALUE**

The literature, speaks about the sustainable value (Chou, Chen & Conley, 2015; Hart & Milstein, 2003), sustainable value added (Figge & Hahn, 2004; Rakic & Rakic, 2015a), sustainability-oriented values (Axsen & Kurani, 2013; Rakic & Rakic, 2017a; Rakic & Rakic, 2017b), sustainability-oriented offerings (Ramirez, 2013) etc.

Hart and Milstein (2003) developed a sustainable-value framework that links the challenges of global sustainability to the creation of the shareholder value by the firm. They define the creation of the sustainable value by the firm as “shareholder wealth that simultaneously drives us toward a more sustainable world” (Hart and Milstein, 2003, p. 65). The drivers related to global sustainability can be divided into four sets. The sustainable-value framework presents for each of the four sets of drivers, associated business strategies and practices that correspond to a particular dimension of the shareholder value. The sustainability drivers provide firms with opportunities to improve each one of the four dimensions of the shareholder value. The shareholder value is a multidimensional construct, and the basic components of the shareholder-value framework are: 1. cost and risk reduction, 2. reputation and legitimacy, 3. innovation and repositioning, 4. growth path and trajectory. The first set of the drivers is related to increasing industrialization and the associated material consumption, pollution, and the generation of waste. The first set of the drivers (pollution, consumption and waste) present an opportunity for firms to lower the cost and risk (as the component of the shareholder value) through pollution prevention (minimizing waste and emissions from operations). The second set of drivers (civil society, transparency and connectivity) is related to the proliferation and interconnection of civil society stakeholders. The second set of the drivers gives an opportunity for enhancing reputation and legitimacy through product stewardship (integrating stakeholders’ views into the business process). The third set of the drivers is related to newly-appearing technologies capable of providing powerful, disturbing solutions that could make the basis of today’s many energy- and material-intensive industries outdated. The third set of the drivers (disruption, clean technology and footprint) present an opportunity for accelerating innovation and repositioning through a clean technology (developing the sustainable competencies of the future). In the end, the fourth set of the drivers refer to increases in the population, poverty, and inequity that globalization is associated with. Ultimately, the fourth set of the drivers (the population, poverty and inequity) present an opportunity for crystallizing the firm’s growth path and trajectory through a sustainability vision (Hart and Milstein, 2003). According to Figge and Hahn (2004), the sustainable value added represents, in monetary terms, an extra value created by a company, adjusted for all changes in eco- and social effectiveness. There seems to be demand for sustainability-oriented goods and services – product offerings maximizing environmental, economic, and social welfare (Luchs et al. 2010; Ramirez, 2013). A large number of firms consider making products and services sustainable as a promotion of an environmentally friendly design; the examples of it we are well aware of are inclusive of packaging reduction initiatives and maintenance services whose purpose is to extend the life of a product. However, the sustainability concept, in fact, covers a broader set of issues, including social concerns, human rights issues, and resource conservation, among other ones (Chou, Chen & Conley, 2015; Gobble 2012). Products *per se* generate a sustainable value chiefly by incorporating eco-friendly attributes, such as durability or biodegradable materials; yet, sustainability relies to a greater extent on changes in the way people think and behave rather than on technology development (Chou, Chen & Conley, 2015; Clark et al. 2009; Rakic & Rakic, 2015b). The interaction necessary for services to be delivered enables companies to interact with the customer more closely and more often and follow them more closely, thus being provided with a larger number of opportunities to have their respective sustainable attitudes and lifestyles promoted. This is the way how service offerings may be regarded as a powerful vehicle for delivering on sustainability values reflecting real customer concerns (Chou, Chen & Conley, 2015). There is a dilemma with respect to the terms: sustainable and sustainability-oriented. Belz and Peattie (2009) explain the meaning of the term “sustainable” and clearly indicate the difference in relation to the terms that are connected with sustainable development or the consideration of sustainability issues. The term “sustainable” means something durable or long-lasting, without any particular reference to sustainable development or the consideration of



sustainability issues (Belz & Peattie, 2009). As in the literature in the field of marketing sustainable marketing is differentiated from sustainability marketing (Belz & Peattie, 2009), we differ the sustainable value and the sustainability-oriented (SO) value. A value can be sustainable, but does not also have to be directed towards the achievement of sustainability principles. In this paper, we started from the fact that the activities conducted by actors in the process of creating, delivering, communicating and consuming the value are valued from the aspect of sustainable development. For this reason, the term “sustainability-oriented value” is used in the paper. Apart from that, with all the other sustainability-related terms in the paper, “sustainability-oriented” means a holistic approach to sustainability by covering all the three dimensions (economic, environmental and social) in the dynamic process (Rakic & Rakic, 2017b). Firms create, communicate and deliver offerings (products and/or services) at a certain price. Offerings have a certain value, which is, first of all, evaluated by buyers on the market, by purchasing or by not purchasing (offerings – products). Based on Porter’s presentation of the value in competitive terms (Belz & Peattie, 2009), we define the SO value as the amount SO buyers are willing to pay for the SO offering that a firm provides for them. The SO value is measured by the total revenue (which is the result units that a firm can sell at the price it sets). A firm is profitable and more broadly observed SO if the total revenue exceeds the costs of involving in creating, communicating and delivering the SO offering. The SO value triad is a combination of the economic, social and environmental benefits of the SO offering. In the focus of the SO offering is the creating, communicating and delivering of economic, social and environmental benefits simultaneously. The creating, communicating and delivering of the SO value for SO buyers that exceeds the cost of doing so is the goal of the SO strategy. Firms can be differentiated on the basis of the SO offering for SO buyers. For SO offerings, and more broadly observed SO firms, to survive, SO consumers are needed, those who want and can buy SO offerings at a premium price (Rakic & Rakic, 2017b).

#### **4. FROM THE GENERIC VALUE CHAIN TO THE SUSTAINABILITY-ORIENTED INTERNAL VALUE CHAIN**

Porter proposed the value chain as a tool for identifying the ways to create more of the customer value (Kotler & Keller, 2012, p. 34). Every firm encompasses the activities performed in order to design, produce, market, deliver, and support its product. All these activities are represented by Porter’s (1985) using the value chain. Porter’s generic value chain of a firm encompasses primary activities (inbound logistics, operations, outbound logistics, marketing and sales, service) and support activities (procurement, technology development, human resource management, firm infrastructure). Sustainability addresses the activities performed by firms in order for such firms to have sustainable requirements implemented across the whole of the value chain (Arnold, 2015). Numerous authors have addressed some parts of Porter’s generic value chain in the context of sustainability (Lozano, 2012). Observed in a wider context, the value chain is part of the supply chain, so that some parts of Porter’s generic value chain, in the context of sustainability, are subject to observation in the in the following text. All firms have their own internal value chains. In compliance with the integrated framework, this Section observes the SO internal value chain of the focal firm. Based on Porter’s value chain (Porter, 1985), we conclude that the SO value chain displays the SO total value, and consists of the SO value activities and margin (Figure 2). The firm performs distinct SO activities on the basis of which it creates its SO product, valuable to its SO buyers. Its margin is the difference between the total value and the collective cost of performing the SO value activities (Rakic & Rakic, 2017b).

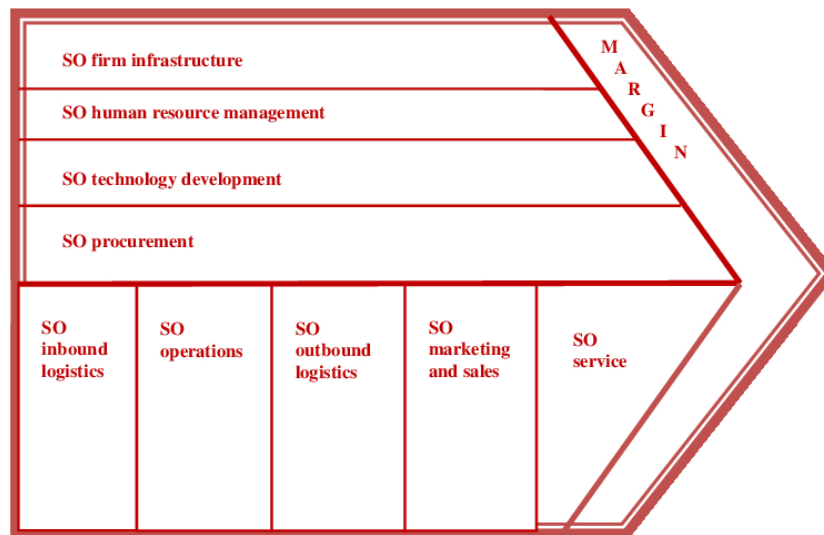


Figure 2: The SO value co-creation in an SO internal value chain (Rakic and Rakic, 2017b)

## 5. CO-CREATING OF THE SUSTAINABILITY-ORIENTED VALUE IN THE SUPPLY CHAIN MANAGEMENT FROM THE ASPECT OF THE FOCAL FIRM

Actors as co-creators and prosumers (the focal firm, consumers, suppliers, distributors, customers etc.) are engaged in the co-creation of the SO value and the prosumption of information, the material and capital. The integrated framework for embedding sustainability in the supply chain is shown by Figure 3. Some of the actors must take over an active role in the SO SCM. Actors, in particular end consumers and the public consider producers as the ones responsible for final products. In this paper, the fact that the focal firm is taking over the role of the initiator in the process of a transformation towards sustainability is emphasized and the influence on the SO mindsets of all actors (Rakic & Rakic, 2017b). “Building blocks” contribute to the embedding of sustainability in the supply chain. The building blocks are parts of a “diamond” for creating and sustaining the SO competitive advantage. In short, the “building blocks” of the co-creating and prosumption of the SO value in the sustainability-oriented supply chain management (SO SCM) from the aspect of the focal firm are as follows:

- SO value,
- SO internal value chain,
- SO value chain of end consumers,
- SO relationship management,
- SO value co-creation and prosumption with external value chains,
- The influences of the stakeholders that are beyond the supply chain.

SO consumers (individuals and communities) are the central entity in the framework. Consumers’ contribution to sustainability depends on attitudes towards sustainability, information, knowledge, buying power, culture etc. Transformation to sustainability in the SCM means that the focal firm has to learn how to co-create SO value with consumers, suppliers and other partners and stakeholders. The focal firm creates and sustains the SO internal value chain, and conducts external SO relationship management. The focal firm in the SO internal value chain embeds the sustainability approach in all activities. The responsibility of focal firms lies in managing the co-creation of value and the sustainable orientation of all actors in the supply chain. Consumers purchase products from the focal firm. Consumers frequently perceive the focal firm the only one that is deemed to be responsible. For that reason, SO relationship management is significant (Rakic & Rakic, 2017b).

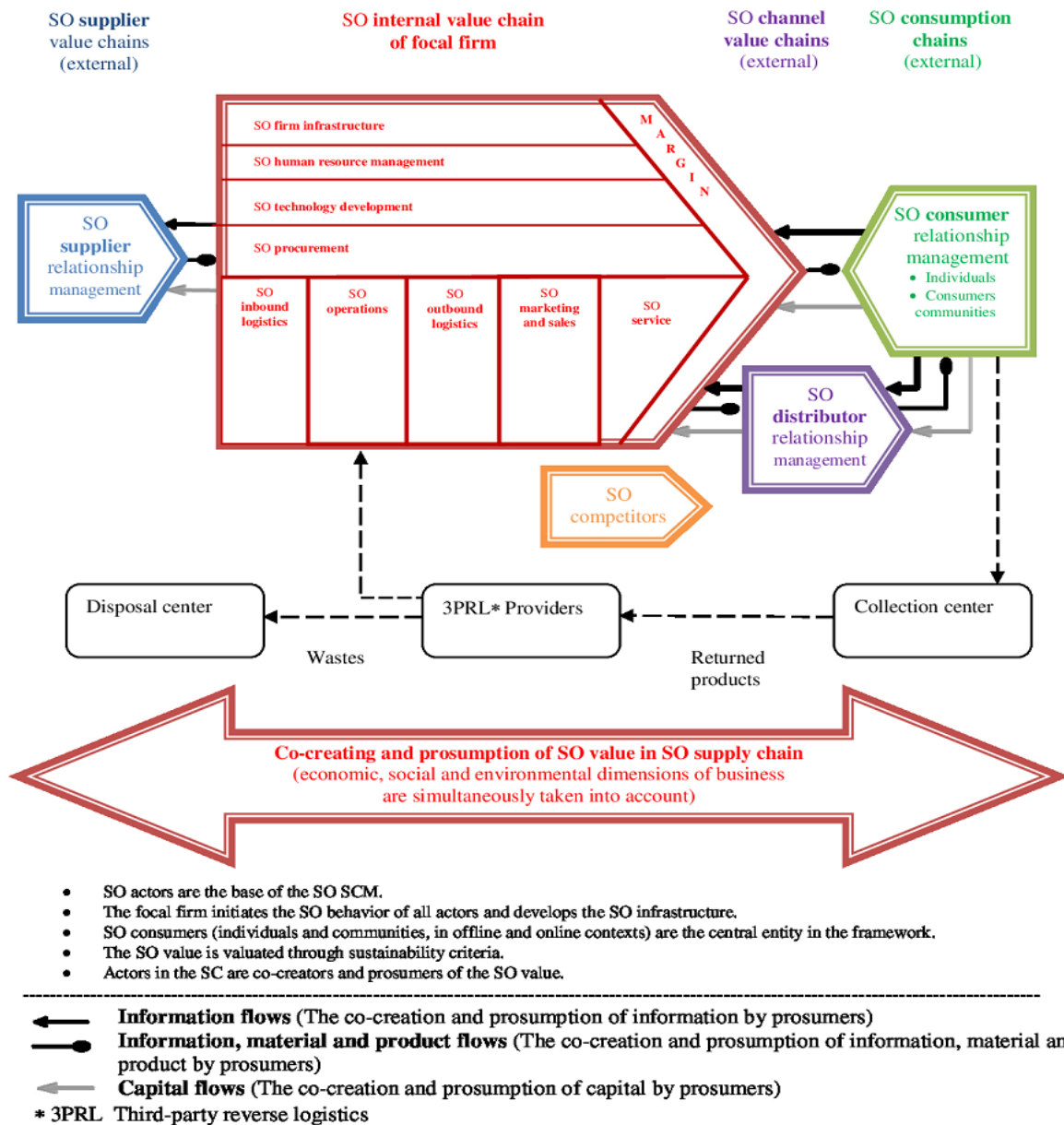


Figure 3: The co-creating and prosumption of the sustainability-oriented value in supply chain management from the aspect of the focal firm: The integrated framework for embedding sustainability in the supply chain (Rakic and Rakic, 2017b)

## 6. CONCLUSION

This paper suggests the co-creating of sustainability-oriented value in the SO SCM as a pathway for achieving sustainability. The paper presents several solutions to the co-creating of value in the supply chain. A transformation from sustainable value to sustainability-oriented value is the first solution. The second solution is a transformation from the generic value chain to the sustainability-oriented internal value chain. The result is the integrated framework for embedding sustainability in the supply chain.

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## CHALLENGES OF THE GLOBALIZATION PROCESS AND ITS IMPACT ON THE MODERN ECONOMY

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### **ABSTRACT**

*It seems that almost everything related to globalization starts, rests and ends on the market as an economic institute and a competition, as its core lever. Essentially, everything is done in order to control the monopoly market, to reduce the competition using adequate competencies, and to affirm power of the supranational elites as a new orientation of world development. Economic globalization is programmed and directed by the most developed countries, the largest transnational corporations and powerful world financial centers, with a view to securing business continuity. However, many authors think that it does not extend to all countries but circumvent areas which do not represent value to it. It produces immeasurable advantages to ones and inflicts damage on other economic subjects. There is an irrefutable outsourcing of unfavorable operation costs, crises, difficulties and problems. Globalization and economic globalization have led to the possibility that the economic crisis will deteriorate all over the world. In small economies, there has been a decline in exports, large layoffs, a reduction in salaries and pensions. Individuals give in under this pressure and the rate of mental illnesses increases. This paper suggests that perhaps the one of the priorities should have the research of the negative consequences of the process of globalization in general, and the economic crisis as one of its repercussions. New generations are being shaped in the conditions of globalization and economic crisis, and it is very difficult to predict what consequences they will have in the future.*

**Keywords:** *competition, economy, globalization, market, transnational corporations*

### **1. INTRODUCTION**

Researching the processes of globalization reveals that we are facing the field which covers more dimensions: economic, social, political, cultural, religious and legal, and those are all linked together. This means they are susceptible to unique interpretations and explanations that take into account only one side of the problem. In addition, instead of adapting to the modern, Western model of globalization that is homogeneous and unbiased, the theories of modernization and theories of development, they are both relentlessly supportive of admirers of Lamb as well as those of Marks, therefore, for the last thirty years the process of globalization combines universality and the abolition of national boundaries, on the one hand, with special emphasis on local diversity, ethnic identity and return of value of communities, on the other hand (Albrow, 1990, pp. 34). Moreover, such a model of globalization implies a variety of things, interactive relationship with one another, overwhelming processes of world transformation such as a dramatic increase in inequality between rich and poor countries, between rich and poor in each country in particular, along with the ecology, disaster, ethnic conflicts, mass migration on the international plane, occurrence of new states and the collapse or decline of the old ones, growing number of civil wars, organized at a global level, or a formal democracy as a political condition for obtaining international assistance. Before we offer the interpretation of contemporary globalization in order to describe its main features, from an economic, political and cultural standpoint, we could casually mention the three most important types of debates it has undergone, which are based on the following questions: Is globalization a new or old phenomenon? Whether it is monolithic or has positive and negative aspects? Where is the ever increasing intensity of globalization?

All these deliberations are peculiar for the extreme need of globalization to dedicate the same attention to the social, political and cultural dimensions of globalization. Appearing as the main feature of globalization, the globalization can act as propagation of the idea that it is not just a single process, but an entire process behind the consensus. As we will demonstrate later, this is clearly not true. However, although wrong, this idea prevails. Although incorrect, it also contains the grain of truth. We cannot be saying that the globalization is based on consensus; on the contrary, we will see that it opens wider field for conflicts between different social groups, governments and hegemonists, interests, on one hand, and social groups, governments and subordinated interests, on the other hand. Even within the hegemonistic camp there are fewer or bigger divisions in that sense. However, in spite of all these divisions, the hegemonic camp exists based on the consensus of its most influential members. It is precisely this consensus that determines not only that the dominant objections of globalization become larger and legitimate as the only possible, or appropriate. Similar to the concepts that preceded it, such as modernization and development, the notion of globalization contains both a descriptive and a prescriptive component. Given the length of the ongoing process, it prescribes a long list of regulations that are all based on the hegemonist consensus. That consensus is known as neoliberal; it refers to the future of the world economy, development policy and, in particular, to the role of the state in such an economy. Consensus did not, in the same way, determine all dimensions of globalization, but it influenced all of them, to a certain extent. The neoliberal consensus itself is a set of four consensuses. Today, this consensus has been relatively weakened because of the more severe conflicts within hegemonists, as well as because of the resistance to it; these conflicts and resistances are so strong that the period in which we now live is called the period of result of the British consensus. Still, we are just a neoliberal consensus imposed on to the state we live in today, which means that it has made the characteristics of present globalization very dominant. According to the different consensuses contained in the neoliberal consensus, there is one major idea on which meta-consensus is based. That idea comes to an end on the assertion that we enter into a period in which deep political scars disappear. There are no more imperialist controversies between hegemonic countries that in the twentieth century caused two world wars; the great dependence of the great powers has enabled the development of cooperation and regional integration (Bauman, 1992, pp. 80-90). Today there are only small wars, many of which are of weak intensity and are almost always on the periphery of the world system.

## **2. INTERNATIONALIZATION OF THE WORLD ECONOMY**

The end of the 20th century characterizes a series of global changes in the structure, characteristics and types of products and services provided by providers of financial products and services in developed market economies (USA and EU). This was particularly evident in three areas: consolidation, unification and competition. At the same time, financial institutions have faced numerous new challenges rapid changes that took place in information technology, deregulation, geography and expansion of production, globalization of business, laws, accounting standards, market and trends in the direction of many business combinations (Grbic, 2005, pp. 4-5). Globalization has many similarities with internationalization, and these two concepts often change, though many prefer to use globalization when they want to highlight the collapse of national borders. Strongly economically speaking, globalization is in contrast to economic nationalism and protectionism, while it is consistent with laissez-faire capitalism and neo-liberalism. There are three phases in the process of internationalization of the world economy. In the first phase, from the World War II by the end of the sixties, the world's leading role was played by the world trade, and the degree of the internationalization was merited by a worldwide export share. In the second phase of internationalization, during the seventies, the foreign investments have the dominant role.

The most dynamic is the competition between multinational corporations, and the measure of internationalization of some economy or company was determined by the participation of its production capacities in inactivity in sales made in the world market. Globalization is called the third phase of the internationalization process in the world economy (OECD 1992). During the eighties, the third phase of internationalization or the process of globalization takes place mostly under the influence of technology. Ability to innovate, adapt and apply technology becomes a key element of industrial competitiveness, accompanying by new forms of investment and models of industrial organizations. The notion that some companies might be involved in international game relies on more complex technologies, maximum flexibility, products tailored to the specific market and a wide supply chain. New industrial forms are creating business, such as: joint ventures, subcontracting, licenses, agreements between firms, and international networks are established in the domain of research, production and information. The third phase of internationalization includes trade, investment and the establishment of global industrial networks. This indicates that it is no longer just about interdependence, but about intertwining through national economies, mainly through the activities of multinational companies. Earlier some of the measures of economic or sectoral policies acted largely within national frameworks, while today their work has significance for the economic development of the countries, and simultaneously it influences the world trade system. All this suggests that such a global economic system is created, whose main actors are multinational corporations connected through networks of various activities of the enterprises. Because of that, many industrial and trade policies deal with the global activities of the companies, and they are looking for competitive advantages in other countries. The governments of the OECD countries are trying to attract attention of multinational actors, but at the same time work to keep the biggest activity at home added value. National states and multinational corporations have a smaller matching part, and to a greater extent, contradictory interests. The key interest of multinational corporations is that its competitiveness does not originate solely from the resources of the parent or any individual nationwide economics, rather than having global resources available (Dasic, 2003, pp. 222-225).

### **2.1. Economic integration as a consequence of globalization**

The globalization process has led the world into huge structural changes. Economic integration is basically market integration. Free movement of goods and services is a fundamental principle of economic integration. As well known from the classical theory of international trade, free exchange of goods is promising a positive impact on the prosperity of everyone to whom it relates. It allows consumers to choose cheap prices, and wider choice of options. The increase in the social wealth, arising from market liberalization of products, is a good economic reason to begin integration with this goal (Prvulovic, 2010, pp. 43-45). Today, there are different types of cooperation between sovereign states. The cause of any cooperation is globalization, which promotes international relations and contributes to their diversity. We talked about cooperation between countries at a global level, but first we have to start from a particular country and its region. The performance on the global level will depend on what kinds of relationships are established between the countries in their region. In addition to the bilateral and multilateral cooperation, we recognize increasingly difficult and institutionalized form of economic, financial, technological, security, and other cooperation between the regions of individual countries (province, republic), the state within the framework of formed regional economic integration (group), and regional integration itself. The most prominent among all aspects of regional cooperation is certainly the economic one. The emergence of numerous regional integrations has become global megatrend. Economists are aware of the size and power of the market, the flow of capital, services, and labor in the countries of the modern world (Friedman, 2000, pp. 636-656).



Free movement of production factors can be understood as the second foundation of economic integration. One argument for this is that it allows an optimal allocation of labor and capital. Sometimes some factors of production are missing in places where production is most economical. In order to solve that problem the entrepreneurs should be ready to move their capital from places where they could achieve a low gaining to places that promise more. The same goes for the workforce: the employees will migrate to the regions where their work is more demanding and therefore better rewarded. The second argument is that the expanded factor of market production provides new production possibilities, which, in turn, allows it to be more modern and more efficient (new credit lines, new occupations). The choice of the production factor for the goal of the second phase of the integration process is partly based on the economic advantages derived from such integration. However, here we must also consider political logic. Labor market integration seems to be an obvious choice in periods of general shortage of labor. The list of national regulations on wages, social security, etc., it seems that it left the opportunity to leave for practical intervention on a national basis, in order to agree to accept the general principles at the European level. As for the integration of capital markets, the issue of direct investment becomes clear; many countries can hope to attract new foreign investments in this way. For other types of movement of the capital, the desire for integration is less obvious, because integration implies a disclaimer of control through sensitive macroeconomic instruments (Sassen, 1998, pp. 35). According to the opinion of many authors, the economic component of the process of globalization is actually the most important one and it is precisely the economic interdependence and integration, above all, (the EEC primer) that, in addition to technological revolution, has contributed to the intensification of globalization, during the seventies and the eighties of the 20th century. As one of the arguments in favor of this theory, it is stated that the very term globalization itself appeared in a single text dealing with economic analysis of imports into Italy in 1959. One of the strong arguments in favor of this theory has been the fact that the economic relations are those that dictate social relations, their change and the pace of their changes, and that they are in reality the drivers of political changes, cultural trends and technological innovations. According to the abovementioned, it is entirely logical that globalization, as one of the essentially social phenomena, has its roots in economic changes, so that, for example, the neoliberal economy imposes the subordination of all expansion and strengthening of the market and the increase of profits, and accordingly promotes technological progress to make it all easier. Therefore, culture develops in that direction, foreign policy is put in the service of protecting and spreading such market, and social policy is minimized (Giddens, 2000, pp. 55). The elimination of the limits of capital, the greater interdependence of financial events, the division of production, the availability of products from all over the world are only some of the consequences of economic globalization, while as the main confirmation of economic globalization and its best indicator is the number of direct foreign investments in a particular economy. It takes this factor as a proof of economic globalization, and it has to be approached with a specific reserve, as the research shows, that direct investment is geographically, regionally grouped among the economically most developed parts of the world (USA, Western Europe, Southeastern Asia), in favor of regionalization rather than globalization, and again confirms the previously outdated attitude of "the injustice" brought by globalization and the political component of regionalization within the multipolarization. Far more robust confirmation of economic globalization is the growth of transnational companies (TNC) and the more active role of global financial institutions in creating financial policy (Sirkin, 2008, pp. 73). Especially since the GDP of these companies is a lot bigger than the GDP of some states, as evidenced by the statistics of the International Monetary Fund in 2012, with GDP of over \$ 50 billion. Companies have achieved this success thanks to their approach to global production and distribution, including a wide territorial network of companies and affiliation with specific markets, with the forthcoming expansion of

the market, and numerous subsidies to the governments of host countries and know-how in attracting the foreign investments, sometimes not so much calculated. Capital is thus, without any doubt the most important and invisible launcher of globalization and it serves as an ideal tool for its largest holders, in the most developed states and stationed TNCs which perform the neoliberal doctrine, keeping in mind that neo-liberalism could increasingly take on a totalitarian character that could glorify the cult of violence and abuse of rights but also the ignorance and devaluation of workers' rights, something that is already happening. Namely, solely for profit-making, the company does not care for the interests of workers in developed countries when, along with the benefits of globalization, their production can be started in a less developed country with far less labor costs. This is perhaps the only equality brought about by economic globalization - the bad position of workers both in developed and undeveloped countries. It is reported that in 2006 the number of billionaires increased to over 200 while at the same time 1.2 billion people lived with less than \$ per day, and 20% of the richest people consumed 67% of the world's national income while at the same time 20% of the poorest consumed 1% of the same, as most of the world's capital is housed in the hands of the newly-formed elite of TNC and the government of the most powerful countries. Prior to these figures, this concept brought about the so-called "business complex", which unambiguously points to the growing inequality and the fact that the globalization only deepens it, so there is no wonder the UN delineates that 48 countries in the world actually have no benefit from economic globalization (UNDP Human Development Report, 2001).

### **3. ECONOMIC GLOBALIZATION**

Globalization is, however, mostly considered from an economic point of view, since it can be said that the other aspects of globalization are the side effects of globalization in the service of economic globalization. Economic globalization is based on the minimized role of the state, with the preponderance on the free market, the principle of liberalism, based on perfectly fructifying market mechanisms that have been institutionalized through the international economic relations. Under economic globalization the overall liberalization of trade flows continuously, which is underlined by the capital on the international scale, with the mobility of production factors such as labor, ideas, information, and technology. Economic science has been mainly focused on studying: financial globalization, regionalization of the economy, co-financing capital and creation of global transnational companies, intensification of the world trade and its liberalization. They all marked the end of the 20th century that was followed by the major events that have affected the globalization of the economy: the collapse of Eastern European socialist bloc with the abandonment of the socialism in the economy, the creation and strengthening of the North American Union, the European Union and the East Asian Union, in recent times the rise of the BRICS economy, the globalization of the world economy on the basis of permanent technology discoveries and processes of capital internationalization and concentration of economic power (Dimitrijevic, Ladjevac, 2013, pp. 11-20). Globalization is global availability of information and exchange of information through new information-communication technologies (ICT). This aspect of globalization can be summarized in three letters - WWW. Together with technology, mobile and smart phones, ICT have become an opportunity to connect individual and global through social networks and to exchange information of different levels of importance (Castells, 1996, pp. 116-130). These technologies enable breakdowns of work places all over the world from one country to another where workers are in need of information available because we live in a time when it becomes clear that the job does not have to be tied to a fixed location. It is interesting to hear that the term "globality" is being often referred to a situation in which the process of globalization is already over and there is a glimpse of new global reality. Contemporary use of this term is the most relevant one for boosting competition.

This situation is characterized by the structural shift of trade flows and companies that compete for consumers, suppliers, partners, capital, capacities, and distribution systems.

### **3.1. Economic crisis**

One of the key consequences of the global economy or globalization of the economy is the world economic crisis. Financial crisis is not new phenomenon, however, it can certainly be argued that the economic crisis, ranging from the one that started in 2007 in the construction sector and housing construction, and in the area of mortgage lending, fell on to other sectors of economic activity, and then to the finances all over the world economy, to an extent that so far has not been seen. There is a general consensus that the economic crisis triggered the expansive monetary policy led by the U.S. Federal Reserve. It was argued that it pursued a policy of cheap money through low interest rates on the amount of money in the U.S., and even in the world because the dollar is a reserve currency. This Federal Reserve's economic policy was possible thanks to the ability of the U.S. for refinancing from the borrowings; for example, China was in surplus. In this way the interest in the US was low and money was inexpensive, reflecting on the possibility of buying homes and apartments for cheap loans. At the end of 2004, the interest rate started to increase, and refinancing of credit became more difficult, and at the same time there were also difficulties with mortgage loans, buying of the apartments cease to exist, which caused breaking the real estate market in the United States.

### **3.2. Consequences of globalization**

The first consequence of globalization is related to the deep crisis of moral and system of values. There are three basic ethical challenges that have led to the global crisis: 1) the enormous greed expressed through the profit-making; 2) absence of empathy and elemental feeling for another human; 3) the ethos modeled to encourage borrowing, gaining and spending. This life orientation produces stress for world population, resulting in a loss of happiness, and neglecting emotional, friendly and humane social relationships. Accordingly, the ethical challenges of globalization are in the interaction and make the future rather uncertain. The essence of uncertainty is related to survival, debt crisis, personal insecurity and geopolitical challenges. The ethical challenges of globalization are in direct contact with economic, social, psychological and other risks that interact with one another. Primarily, ethical challenges manifest themselves in deepening the gap between the rich and poor, the rude behavior of business and political elites (which suggests growing number of reported scandals and corruption), inadequate market regulation, shrinking gray and black market, etc. Such an ambience of constraints in economic and social prosperity determines the materialist culture that has emerged from globalization. On the other side, the growth of ecological and social problems has enormous damage on people, entire communities and future generations (Robertson, 1992, pp.178-185). All listed sufficiently points to the consequences of a global crisis which is not apparent only in the economic dimension. Those who expected "dividends of prosperity" today do not hide their disappointment. The world has become neither serene, nor more secure, nor humane. On the contrary, instead of benefiting from globalization and the expected economic growth and the social well-being of the inhabitants of the planet, the social community is faced with many challenges of multi-dimensional character.

## **4. CONCLUSION**

Modern international economic processes represent a part of the long-term global transition from industrial to postindustrial society and from the internationalization of economic life to the globalization. Many economic, technological, institutional, political, cultural and other parameters show contradictory tendencies: globalization, on one hand, unites the world, and on the other hand it divides it on post-industrial civilization and various variants of the pre-

industrial and industrial civilization. Difficulties in understanding the complex and contradictory processes of globalization, and especially its numerous consequences and accompanying phenomena cannot be explained unambiguously, except perhaps by using the existence of proclaimed dynamics of the development of human society in general, as well as the large volume of changes (Beck, 1992, pp. 17-44). In economics, integration means new ways of connecting in national, regional and international proportions. It signifies various processes of internationalization of production processes and economic activities, in general. In addition to economic integration, the modern world integration processes are also exercised in the political and military spheres. In this context, regional economic integrations are represented, regardless of some of their undeniable autonomous determinants, as integral part of the process of globalization of the world economy (Yergin, 2002, pp. 67-75). Regionalization and globalization are represented as complementary rather than divergent processes. The most progressive example of creating a successful regional economic integration is the European Union created more than fifty years ago, continuing its development and expansion. It was a unique model for economic regional integration that was later created in other regions of the world (NAFTA, MERCOSUL, ASEAN, etc.). Regional economic integrations are, in fact, a link in the chain of increasing interdependence of states and actors of the world market scene; they are one of the essential mechanisms that enable intensive realization of globalization of the world economy. Regional economic integration is the economic cornerstone of the global trade liberalization, which fosters universal economic competitiveness. For Serbia, the development of regional cooperation in the Southeastern Europe, and especially in the Western Balkans, is a powerful instrument for speeding up the accession to the European Union. In order to make this process more effective, it is necessary to achieve close coordination and cooperation with other countries in the region by implementing reforms and joint projects related to European integration.

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## **INFLUENCE OF INNOVATION ACTIVITY ON COMPANY PERFORMANCE**

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### **ABSTRACT**

*Market globalization increases the level of competition between businesses that is increasing the interest in innovations, which are at present a necessary factor in increasing the competitiveness of the business. To ensure the effectiveness of investments in individual innovation activities, these activities need to be managed and, in particular, we need to measure their performance. Businesses face difficulties when establishing a clear relationship between business innovation and its performance. When measuring innovation performance, there is a serious problem with a significant delay of the benefits of innovation and the complexity of the isolation of the role of innovation from other business activities with respect to the overall performance. Measuring innovative business performance can be achieved by financial indicators such as ROE, ROI and by non-financial indicators such as the number of new ideas, products, and so on. The paper aims to compare the development of innovation in the selected sector and the development of the sector's financial indicators for the identification of indicators whose development most closely corresponds to the development of innovation.*

**Keywords:** *Competitiveness, Evaluation, Innovation, Performance*

### **1. INTRODUCTION, THEORETICAL BASIS AND HYPOTHESES**

Specialized literature defines innovation as a new or significantly improved product (product, service) introduced to the market, a new or significantly improved process, or a new organizational or marketing innovation introduced within the company. Innovations are based on the results of new technological developments, a new combination of existing technologies or utilization of other knowledge acquired by enterprise. Several studies defining the factors of innovation success have been developed and implemented (Hernando and Szymanski, 2001), (Trommsdorff and Steinhoff, 2009). Other approaches to assessing the success of innovation lie in an attempt to evaluate step by step the individual stages of a previously existing innovation process. The next group of authors propose to consider the effectiveness of innovation based on analogous indicators, such as in the evaluation of investment efficiency. These approaches seek the ways to evaluate the effects of innovation activities at company level. The article is focused on the comparison of statistical processed reports on innovative activities of enterprises in various industries developed at the macro level with the development of the mean values of selected financial indicators in the surveyed sectors in order to identify the impact of innovation

on company performance. Based on the results of the comparison, we will define the determinants showing the dependence of innovation activities.

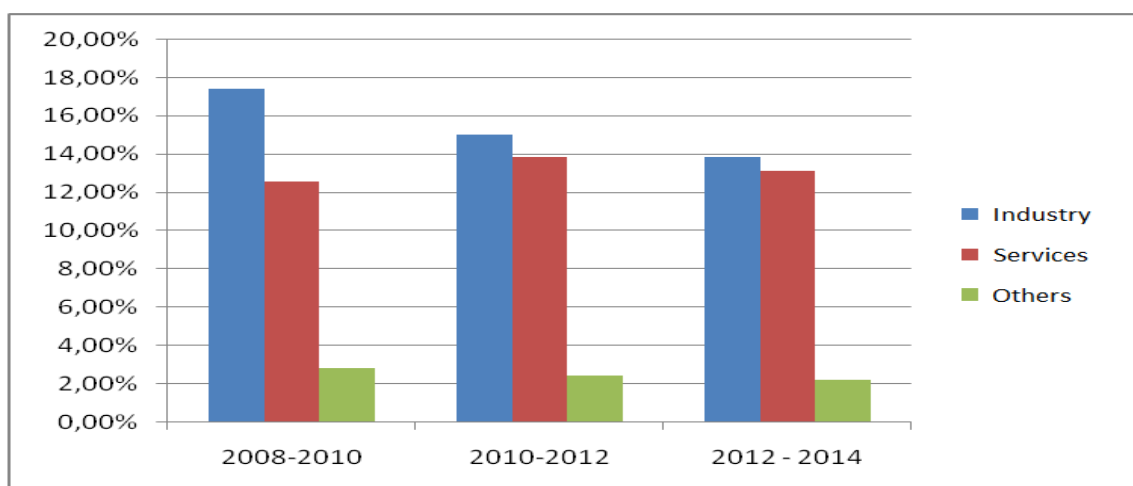
## **2. METHODOLOGY**

Business performance relates to the effectiveness of business operations and the success of the products and services on the market. Way to gain a competitive advantage is inevitably connected with innovations. The innovations as the creation of something new, hitherto non-existent potentially always include the ability to attract customer's attention. Customers prefer novelty products and services as a strong buying incentive. Successful innovation can bond customers' attention for longer periods, resulting in at least a temporary strengthening of the competitive position of the company. Maintaining and improving thus obtained position requires evaluation and strategical regulation of an innovative effort of the company. To make the company innovative, just a good idea is not enough, there must be (Porter, 1990) of "a combination of good ideas, motivated employees and an intuitive understanding of what customers want." The company needs to innovate not only the products offered, but also to innovate itself, its business strategy and the space in which it operates. From this point of view, the assessment of innovation can be a highly challenging task. Approaches to evaluating the success of innovation consider the objective and the focus of innovation, also the objective and focus of the decision-making process for which the information on the success of innovation has been developed. The decision-making process may involve the initiation or continuation of innovation, possibly launching innovation on the market, the method of evaluating the success of innovation will then depend on the stage where the innovation is. In the initial phase of the innovation process (Synek et al., 2011), the assessment criteria will be rather technical, respectively, will have a non-financial nature, which according to the measure of compliance testify on whether the innovation is likely to be profitable after its completion. While dealing with innovative projects being updated with information on the possibilities of the market utilization of innovation, on eligible costs, or on production processes, the share and importance of purely economic indicators with the increasing degree of approximation will grow to the moment of realization of innovation on the market. One approach to evaluating an innovation is the definition of success factors and assessment of level of its achievement. For instance, Hernardo and Szymanski (2001) divided success factors to cover all aspects of the innovation into 4 main groups, in which the innovation should be successful, namely: product characteristics (superiority over competing products, a series of innovation and resource capacity), strategic factors (technological potential and marketing synergy), procedural characteristics (market and customer orientation) and market characteristics. Trommsdorff and Steinhoff (2009) developed the so-called CIA analysis - Competitive Innovation Advantage, which emphasizes that not only the technical solution for the success of a product innovation is important, but also the advantage of a new product for the user. Considering that innovation has usually a capital nature, another approach to assessing the success of innovation is the use of techniques and methods of assessing the effectiveness of a company investment (NPV, IRR, payback period). Based on the objective of innovation that can be to maintain or increase the performance of the business entity, success of innovations can be evaluated based on the innovation impact on the financial results of the company. The method of evaluation of the innovation will mainly be used for evaluating the innovation after its launch to obtain information on the real impact of innovation on business results. They are used for deciding on, for instance, the further necessary corrections of the implemented innovation, or the initiation of an innovation and serve to create a knowledge base for the assessment of new innovations. The paper is focused on mapping the potential impact of innovation of enterprises on their economic performance at the level of the whole sector and the definition of economic indicators that show some dependence on innovation.

The performance of the industry will be assessed based on the development of the mean values of selected ratios (CRIB) considering the innovative activities of industry in Slovakia (Statistical Office of the SR, 2008-2010, 2010-2012, 2012-2014). (Until we submitted our article we did not know the results for the period 2014-2016. To keep the continuity of the innovation indicators, we have compiled data for these years from other surveys.) The methodology of the statistical survey on innovation was worked out within the framework of the process of implementation of the statistical methodology of the EU member states. It was based on the OSLO manual methodology of OECD/Eurostat and it was harmonized with the Fifth Community Innovation Survey (CIS 2010) of the EU member states. The set of reporting units was created from the official statistical business register by combination on an exhaustive survey and a stratified sample survey in particular branches of economic activity.

### 3. RESOLUTS

To select the indicators that could reflect the impact of the development of innovative activity of industrial enterprises, we have evaluated both the development of overall innovation and different types of innovation, and we have focused on the nature of the expenditures on innovation. Based on the surveys of the Statistical Office of the SR, several companies involved in innovation activities have slightly upward trend, on the contrary, their share have a downward trend in the total number of enterprises. Most innovations are implemented at industrial and service enterprises. In comparison with mean we have chosen the industrial enterprises, whose share in the total number of enterprises declined, it is still the highest, though



*Figure 1: The share of enterprises with innovation activity (own processing based on the report of the Statistical Office of the SR)*

In terms of the nature of innovation, the technological innovation is prevalent in industrial enterprises. Non-technological innovation recorded an increase in service enterprises.

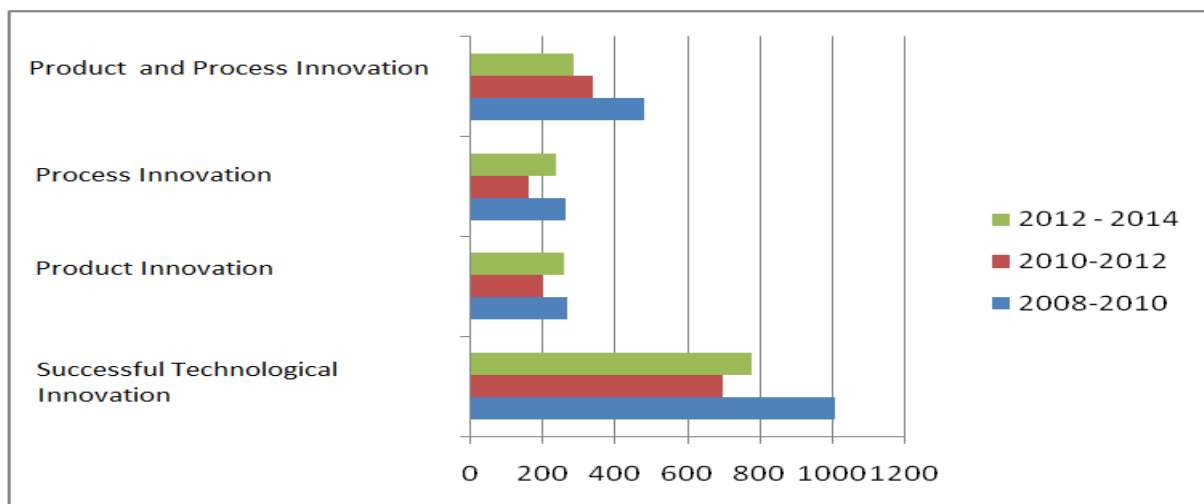
*Table following on the next page*



*Table 1: Types of innovation of the SR (own processing based on the report of the Statistical Office of the SR)*

	2008-2010		2010-2012		2012 - 2014	
	Industry	Total	Industry	Total	Industry	Total
<b>All kinds of innovation activities</b>	1 224	2 306	1 197	2 496	1 250	2 632
<b>Technological innovation</b>	1 029	1 769	723	1 393	867	1 612
<b>Non-technological innovation</b>	195	537	474	1 103	383	1 020
<b>Enterprises with no innovation activities</b>	2 185	4 727	2 492	5 481	2596	6 398

The predominance of technological innovation is confirmed by the survey of the SIEA organization, conducted in 2012 on a sample of 195 innovative companies in the Slovak Republic (Balog, 2013). Even in this survey it has been confirmed that the innovating enterprises implemented mainly two types of innovation: "new and significantly altered goods and services" (38.2% of total responses) and "new or significant changes in the method of the production or providing services" (25% of total responses). The minimum innovations, 14% of the total responses, concerned "significant change in organization of the enterprise." Considering the total number of activities, a not insignificant part of respondents (4%) implemented none of the above innovation activities. To select ratios, which could influence the implemented innovation, it is necessary to examine the types of the innovations in the industry. At a more detailed analysis of the development of different types of technological innovation, it is evident that particularly the combination of process and product innovations prevails. In the last reporting period, it is possible to observe a slight increase in product innovations in industrial plants, on the contrary the innovation activity in processes has been slightly increasing at the service enterprises.



*Figure 2: Types of innovations in industry (own processing based on the report of the Statistical Office of the SR)*

Based on the above, we can conclude that between 2010 and 2012 the proportion of successfully implemented technological innovations significantly decreased. In the following period, their proportion has slightly grown. There are several reasons for the decline of enterprise innovation activities.

Based on the survey of Balog (2013), the crucial factors limiting the development of innovations are:

- lack of resources in the enterprise, or
- high expenditure on innovation.

Innovation expenditures include all expenditures related to scientific, technological and commercial steps leading to the establishment of innovation. The expenditures for the procurement of machinery and equipment largely contribute on overall innovation expenditures. Although this volume of expenditures on total expenditure in innovation declines, in the period 2012-2014 they dropped almost in half, they remain most substantial component of expenditure.

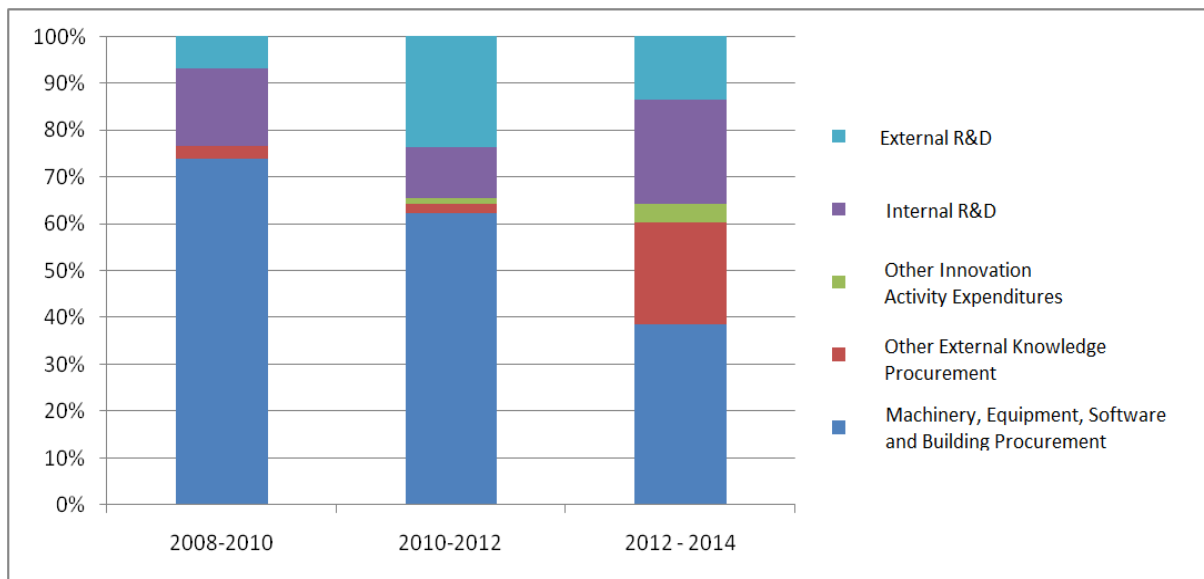


Figure 3: The structure of expenditure on innovation activities in industrial enterprises (own processing based on the report of the Statistical Office of the SR)

The structure of expenditures has changed in favour of expenditures on internal research and development, which doubled in favour of expenditure on acquisition of other external knowledge that increased several times in 2012-2014. These expenditures are reflected in companies mainly in depreciation and consumption of materials and services. To assess the impact of innovation activities in industrial enterprises based on the data, we have chosen the following indicators:

- ROS – the indicator reflects the proportionality of changes in profit and sales,
- % value added of total turnover – the indicator reflects the proportionality of changes in value added to the changes in sales; it is influenced by the size of the cost of consumption of materials and services,
- % EBITDA of total turnover – the indicator reflects the proportionality of changes in earnings before taxes, interest and depreciation to the changes in revenues; it is affected by the structure of financing (funding) and the size of depreciation,
- ROA – the indicator reflects the proportionality of changes in earnings (EBIT) to the change of the asset,
- Total assets turnover – indicator reflects the proportionality of changes in revenue to the changes in assets that have been affected by the size of expenditure on procurement of machinery, equipment, software and buildings.

Mean values of indicators are divided into lower quartile (DK), median (Me) and upper quartile (HK), and we can assume that the enterprises with innovation activity are among at least 50% of the best companies.

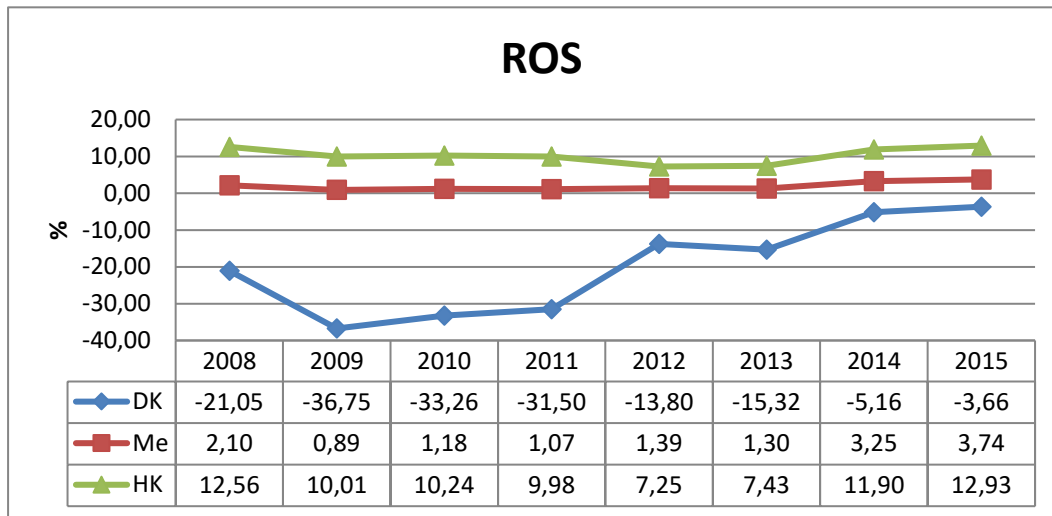


Figure 4: ROS development in industry in 2008 - 2015 (own processing based on the mean values of selected ratios CRIB)

ROS tends to increase. The indicator declined in 2012 to 2013. Considering the development of innovative activities, which were the lowest in the period 2010 to 2012, we can conclude, that innovation activities may affect ROS with a certain time lag.

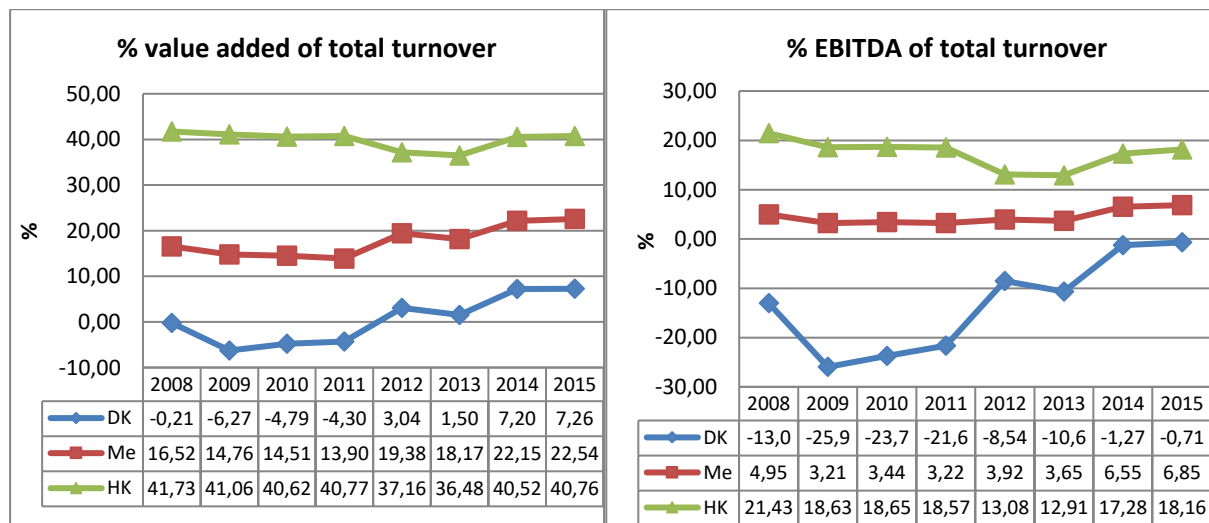


Figure 5: The % value added of total turnover and the % EBITDA of total turnover development in industry in 2008 - 2015 (own processing based on the mean values of selected ratios CRIB)

Both the % of value added of total turnover and the % EBITDA of total turnover show the contradictory development of the best and the worst companies. The upper quartile enterprises have been in decline in the value of both indicators in 2012 and 2013, the % EBITDA of total turnover even in 2014 achieved significantly lower level compared to the 2011. Enterprises in the other quartiles have an upward trend, and it recorded a slight decrease only in 2013. The decline between 2012 - 2014 in the top quartile may result from changes in the of innovation structure of expenditure in the certain period, which affected expenditures of enterprises.

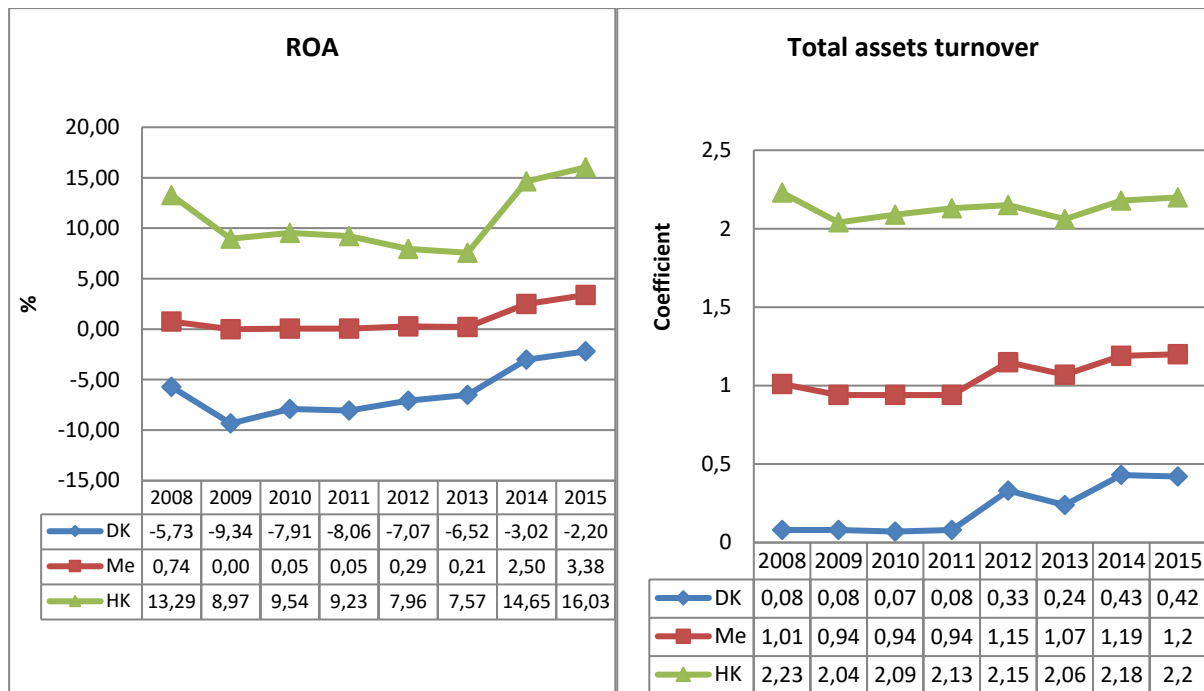


Figure 6: ROA and Total assets turnover development in industry in 2008 - 2015 (own processing based on the mean values of selected ratios CRIB)

Both indicators are developed contrarily in the upper quartile, median and lower quartile. There are the lowest values of ROA at the top quartile is in 2012 and 2013, as well as ROS, which were affected mainly by falling profits. Total assets turnover was the lowest in 2013, which could influence the reduction of sales with respect to the reduction of innovation activities in the previous period.

#### 4. CONSLUSION

The paper focused on mapping the potential impact of innovations of enterprises in their economic performance at the level of the whole sector. We have chosen a method for assessing the success of innovations because of the need to quantify the impact of innovations on company performance, which is one of the innovation objectives. Businesses expect increase competitiveness, growth, performance, or maintaining existing performance from implementing the innovations. From this perspective, an innovation for business means investment, and like any investment, it should bring the company its economic improvement. The expected effects may be: the growth, maintaining the market share, cost reduction, production efficiency improvement, risk reduction, working conditions improvement, turnover reduction, and so on. From this perspective, it is difficult to quantify the individual effects of innovations and consider innovation as an investment. Nevertheless, it is expected that innovation will affect the overall financial situation and its impact can be seen in the development of the absolute and ratio indicators of the financial analysis. The article was focused on the comparison of statistical processed reports on innovative activities of enterprises in various industries developed at the macro level with the development of the mean values of selected financial indicators in the surveyed sectors CRIF-Slovak Credit Bureau, Ltd.) in order to identify the impact of innovation on company performance. Based on the results of the comparison, we defined the determinants showing the dependence of innovation activities.. Based on the applied comparison of the development of innovation and development of the secondary value ratios mapping an economic situation, we can conclude that ROS indicators show a certain dependency, the % value added of total turnover, the % EBITDA of total turnover, the ROA and the total assets turnover.

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## EDUCATION FOR SUSTAINABLE NATIONAL ECONOMIC SYSTEM AS A VITAL INTEREST

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### ABSTRACT

*In this article, we observe the functionality of conceptual determination of sustainability from the aspect of an organised political society. Today, countries face a challenge to adapt to the contemporary trends of internationalisation (globalisation) of national economic systems, and due to this inability to establish an optimal relation between the basic elements of sustainable development. The complex relationships of today require a new dimension of decision-making capability, which in turn requires a more comprehensive approach to education. In this article, we seek to establish deficiencies in consciousness which limit sustainable development, in terms of environmental, social and economic responsibility, at the national level. The findings indicate that without the national economic system it is impossible to expect the states to engage in international or global commitments with full capacities. Therefore, we conclude that, since political communities are a reality, the education system should include awareness for the economic totality of such communities and develop the consciousness for a national economic system compatible with environmental and social dimensions of sustainable development.*

**Keywords:** *creating consciousness, sustainable society, education for international business, environmental education, global citizen, lifelong learning*

### 1. INTRODUCTION

Conceptual determination of sustainable development requires adjusting series of relationships within the totality of interactions of three basic elements, the planet, the people and the profit. Accordingly, this complex of functional relationships relates, in terms of values, to sustainable development threefold, through environmental responsibility, social responsibility, and economic responsibility. Key areas of convergence of these relations are environmental issues (nature and habitats), social relations (individuals, communities), economic issues, health and safety, and administration. It is generally recognised that the basis of the transformations necessary for mentioned adjustments is education. This stance stems from two functional roles of education. Firstly, only through education can be developed a critical and open approach to the present, needed in order to develop the ability to recognise the challenges sustainability faces related to the living environment and the survival of life on Earth, as well as to identify the essential causes. Secondly, education can advance the ability to perceive reality within the described complexity of sustainable development. Within this context, the role of education would be to facilitate the further enhancement of the capacity for rational decision-making. In that sense, it can be perceived that education for sustainable development should shape "a new man". But, since it is not possible to exclude the interiorisation of general awareness-raising, the consequence is a possibility of developing individuals unprepared to perceive the forces under their control. The relevance of this aspect stems from the risk that in this way it is possible indirectly to subdue countries, due to the cognitive unpreparedness of intellectual class through the education system, for the challenges of today's world of internet, narratives, and media.

## **2. EDUCATION TO IMPROVE SUSTAINABILITY CAPABILITY**

Member states of United Nations (UN) have proclaimed the dedication to mobilise efforts, establish frameworks and take actions on the national levels with the aim to provide inclusive and equitable education and improve lifelong learning opportunities for all (quality education), as one of the goals national governments are expected to strive towards within global sustainable development agenda (UN General Assembly, 2015, para. 59). In the framework of the preparatory process for the World Education Forum 2015 (WEF), Director General of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the UN Secretary General addressed the topic of the content of quality education, i.e. transforming life through education, and both stressed that the world needs to transform the value system of children and create "sustainable", "global citizens" (UNESCO, 2015) Furthermore, the Special Rapporteur on the right to education, mandated by the Special Procedures of the Human Rights Council (HRC), focuses that education strategies should regulate inequalities, through focusing on girls, women, minorities, persons with disabilities, children in conflict-affected areas, rural areas and urban ghettos, and urges governments to finance and implement the human rights of these groups and provide free public education for all. He clarified that the free primary education should not be impaired by privatisation (HRC, 2015, para. 108). The outcome of WEF is the roadmap towards global education, outlined in the document entitled "The Education 2030: Towards inclusive and equitable quality education and lifelong learning for all" (Incheon Declaration). The Incheon Declaration articulates a resolve for education based on the goals of global development. In that context, the governments are encouraged to provide opportunities for lifelong learning, so that people can develop permanently, and also to promote the principle that education is key to global peace and sustainable development. Such approach primarily relies on dogmatic aspect, and thus generates a risk that even noble ideas, such as the improvement of education, could turn into an unfeasible bureaucratic creation. Namely, if the UN General Assembly further affirms the stance of this declaration, the states could find themselves under pressure to ensure the on their territory implementation of a "collective duty" to, instead of parents, families, and communities, mould the value system of young generation. In this context, social justice, gender equality, and environmental sustainability are deduced to vocabulary that ensures the imposition of global programs to countries across the UN, even when they contain elements that underlie national communities. (UN News Center, 2015) These elements should be detrimental for developing the capability for sustainability on national, and consequently on the international level. Their impact is envisioned as „to mutually (between the states) facilitate access to financial resources, benefit from opening the market, securing the capacity building, transfer of technology and human resources, education and training, to eradicate the undevelopment forever“ (UN General Assembly, 2002, paras. 7, 12, 18.). The right to development, from the aspect of individuals, consists of values, each of which represents a human right - to education (Qerimi, 2012, p. 38). Therefore, concerning sustainable development, human rights must be applied in a layered context. This implies, as a general principle, diversity of regulations, and at the same time a layered education of cultural patterns (UNESCO, 2001, Preamble, art. 10.). The cornerstone of the individual and systemic sustainable development capability is the assumption that the environment and development are inextricably linked. From that stems the necessity of integrating concerns both for development and the environment, including science, technology and education (UN Conference on the Human Environment, 1972, Principle 18). In theory, sustainable development is generally accepted as the principle of international environmental law. This view takes into account the demands of human and humankind well-being. The meaning and effect of sustainable development, according to this standpoint, are the capacities to provide economic growth, the elimination of poverty and the fulfilment of basic human needs (for example, health, nutrition, housing, education, and others).

In terms of its valuable content, sustainable development includes, at least, life within the limits of the environment; providing a healthy, peaceful and just society; achieving a sustainable economy; good administration; and responsible use of science and education (UNESCO, 2000). Sustainable development does not only apply to the living environment. It requires a holistic comprehending of nature and human society. It, thus, concerns a process that, besides a value dialogue, requires a holistic approach. The limitation of human knowledge and perception leads to the initial situation in which the possibilities are simplistic, but the problem is complex. This is the reason why the need for education and training should be given the priority (Blewitt, 2015, p. 2). The ability for sustainability analysis, in line with holistic comprehension, involves the inclusion of different levels, like for example production units, premises, communities, countries, regions, or globally. The feasibility of sustainability can then be evaluated through productivity; preservation; conscience; satisfying needs; human well-being and justice. The above characteristics of the sustainability cognition are valued within the terms that have significance from the aspect of the content of sustainable development, which include issues like land, water, access to knowledge, public policy, public pressure, education, control and terms of trade and distribution etc. The neoliberally orientated theorists have, during the past decades, argued and disseminated the correctness of the approach called "capitalism with a human face". Faced with unfeasibility of their approach in practice throughout the world, they have supplement it with a combined economic approach. Namely, the priority remains reliance on private investments and initiatives, through the so called public-private partnership (Sachs, 2009, p. 8), and contemplating that through developing technologies, such as mobile phones, they become essential for facing social problems, like poverty, health care, education and agriculture (Sachs, 2013, p. 204). The purpose of education is, from the aspect of sustainable development, recognised to be of the utmost importance for introducing a change of consciousness, (Pavlidis, 2015, p. 1) during one to two generations. Accordingly, the contemporary educational system is, as theorists find, designed to create an individual who will subscribe to life in a new global order, from language to value system (Arnot, 2009, p. 20; Wilkes Karraker, 2013, p. 208.). A reason for the commitment to facilitate the transformation for sustainable development in education is, for example in the national strategy of sustainable development of the Republic of Serbia, derived from the standpoint that applied knowledge, education and science are the dominant factors in the development of the modern economy, and in line with that there is nothing left but to accept the strategy of support for the development of human capital (National strategy of sustainable development of the Republic of Serbia, 2009, p. 3). Such doctrinal framework leads to the construct in modern education that continuous improvement is one of the factors of the knowledge economy. If education is viewed as a factor of sustainable development, it should provide the improvement of the quality and adaptability of the workforce, and is thus a vessel to develop public awareness of sustainable development.

## **2.1. Environmental education**

The survival of a human species depends on the resources of the Earth. It is thus necessary, in today's world, to encourage respect for nature, stop the destruction of the environment that is threatening nature. As a key way to influence and ensure necessary changes in attitudes and behaviors has been accepted environmental education (Ferguson, Thomas-Hope, 2012, p. 92). Environmental education should convey the reality of living in harmony with nature, and also initiate sensitivity to alternative reality and critical evaluation. The function of this modality of education would be promoting the capability of decision-making on the ground of appropriate interactions between awareness and current activities, including sustainable ways of living with nature and realities in economy, politics and culture (Anderson, Valera, 2016, p. 215; Ferguson, Thomas-Hope, 2016, p. 96). Such education is, paradoxically, a part of the solution, on the one, but also a part of the problem, on the other side.



Namely, environmental education is perceived as essential for sustainable development, whereas at the same time it is not educating for sustainable societies, in terms of developing support for adequate decision-making (Orion, Libarkin, 2014, p. 492; Sterling, 2001, p. 8). It encourages education and adults, based on a sustainability culture, and emphasizes the importance of adult education for "building a fair, tolerant, sustainable, and knowledge-based societies." (World Conference on Higher Education, 2009, Preamble). An additional challenge facing, value-based, environmental education is the fact that the political economy of our time is based on population regulation, through economic power, growth or decline, migrations and social services (above all, health care). This impacts today's politics, i.e. decision making in political communities, in a way that it enables to govern over individuals as part of the mass called the population, instead over citizen (members of a political community) as a legal entity. The immediate goal of governing is not sustainability, instead it is trying to rationally manage the potential of economic productivity, the growth of human capital (education and health care) and health risk factors (social policy). Since modern governance is not a method to achieve a legal order, and thus also not institutional sustainability, it becomes a primarily a permanent effort to regulate life itself, siding the objective need for totality of interactions between the nature and the humankind on the national level.

## **2.2. Educating for international business**

Focusing on education has paved a way for massive higher education as a global phenomenon. The underlying processes include the introduction of national education systems into the global market; the greater reliance of universities in achieving their goals on the power of states; and, most significantly, shifting funding to private sources. These factors, as the analysis of the financing of obtaining the higher education indicates, impose the need to adjust public policies in order to meet the challenges related to individual burden of education costs, limited public resources for the financing of higher education, and the decreasing capacity of the state to position on the global higher education market (Heller, 2013, p. 1). This human capital approach accepts social benefits of education, but introduces the need for individuals to make a financial investment in their education (Rizvi, 2016, p. 4). From the aspect of capacity building for rational decision-making in relation to sustainable development, the underlying challenge is framing of the education strictly within the global economic context. Internationalisation of business education, like the education for sustainable development, also aims to change mindsets and increase the ability to adapt to new opportunities. The difference is that it is oriented towards promoting mission-based approach in the fields of economy and finance. Education for international business promotes programs created within non-governmental organizations, such as "Business and International Education" (BIE), or "Center for International Business Education and Research" (CIBER), registered in accordance with United States' Higher Education Act of 1965, and 1988 General Trade and Competition Act, and funded by US Department of Education. The goals of these programs are to: (1) cultivate global awareness (increased knowledge about the various regions of the world and their institutions, and impact on business practices); (2) develop increased global understanding (increased insights into the functioning of various societies, with cultural sensitivities); and (3) enhance global competence (developing effective global mindsets and various behavioral skills). To meet these objectives, BIE and CIBER emphasize internationalising of the knowledge in various disciplines of business (Kedia, Englis, 2011, p. 326). The new business models, as it appears, have introduced aggressive bookkeeping and distorted accounting reports into everyday business practice and affected the treatment of trade in securities (Yadav, 2013, p. 181). The economic system that, as a widespread method, is characterized by the application of earnings management and forgery of financial statements necessarily has negative consequences, inter alia, on the value system not only in business, but also of individuals, and

consequently of communities, resulting in unsustainability of development. In order that the inevitable restructuring of the quality and use of human resources takes place with the least transition costs, so that humankind can respond to challenges and benefit from the global economy, there is a need for investment in education and a lifelong learning (Dunning, Lundan, 2008, p. 753). At the same time, education for international business promotes and makes acceptable the concept of values that dominates within global business, disregarding interests of national societies.

### **3. NATIONAL ECONOMIC SYSTEM AS A DECISION-MAKING FACTOR**

All the biggest recognised global challenges, like sustainable development, require responses on the national levels. Thus, rationality requirement is that a state cannot leave sustainable development efforts on its territory as a spontaneous and autarchic process. Namely, a state has a duty to nurture a system of social and political order and the internal social structure. This does not mean that private initiatives should be suppressed, but only that those which facilitate overall positive effects should be supported and stimulated. To observe national economic system as indispensable for an effective participation of a state in global efforts, including in transformative education, it is necessary to establish how a national system of production, distribution and consumption of goods and services fits into a national security concept. Contemporary conceptualisation of national security can be deconstructed into its valuative content: (1) intact and under the effective sovereign control of the legitimate government territory of the country; (2) cordial relations with neighboring nations and are free from outside control, interference or threat of aggression enjoyed by the political community and the people; (3) peace and harmony among different groups in the political community, and cooperation and support between the government and the people; (4) environment capable to support sustainable development strategies and activities for the benefit and the existence of the nation and the people; (5) national economy adequate to support national endeavors and provide citizens with opportunities to earn and live decently, deriving its strength from the people who have an organic stake; (6) shared values and beliefs of the citizens handed down from ancestors and a sense of attachment to national community and harmony regardless of possible religious, ethnic and linguistic differences; and (7) moral and spiritual acceptance of the wisdom and righteousness of the national vision and inspiration by patriotism and national pride to participate in the pursuit of the nation's objectives. From the aspect of integrating these valuative indicators into the development in general, and sustainable development in particular, the doctrine focuses the key-role of good governance, in terms operational convergence of effective leadership, thorough planning and successful implementation of the plans (Lopez, 2013, p. 48). It is, therefore, essential for rational decision-making in a political community to rely on the national economic system. The national economic system can, furthermore, be viewed as a necessary condition of good governance at national level. This is the direct consequence of the fact that sustainable development response requires a variety (complex) of affirmative actions. These actions are related to but are not exclusively of economic nature. From the perspective of the value-content, among such responses are the development of agriculture, industry and tourism; development of infrastructure, development of social activities, and protection of the environment. From the aspect of providing national support for sustainable development affirmative actions, it is important to have a view the maintaining of a balanced national economic system. In that context as priority criteria are indicated, firstly, that economic development is sustainable, and secondly, that the economy is developing across different complementing sectors (Chen, Lu, 2016, p. 2). National support of sustainable development represents a political dimension, and as such it implies interference in market affairs. The rationality of the need for this can be derived from a currently existing paradox.

While the aspects of development, employment, equal opportunities and social inclusion, economic and social cohesion are of national concern, the policies related to these are provided support and guidance on supranational level, like by the European Union, through the UN system, on which the states are expected to comply with global financial and political interests. But these are not necessarily in line with vital national interests and do not even necessarily improve the abilities to effectively comply with global interests. Contrary to the presented logic of affirmative action on national and participation on the global level is the currently dominating global approach to activating potentials for sustainable development. The international instruments focus primarily on the aspects of the role of individuals within the political communities. But the interests of a political community cannot be deduced only to the sum of individual interests. The resultant of these interests for sustainable development on the national level can be realised through the power and the efforts of associations of individuals within the community itself, but with the assistance and support of administrative institutions (Laratta, Nakagawa, 2013: 112). The ability of states to lead rational and sustainable development policies depends on the level of awareness and capability of the totality of nature-humankind relations within the national intellectual class. These factors are developed through education, which should include respect for the specific economic system of the state. Rational decision-making on the national level is undermined by dominance, hegemony and imperialism of concepts and economic interests on the global level. In such circumstances, without the institutional presence of the state, global financial systems may find suitable ground for machinations through money flows which are not motivated in the purpose of projected national sustainable development interests.

#### **4. CONSLUSION**

The analysis shows that implementation of sustainable development policies can, in the functional sense, represent a whole-of-government and whole-of-society approach to a complex set of nature-humankind relations. In line with that, it can be claimed that if national financial and social capital is to become mobilised towards sustainable development, there is a need for political will and structural support from the state. The second conclusion stems from the finding that affirmative actions towards sustainable development cannot be sufficiently provided only through the institutionalisation of representation in the political community. These actions require structural funds or financial mechanisms to support these actions, in terms of initiatives and not general plans, with the aim to promote integrated economically and socially sustainable development goals within a specific political community. Finally, the affirmative national action does not exclude the principal challenges facing sustainable development, but it would significantly reduce potential negative influences on vital values of a state. This, as shown, cannot be left as a burden of the institutions on the global level, and it is a natural duty of states which accept commitments to sustainable development. States directly participate in incentives through support provided by their own economic system, and can only efficiently operate within a framework set by the national economic system. The aforementioned finding leads to an overreaching conclusion. Namely, if the potential for sustainable development depends on the potential of the national economic system than states inevitably have an uneven capacity to contribute to goals accepted on the global level. The only possibility to overcome this constraint is education, which should liberate cognitive and creative potentials needed for transformation towards sustainability.

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## **GREEN FINANCING IN THE FUNCTION OF RISK MANAGEMENT ENVIRONMENT AND SUSTAINABLE ECONOMIC GROWTH**

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### **ABSTRACT**

*„Green financing“ is a new area of financing, that has application in the process of integration of environmental protection and economic profit. The term includes a wide range of environmentally friendly technologies, projects, industries and also verify whether it is a viable concept for balancing ecological depreciation in the process of assimilation of carbon in the atmosphere. Essentially, green financing is part of the green carbon because it connect financial industry, environmental improvement and economic growth, which is essential form for long-term Sustainable Development. As this is an innovative concept, the paper pays special attention to the development of market mechanisms and policy formulation of green financing. By revealing the internal contradictions between the green financing and Environmental Protection, in achieving ecological balance and sustainable economic growth, the paper proposes the some options for the mobilization of private capital for green investments that can be applied in Serbia.*

**Keywords:** *Green financing, market mechanism, development policy, sustainable economic growth*

### **1. INTRODUCTION**

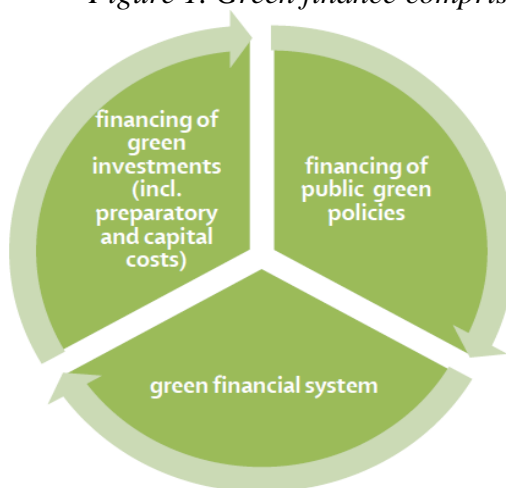
In today's environment, there is mounting scientific evidence of global warming that have a significant impact on the economy, society and markets, on the global level. Some natural disasters are just sad remind of the drastic effects of human activity on climate and impact of climate change on the economy. Only in 2010, Moscow was hit by a heat wave that has caused the cost of 1% of Russian GDP. Meanwhile, during the same month, one-fifth of Pakistan was overwhelmed with the amount of damage up to 5% of its GDP. A year later, a huge industrial zone in Thailand (with the production activities of some of the largest industrial facilities of the Japan Group) is flooded with total damage to 10% of its GDP. In the US, the National Authority for oceanic and atmospheric water (Noaa) said that in comparison to 1980., the number of extreme weather events has doubled (up to now 11 events per year), while the average paid of claims exceeded one billion dollars, over the last five years. Considering the fact that these are not the only disasters in the world, there is bigger awareness that the current climate change, threatens the basic elements of human life, such as access to water, food production, health and land use and the environment. The fact is that there is growing evidence that climate change and environmental risks have important implications for the financial stability of countries in the world (European Banking Federation, 2017). Green financing is a concept that combines the power of finance and operations with power of the environmental behavior. This is big area which includes individual and business consumers, producers, investors and financial lenders. Depending of the number of participants, green financing can be expressed in different ways. On the one hand it may be due to financial incentives or it may be the desire to save the planet. On the other hand, it may be a combination these two. Unlike traditional financial activities, green financing more emphasis the benefits of environmental and industry protection, paying

more attention to environmental protection. Therefore, green financial system refers to a set of policies, institutional arrangements and financial infrastructure through lending, private equity, bonds, insurance and other financial services and instruments, such as emissions trading, directs funding towards environmentally friendly projects and activities (Wang a and Zhia, 2016). Studying the relevant literature it can be seen that there is lack of detailed studies on green financing. Based on that fact, the aim of this paper is to highlight the importance of implementation of green financing in the area of environmental risks. Because that this area is unexplored enough in Serbian country, the paper first defines the term and indicates of the most important component of green financing. In desires to give some answers for urgent climate and environmental challenges, authors of the paper pays special attention to the green finance market and financial products that could control the emission of pollution. Considering the fact that climate change is a real picture of the whole planet, it is necessary for mankind to create appropriate development policy of green financing. In order to prevent further climate change and to achieve sustainable economic development, the paper gives some options that may be the way for development of a financial system in Serbia.

## 2. DEFINITION OF GREEN FINANCE

While the term „green finance“ is increasingly used globally, it does not have a universally agreed definition. The G20 Green Finance Study Group in 2016, described green finance as the “financing of investments that provide environmental benefits in the broader context of environmentally sustainable development”. It includes definitions at the level of financial instruments (green indices or green bonds), subsectors of the financial market (green insurance or green banking), definitions used by international organizations (OECD), as well as national and international definitions (G20) (Figure 1) (Lindenberg, April 2014). Since today, there is no a precise and commonly accepted definition of green finance for two reasons. At one side, many publications do not try to define the term, and on the other, the definitions that are proposed are vary significantly. Among the few definitions that can be found in the literature there are some that authors of the paper propose (following): Höhne / Khosla / Fekete / Gilbert (2012): „Green finance is a broad term that can refer to financial investments flowing into sustainable development projects and initiatives, environmental products, and policies that encourage the development of a more sustainable economy. Green finance includes climate finance but is not limited to it. It also refers to a wider range of „other environmental objectives, for example industrial pollution control, water sanitation, or biodiversity protection“ (Höhne at al., 2012).

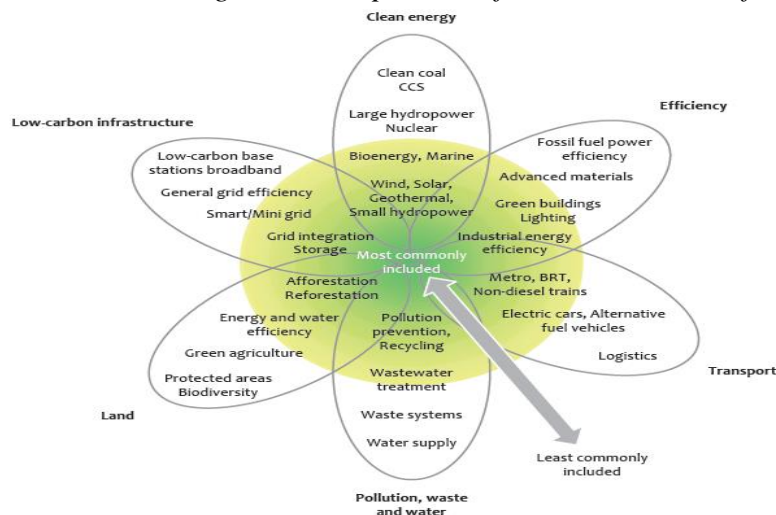
*Figure 1. Green finance comprises*



*Source: Nannette Lindenberg, April 2014,*

Zadek and Flynn (2013): „Green finance is often used interchangeably with green investment. However, in practice, green finance is a wider lens including more than investments as defined by Bloomberg New Energy Finance and others. Most important is that it includes operational costs of green investments not included under the definition of green investment. Most obviously, it would include costs such as project preparation and land acquisition costs, both of which are not just significant but can pose distinct financing challenges.“ (Zadek and Flynn 2013). Although the absence of a universal definition creates methodological challenges, the mapping of existing definitions has highlighted a broad convergence of definitions, as it is illustrated in Figure 2.

Figure 2. Components of Green Finance definitions



Source: United Nations Environment Program (UN Environment), 2017.

### 3. GREEN FINANCIAL SYSTEM - MARKET GREEN FINANCIAL MECHANISMS

Recent years, on the global level there is wide public recognition that the global financial system should actively contribute to system of sustainable development. In accordance with volume and urgency of the needs of financing sustainable development, in recent years, the concept of green finance has become more pronounced all over the world. In order to solve the urgent environmental problems, such as climate changing, private sector has the key role in solving of problems, while at the same time the green financial sector helps in transferring of financial flows in green investments. Considering that fact, the market of green finance include market-based mechanisms, but also the financial products that can control the emission of pollution. One of the most important mechanism is emissions trading. Emissions trading is a market-based approach for controlling the pollution, such as the amount of greenhouse gases emitted to the atmosphere. Market-based schemes can be generally organized in two ways: first - cap & trade system and second, baseline & trade system. The difference between those two lays in setting emission restrictions and in the way of distributing emission permits. In cap & trade system, competent authorities set the estimate emission restriction for all emitters within the trading system. Based on this estimate restriction, the set is restrictive for each company, in particular. In baseline & trade system, equal restrictions are set for all companies. Although cap & trade emission trading system is thought to be more efficient compared with baseline & trade system, there are still some flows and limitations. To be more precise, problems are in unsettled and unpredictable prices of permits (possible solution could be “transaction-in-advance” (forward)), high administrative and legal costs, distribution of emission permits and finally, possibility of corruption. The major disadvantage of cap & trade system is in the fact that the company’s real emission estimation of taxes in gas emission (Tax system) would improve ecology results.



Basic difference between cap & trade emission trading system and tax system is that when setting the emission limits (cap), the quantity is also setting, while permits prices and penalties are variable (Djordjevic at al., 2015). However, the successful establishment of emissions trading system depends on certain conditions. *First*, it needs to be a sufficient number of participants on the market both for buying and selling. Without a sufficient number of participants, the price of permits will not show the true state of supply and demand. The *second* condition is low transaction costs of permits trading. Otherwise, neither sellers nor buyers can find interest in trading. *Third*, for the trade system to work properly there must be a strong regulatory system for issuing emissions permits and, in general, from the system of emissions monitoring, verification of emission reductions and tracking emissions register (Emissions Trading) (Stojanovic at al., 2015). A lot of studies are concerned with green finance market's effect and their influence on environment. First of all, green finance market is credit of intermediary of environmental protection's capital movement. In accordance with that, green finance market can improve productivity. Through financial institutions handling monetary funds, currency funds movement promotes commodities trading, according to the market demands. Finally, green finance market is one of the most important levers in regarding to macroeconomic regulation and control. Namely, capital supply can adjust social total demand, so that through the financial leverage effect, green finance market can adjust the size, speed and structure of economic development (Wang a and Zhia,. 2016). Examples of various types of green finance instruments and services provided by the financial sector, including financial mechanisms, financial products and structural support and services, are shown in Table 1.

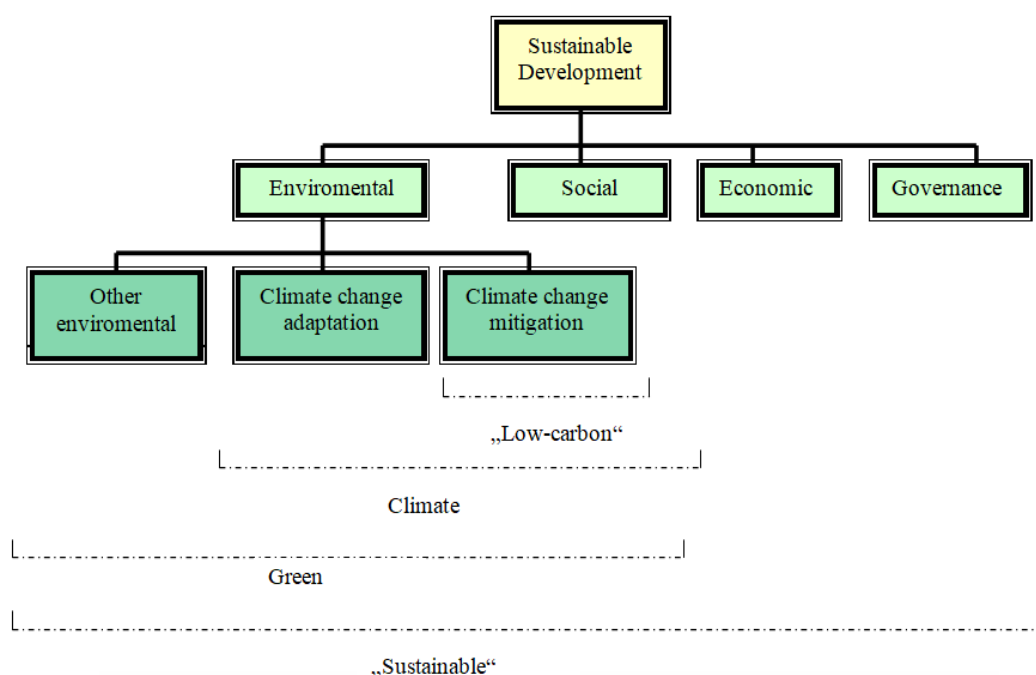
*Table 1 Examples of green finance and instruments*

<b>Financial solutions</b>	<b>Instruments</b>
Risk mitigation and credit enhancement	Subordination, Guarantees, Loss Reserves
Enabling transactions (scale)	Warehousing, Securitization, Leasing
Aggregation, collaboration agent	ESCOs, local banks
<b>Financial products</b>	
Traditional banking products	Loan, equity
Green finance	Green Bonds, Green funds
Co-investment	Public & institutional investors, private funds
<b>Structural market support</b>	
Market making	Intermediation of environmental products (carbon credits, emission allowances, RECs)
Transparency	Uphold disclosure rules for asset classes and green banking, investor disclosure requirements, act as a repository on disclosure rules
Regulation	Support national regulatory mechanisms for green finance, act as a conduit to international green capital markets
Standards	Uphold standards for Green Bonds, Social and Environmental risk management, GHG reduction protocols

*Source: Ministry of Economic Affairs and Employment of Finland, 2017.*

Based on the fact that green investments, as the basic form of the green funding, are mapping in relation to the goals of sustainable development, there are certain contraindications between the environment protection and green financing, shown in Figure 3. In accordance to overcome the conflict between the green finance and environmental protection, first of all it is necessary developing policy implementation for finding corresponding temporal structure projects. In order to change the time structure of the project, the relevant entities can be able to issue financial products, such as products of secularization funds. Finally, policies of sustainable development should improve the market activity through development of green finance and Eco-finances, creating gas emissions trading market and other markets, which are related to environmental protection. It should have the direct impact in increasing the liquidity of green investments and other related investments.

*Figure 3. Green and Sustainable finance*



*Source: United Nations Environment Programme, 2016.*

However, environmental protection is a long-term process. Whether it is direct investment in environmentally „friendly projects“ or investment in „green industries“, that require a relatively long investment cycle. In practice, some infrastructure construction projects often do not have money in the early stages of investment, and the recycling requirement are limiting the ability to „absorb“ the funds for relevant projects.

#### **4. GREEN FINANCE POLICIES**

Green financing is a positive step in the transition of the global economy towards sustainability. As a form of financing, it is implemented through the public financing, private green investments and public policies that support green initiatives. To encourage investment that provide environmental benefits, the basic tasks of green financing is in the internalization of environmental externalities and in reducing the perception of risk. Main factors that have impact to development of green financing, are the banks, institutional investors and international financial institutions, as well as central banks and financial regulation. To support the „greening“ of the financial system, the actors implement various development policies, but also various regulatory measures.

The most important regulatory measures include: requirements for lending priorities, financing below market rates through subsidies, interest rates or the possibility of refinancing. Besides the fact that the assessment of actual needs funding for green investments are vary considerably between different sources, it requires a large amount of private capital. To increase the flow of private capital for green investments, first of all, it is necessary to create a conducive environment that facilitates green financing. That includes: business environment, laws rules and investment regime. Also, it is necessary that the application of certain rules and standards will be in the promotion of development funds for the financing of green financing. This implies that the voluntary principles and guidelines for green financing should be implemented and regularly monitored. However, when the voluntary guidelines are not enough, they must be supplemented by financial and regulatory incentives. Finally, for positive effects of everything mentioned, it is essential that actors of financial, environmental and regulatory policies establish better mutual coordination (Berensmann and Lindenberg, 2016). Based on the fact that development of environment industry, requires large capital and long term return on investment, it is essential that each country has own unique way of financing. However, mobilizing capital for green investments is limited by various microeconomic challenges. The most important challenges are problems in the internalization of environmental externalities, information asymmetry, inadequate analytical capacity and lack of clarity in the definition of „green“. All mentioned, leads to the so-called „bottleneck“ in the development of green financing. Nowadays, there is a mismatch between the maturity of long-term green investments and the relatively short time horizons, savers and investors, which is even more important. Financial and environmental policies on the global level, are often not in coordination. More interesting is the fact that many governments give incomplete information about promoting of the green transition. According to this, the relevant policy of green financing in conjunction with reforms and innovative financial resources, can ease overcome „bottleneck“. Policies of green financing include two aspects (Shuo, 2013):

1. reform and innovation of existing financial resources, researching the types of fiscal policy and a feasible way to raise money for green financing development;
2. reform of the existing management policy fiscal revenues and distribution, efficiency and direction of fiscal funds use.

Based on the above-mentioned policy aspects in green financing, there are following factors as the key options for the mobilization of private capital for green investments (G20 Green Finance Study Group, 15 July 2016):

- ✓ providing strategic and policy frameworks;
- ✓ promotion of voluntary principles for green finance;
- ✓ expansion platform for capacity building of knowledge-based, such as a network of sustainable banking operations;
- ✓ development of the local markets of green bonds;
- ✓ international cooperation in order to facilitate cross-border investments in green bonds;
- ✓ new methodologies relating to risk analysis and environmental management in the financial sector;
- ✓ measurement of green financial activities and their impact on the economy.

Besides the fact that good practices in one country may not be suitable in another, the mentioned elements have largest part of the Green financing environment.

## 5. CONCLUSION

Implementation of the agreement of climate change, requires the transformation of the world economies as well as the enormous effort of the financial sector and its stakeholders on the global level.

Unfortunately, the current world financial system does not provide the necessary finance. The main reason for this are the external costs of carbon emissions that are not adequate with the market price. Because of the fact that in most countries, including Serbia, the main sources of energy are fossil fuels, investing in renewable energy and energy efficiency is unsatisfactory. To solve these problems, it is necessary to align the price of carbon through the elimination of fossil fuel subsidies and to introduce emissions trading system or carbon tax. However, to prevent climate change, the proposed measures require the development of appropriate financial system. Green financing includes the following three aspects. The first involves the funding of public and private green investment in environmental goods and services such as water management and biodiversity protection, compensation for environmental damage such as measures to increase energy efficiency. Second, green financing covers the financing of public policies, including operating costs that encourage environmental projects mitigation or adaptation of environmental initiatives, eg., Feed-in tariffs for renewable energy. Finally, as a component of the financial system, green financing deals with green investments, such as the Green Climate Fund i.e. green investments, green bonds that are structured in green funds. Based on the mentioned facts, we can conclude that green finance is covering several areas: banking, bond market, institutional investors, risk analysis and measuring progress in sustainable economic development.

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## MARKETING MANAGEMENT AND SOCIAL ENTREPRENEURSHIP

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### ABSTRACT

*Marketing consists of the activities of individuals and organizations that enable and accelerate the exchange in a dynamic environment by creating, distributing, promoting and determining the price of goods, services and ideas. Marketing management can be defined as one form of knowledge and skills that selects target markets as well as builds profitable relationships with them. The marketing concept of governance includes research and endeavor to make the best adaptation (use) of your own resources and goals of your business for the sake of making a better use of existing and future business opportunities. Also, marketing management involves obtaining, retaining, and developing the consumer through the creation, delivery and information of premium value for the consumer. Demand management, i.e. Managing customer relationships involves marketing management. In the development of the marketing strategy, special attention needs to be paid on identifying and evaluating future opportunities that appear in the marketing environment of the company, the analysis of market segments and the selection of target markets in which the company will face competition and the planning and development of marketing strategies that will meet the needs of consumers and at the same time fulfill the company's goals for profit. Social Entrepreneurship is a new way of doing business on the market. The difference between a regular company and a social one is that the profit of the social enterprise is not the main business goal, although it is almost a crucial factor for the survival of the company. Also, one of the main differences between a social and regular company is that the social enterprise tends to social impact. For the solution of social problems, the most important way is social entrepreneurship. Although the main purpose of the existence of a social enterprise is social good and benefit to the community, social enterprises must first of all have quality services and products to survive on the market. In other words, the purpose of their existence, which is different from classic companies, is not guaranteed to customers by itself, profit/success and survival on the market, nor in their case they must strive for the excellence of their products and fully and in the best way use marketing.*

**Keywords:** *Marketing management, Social entrepreneurship, Dynamic environment, Demand management, Social impact, Market*

## 1. BASICS OF MARKETING IN SOCIAL ENTREPRENEURSHIP

### 1.1. Definition of marketing in social entrepreneurship

The term (concept) "marketing" does not appear in our language in its original language and as such belongs to a group of terms that can not be adequately translated into our language. When we have a problem with an adequate translation of a particular term, such as marketing, then it is logical that in the definition of that term we use the etymology of that word. The etymology of this term indicates that the marketing of coins of Anglo-Saxon origin whose significance is placing on the market (the market is a market, and prefixing has more meanings). Therefore, we note that behind the etymological meaning of the term "marketing" is the term "market". There is no uniquely accepted definition of marketing.

There are a large number of marketing authors, each of whom defines marketing in a different way. Definition of marketing depends on the point of view from which marketing is observed. There are various definitions of marketing, and it seems that the most acceptable one is given by the greatest connoisseur of this science, Philip Kotler. According to Kotler, marketing is a "social and managerial process by which - by creating and exchanging products and values with others - individuals and groups get what they need and what they want"<sup>1</sup>. Kigen states that "marketing is the process of directing resources and goals of the company to the capabilities and needs of the environment"<sup>2</sup>. According to Milisavljević, the primary role of marketing is to contribute to "the strategy of the company being market-oriented, ie that the strategy is defined based on the needs and demands of the market"<sup>3</sup>. The Chartered Institute of Marketing defines marketing in the following way: "Marketing is a management process that identifies, predicts and meets customer demands, while achieving profit." According to the definition adopted by the American Marketing Association (AMA) in 1985, marketing is defined as "the process of planning and implementing the concept of products or services, forming prices, promoting and distributing ideas, goods and services, creating exchanges to meet individual and organizational goals."<sup>4</sup> These are the basic postulates of entrepreneurial activities that precede the production of goods or services, which follow them through their positioning in target markets, creative adjustment of controlled variables, all four elements of marketing mix: product, price, distribution and promotion.<sup>5</sup> Marketing is the way business thinking of the company is focused on the market. In order to play its role in the market and to direct all other business functions in the company, marketing must exist within the organizational structure of the company. In that case, marketing has a business role. Marketing does not include all the activities of individuals and organizations, but only those aimed at facilitating and speeding up the exchange. All organizations carry out marketing activities to facilitate exchange. In order to carry out the exchange, the following four conditions must be met:

- The exchange must involve groups or organizations, at least two or more of them;
- Each party in exchange must have something of value that the other party wants;
- Each party in exchange must be ready to wear something of the value it possesses in order to get something other than the value that the other side has;
- Exchange parties must be able to communicate with each other so that their value is available

Marketing is an activity that connects separated participants in the exchange process. Interchange is necessary because participants are separated in many ways. Marketing aims to connect segregated participants. Therefore, marketing is a key element in the functioning of today's society, so its presence is very important. Marketing activities directly and indirectly affect the economy, lifestyle and quality of life of each individual. The principles of modern marketing should contribute to the preparation of new professional staff who will be the bearers of various transformation processes of the company and the economy as a whole. Marketing is the orientation of the company to meet the needs and wishes of consumers in a profitable way in competitive market conditions. In marketing, in fact, they are about to identify themselves, and then to satisfy human and social needs. All of this is also applied in the sphere of social entrepreneurship. Marketing orientation has been confirmed in practice, which best confirms its effectiveness in modern business conditions.

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<sup>1</sup>Kotler F., "Marketing Management", Prentice Hall Inc., New Jersey, 1998.

<sup>2</sup>Keegan W.G., "Marketing management", Prentice Hall, Canada, 1996.

<sup>3</sup>Milisavljević M., "Marketing strategy", E.F., Belgrade, 1991.

<sup>4</sup>AMA Board Approves New Marketing Definition, Marketing Educator, 1985.

<sup>5</sup>Marinković V., Marketing- Handbook, Senior Vocational School for Entrepreneurship, Belgrade, 2009.

Marketing creates and delivers value (benefits) for consumers and thus facilitates the exchange, which is a central problem in the operation of every market actor. And, in order to fulfill the goals of both parties in the exchange (sellers and buyers), marketing companies must:

- Discover the needs and desires of potential buyers and
- To satisfy customers in an adequate way.

Marketing ensures satisfying the needs of consumers with adequate profit, or achieving other goals of the company, and providing services better than competition is a condition for the survival and development of a particular company. It is identical in the sphere of social entrepreneurship. The very purpose of such companies is often a significant plus and added value to users who can feel a certain amount of satisfaction and pride because they support a social enterprise and the benefits to the society it brings, however, in spite of that, the product or service itself must first meet the needs of the customer.

### **1.2. Marketing process**

The marketing process represents a sequence of marketing activities in social entrepreneurship from the manufacturer to the end consumer. The ultimate consumer is the buyer. The marketing process itself consists of several phases. These include:

- 1) Research,
- 2) Planning,
- 3) Marketing mix,
- 4) Direct operation and
- 5) Control.

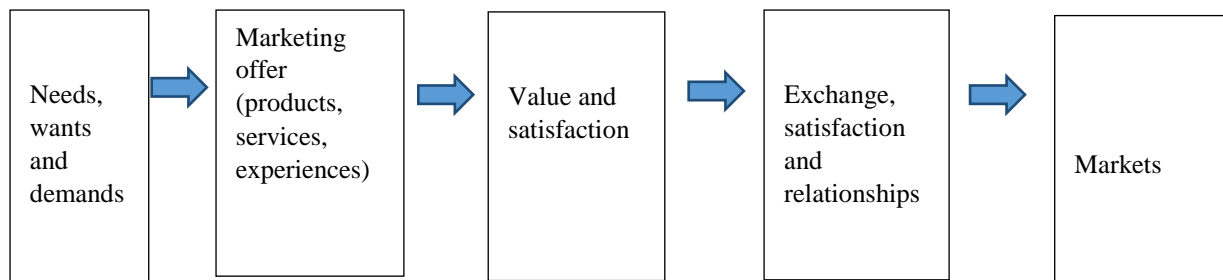
Marketing research represents the initial function of the marketing process, through which data are collected and analyzed in order to obtain the information needed for decision making in the enterprise. After the research, the planning process is determined by which the goals are determined, that is, the direction of the future actions is determined. In the planning phase, a marketing plan is being developed that deals with the implementation of the marketing strategy, and it is targeted at the target market and the marketing mix of the function (product, price, promotion and distribution). After making the program of production, promotion, sale and distribution, i.e., marketing mix comes direct action that combines all marketing activities. Direct operations involve promotional activities that are aimed at the sale or buyer. The final part of the marketing process is the marketing information system (MIS) and controlling based on the distribution of information. Controlling includes control of the functioning and efficiency of individual marketing functions.

## **2. CONCEPT OF MARKETING IN SOCIAL ENTERPRISES**

The modern concept of marketing implies that one should not be oriented solely on sales, but primarily needs to be met by the needs of customers and the same principle applies in the field of social entrepreneurship. If you fully understand the needs of customers, if a product is developed that is competitive, if the right product price is set and marketed in such a way that it meets the needs of customers, then it is said that the marketing method of business is satisfied.

*Figure following on the next page*





*Figure 1. The essence of marketing concept<sup>6</sup>*

The marketing concept includes the following three key aspects:<sup>7</sup>

1. customer orientation - consumers,
2. orientation to competition and
3. interfunctional coordination.

The marketing concept means that the company should direct all its activities to satisfy the needs and desires of its consumers, in addition to the realization of the profits that are reinvested in the field of social entrepreneurship in the further development of the company or serve to achieve socially responsible goals. When we emphasize that this applies to all activities, then it implies research and development, procurement, production, marketing, sales, logistics, accounting, finance, and all other functions that social enterprises can have.

## **2.1. Needs, wants and demands**

Needs are the initial trigger for every demand. Needs are a sense of necessity to remove or alleviate the feeling of discomfort or lack. The consumer has a large number of needs to be met. All human needs can be classified into two basic categories: biological and psychological needs. Biological needs are hunger, thirst, sleep, activity, etc. Psychological needs are often presented as emotional. They express the complexity of human behavior and are the result of the actions of various social, cultural, economic and other factors. Maslov showed (Figure 2) that it is possible to sort hierarchically of needs and that their range reaches the physiological needs (eg food, drink) to the need for self-development. Human needs need to be seen, which is not always that simple.

*Figure following on the next page*

<sup>6</sup>Kotler Ph., Marketing Management, Prentice Hall, Canada 1998.

<sup>7</sup>Milanović Golubović, V., Marketing Management, Belgrade, 2004.

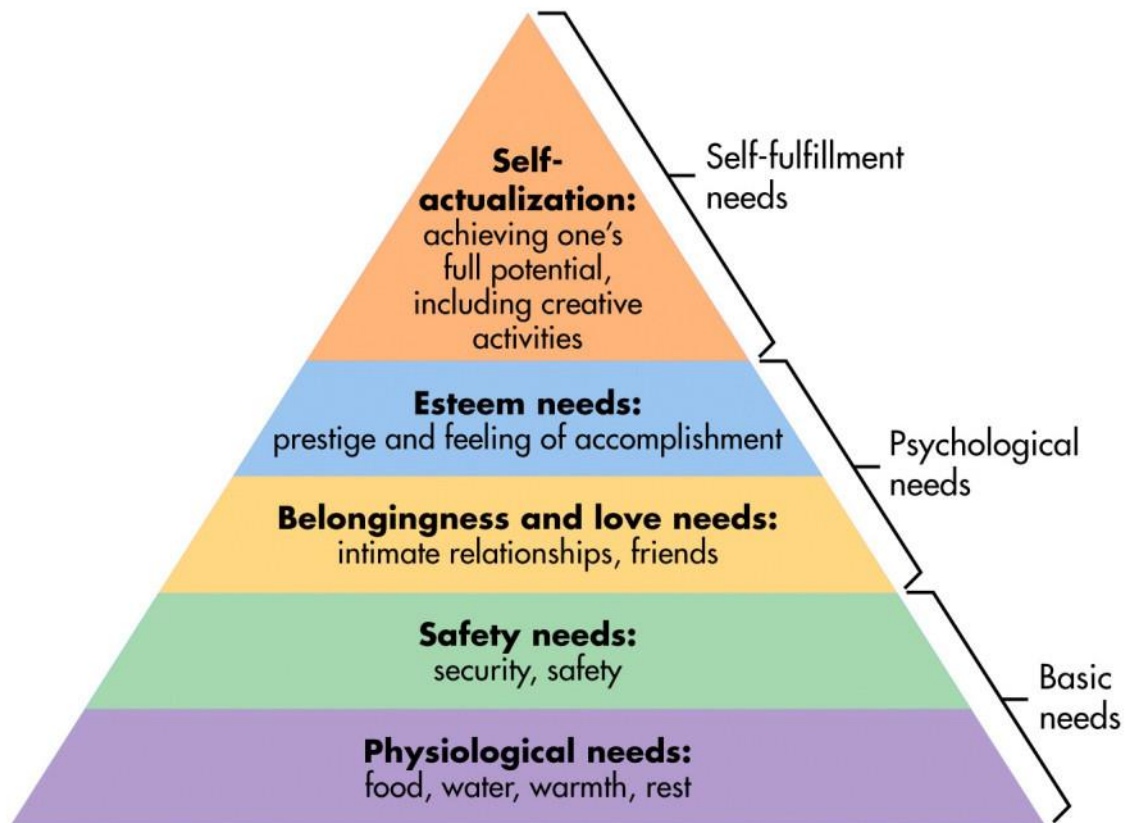


Figure 2. Hierarchical view of needs <sup>8</sup>

Human desires are the ways we expect to meet these needs. They are different in different cultures and are influenced by many environmental factors.

## 2.2. Marketing offers - products, services and experiences

The word service has a wide field of meaning, from services that are intended for people, to services that are a supplement to products. The product, however, is always a physical item, although we can designate it from the aspect of its design as a service.

The term "product" or "service" means everything that meets the needs and desires of people. The term "product" does not bind to specific goods, but to everything that can meet needs. Kotler services represent activities that one side offers to others and which are inseparable on one side and do not mean possession of anything.

## 2.3. Value and satisfaction

The buyer is determined by the appreciation of the value and the pleasure given to him by certain purchases. In the field of social entrepreneurship, the customer already has a certain amount of satisfaction and other positive emotions when cooperating or using the services or products of a socially responsible company, as this also helps to realize the vision and mission of such a company. The value or usefulness of a product is the customer's assessment of how the product meets its need. The product that would best suit the buyer among all those who meet its needs has the greatest useful value for him, and in this case it is definitely a big plus fact that the products of a socially responsible company are used. Creating value for the customer is the essence of marketing and entrepreneurial process, where it should be greater than the competitor's.

<sup>8</sup> Maslow H.A., *Motivation and Personality*, Harper and Row, New York 1954.

This can only be achieved by directing or concentrating resources and efforts towards a good definition of customer needs and wishes.<sup>9</sup> Since the most important goal of marketing is to achieve customer satisfaction, this is achieved by providing quality based on what the user expects and the value he receives from the relationship between quality, functionality and price. Customer satisfaction depends on knowing the product's performance compared to its expectations. Satisfied customers re-buy and pass on their good experiences on a particular product to others.

#### **2.4. Exchange, transaction and market**

Marketing occurs when people decide to meet their needs and preferences through the exchange process. The process itself is to offer the desired product in exchange for money, goods or service. Exchange is a process that involves negotiating and reaching an agreement. We realized that the motive of exchange is the tendency to meet the needs, ie eliminating the tension. Needs are met by using or consuming products and services. The exchange process involves two parties, called supply and demand. If an agreement is made between the two parties, this is called a transaction. There is a classic cash transaction and barter transactions (goods for goods). The question arises, what if the bidder presents the object of the exchange to the customer, i.e. does not seek any or ask for a symbolic equivalent for it? Is it then exchange? Although in this case there was no transaction, and there was a transfer, we can still talk about exchange. Exchange is usually the basic concept on which marketing is based. It takes place on the market. The market is made up of all potential buyers, who share a common need or desire and are willing to make an exchange in order to satisfy it. It is a place where shoppers and sellers gather to exchange commodities, that is, the space in which the supply and demand for a particular product or service meet.

### **3. MARKETING MANAGEMENT IN SOCIAL ENTREPRENEURSHIP**

Marketing management in the field of social entrepreneurship is defined as a process that drives and directs the marketing activity of a social enterprise in order to meet the needs of citizens as consumers, the economy and society through products and services, along with profit. Marketing management is undertaken to build a resource economy in the process of identifying, anticipating and meeting demand and directing products and services from producers to consumers. Also, marketing management is also a targeted effort of the company in order to achieve the desired results of the exchange with the target market. The marketing management process contains the following phases:<sup>10</sup>

1. Analysis of market opportunities (existing or potential markets);
2. Formulating the goals that are intended to be achieved on the market;
3. Defining the offer (marketing mix) and allocating resources to selected action directions;
4. Creating an efficient organizational structure and implementing programs and plans;
5. Control of the achieved results and review of the rationality of the taken actions on the market.

In principle, every enterprise management process consists of planning, organizing and controlling. This is, in fact, a logical sequence of every conceived human activity. It is always necessary to carefully plan what needs to be done to achieve a goal. Then the execution of everything planned is followed, which requires the organization of the necessary activities. After completion of the work, but also during its performance, we want to control whether everything we planned was done and how successful it was.

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<sup>9</sup>Marinković V., Marketing- Handbook, Senior Vocational School for Entrepreneurship, Belgrade, 2009.

<sup>10</sup>Macura, P., Marketing, University in Banja Luka, Banja Luka, 2009.

It should be kept in mind that these three phases are not fully time-separated, as the management process may require some correction. Marketing management in the field of social entrepreneurship refers to daily marketing activities and the achievement of a successful business year, while strategic marketing achieves long-term consequences on the strategic position of the social enterprise in the market. Analogously, marketing management is based on the assessment of market opportunities, while strategic marketing is based on a continuous research of the dynamic environment of the company.

### **3.1. Marketing planning**

In order for social enterprises to respond to changing business conditions, it is necessary to develop a long-term strategy, or to approach strategic planning. The task of strategic - long-term planning is to adjust its ability to operate in the changing environment in which it operates. Marketing plays a decisive role in planning because strategic marketing and marketing planning are in direct relation. Each social enterprise consists of several organizational levels such as:

- The level of a strategic business unit;
- Marketing level or production level.

What is common to every company, regardless of its size, is that strategic planning is carried out at the product level, as there would be no company without a product as a market offer. The level of enterprise is the highest level at which the planning process is carried out. The strategic plan at the enterprise level directs the business of the entire enterprise. Strategic marketing planning is a long term process by which the company adjusts its business opportunities in a changing environment. This planning takes place through several planning stages:<sup>11</sup>

1. Defining the mission and the goal of the company - from defining the mission of the enterprise, its goals are defined, and the goal of the marketing-oriented company is to satisfy the needs of the consumers, the economy and the society, while achieving greater profit;
2. Defining business units - defining the scope of business of the company implies the size and number of jobs and consequently a large number of business units;
3. Distribution of sources by business units - when allocating resources to strategic business units, the company is guided by the principle that those business units that have higher profits receive more than those that are less profitable;
4. Creating a strategy of growth and development - the primary strategy of each enterprise is the strategy of intensive growth.

Therefore, marketing planning is a systemic process that involves assessing favorable market opportunities and resources, determining marketing objectives, and developing a plan for implementation and control. The goal of the marketing planning process is to create a marketing plan. Strategic market planning includes four sets of related decisions:

1. Defining jobs;
2. Determining the essence of business;
3. Formulating functional strategies;
4. Budgeting.

The planning of marketing activities represents the phase of the marketing management process by which the planned decisions are made about the goals, policies, strategies, programs and plans of the marketing activities of the enterprises, which direct the overall marketing activity. The essence of planning marketing activities is that the company decides to use its limited technological, financial, human and other resources in the future.

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<sup>11</sup>Macura, P., Marketing, University in Banja Luka, Banja Luka, 2009.

Marketing planning is part of the overall planning of the company and must be integrated into the planned activity of the company. The marketing plan is very complex. It should include all the instruments of the marketing mix (product, price, distribution and promotion), separating them as necessary on their individual elements. Some parts of the plan should be integrated into a single marketing plan that, when formulated, serves as the basis for the development of other functional plans. At the same time, he adapts to them. It is the process of two-way and multidirectional communication in the process of developing a plan to ensure that the priorities of the specific actions to be undertaken are specified. The strategic marketing plan enables the realization of wider marketing goals and includes data on:

- Marketing goals (matching company goals);
- Marketing strategies (choosing the way in which the goals of the company will be achieved);
- Marketing program (marketing campaigns to achieve goals);
- Apply;
- Controls and audits of marketing activities.

A marketing plan is a written document or draft that manages all the activities of the company, including the implementation and supervision of these activities.

### **3.2. Marketing activity goals**

The process of determining marketing goals is related to the criteria for optimizing the business goals of the entrepreneurially guided company from alternative goals, so that the formulation of the final marketing goals includes goals, plan, program and activities, and strategies for market presence by the operationalization of the instruments of the marketing mix of the company. The marketing goals can be short-term set in the process of achieving long-term marketing goals, medium-term (1-5 years) and long-term (5 and more years) market goals that involve maximizing profits, increasing production, expanding the market or their mutual combination, increasing production with market expansion and sales.

Long-term marketing goals can be:<sup>12</sup>

- Maximizing profits on invested capital or minimizing the risk of invested capital;
- Increase in production volume and volume of products in the existing market;
- Expanding the market by increasing the sales of the existing product or increasing sales by developing a new product;
- Increasing the volume of production and / or products by expanding the market and / or increasing sales based on the vertical (within a group of the same and / or different products and / or services) or horizontal (including the production of raw materials, service providers, capital, ideas, technology, etc.) growth of the company.

In addition to marketing goals, there are other goals and values that the company adopts as a business system, so marketing goals represent the subsystem of overall goals and values, that is, the entrepreneurial vision and mission of companies in the market and the community as a whole.

### **3.3. Marketing strategy**

A marketing strategy is basically a way of acquiring and adapting the company to target markets. Strategic decisions are associated with given or expected changes in the middle. The marketing strategy is defined starting from marketing as a business concept whose elements of need, the integrity of the effort to satisfy the satisfaction of the bearer of needs with the

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<sup>12</sup>Macura, P., Marketing, University in Banja Luka, Banja Luka, 2009.

achievement of the business goals. The assumption of the rationality of the marketing strategy is to define the needs of individual market segments, select target markets and create a marketing mix for each market segment. The target market is a group of customers (market segment) for which the company is ready to create and maintain a special marketing mix, or a combination of marketing instruments. Key issues in strategic marketing are:<sup>13</sup>

- Does the company need to perform existing jobs ?;
- What products and markets are of particular importance for the survival, growth and development of the enterprise ?;
- What new products and markets are they looking for ?;
- How to find markets where it is possible to achieve a certain competitive advantage in view of the potential of the company ?;

The marketing mix is the optimal combination of marketing tools that are needed to achieve the goals of the company. The marketing mix consists of:

- Product,
- Price,
- Distribution (sales channels) and
- Promotion.

The product is the first and basic marketing tool and represents everything that one company can offer on the market. The product is the primary object of the exchange as opposed to other marketing instruments that represent only the basis for the exchange. The price of goods is the means through which, in optimal combination with other assets, the company needs to achieve its marketing goals. The price level is determined by: costs, demand, competition and economic policy. The price is the only instrument of a marketing mix that is in direct relation with the income of the company and does not cause additional costs in its determination. Distribution represents all institutions involved in the way of goods from producers to consumers. The activity of physical distribution is the activity of transport, storage, stock management, packaging and delivery. Logistics deals with the problems of the flow of raw materials, energy, materials, products and documentation that track physical flows. Promotion represents the process of communication of the company. Promotional forms are: commercial propaganda, personal sales, sales promotion, publicity, public relations, sponsorship, direct marketing and the like.

### **3.4. Implementation of marketing activities of social entrepreneurship**

Planning functions and organization give the purpose, orientation and structure of marketing activities. However, while marketing managers and other employees do not start implementing the plan, exchange can not occur. Proper implementation of the marketing plan depends on the attitude towards the employees, the motivation of the staff who perform marketing activities, effective communication within the organization of marketing and the compliance of marketing activities. Marketing activities can not be efficiently and effectively performed without the cooperation of employees. In order for the company to achieve its marketing goals, it is not enough to formulate adequate strategies, but it is necessary and implemented, implemented. Implementation is the second phase of the marketing management process that involves the implementation of the marketing plan. In the implementation phase, two key issues are:<sup>14</sup>

1. Implementation of a program defined by the marketing plan and
2. Creating the necessary marketing organization.

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<sup>13</sup>Macura, P., Marketing, University in Banja Luka, Banja Luka, 2009.

<sup>14</sup>Milislavljević, M., Maričić, B., Gligorijević, M., Basics of Marketing, Faculty of Economics, Belgrade, 2004.

While planning provides an answer to the question of what and why, marketing application should answer the question of who, where, when and how to do something.

### **3.5. Organization of marketing**

The organization is the main tool for achieving the goals of the company and it is a condition for the functioning of the company. The process of organizing marketing involves the introduction and development of marketing in an entrepreneurial society, which is complex task as a very demanding task, since the introduction of marketing conditions not only the formation of an organizational unit that would deal with the usual marketing functions, but at the same time accept the market - development philosophy and marketing concept as the basis for programming the entire business and development policy. The marketing organization provides conditions for the implementation of planned activities and control of applied marketing activities. In the process of organization, the enterprise is first divided into organizational units, and then there are ways to make them as efficient as possible. The number of organizational units and the way they will be linked will be defined by the form or model of the organizational structure. Models of the organizational structure can be:

- Functional,
- Divisions,
- Matrix and
- Innovative.

A marketing oriented company focuses on discovering the needs and wants of customers and doing so in a way that enables its goals to be achieved. Such a company has an organizational culture that effectively achieves important competitive advantages. It focuses on consumer analysis, competition analysis and linking enterprise resources in creating value and customer satisfaction. There are numerous factors that influence the choice of the model of organizing marketing functions. This imposes the need for his careful choice. There are a number of models, but in practice the most common are functional, subject, geographic and organizational models according to markets. As often as these, there are also combined models that can also appear in multiple variants.

### **3.6. Marketing control**

Control of marketing activities represents the final phase of the marketing management process. The control measures the achieved results with the planned indicators. The purpose of the control is to enable enterprises to achieve the set business goals. The analysis includes a comparison of the achieved and planned results in the area of sales, marketing costs and the dynamics of realization of the marketing plan. The difference between the input control (to be taken before the start of the business), the process (trying to influence the ways to achieve the goals) and the output (it is applied when the standards of business are set) is made. According to Kotler, there are four types of controls:<sup>15</sup>

1. Control of the annual plan. It performs the management of the company, the purpose is to determine whether the planned results have been achieved, the emphasis is on the analysis of sales, market participation and costs.
2. Profitability control. This type of control is done by people from marketing, the purpose is to establish where the company creates, and where it loses money.
3. Efficiency control. This type of control is performed by all operational managers and its goal is to assess and improve the efficiency of investments and the impact of marketing expenditures.

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<sup>15</sup> Kotler F., "Marketing Management", Prentice Hall Inc., New Jersey, 1998.

4. Strategic control. It is done by marketing management and auditors, the purpose is to determine whether the company best uses market opportunities.

Controlling marketing activities involves environmental analysis, goal control, program control, and control of the organization. Efficiency is measured by the relationship between input and output, and effectiveness by output. Control information provides a rational approach to the realization of marketing plans. Control of the strategic plan is usually done once a year, tactical every month, while the control variables (what we want to measure) are the content of the plan. Control information is provided by the Marketing Information System (MIS). The quality of the control depends on the quality of the information. Information must be timely for the company to react in time, and the feedback given by the control should be available to the media before the decision is made. Criteria for measuring marketing activities are profit, income, market participation. Control information must indicate deviations from the plan and causes.

#### **4. CONCLUSION**

It is increasingly assumed that marketing is a science, the truth is descriptive, which explains the phenomena that it is studying. Marketing is an area of special knowledge in the domain of economics, which has its own concepts and methods, which means that it has developed its own empirical, and partly, normative side. In modern business conditions, where the effect of the laws of value on the market is relatively free, it is very important to choose the right business orientation. There is a growing discrepancy between the capabilities of the company and the absorption power of the market, that is, an increasing number of companies that can not successfully sell their products. Thus, over time, there is a need for social enterprises to provide their consumers with new and better products that, paying attention to their preferences, will better meet their needs. Therefore, the market business orientation of companies is necessary in modern conditions. Social enterprises must also achieve marketing and market excellence above all, and only then rely on a different and noble purpose of business that also favors them and attracts more and more customers. The marketing concept of governance is research and endeavor to make the best adaptation (use) of your own resources and goals of your business for the sake of making a better use of existing and future business opportunities. Social enterprises should, if they accept the marketing concept of business, integrate all elements and activities through marketing into a single comprehensive system, and that such a system works for the purpose of social entrepreneurship and one such socially responsible business orientation. This aspiration for unification, integration of all activities through marketing is a very significant feature of the marketing concept of business. The management of marketing activities is at the same time the science and the skill of looking at the marketing environment in relation to marketing resources and available resources, since in the course of planning, organizing and implementing a marketing strategy and tactics, the manager should quickly decide to react to changes in the environment and in accordance with the set mission, goals and tasks to make timely decisions. Therefore, marketing management includes the broadest view of marketing since it involves marketing research, resource research, marketing planning, marketing organization and marketing control.

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# **A KNOWLEDGE MANAGEMENT MODEL BASED ON EMOTIONAL AND CULTURAL INTELLIGENCE: A COMPARATIVE STUDY BETWEEN TAIWAN AND VIETNAM**

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## **ABSTRACT**

*There is no consensus in the academic community on the definitions of Emotional and Cultural Intelligence (EQ & CQ) and also few understanding of their impact on Knowledge Management - KM, leading to missed opportunities to develop new strategies to an effective collaboration between University and Industry, the future of education. This study explores the development and implementation of a KM model based on EQ and CQ (KMECI) and empirically tests three hypotheses:*

- H1: EQ is positively influenced by CQ*
- H2: CQ influences intention to contribute knowledge and experience in one KM program positively*
- H3: EI influences intention to contribute knowledge and experience in one KM program positively*

*Based on the results of 35 interviews in four Taiwanese and two Vietnamese Universities, the article shows that experience can be more important than knowledge to foster development. Even though Taiwanese President refusal to accept Beijing's policy that the island is part of 'One China', Oxford Economics produced a survey that made the dire prediction that by 2021, Taiwan would have the biggest talent deficit in the world. This study demonstrate that the perception of professors from Taiwan, who consider the ability to develop and transfer knowledge in Taiwan to apply around the globe as the most vital requirement for success, is not the most reasonable one. The KMECI model is useful to identify how patience, motivation, self-awareness, prediction, and resilience improve the process of sharing and creation of knowledge (KM), which raises the discussion of the importance to find balance between knowledge and experience, integrating GDP and happiness. The findings, such as the lack of experience of the "genius kids" reinforces the results of the ROC government's strategy in advocating investment in some countries in Southeast Asia since 1900s, the first wave of Taiwanese to Vietnam to apply their knowledge.*

**Keywords:** *learn by comparison, knowledge management, motivation, patience, resilience*

## **1. INTRODUCTION**

The last IMD World Talent Report ranks Taiwan 23rd out of 63 countries for its ability to develop, attract, and retain talent. Striving for collaborative entrepreneurship education is more than a material endeavour for Universities and Industries in Taiwan. It represents an integration and deep alignment of different capacities: technical, managerial, intellectual and emotional.

In particular, qualities such as patience, self-awareness, emotional resilience, motivation, enthusiasm, sensitivity to others are paramount to develop a collaborative entrepreneurship program between University and Industry using Knowledge Management - KM practices. According to Ito et al. (1998), the ability to sense what other people are feeling is an important factor in allowing us to connect or communicate effectively with others and depends to a great extent on the establishment of a spontaneous entrainment between individuals. Entrainment is considered as one of the fundamental processes providing an intimate connection between individuals, others, and their environment (Childre & Martin, 1999). Awad and Chaziri (2004) has found that Knowledge is human understanding of a specialized field of interest that has been acquired through study and experience. The difficulty of Taiwanese industries in accessing the academic knowledge and the lack of practical experience of Taiwanese students, shows the importance of an student exchange program with other countries with more experience, such as Vietnam and Germany. Cultural intelligence impact emotional intelligence by encouraging knowledge to be created, shared, learnt, enhanced, organized, and applied for the benefit of both, universities and industries. As Taiwanese students are not likely to share knowledge without a strong personal motivation, which comes from the opportunity to understand the world (cultural intelligence), the goal of this study is to show the importance of the balance between knowledge (Taiwan) and experience (Vietnam) to facilitate the process of creation and application of Knowledge in both, Universities and Industries. Even though examples of entrepreneurship education through university–industry collaboration can be seen in several universities in diverse countries (Etzkowitz & Leydesdorff, 2000; Barr et al., 2009; Janssen et al., 2007; Meyer et al., 2011; Lundqvist & Williams-Middleton, 2013), collaborative education between university and industry has not been sufficiently studied to offer clear model and practices to foster effective knowledge exchange and then creation and application of the new knowledge between these two groups. Therefore, this article proposes the KMECI model to understand of the high impact of cultural intelligence on emotional intelligence and Knowledge Management, and in consequence the importance of the balance knowledge (Taiwan) and experience (Vietnam).

## **2. EMOTIONAL INTELLIGENCE (EQ)**

According to Halal et al. (1998), it is now generally understood that human problem-solving is derived not only from “rational intelligence” but also from other facets such as “emotional intelligence”. The emotional intelligence as it is described by most of the authors and researchers represents a better understanding of one’s own emotions, of others’ emotions and thus a better understanding and cohabitation with people (Mitrofanu & Cioricaru, 2014). The four major clusters of EQ as identified by Goleman (2001) are self-awareness, self-management, social awareness and relationship management. Emmons et al. (2005) states that EQ refers to an array of non-cognitive capabilities, competencies and skills that influence one’s ability to succeed in coping with environmental demands and pressures. Bencikova (2013) builds up on the idea of cognitive and emotional intelligences by suggesting that within globalized society it is cultural intelligence that represents an alternative to emotional intelligence by focusing on specific capabilities that are important for high quality personal relationships and effectiveness in culturally diverse situations.

## **3. CULTURAL INTELLIGENCE (CQ)**

Culture is formally defined by Schein (1985) as a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration, which has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think and feel in relation to those problems (Schein, 1985). CQ is culture free, and it refers to a general set of capabilities with relevance to situations

characterized by cultural diversity. EQ differs, therefore, from CQ because it focuses on the general ability to perceive and manage emotions without consideration of cultural context (Ang et al., 2007). Bucher (2007) concludes that CQ is about being aware of our values and those of others, and the relationships among people's values, behaviours and cultural backgrounds, and Rockstuhl et al. (2011) hold that theory and research suggest that CQ facilitates formation of expressive ties and show the value of cultural intelligence as a critical leadership competency in today's globalised world. Manor's theoretical arguments suggest that top executives who are more culturally intelligent are better able to scan their environments for relevant and accurate information and use this higher-quality information to make better decisions and take better calculated risks (Ang et al., 2011). One reason why CQ increases the job performance is that it results in better judgment and decision-making. An important cognitive outcome is cultural judgment and decision-making, which refers to the quality of decisions regarding inter-cultural interactions (Ang et al., 2007). In fact, the process of meaning-making is manifested in and mediated by cultural contexts (Rockstuhl et al., 2011).

#### **4. KNOWLEDGE MANAGEMENT (KM)**

According to Omotayo and Babalola (2016) KM is a key element in the survival of any cultural system as KS is a key process in translating individual learning into organisational capability. KM is an attempt by organisations to capture, codify, organise and redistribute the organisational's tacit forms of knowing and make them explicit (Rothberg and Erickson, 2004). The creation of knowledge leverages tacit knowledge by converting it into new explicit knowledge (Nonaka & Takeuchi, 1995). Through operationalization and dissemination, the new explicit knowledge is re-experienced and re-internalized as cultural knowledge. Cultural knowledge includes shared beliefs, norms and values form the framework in which organisational members construct reality, recognize the saliency of new information, and evaluate alternative interpretations and actions. It is possible to check the accuracy of cultural knowledge as interact with people from different cultures. This process of learning by comparison helps in avoiding the overload of information caused by the use of practices of creation of tacit and explicit knowledge (KM). OECD (2003) concludes that KM is a broad collection of organisational practices related to generating, capturing, disseminating know-how and promoting knowledge sharing within an organisation and with the outside world. Foss and Pedersen (2002) argued that all knowledge sources are positively related to knowledge transfer that in turn facilitates innovation and new product development. However, this knowledge transfer can cause wrong interpretation if not guided by experience. Given the ongoing gaggle of approaches within the field, KM can be considered as a set of practices aimed at the interaction between tacit and explicit knowledge by the use of cultural knowledge to acquire and create new competences (knowledge + skills + attitude), which allow an organisation to act intelligently in different environments (Angeles, 2013).

#### **5. THE RESEARCH MODEL**

The statement "culture eats strategy for breakfast" attributed to Peter Ducker, highlights the importance of culture in providing the context for the formulation and implementation of strategies (Farjoun, 2002; Ireland & Hitt, 1999), in particular KM strategies. Taiwan belongs to Confucian Asia, form also by Taiwan, Singapore, Hong Kong, South Korea, China, Japan (House et al., 2004). This is one of the reasons that Taiwan received completely different scores in comparison to Vietnam in two important Hofstede's Cultural Dimensions (Hofstede, 2001): Uncertainty avoidance (Taiwan 69, Vietnam 30) and Long term orientation (Taiwan 93, Vietnam 57). These countries are also different in terms of performance orientation, institutional collectivism and in-group collectivism as demonstrated in table 1.

National Culture Dimensions	Taiwan	Vietnam
Uncertainty avoidance	high	low
Performance orientation	high	low
Institutional collectivism	high	low
In-group collectivism	high	high

Table 1: National culture dimensions in Taiwan and Vietnam (Globe, 2004)

The Knowledge Management model based on Emotional and Cultural Intelligence (KMECI) is presented in Figure 1.

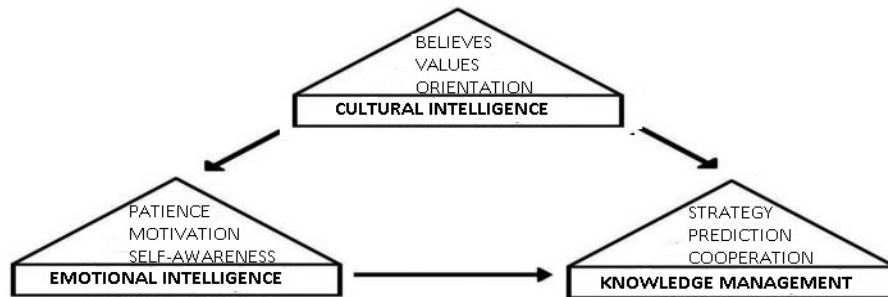


Figure 1: KMECI model

The KMECI model shows that emotional and cultural intelligence impacts the practices of Knowledge Management positively. Furthermore, models show a primary impact of CQ on EQ (Yi-chun, Shin-yih, Yi-chen, 2012), expressed in H1 below. These create the conditions for transforming tacit into explicit knowledge by sharing cultural knowledge. Thus, EQ and CQ support KM between knowledge and experience among students and professors. Tang and Werner (2017) confirmed that once cultural differences are acknowledged there is greater sharing of experience leading to increased innovation. H2 encompasses this relationship. Finally, in H3 Martina et al. (2015) argues that EQ impact KM, creativity, and collective performance. This research empirically tests three hypotheses (Table 2).

Hypotheses	Sources	Results and gaps to be filled
H1. Emotional Intelligence is positively influenced by Cultural intelligence.	Emotional intelligence positively moderated the relationship between cultural intelligence and cross-cultural adjustment (Yi-chun, Shin-yih, Yi-chen, 2012)	CONFIRMED GAP: Why a person with high emotional intelligence in one cultural context may not be emotionally intelligent in another culture?
H2. Cultural intelligence influences intention to contribute knowledge and experience in one KM program positively	Cultural differences should be recognized and addressed in creativity training where participants from different cultures have an equal chance to share their perspectives and experiences on creativity and innovation (Tang and Werner, 2017)	CONFIRMED GAP: Why does a person with high level of experience and resilience has more willing to apply what he/she learned in another culture in a KM program?
H3. emotional intelligence influences intention to contribute knowledge and experience in one KM program positively	Development of emotional intelligence is essential not only from the point of view of knowledge management, building a learning organization, and developing the corporate culture, ethics, and creativity, but it also brings specific, measurable results, manifested through better performance (Martina et al., 2015).	Confirmed GAP: What do motivation, patience and self-awareness add in a collaborative environment where people should share what the know?

Table 2: Hypotheses in KMECI model

## 6. RESEARCH METHODOLOGY AND DATA COLLECTION

The interview was our main collection method, designed and executed to understand and give voice to participants' experiences, behaviours and attitudes in a non-threatening, confidential and non-evaluative manner (Miller and Glassner 2004). Interviews are particularly useful for getting the story behind a participant's experiences. The interviewer can pursue in-depth information around the topic (McNamara, 1999). We conducted interviews on one-on-one basis and compared and contrasted the results ourselves, avoiding focus groups due to their elevated potential for acquiescence bias (Schaffer and Riordan 2003). This research relies on a study performed on six large Universities in Taiwan and Vietnam—conducting semi-structured interviews with students and professors. In total 35 interviews were conducted with the following participants: 17 students and 3 professors from Tamkang, Fu Jen Catholic, Asia, Chinese Culture Universities in Taiwan, and 13 students and 2 professors from RMIT International and Vietnamese-German Universities in Vietnam. A version of the interview with 40 questions for students across 2 dimensions (EQ and CQ) and 22 questions for professors across one dimension (KM) was developed based on three scales:

1. Wong and Law Emotional Intelligence Scale (Wong & Law, 2002)
2. Cultural Intelligence Scale (Angeles et al., 2007)
3. KM scale available in the article “A model of Knowledge Management and Organizational Intelligence for Public Sector Organizations” (Angeles, 2013).

## 7. RESULTS AND DISCUSSION

In the interview about Emotional Intelligence, the great majority of Vietnamese students, answered that they share feelings and problems with friends, indicating some emotional intelligence. They take the easiest path to enjoy life in the present and help others to do the same, have patience to listen and motivation to study and work abroad. On the other hand, Taiwanese students are extremely protected by families, teachers and government. Therefore Taiwanese students are not motivated to study abroad, their level of experience is too low and also their self-awareness. Even though they appear to pay attention to a visitor's views, they reject ideas that require them to leave their comfort zone in Taiwan. Most of Taiwanese, students and professors, chose the option “Neither agree nor disagree” in the survey about culture intelligence, because they don't understand the importance of learning process with other cultures to develop the capacity to apply knowledge. Their higher level of uncertainty avoidance can be seen in their reluctance to explore foreign cultures, a form of risk-taking and cross-cultural adjustment. In turn this impacts their emotional intelligence (motivation, self-awareness and patience), thus Hypothesis 1 is affirmed. Regarding Hypothesis 2 it is important to consider that Taiwanese tend to have the Chinese cultural value of collectivism (Meindl et al., 1989; Wong et al., 2010). However, even though the Vietnamese are also family collectivist (Hofstede, 2001; House 2004) by creating a culture of sharing with their family and valued contacts, the Taiwanese are primarily orientated by the national norms (Triandis, 1995, p.2) given the fact that they have much less experience compared to Vietnamese to develop their own personality and individual independence. Interview participants demonstrated that Taiwanese have more knowledge of technical matters to share while the Vietnamese participants emphasized their experiences of other cultures as critical to their decisions to share these. Thus affirming Hypothesis 2. Finally, an exploration of EQ and KM in the interviews conducted in Vietnamese institutions indicates that the Taiwanese universities are not open to foreigners nor to feedback from students. Thus Taiwanese students are not motivated to change the university culture and so the norms guide them and remain fixed. The levels of English language skills are higher in comparison to students of Vietnamese Universities, which helps them to understand international literature without going to other countries. In contrast there are several international universities in Vietnam who welcome foreign staff and students, and

thus are motivated to develop a culture of sharing. The culture of sharing is enhanced by mentoring and active development of students and staff in both Universities researched. There are also formal meetings with industry representatives, Government bodies from Vietnam, Australia, and Germany. This indicates that motivation positively supports a culture of sharing thus lending support to Hypothesis 3. One of the meeting is with Ms. Huynh Dinh Thai Linh, Regional Manager of the Hinrich Foundation, about opportunities for the Vietnamese students to get scholarships for exchange programs in Germany and other foreign countries. Student are highly motivated at participating into contests for innovation and entrepreneurship, with awards like the Best Innovator Prize or a mentoring program sponsor by Israeli government. Dr. Bernd Tilp, Director of DAAD office in Ho Chi Minh City, pointed out that over the last year until currently, Vietnamese students are very keen on the opportunities studying abroad at German universities. In order to meet the high demand of those students, the DAAD opened 2 office instead of only one office as in many other South East Asian countries. According to Dr. Dinh Hai Dung, Coordinator of a Master study program at VGU, each year there are about 20% of students at this university who go to Germany for the master thesis with a German professor who acts as the thesis supervisor. Mr. Henning Hilbert, the Vice Director of Goethe Institute in Ho Chi Minh City, confirmed us that the need of students to learn German language and prepare for their undergraduate study in Germany has increased dramatically, as a sequence the Goethe Institute is mostly overloaded recently. Another important point is that Taiwanese wants to let very clear the rules and regulations when any discussion occurs, while Vietnamese prefer let the work flow without interruptions. These findings are easier to understand when compared with the interview about culture intelligence. Since Vietnamese, in opposition to Taiwanese, has low level of uncertainty avoidance, they enjoy and are confident in interacting with people from different cultures abroad. Taiwanese prefer stay in the comfort zone to avoid the stresses of adjusting to a culture that is new to them. Taiwanese are not confident that they can get accustomed to the shopping conditions in a different culture, since their culture is isolated from the rest of the world, even though they are very welcome to foreigners, except professors to keep the status quo of “control their genius kids”. They like to receive other nationalities, but they do not want to leave the country to really learn with them. This welcome approach is a naturally reaction against Ming Dynasty (military base) restored by Zheng Chenggong, (Koxinga) after 38 years of Dutch rule on Taiwan. In the interview about Knowledge Management with professors from both countries it was clear that in Vietnam, in opposition to Taiwan, there is a constant use of multidisciplinary teams that cut across the formal traditional and hierarchical structure. In fact, in Vietnam, the formal collaborative networks are strategic and go beyond the University itself, involving other Universities, partners, customers, suppliers (Communities of Practice – COPs). There is also a positive, proactive and fast attitude to sharing knowledge and solutions with students from other departments of the University and also with other universities in Vietnam and abroad. For example, in interaction with German professors who fly from German partner universities to VGU to teach certain courses, Vietnamese students very often organize themselves in study group and ask for project work where their teamwork can be practiced, demonstrated, and assessed by the professor. The examination modus will be designed in a way such that a group presentation about a research topic will be given, and discussion between different groups enhance the knowledge and solution transfer. Between students and the universities departments there are certain connection and interaction, in the form of survey and evaluation of teaching services. Furthermore, the research management department of VGU is set up with one of the major tasks to support students in research projects so that they can get up-to-date in an international environment. In opposition to the four universities in Taiwan, in both Universities in Vietnam there is a formal and disciplined process for " environment exam, this is, a systematic review of the University environment to identify key trends, opportunities and threats.

Because of these competences, both Universities are successful in using the knowledge to make predictions. In both countries, there is a heightened sense of trust within the University and the students are motivated about the University's culture. However, in Vietnam the students have classes with foreign professors from the beginning, while in Taiwan the universities are very close for professors from other countries, which helps to keep the students close to them with less demands to be accomplished by Taiwanese professors. The motivation and patience of students contribute to develop the culture of sharing, what is paramount for a KM plan. However, they need support from professors and the universities' leaders to create practices of sharing knowledge in the University, what it is not common in Taiwan. When the students identify the sense of community and effectiveness of a Knowledge Management program between University and Industry they are much more motivated to contribute by exchanging their knowledge and experience. The learning of new beliefs, values, assumptions, traditions, resilience (cultural intelligence), impact the culture of sharing, which helps in the process of creation of knowledge. The creation of knowledge is higher in Taiwan, but the application is higher in Vietnam. According to Vietnam Chamber of Commerce and Industry -VCCI President, Vu Tien Loc, Vietnam has become an attractive business and investment destination for many foreign companies from Taiwan, thanks to its notable advantages, including a high economic growth rate, political stability and its strategic geographic location. As of the end of 2017, Taiwan has invested a total amount of 30 billion USD into 2,500 projects in Vietnam, which makes it the 4th biggest foreign direct investor. In Binh Duong province, where the VGU is located, Taiwanese companies invested into 772 projects with a capital volume of nearly 6 billion USD. Even they had to suffer certain difficulties and damages during the short period with the anti-chinese attitude in 2014 in Vietnam, Taiwanese companies still find great potential investing in the long term. The challenge for Taiwan is developing the capacity to apply knowledge, given the fact that other countries are taking the knowledge of Taiwanese employees to fire them afterwards. Curricula for teacher training should incorporate and promote factors such as openness to intercultural interaction and intercultural learning, readiness to recognise and utilise multiculturalism and cultural diversity as a learning resource (Petrović, 2006) and also create international teachers exchange programmes (Petrović & Zlatković, 2009) before students exchange programs, such as ERASMUS PROGRAM in Europe. One solution to reduce the high brain drain and economic crises in Taiwan should be the interference of the government and university's leaders by changing the process of selection and development of professors, given the fact that QS World University Rankings has 4 metrics of internationalization, International Faculty Ratio, International Student Ratio, Inbound Exchange Students and Outbound Exchange Students. In Vietnam the government should open new public universities and promote campaigns to incentive people to study.

## 8. CONCLUSIONS

Past studies have indicated university-industry collaboration is an effective approach to entrepreneurial training because it can realize the benefits of the combining university theory with practical experience. There are barriers to industries in gaining academic knowledge and for students to gain practical experience. This exploratory research postulated the impact of emotional and cultural intelligence by increasing the quality and frequency of communication and affecting knowledge management. The objectives of this study were: i) to propose a model that can capture the relationship between knowledge and experience (CQ, EQ & KM) and ii) to provide qualitative evidence of its effectiveness. In-depth semi-structured interviews tested the conceptual model, the results indicating some support for the relationships proposed. Thus Knowledge Management model based on Emotional and Cultural Intelligence (KMECI) provides a framework for universities and industries to develop their plan for exchanging knowledge and experience along with motivating and entrainment among students.



The authors recommend further research on a larger scale to gain a deeper understanding the interactions between the variables of the KMECI Model, especially the relationship between CQ and EQ in enhancing knowledge management. The being to present selected practices of Knowledge Management to facilitate the process of creation and application of Knowledge in both, Universities and Industries.

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## **MONEY LAUNDERING AS AN OBSTACLE TO LEGAL BUSINESS DEVELOPMENT**

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### **ABSTRACT**

*The paper is focused on money laundering and the problems, abuse and complications that consequently arise in the society, law and economy. The first part of the paper deals with the definition of the money laundering concept, its origin and the meanings of some terms. The history of money laundering and its negative impacts on the development of legal business worldwide and in Serbia are the subject of the second part of the paper. This part of the paper explains in detail the stages of legalisation of illicit proceeds. The third part of the paper describes Serbian legislation that governs this field and its latest amendments that are yet to be implemented and yield efficient results in combating money laundering. In addition, the fourth part of the paper describes legislative coverage of this occurrence in the EU law, as well as in the legislative systems of the Federal Republic of Germany and Austria. The last, fifth part encompasses the research on money laundering on the territory of the Republic of Serbia over a ten-year period 2007-2016. This part is focused on examining the number of the accused, indicted and sentenced for this criminal offence.*

**Keywords:** *business, money, money laundering, criminal offence*

### **1. INTRODUCTION**

The term money laundering (German Geldwäsche), is used for financial operations that are conducted for the purpose of concealment of an identity or a destination of financial resources. This activity is most often carried out by transferring money through numerous deposit accounts with different banks in order to disable the authorities to trace the true nature of the money, but also its owner (Krivokapić, 2010, p. 806). Money intended to be legalised is usually derived from some illicit activities. Those illegal activities usually encompass prostitution or illicit trading in different types of merchandise. Consequently, some business entities do business illegally which has a negative impact not only on the reputation of a country and its legal security, but also on business entities' decisions whether to set up a business in the country or not. There are several money laundering methods applied nowadays, and one of them is smurfing of illegally acquired money and spreading it out over many different accounts in different banks not mutually connected. In this manner, it is not necessary to provide evidence for money source, thus the integration of illegally acquired money is a lot easier. For instance, the USA require a person to provide evidence for where the money came from for transactions exceeding \$10,000. Due to the globalisation and internationalisation of financial market, as well as information system development it becomes easier to make various capital transfers which are difficult to trace. This issue has attracted the biggest attention with the occurrence and strengthening of terrorism. Actually, some research has suggested that acts of terrorism worldwide closely connected with arms trafficking are also closely related to money laundering.

In the light of all this, the issues that can be anticipated at the very beginning of the paper deserve the attention of academic community, as money laundering activities harm the business of legal companies that trade on the market in accordance with business ethics. Money laundering is an extreme threat to the integration of financial institutions that endanger those companies which do business legally.

## **2. HISTORY OF MONEY LAUNDERING DEVELOPMENT AND ITS IMPACT ON BUSINESS**

Since it originated until today, money laundering has been described as financial transactions conducted for the purpose of concealing true i.e. real money origin and other forms of capital, as well as legalisation of capital derived from illicit activities. Since old times money laundering has implied forging financial documents and manipulations in inter-banking systems. In addition, with its development some other forms of wrongdoings have appeared that may entail money laundering activities such as: tax evasion, arms and drugs trafficking, prostitution, gambling, privatisation processes and similar. This phenomenon first arose in the USA at the time of Prohibition, when criminal groups presented their illegal gains from illegal production and sale of alcohol as profits from laundromats and car washes. The term “money laundering” labels post-criminal activities aimed at concealing financial gains or values derived from illicit and illegal activities and their investment in financial and non-financial system, in order to convert them into legal and lawful proceeds or value (Meštrović, 2002, p. 147; Teofilović & Jelačić, 2006, p. 13-16). Dirty money implies any money obtained through a criminal activity and any assets or values derived from it. Hence comes causal connection between money laundering and the former criminal activity, should it be committed by drugs trafficking, arms trafficking, or human trafficking, various extortions, embezzlements, frauds, tax evasion, suspicious privatization, corruption, organized crime or in some other illicit manners. Money laundering also implies utilization of legal means for illegal purposes such as for example terrorism financing (Gup, 2006, p.3). According to some sources the term “money laundering” was first mentioned in London newspaper *The Guardian* in 1973 in connection with the famous Nixon affair “Watergate” in which over \$200,000 was laundered through the financing of the US republican pre-election campaign. However, the first origins of money laundering were connected with American criminal Alphonse Capone who in the 1930’s presented his illegal proceeds of 100 million dollars, obtained by selling alcohol, as his profits from Laundromats in Chicago and its surroundings, whereas he invested the money acquired through mafia activities into the chains of pizza shops, restaurants and casinos in Cuba. He managed to do all that thanks to local authorities and corrupted ministers that he shared his profits with. At the peak of his power Alphonse Capone used to spend 30 million dollars annually on bribing or returning favours to politicians (Danilović, 2009). The main goal of “money launderers” is not to achieve the highest return rate on the laundered money, but to launder the money i.e. to transfer it into legal financial flows, which will provide for its easier and faster processing. Accordingly, money may travel from a country with a good economic policy that provides for higher profit rates to countries with a less favourable policy and lower returns on investments, thus for the purpose of money laundering free capital may be invested less rationally, which might largely endanger current economic flows. Such financial speculations may have adverse impact on the instability of interest rate and currency exchange rate, as well as on artificially caused income growth of individuals and creation of apparently big spending power in a country. Such actions cause a number of adverse economic factors that may change a current social structure, which is not real, and where a group of the wealthy is created artificially, who earn money relatively easily and create demand for luxury products, real estates and similar. According to the estimates of the International Monetary Fund gross criminal product in the world amounts to over \$500 billion annually, while 80% of this amount, according to the

estimates of the UN, comes from drugs trafficking. In the light of everything mentioned it can be said that every person who is engaged in money laundering tends to transfer as much money as possible into legal financial flows. Thus we can totally agree with a catchword that a dream of every money launderer is to pay taxes. Converting illegal money into legal, i.e. into money with coverage in a certain business or an activity, for the purpose of concealing its real origin is a very complex three-stage process that requires: placement of illegally acquired money, layering of illegally acquired money, and integration of illegally acquired money (Gilmore, 2004, p. 32). Placement is the first stage of money laundering which serves to create the illusion of a legitimacy of illegally derived funds and conceal its illegal source. In this stage the criminally derived funds are introduced in financial, non-financial or some other alternative system, or converted into another type of assets, thanks to connections with corrupted officials, weaknesses of the preventive system of a financial or non-financial institution and loopholes in laws that regulate money laundering prevention in countries (Danilović, 2009). Placement of criminally derived cash is conducted in several manners, and the most frequent one is placement of illegally derived cash under cover of placement of regular cash proceeds from legal or legitimate business, setting-up fake “phantom companies” that do not operate, and are used only as means for placement of cash on the bank accounts of those companies, smurfing larger amounts, which is conducted by accomplices who deposit smaller amounts not exceeding reporting threshold on one or more bank accounts, in order not to arouse suspicion with bank clerks and be subject to special payments, acquisition of a debtor-in-possession or a company with serious financial problems, whose accounts only serve as means for sending the money formerly deposited on bank accounts or other financial institutions (Teofilović and Kuljača, 2008, p. 87-88). In the second stage called layering the entities and institutions involved in money laundering and terrorism financing after having converted cash into bank deposits, make every endeavor, mostly by legitimate transactions, to conceal the real source of illegally obtained resources. Layering is conducted by transferring funds from one account to the accounts of different banks, business entities and other financial institutions in the country and abroad. The key point of this stage of money laundering is movement of funds through numerous transactions in order to make trailing of their origin difficult and to conceal the connection between the funds and its criminal source (Danilović, 2009). The methods of money laundering mostly used are: currency exchanges; currency smuggling; doing business through off-shore zones; cash converted into other money instruments (cheques, banker’s drafts, shares, or any other kind of securities, tangible assets, such as movable and immovable assets etc.); money orders, electronic money transfer (e-banking); setting-up shell companies and casinos; using insurance companies, a box office, a post office in the place of residence and export-import companies; manipulation of accounts, warranties, bonds and securities, forging documents, i.e. written trail of proceeds, particularly its real source, ownership, place and purpose (Maros, 1999, p. 242 & Danilović, 2009). Integration is the third stage of money laundering. In this stage illicit and illegally obtained proceeds are transformed in the forms that are difficult to detect and monitor, because they mix with legally obtained and legitimate proceeds. Therefore, money laundering in this stage usually finishes with a purchase of movable or immovable assets and securities, giving loans, involvement of several foreign banks, issuance of fake import-export invoices, spending on luxury goods, and recently with big investments in recovery of companies in difficulty (Mitsilegas, 2003, p. 24 & Danilović, 2009). All three stages of money laundering (placement, layering and integration) usually overlap in practice, since legally obtained money is mixed with dirty money in all stages, and sometimes some stages are skipped, while others are repeated, depending on the operating model of the subjects of a crime, the amount of “dirty money” in circulation, the accuracy and quality of legislation (Danilović, 2009).

### **3. MONEY LAUNDERING IN SERBIAN LEGISLATION**

The subject matter of this criminal offence has been regulated by a number of legislative documents in the Republic of Serbia, which shows that our country has also taken very seriously the importance of this offence. The Criminal Code of RS regulates money laundering by Article 245. Under this Article whoever converts or transfers property while aware that such property originates from a criminal offence, with intent to conceal or misrepresent the unlawful origin of the property, or conceals and misrepresents facts on the property while aware that such property originates from a criminal offence. The penalty prescribed for this offence is imprisonment of six months to five years and a fine. If the amount of money or property exceed one million five hundred thousand dinars, the offender shall be punished by imprisonment of one to ten years and a fine. In case that the offence is committed by an organised criminal group, the penalty prescribed is imprisonment of two to twelve years and a fine. If the offence is committed from negligence, the penalty is imprisonment up to three years. The Code also provides for the money and property obtained by this offence to be seized. In addition to this legislative solution, there are other laws that govern this subject matter and tend to define it more closely, whereof it is worth mentioning the Law on the Prevention of Money Laundering and the Financing of Terrorism and the National Strategy Against Money Laundering and Terrorism Funding. This legislative framework is accompanied by an adequate organizational structure of the institutions and bodies for the prevention and uncovering of money laundering and terrorism financing. Thus, within the Ministry of Finance for this purpose the Administration for the Prevention of Money Laundering has been set up, which closely cooperates with the Prosecutor's Office for Organised Crime, the law enforcement forces, intelligence and security agencies and other judicial and security bodies. In 2016, basic and higher Prosecutor's Offices, as well as the Prosecutor's Office for Organised Crime filed 40 requests to the Administration for the Prevention of Money Laundering to check suspicious transactions. The Administration for the Prevention of Money Laundering has established cooperation with the Ministry of the Interior. The Ministry only in 2016 filed even 474 requests to the Administration for the Prevention of Money Laundering to check suspicious transactions. In addition to the mentioned institutions and authorities competent for the prevention of money laundering there are also Security Information Agency and Military Security Agency that within their constitutional and statutory competences deal with the prevention of money laundering and terrorism financing. For example, Security Information Agency of the Republic of Serbia in 2016 filed 55 requests to the Administration for the Prevention of Money Laundering for the information on suspicious transactions. At the time, Military Security Agency of the Ministry of Defence filed four requests for checking suspicious behavior that might be connected with money laundering. In addition to the cooperation on the national level, the problem of money laundering and the struggle to uncover and prove it requires also international cooperation. Therefore, the Republic of Serbia and the Administration for the Prevention of Money Laundering provide information to other states and ask for information from other states that indicate some forms of money laundering and terrorism financing. Thus, in 2016, the Administration for the Prevention of Money Laundering responded to 110 requests of other states and financial organisations, while in the same year it filed 133 requests to foreign financial intelligence organisations to check and obtain data on suspicious activities that indicate some possible forms of money laundering and terrorism financing. The Republic of Serbia has several times amended the Law on the Prevention of Money Laundering and the Financing of Terrorism. The latest amendments to the Law entered into force on 1 April 2018. The novelties in this field have been introduced due to the fact that from December 2014 to April 2017 the Council of Europe Moneyval Committee evaluated Serbia under a fifth round of evaluations scrutinising the actions and measures the country takes to combat money laundering and terrorism financing. The amendments to all legislative solutions regulating this

field are aimed at aligning the Law on the Prevention of Money Laundering and the Financing of Terrorism with international standards and improving the effectiveness of the financial and judicial system in the suppression of money laundering and terrorism financing. Following Moneyval's plenary session in April last year and adoption of the report, the Republic of Serbia was put under stronger supervision of this body, and accordingly the country will be required to report to the Council of Europe Moneyval Committee on annual progress. Making progress in this field was not possible without amendments to the Law on the Prevention of Money Laundering and the Financing of Terrorism. If Serbia had not amended the current Law on the Prevention of Money Laundering and the Financing of Terrorism, which encompasses a lot of European standards and rules, it would have hardly been able to give evidence of some real progress in every key field that was poorly evaluated. Thus, Serbia would risk being put on the list of states that do not implement the international standards in the prevention of money laundering and terrorism financing. The new Law on the Prevention of Money Laundering and the Financing of Terrorism provides for verifying the identity of a life-insurance policy holder. In addition to other things, this Law sets forth the obligation of collecting data on property origin, then the obligation of obtaining data on the real owner of a party which is a legal entity, checks of cash transactions, personal documents, official documents, data on the activities of a party, shell banks, foreign officials, real owners, business relationships etc. A novelty is that under the new Law a domestic official may be a "link" in money laundering chain. Namely, in accordance with the definition of a foreign official set forth in the current law, a parallel is drawn and in this line domestic officials that hold the same or similar public office have been identified. On the basis of the definition of an "official of a foreign country", who is a natural person who holds or who has held in the last four years a high-level public office in a foreign country, the definition of a domestic official is given. Pursuant to the new Law on the Prevention of Money Laundering and the Financing of Terrorism the following entities may be inspected for money laundering: president of the country, prime minister, minister, state secretary, special advisor to a minister, assistant minister, director of an authority within a ministry and their assistants and director of an independent organisation, member of parliament, judge of the Supreme Court of Cassation, Commercial Appellate Court and Constitutional Court, president, Governor, Vice-Governor of the National Bank of Serbia, person entrusted with a prominent office in diplomatic - consular offices such as ambassador, consul general, chargé d'affaires, member of a managing board of a public enterprise or company majority-owned by the State, as well as member of the managing body of a political party. The new Law on the Prevention of Money Laundering and the Financing of Terrorism will make quality improvement of the state of affairs in this field, and align the legislative system to the standards applied in the EU developed countries.

#### **4. COMPARATIVE LEGAL REVIEW OF MONEY LAUNDERING**

##### **4.1. Money laundering and EU legislation**

The European Union is the organisation that invests a lot of energy, effort and resources in the suppression of this problem, since it has been noted that money laundering activities have a negative impact not only on a society from the aspect of criminal law, but also hinder and damage healthy business of companies, what on one hand weakens an economy and on the other strengthens disloyal competition empowered by "dirty money". The EU anti-money laundering legislation encompasses plenty of documents including various Directives, Decisions, framework Decisions, joint actions and similar. The first step in the suppression of money laundering was made in 1991 with the adoption of the Directive no. 308/1991 on prevention of the use of the financial system for the purpose of money laundering so-called the First Directive. The Directive obliged the Member States to define in their legislative frameworks money laundering as a criminal offence. In addition, it also required from all

financial institutions to monitor suspicious transactions and in case that such transaction are discovered to report them to competent authorities.

It should be pointed out that the First Directive was disputed because it entered into force before the Maastricht Treaty, thus the legal basis of such Directive and its provisions was questioned and its validity was reexamined, although the states unanimously agreed on the fact that money laundering activities are in nobody's interest and some steps of suppressing them should be taken. Therefore, the European Union drafted the proposal of the amendments to the First Directive, which were adopted by the EU Parliament in 2001 under the name the Directive amending the Directive no. 308/1991 on prevention of the use of the financial system for the purpose of money laundering. This Directive has introduced some novelties by expanding a number of criminal offences which can generate the property to be laundered, by expanding a number of obliged entities and by distinguishing liabilities in accordance with the category of an obliged entity. Four years after the Second Directive, in 2005, the Directive no. 60/2005 on prevention of the use of the financial system for the purpose of money laundering and terrorism financing was adopted, known as the Third Directive. This Directive had 47 Articles, thus 29 Articles more than the Second Directive. The Third Directive introduced plenty of novelties, and one of them is a risk-based approach. In line with the approach obliged entities are required to conduct different activities in order to prevent money laundering and terrorism financing. Both the Second and the Third Directives state that the Member States are obliged to ban money laundering. Since 2015 a new Directive on prevention of the use of the financial system for the purpose of money laundering or terrorism financing has been implemented known as the Fourth Directive. In addition to the mentioned Directives, some other EU legislative documents have been adopted for the purpose of prevention of money laundering. In 1998 the Joint Action no. 699/1998 on money laundering, the identification, tracing, freezing, seizing and confiscation of instrumentalities and the proceeds from crime, and in 2001 the Framework Decision no. 500/2001 on money laundering, the identification, tracing, freezing, seizing and confiscation of instrumentalities and the proceeds of crime were adopted.

#### **4.2. Money laundering in German criminal legislation**

In German legislation laundering of the proceeds was criminalised in 1992 under Act on the Suppression of Illegal Drug Trafficking and other Manifestations of Organized Crime. Since then the formulation of the criminal offence of money laundering has been altered several times, so that today it is defined as a criminal offence committed by a person who hides an object which is a proceed of an unlawful act listed in Article 261, paragraph 2 of the Criminal Code, conceals its origin or obstructs or endangers the investigation of its origin, its being found, its confiscation, or its being officially secured. Thus, for instance, if the wife of a person who obtained money through illegal drugs trafficking, knowing that the proceeds were generated through a criminal activity, purchases jewelry with that money, she commits a criminal offence of money laundering (Jasco-Potyka, 2007, p. 85). It is important to point out that the object of a criminal activity may be any kind of property in the form of movable or immovable assets, receivables, rights or securities (Schönke i Schröder, 2001, p. 2036). The criminal activity that yielded the subject of money laundering has to be illicit, but no fault element is required (Lackner i Köhl, 2011, p. 1212). In addition to the object, it is necessary to establish a criminal offence that involves concealment and misrepresentation of the object's origin, obstruction or endangering the investigation of its origin, it's being found, its confiscation, or its being officially secured. It should be pointed out that concealment refers to any activity that hinders discovering things which may include giving things to the third party in order to hide them, money transfer from one account to another and similar. The concept of misrepresentation of the object's origin encompasses all fraudulent activities aimed at an endeavor to show that the object has been obtained in a legal manner. As an ideal example of such an act the literature



usually gives entry of false or altered data in business books, desegregation or mixing of illegal and legal property, doing business under false name and similar.

The commission of the criminal offence of money laundering usually includes obstruction or endangering the investigation of the origin of criminally derived property, its being found, its confiscation, or its being officially secured. If there is intent, even potential intent, in the commission of the offence of money laundering, it is sufficient for establishing criminal liability. A perpetrator has to be aware that the object is a proceed from an unlawful act set forth by the Law, and not only of the fact the object is illegally derived (Kindhäuser, 2011, p. 367). In addition to the crime with premeditation, Article 261, paragraph 5 provides for criminal negligence, more precisely gross negligence (*Leichtfertigkeit*). In spite of the fact that introducing this kind of criminal liability has encountered negative criticism in theory, the legislator has remained firm in this approach that it is important to envisage this kind of conduct in case those persons plead ignorance about the source of property and thus avoid criminal liability. This argument is most often disputed, because it is thought that the techniques of criminal procedure law should prove intent and it is not good to introduce more forms of a criminal offence, just because it is assumed that something will be difficult to prove. As for the criminal sanctions laid down by German criminal legislation, for a basic offence of money laundering the penalty is imprisonment of three months to five years. For an aggravated form, when a perpetrator offends by profession or as a member of an organised criminal group, the penalty is imprisonment of six months to ten years, whereas an act of negligence is sanctioned by an imprisonment of two years or a fine.

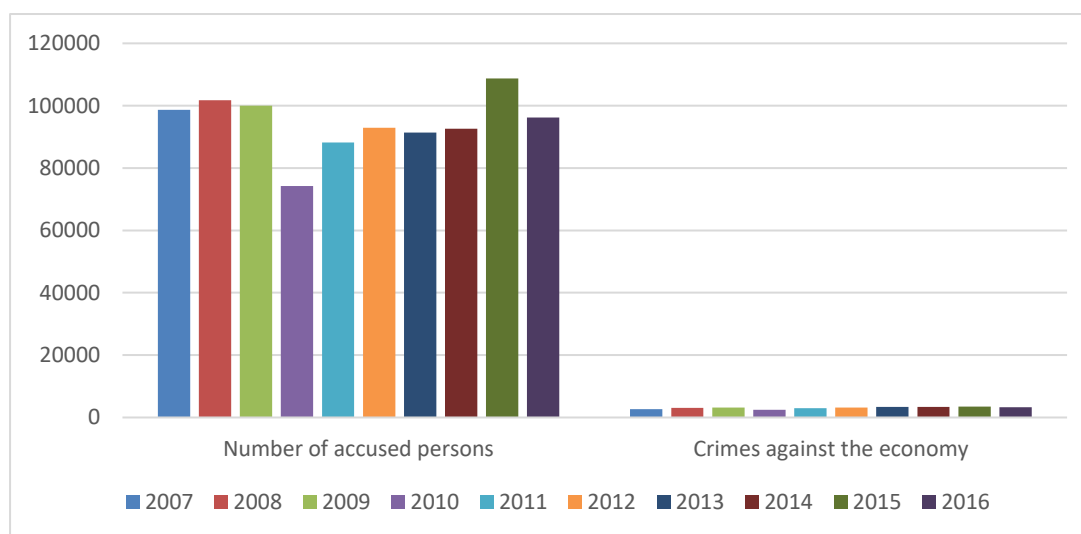
#### **4.3. Money laundering in Austrian criminal legislation**

Money laundering is prescribed as a criminal offence also in Austrian Criminal Code i.e. by Article 165. Most authors believe that the legislator has decided to introduce this criminal offence in the legislative text because there are situations when the criminal offence of concealment laid down in Article 164 cannot be applied. For instance, if an object acquired by a criminal offence is replaced, the person who acquired the object will not be criminally liable for the criminal offence of concealment, as the object has changed its content or identity. Besides, concealment cannot be criminalized in case of intangible things, gifts and compensations for committed criminal offence (Fuchs i Reindl-Krauskopf, 2009, p. 193). Under the Code, the object of money laundering is criminally derived property or the value received in exchange for it and represents a part of perpetrator's overall property. The criminal offence of money laundering under Article 165 is committed by any person who hides or conceals the origin of assets that are the proceeds of a felony, an offence against property or certain other criminal offences punishable by imprisonment of at least one year, the list of minor offences, an offence against intellectual property, smuggling and avoiding import and export liabilities or through fraudulent misrepresentation of legal transactions provides false statement of the origin and right to assets. Hence, the activity consists of concealment (referring to any activity that hinders discovering), as well as providing false data on criminally derived property. Under paragraph 2 the criminal offence is committed by any person who obtains, keeps, uses, transfers to the third person or converts the assets acquired by the criminal activities given in paragraph 1 (Löschnig-Gspandl, 2001, p. 575). From subjective aspect, potential intent is sufficient for establishing culpability. As for the criminal sanctions for a basic offence of the criminal offence the penalty is imprisonment of three years. In case that a person commits money laundering upon the order or in the interest of a criminal group or a terrorist organization the penalty is the same as for a basic form, i.e. three-year imprisonment. These provisions are laid down by paragraph 3. Under paragraph 4 an aggravated form of money laundering is defined that occurs in two instances. In the first instance the value of property that is the object of money laundering amounts to €50,000, and in the second aggravated instance a person

commits the criminal offence of money laundering as a member of a criminal organisation set up for the purpose of committing such criminal offences. In both instances, the penalty is imprisonment of one to eight years.

## 5. EMPIRICAL RESEARCH ON THE CRIMINAL OFFENCE OF MONEY LAUNDERING

Under Serbian criminal legislation the criminal offence of money laundering is categorized as an offence against economic interests. Therefore, in accordance with the subject of this paper, we have analysed this group of offences in comparison with the total number of all offences committed over the period of ten years, i.e. from 2007 to 2016 on the territory of Serbia.



*Figure 1: Ratio between the overall number of persons accused for all offence types and the overall number of persons accused for offences against economic interests on the territory of the Republic of Serbia in the period 2007-2016*

Offences against economic interests, which encompass money laundering, in the observed ten-year period were reported by the bodies of the Ministry of the Interior, citizens, and other competent authorities even 31,153 times. Thus, an annual average was 3,115 charges against property. In the same period, the overall number of persons accused for all offence types was 944,823, with an annual average of 94,482 charges. The annual share of offences against property in the overall number of all charges was 3.3%, which was a small share. The ratio between the number of indicted offenders for all offence types and the number of indicted offenders for offences against economic interests, including money laundering, can be seen in the Figure 2.

*Figure following on the next page*

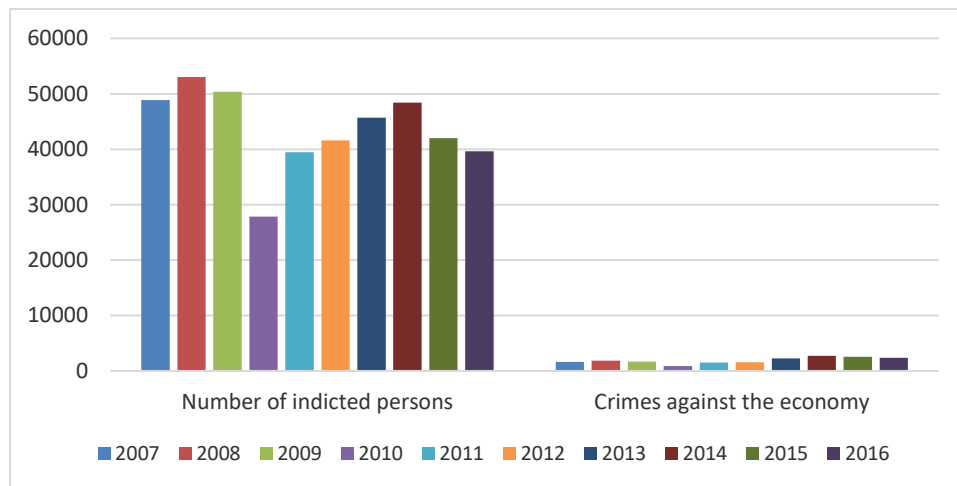


Figure 2: Ratio between the overall number of indicted offenders for all offence types and the overall number of indicted offenders for offences against economic interests on the territory of the Republic of Serbia in the period 2007-2016

The analysis of the data in the Figure 2 suggests that in the period 2007-2016 out of 944,823 of accused offenders for all offence types competent authorities of the Republic of Serbia filed indictments against 437,031 of them. In the whole Serbia, the annual average of filed indictments for all offence types was 43,703. In the same period, 19,111 indictments were filed against offenders for offences against economic interests, i.e. 1,911 indictments annually. The share of indicted offenders for offences against economic interests in the overall number of indicted offenders on the territory of Serbia was 4.4%, which again wasn't a big share. In the last stage of criminal proceedings, in the observed ten-year period, out of 437,031 filed indictments, Serbian judicial bodies passed 338,852 sentences for all offence types or 33,885 sentences on average per year. In the same period, out of 19,111 filed indictments for offences against economic interests 12,109 offenders were sentenced or 1,211 sentences were passed on average per year. Further to the given data it can be concluded that the share of sentenced offenders for offences against economic interests in the overall number of sentenced offenders for all offence types was mere 3.57%, which is a small share.

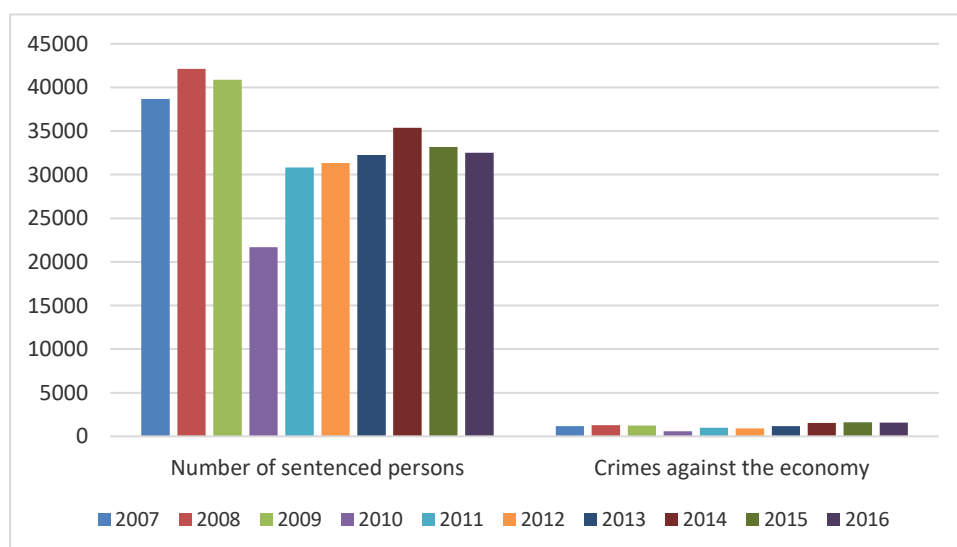


Figure 3: Ratio between the overall number of sentenced offenders for all offence types and the overall number of sentenced offenders for offences against economic interests on the territory of the Republic of Serbia in the period 2007-2016

In the last ten years on the territory of the Republic of Serbia 152 criminal charges were brought for the criminal offence of money laundering in total. Out of that number competent Prosecutor's Offices filed 58 indictments, and out of the total number of indicted offenders courts passed 33 sentences. The number of accused persons, filed indictments and sentenced persons for the criminal offence of money laundering is shown in Table 1.

Accused, indicted and sentenced offenders for money laundering	Accused, indicted and sentenced offenders for money laundering in the Republic of Serbia per years										Total
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Number of accused persons	12	15	8	34	23	21	3	9	14	13	<b>152</b>
Number of indicted persons	1	4	6	-	4	2	10	2	8	11	<b>58</b>
Number of sentenced persons	1	4	6	-	3	1	3	2	2	11	<b>33</b>
<b>IN TOTAL</b>	<b>14</b>	<b>23</b>	<b>20</b>	<b>34</b>	<b>30</b>	<b>24</b>	<b>16</b>	<b>13</b>	<b>24</b>	<b>35</b>	<b>243</b>

*Table 1: Review of the number of accused, indicted and sentenced offender for money laundering in the Republic of Serbia in the period 2007-2016*

In the observed ten-year period, according to the above given table review, it can be concluded that in total 33 criminal offences of money laundering were committed in the territory of the Republic of Serbia. The number of accused persons in the period 2007-2016 was 152, and the number of the indicted was 58. We come to the conclusion that every year about 15 persons are accused for this criminal offence, 5 persons are indicted and 3 persons are sentenced. The biggest number of accused persons was recorded in 2010, but further criminal proceedings against these persons were taken in the following years, because in 2010 plenty of judicial reforms were conducted, which was the reason why nobody was either indicted or sentenced for this criminal offence in that year. The biggest number of indicted persons, i.e. 11, for money laundering was in the last observed year, i.e. in 2016. The same trend is seen in sentenced persons. In 2016, eleven sentences were passed for the criminal offence of money laundering, out of which ten were for completed crimes and only one for an attempt of money laundering. As for the criminal sanctions for money laundering, in the last observed year, one person was sentenced to imprisonment of two to three years and one person was sentenced to imprisonment of one to two years. One person was sentenced to a fine of 10,000 to 100,000 dinars. In 2016, two persons were sentenced to a conditional sentence, and six persons who had committed the act of money laundering were sentenced to house arrest.

## 6. CONCLUSION

The Republic of Serbia, as well as the countries in its closer and farther neighbourhood, are hit by the problem of money laundering. The fact that new money laundering methods constantly emerge hinders, and in some situations prevents law enforcement bodies from tracing illegally derived proceeds and cut off money laundering pathways. Development of information technologies facilitates cooperation between law enforcement bodies on suppression of this occurrence, both on national and international levels, but it also facilitates communication and contributes to laundering money fast. E-banking makes every-day business much easier, but it also has a negative impact on the process of uncovering and proving money laundering offences. On the basis of conducted analyses and multiannual monitoring of this occurrence, the Republic of Serbia has seen that the placement of illegally obtained proceeds brings about

closure of companies that do business in accordance with law, as it is almost impossible for those companies to compete with such disloyal competition. Therefore, Serbia aware of threats coming from this segment has implemented some measures for improving the legislation that are expected to yield good results in the current and coming years. The empirical research conducted for the purpose of the paper suggests the number of accused offenders for money laundering is different from the number of indicted and sentenced offenders. The share of the number of sentenced persons for money laundering in the total number of sentenced persons for all offence types is mere 0.01%, and in the number of sentenced persons for offences against property is only 0.27%, which is negligible. On one hand, it shows that money laundering as a detrimental social occurrence is not widespread in Serbian companies, and on the other hand Serbia lacks a solid legislative framework and efficient system for combating money laundering.

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## LEARNING ORGANIZATION – EXPLORING THE BENEFITS IN THE CONTEXT OF TRANSITION ECONOMY

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### ABSTRACT

*In today's business environment, characterized with hyper competition and more frequent and radical changes, the requisite for continuous learning and innovating in all areas of doing business is becoming larger and larger with every new day. The concept of learning organization presents the ideal type of organization for contemporary business environment – an organization being able, by facilitating learning of its members, to continuously learn, transform and adapt to complex and fast changing business environment. Mentioned requisite for continuous learning and innovating is all the more present in transition economies in which companies are trying to catch-up with the competition coming from developed economies. Despite the increasing demand for a new knowledge, the concept of learning organization, the ideal organizational context for acquiring, distributing, interpreting and memorizing (new) knowledge, is still to take a full swing in majority of transition economies' companies. This paper investigates the nature and the level of presence of learning organization characteristics. Furthermore, the benefits of learning organization characteristics present in the transition economy's companies are being explored in terms of organizational effectiveness. For this to be accomplished, collected data from 36 transition economy's companies were processed via SPSS 23.0 and Microsoft Excel. Obtained results, based on descriptive statistics and bivariate analysis, offered confirmation of proposed theoretical propositions, while also emphasizing number of interesting relations and findings.*

**Keywords:** *Knowledge, Learning organization, Organizational effectiveness, Transition economy*

### 1. INTRODUCTION

Even since the 1990's it was emphasized that learning as an organizational process and learning organization as an ideal type of organization, capable to continuously learn, transform and adapt to complex and fast changing conditions, are essential in order to compete in contemporary business environment. From today's point of view, statements such as 'the rate at which individuals and organization learn may become the only sustainable competitive advantage' (Stata, 1989, p. 64) and 'companies that do not become learning organizations will soon go the way of the dinosaur; they will die out because they were unable to adjust to the changing environment' (Marquandt, 2002, p. xii), seem like a prophecy. According to Shin et al. (2017, p. 1) competing in contemporary business environment, characterized by increasing uncertainty and rapidly changing technologies, demands from organizations to rely on the knowledge, skills, and experience of all of their people by becoming a learning organizations. Indisputably, the concept of learning organization, since its introduction to the literature and practice by Senge (1990), with his book *The Fifth Discipline: The art and practice of the learning organization*, has become a 'holy grail' type of organization, which every company tries to achieve at least to some extent. Companies originating from countries, which have undergone opening-up of the economy to global market, are facing fierce global competition.

On the other hand, legacy of planned economy and the process of transition itself, which includes rapid transformation of society, major reforms and economic development, are shaping organizational norms, practices and overall behavior (Adriaan Boermans & Roelfsema, 2012, p. 1). In this sense, the challenge of becoming a learning organization for companies from transition countries is even more important, due to the radically new, highly demanding market conditions which they are suddenly facing, while this challenge is also even more difficult because of the their transition economy's legacy. Having in mind previously stated, the purpose of this paper is to investigate the extent to which companies from transition countries have achieved desirable characteristics of learning organization. By providing results related to the nature and the level of presence of learning organization characteristics in these companies and exploring the benefits of present learning organization characteristics for companies in terms of organizational effectiveness, we hope to expand existing insights and knowledge about the practice of learning organization, especially in the context of transition economies.

## **2. LEARNING ORGANIZATION**

The term learning organization is often being confused with the term organizational learning, sometimes even with the terms organizational knowledge and knowledge management. While organizational knowledge (theoretically) and knowledge management (practically) are focused on content of knowledge, organizational learning and learning organization are focused on processes: (1) organizational learning theoretically investigates the processes and pending relationships of learning at various levels in organization (individual, group, organizational, inter-organizational) and (2) learning organization refers to practical alignment of systems and infrastructure (strategy, structure, culture, procedures,...) in order to facilitate organizational learning (Easterby-Smith & Lyles, 2005; Vera & Crossan, 2005). Therefore, learning organization is 'organization which facilitates the learning of all its members and continuously transforms itself' (Pedler et al., 1991, p. 1), where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together (Senge (1990, p. 3). As emphasized above, learning organization is an ideal type of organization able to continuously learn, adapt and transform. In order to achieve this kind of organization in significant extent, number of building blocks need to be designed and put in practice. Namely, various conceptualizations of building blocks and dimensions of learning organization are present in the relevant literature. For instance, founder of the concept Senge (1990) proposed mastery of five disciplines in order to become a learning organization: (1) system thinking, (2) personal mastery, (3) mental models, (4) building shared vision and (5) team learning. Later authors have expanded or concretized mentioned, according to some of them, too abstract conceptualization. Related to this, some of the most influential conceptualizations are as follows:

- Pedler et al. (1991) - eleven areas through which learning organization occurs: learning approach to strategy, participative policy making, informing, formative accounting and control, internal exchange, reward flexibility, enabling structures, boundary workers as environmental scanners, intercompany learning, learning climate, and self-development for everyone;
- Watkins & Marsick (1993) - seven dimensions of learning organization: (1) leadership for learning, (2) system connection, (3) embedded system, (4) continuous learning, (5) dialog and inquiry, (6) empowerment and (7) team learning;
- Goh (1998) - five strategic building blocks of learning organization: (1) clarity and support for mission/vision, (2) transfer of knowledge, (2) shared leadership and involvement, (4) an experimenting organizational culture and (5) teamwork and cooperation, supported by two



major supporting foundations: (1) organization design that supports learning and (2) employee competencies and knowledge acquisition;

- Garvin et al. (2008) - three building blocks: (1) a supportive learning environment, (2) concrete learning processes and practices and (3) leadership behaviors;

From the listed conceptualizations, it is evident that there are many overlaps between proposed dimensions and that comprehensive, persistent and committed effort by all organization members needs to be undertaken in order to create and sustain a learning organization. Although exceptionally demanding, mentioned effort, i.e. transformation into and sustaining a learning organization, enables such an organization, on continuous basis, to compete and overcome its competitors and to achieve far better business performances. Just mentioned is evidenced by numerous researches in the relevant literature, suggesting strong relationship between learning organization and business performances, especially organizational innovativeness (Hussein et al., 2014).

### 3. METHODOLOGY

In order to provide insights and answers to the main research questions posed in the paper, empirical research was conducted during 2017. In order to gain insights into (1) learning characteristics present in researched companies and (2) into their organizational effectiveness, specially designed questionnaire was used. For learning organization characteristics, the questionnaire was based on the widely used conceptualization of learning organization by Pedler et al. (1991), while Kaplan and Norton's (1996) Balanced Scorecard concept served as a foundation for organizational effectiveness investigation. Responded questionnaires were enrolled in and processed using SPSS 23.0. and Microsoft Excel. Graphical presentations of research results were produced using Microsoft Visio. While investigating learning organization characteristics and organizational effectiveness via questionnaire, Likert-type scales were used. Gliem and Gliem (2003, p. 88) suggest that 'when using Likert-type scales it is imperative to calculate and report Cronbach's alpha coefficient for internal consistency reliability for any scales or subscales one may be using'. Although, there is no consensus among scholars on acceptable values of Cronbach alpha, the widely-accepted stand in social sciences is that alpha should be .70 or higher, whereas values very close to 1.0 are not desirable, because they indicate item redundancy. In this sense, George & Malery (2003, p. 231) provide the following rules of thumb: “\_ > .9 – Excellent, \_ > .8 – Good, \_ > .7 – Acceptable, \_ > .6 – Questionable, \_ > .5 – Poor, and \_ < .5 – Unacceptable”, while Nunnally and Bernstein (1994) emphasize that values of alpha between .70 and .95 are acceptable. For two concepts investigated in this paper reliability statistics were calculated and they indicate that both scales show excellent internal consistency reliability (Table 1), meaning that produced results, based on designed questionnaire and scales are consistent measures of mentioned concepts.

*Table 1: Reliability statistics for measurement scales used in research (N<sub>1</sub>=36; N<sub>2</sub>=147)*

**Reliability Statistics**

Scale	Number of items	Cronbach's Alpha	Interpretation
Learning Organization	15	.937	Excellent
Organizational Effectiveness	20	.911	Excellent

147 respondents from 36 transition economy's companies constituted research sample (Figure 1), where the number of respondents per company is correlated with size of the company, ranging from 1 respondent in the smallest companies to 12 in the largest ones.

Large majority of companies in the research sample were privately owned companies, with the 2:1 ratio in favor of domestic privately owned companies (59.18%). Various predominant activity and company's age were present in the sample. As for the company's size, correlated with economy's structure, large majority of the sample were small and medium-sized companies.

<b>Predominant activity</b>	Commerce	Construction	Transport	Financial services	Hospitality	Other
	26.53%	11.56%	11.56%	9.52%	9.52%	31.31%
<b>Ownership</b>	Private domestic			Private foreign		State Mixed
	59.18%			27.89%		6.13% 6.80%
<b>Company's age (years)</b>	< 5	5-10	11-20	21-50	> 50	
	12.24%	9.52%	26.53%	24.49%	27.22%	
<b>Size (number of employees)</b>	< 50		50-100	101-250	251-1000	> 1000
	33.33%		27.21%	11.56%	10.20%	17.70%
<b>Respondents' gender</b>	Male			Female		
	56.16%			43.84%		
<b>Respondents' qualification</b>	High school		College	University diploma		MBA or PhD
	43.83%		19.86%	30.82%		5.49%
<b>Respondents' age (years)</b>	18-29	30-39	40-49	> 50		
	22.60%	31.51%	25.34%	20.55%		
<b>Respondents' overall years of service</b>	< 5	5-15	16-30	> 30		
	20.42%	34.69%	34.01%	10.88%		
<b>Respondents' years of service in current company</b>	< 5	5-15	16-30	> 30		
	40.00%	42.07%	15.86%	2.07%		
<b>Respondents' position</b>	First-line employees		Administration staff	Engineers	Lower mngt	Middle mngt Top mngt
	40.00%		31.97%	6.80%	13.61%	8.16% 10.88%

Figure 1: Characteristics of the research sample ( $N_1=36$ ;  $N_2=147$ )

Women and men were almost equally present in the sample, whereas two middle-aged groups take predominance in the sample. Closely related, same can be said for the length of overall service, where the length of service between 5-15 years and 16-30 years present 34.69% and 34.01% of the sample. One of the most important characteristics of the respondents in the sample, length of service in current company indicates the good representativeness of the sample. Namely, there is almost an equal share of relatively new employees (40.00%), with new and fresh attitudes toward learning and learning conditions, and 'natives' (younger and older), which know own company and its learning and working conditions very well. Lastly, all groups of employees were present in the sample, from first-line employees and administration workers, two groups who have dominance in the sample (40.00% and 31.97%), to engineers and managers.

#### 4. FINDINGS

The presence of eleven areas or characteristics of learning organization were investigated in researched companies. Mean values for mentioned characteristics are shown in Figure 2 and 3. Overall presence of learning organization characteristics, i.e. the extent in which researched companies demonstrate the behavior of learning organization, is 3.51 on the scale from 1 to 5. It is a medium level of characteristics' presence, indicating that researched companies are on the path of becoming learning organizations, but have a lot more work to do in order to really become a learning organization. Areas which are better developed in terms of learning organization are strategy (3.61) and internal learning (3.57), while external learning is an area which is the least developed. More detailed analysis of the characteristics' mean values provide additional valuable insights. Namely, focus on horizontal relations, task forces and teams (3.39), enabling flat organizational structure (3.42), external knowledge acquiring through collaboration (3.36) and continuous questioning and formal organizational efforts (3.29) are the most problematic areas. On the other hand, strategic support for learning, despite failures (3.76), provision of information systems and databases for learning (3.62) and expectation from employees to continuously learn and develop are better leading aspects of learning organization in researched companies. These results suggest that companies tend to stimulate learning declaratively, and that this declared commitment needs to be better supported by organizational systems and infrastructure. Apart from formal systems, databases, information systems, aimed on institutionalization of knowledge (memorizing the knowledge in organizational systems), real effort needs to be undertaken to implement organic and flat structures and teamwork which will facilitate better collaboration, internal and external, and team learning. Also, companies expect, or in some cases pressure their employees to continuously learn and develop, while organizational efforts

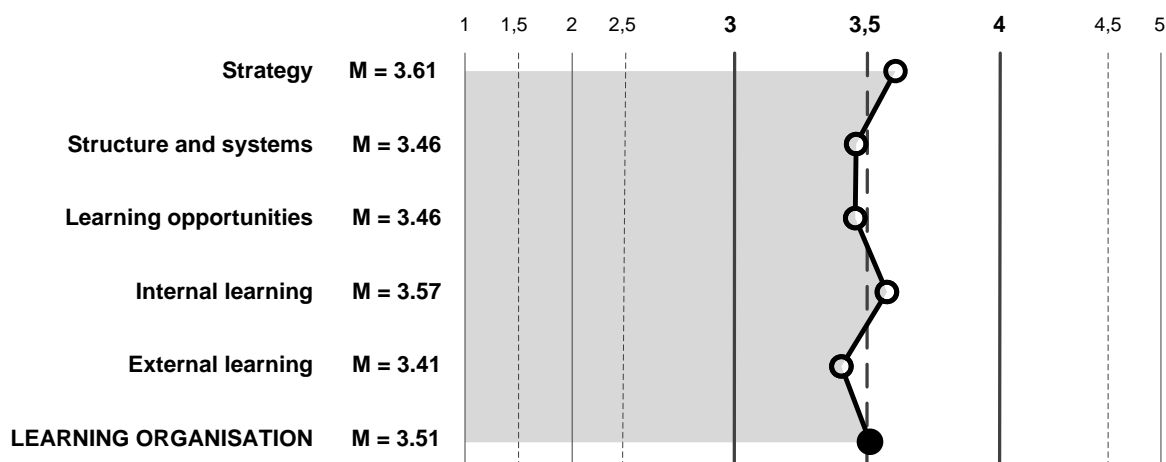


Figure 2: Summary profile of learning organization characteristics in researched companies (mean values) ( $N_1=36$ ;  $N_2=147$ )

Figure following on the next page

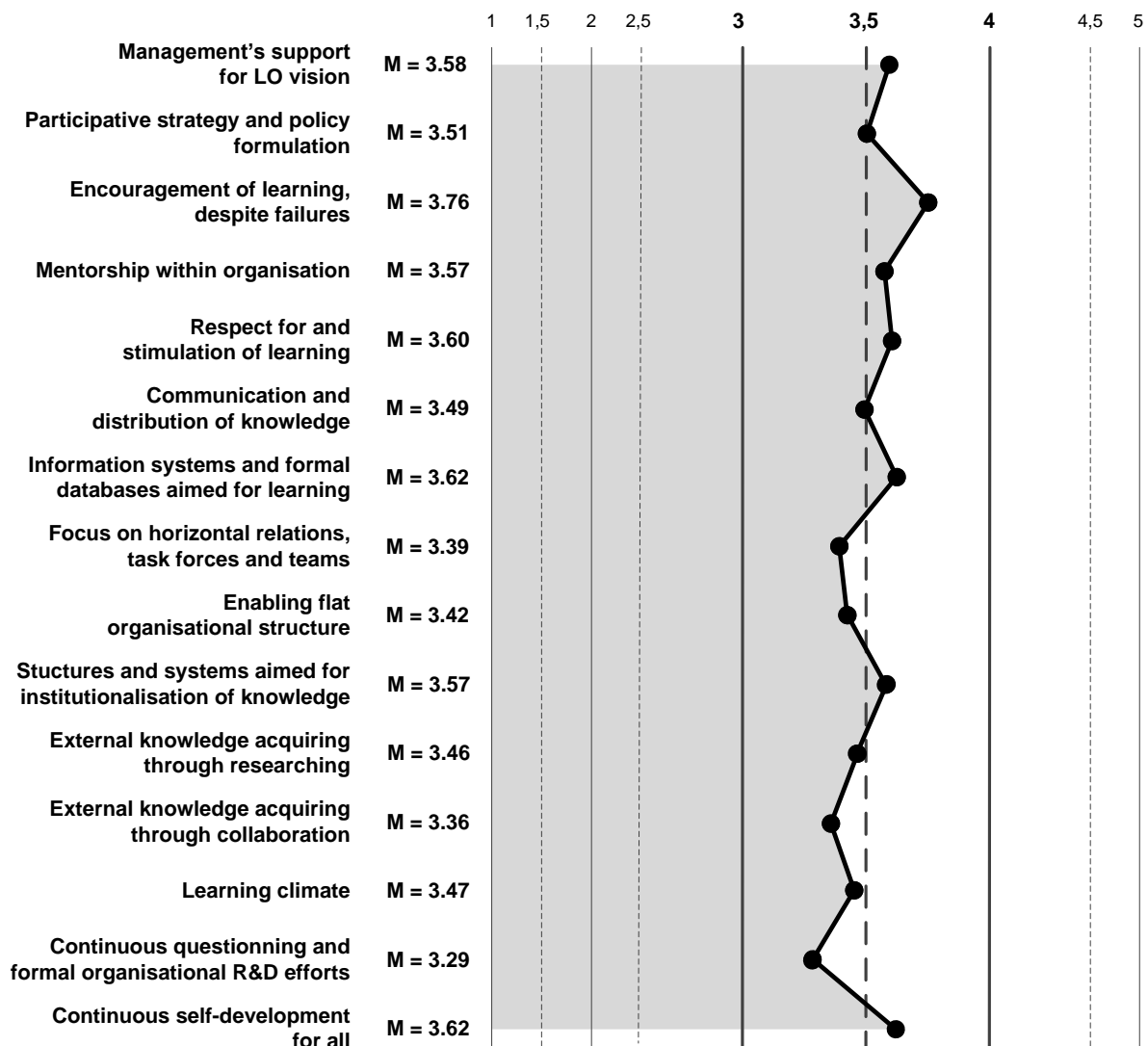
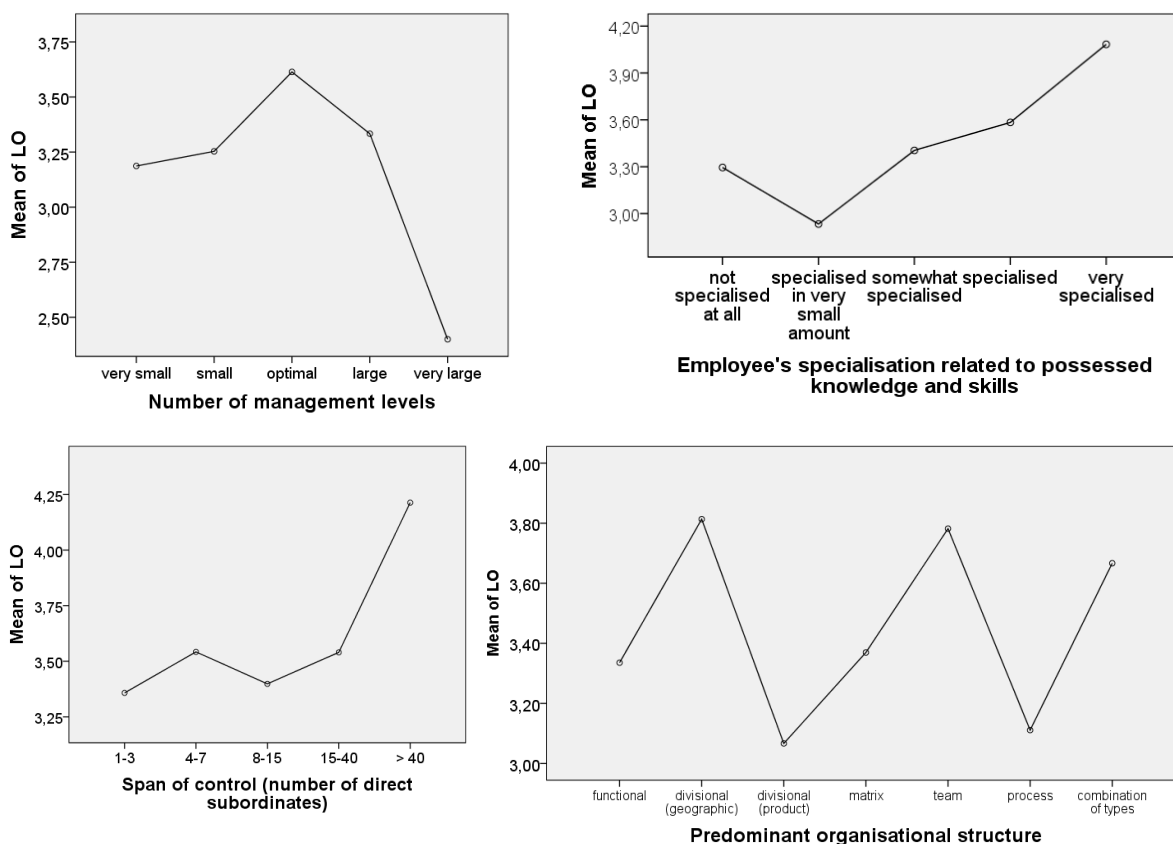


Figure 3: Profile of learning organization characteristics in researched companies (mean values) ( $N_1=36$ ;  $N_2=147$ )

in this aspect are lacking (R&D efforts). All this indicates the misalignment of companies' efforts in providing a learning organization context. Namely, at individual level it is expected from employees to learn, while on other learning levels (group, organizational, inter-organizational) supporting mechanisms and systems for learning are missing. This can be especially said for formal structural arrangements, which need to place a significantly larger emphasis on horizontal relationships, integration and collaboration. Having in mind previously discussed results, significance tests were conducted in order to examine the role of companies' several demographic and formal structural arrangements in their development of learning context (Table 2 and Figure 4). As for demographic characteristics of researched companies, results presented in the Table 1 show that company's age is not a significant factor in developing learning organization characteristics ( $p > .05$ ). Differences in learning organization characteristics in relation to ownership exist in the area of strategy ( $p \leq .05$ ), whereas these differences also exist in some other areas (structure and systems, learning opportunities), when considering ownership, but were determined with lower confidence level ( $p \leq .10$ ). Similar conclusion can be drawn for the factor of size, which naturally plays significant role in strategy as well as structure and systems.

*Table 2: Differences in learning organization characteristics (summary dimensions and overall) in relation to specific characteristics of researched companies (significance tests) ( $N_1=36$ ;  $N_2=147$ )*

ANOVA							
	Ownership	Age	Size	Number of mngt levels	Span of control	Specialization	Structure type
Strategy	.050	.92	.041	.006	.026	.054	.436
Structure and systems	.053	.457	.023	.035	.002	.000	.036
Learning opportunities	.087	.224	.077	.023	.055	.004	.079
Internal learning	.463	.369	.080	.002	.091	.044	.085
External learning	.111	.593	.246	.161	.011	.000	.010
<b>LEARNING ORGANIZATION</b>	.059	.247	.061	.005	.006	.001	.045



*Figure 4: Differences in mean values of learning organization characteristics in relation to researched companies' selected characteristics ( $N_1=36$ ;  $N_2=147$ )*

Results related to four structural arrangements show that they play significant role in overall development of learning organization, as well as in development of majority of specific learning organization characteristics. Graphical presentation indicate that the decrease in number of management levels and the increase of number of direct subordinates and employee's specialization related to possessed knowledge and skills lead to higher level of learning organization development. As for organizational structure types, geographical dispersion, team structure and combination of several types of structure tend to lead to higher level of learning organization development. The number of management levels play significant role in all areas of learning organization except external learning.

With slightly lower level of confidence ( $p \leq .10$ ), it can be concluded that span of control, specialization and structure type are significant for all areas of learning organization, especially for structure and systems and external learning ( $p \leq .05$ ). Previous conclusions cannot be drawn for the role of structure type in learning strategy. Results related to the role of demographic characteristics and formal arrangements in learning organization development indicate that formal arrangements are very important in achieving desired learning context. This is in accordance with previously stated conclusion about the necessity of emphasizing more horizontal approach of performing business and business tasks. In other words, modifying structural arrangements such as the number of management levels, span of control, specialization and overall organizational structure in a way in which autonomy, flexibility, collaboration, mutual adjustments, etc. will have a central role, will eventually lead to higher levels of learning organization development. Finally, examined learning organization characteristics were related to the effectiveness of researched companies in order to see whether these companies benefit from the level of their learning organization development (Table 3 and Figure 5). With correlation coefficients indicating a medium strong correlation ( $.45 < r < .75$ ), and models explaining from 21% to 37% of total variations in dependent variables due to the variations in independent variables, conducted linear regressions are indicating that all learning organization areas in researched companies have positive effects on their organizational effectiveness ( $p \leq .01$ ). Internal learning and strategy have significantly stronger influence of organizational effectiveness then the remaining three learning organization areas. In this sense, external learning has the weakest influence on organizational effectiveness. Again, these results are showing that misalignment in development of learning organization areas needs to be avoided, i.e. all aspects of learning organization need to be almost equally developed in order to fully benefit from the transformation into learning organization.

*Table 3: The effects of learning organization characteristics on effectiveness in researched companies (linear regressions) ( $N_1=36$ ;  $N_2=147$ )*

**Regressions**

	<b>Model Summary</b>			<b>ANOVA Sig.</b>	<b>Regression equation</b>
	Model	R	R <sup>2</sup>		
Strategy	1	.587	.344	<b>.000</b>	Effectiveness = 1.981 + 0.395 x Strategy
Structure and systems	1	.459	.211	<b>.000</b>	Effectiveness = 2.262 + 0.330 x Structure and systems
Learning opportunities	1	.504	.254	<b>.000</b>	Effectiveness = 2.441 + 0.279 x Learning opportunities
Internal learning	1	.588	.345	<b>.000</b>	Effectiveness = 1.952 + 0.408 x Internal learning
External learning	1	.460	.212	<b>.000</b>	Effectiveness = 2.592 + 0.238 x External learning
<b>LEARNING ORGANIZATION</b>	1	.609	.371	<b>.000</b>	Effectiveness = 1.835 + 0.447 x Learning organization

*a. Dependent Variable: Effectiveness*

*b. All requested variables entered*

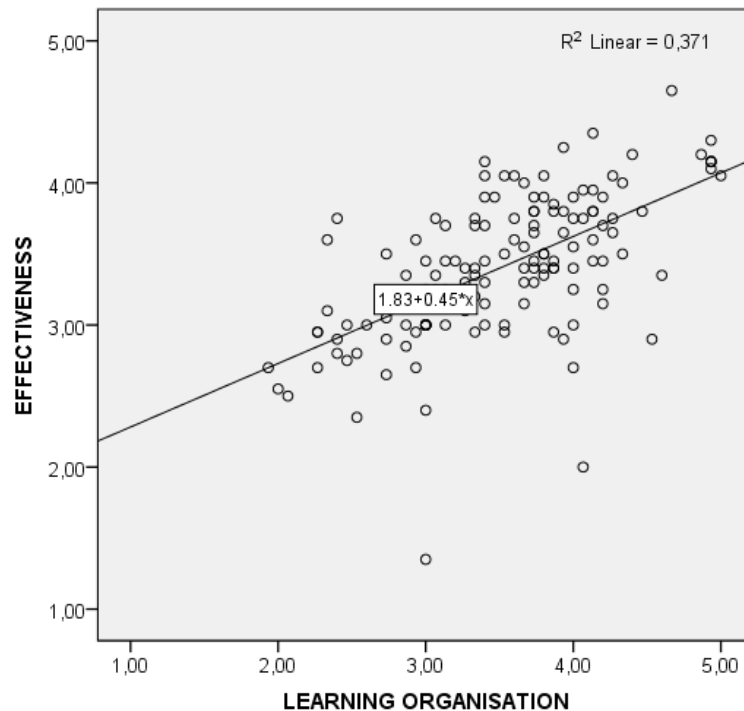


Figure 5: Graphical presentation of the effects of learning organization characteristics on effectiveness in researched companies (linear regressions) ( $N_1=36$ ;  $N_2=147$ )

## 5. CONSLUTION

The research conducted in this paper aimed to offer additional insights into the development of learning organization characteristics in companies originating and operating in transition economy. Obtained results are indicating that there is a lot more to be done for these companies in order to reach higher levels of learning organization development. In this sense, the first problem of learning organization development in transition economy's companies, that arises from conducted research, is a general misalignment of efforts in learning organization development, with some areas better developed than others. The area of structural arrangements, i.e. enabling flat structures and focus on horizontal relationships and collaboration, is another problematic area. The legacy of planned economy and guaranteed stability has its deep roots in mechanistic structures and systems of researched companies. By redesigning to more organic and flattened structures and systems, while also developing remaining learning organization areas, transition economy's companies can truly benefit from all the advantages of becoming learning organization. Not remaining on the course of becoming a learning organizations and while doing that, not moving away from mechanistic paradigm, will put these companies in even more difficult position when competing on the global market, dominated by (learning) companies from developed countries.

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## WRITTEN COMMUNICATION OF A LARGE ORGANIZATION WITH YOUNG CONSUMERS

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### ABSTRACT

*Communication of a large organization in a written form should be treated as an element of building the company's image and creating relationships with clients. The purpose of the article is to identify key elements of written communication and to adapt them to the preferences of young clients (up to 40 years of age). Young consumers have different expectations than mature people, they feel the lack of time resulting from the beginning of their professional career and setting up their own households, they have different habits, they skip through long letters, they want to have everything straight and first of all shortly explained. The article reviews the available literature on the subject of written correspondence, it contains the results of qualitative research and indicates the universal principles of constructing written messages addressed to young consumers.*

**Keywords:** *Communication, Company image, Young consumers, principles of constructing written messages*

### 1. INTRODUCTION

Communication of a large organization in a written form should be treated as an element of building the company's image and creating relationships with clients. It should be compliant with the highest standards and changing expectations of clients, especially if it is a serial correspondence sent on a large scale. For this reason, corporate correspondence should be personalized, which is often difficult to implement in the case of a large scale of the company's operations. In this context, large organizations recognize the need for a deeper analysis of changes in customers' purchasing behavior, understanding their preferences and approach to how to receive / understand written correspondence, to adapt this form of communication to the expectations of their recipients. Companies analyze questions or problems, which clients most often address to them to develop templates that facilitate answering. The purpose of the article is to identify key elements of written communication and to adapt them to the preferences of young clients (up to 40 years of age). Such a wide age range, in relation to young people, is connected to the specificity of the energy industry, whose clients are usually independent people which establish their own households. In Poland, more and more often being a 30 year old person is a breakthrough for young people and a kind of psychological barrier; they are 30 years old when they start thinking about becoming independent.

In 2016, the average age of getting married was over 29 years, which is almost 5 years more than in the early 90s of the last century. In 2016, women who got married were on average 27 years old, compared to 23 years in the early 90s [CSO, 2017b, pp. 14-18]. Men decide to start a family "before thirty". From the point of view of effective communication, it is important to shape the message so that it is properly understood, to determine what permanent elements such correspondence should contain and how to plan the writing visually. For this reason, qualitative research was carried out in cooperation with a Polish large energy company (electricity seller, one of the five largest energy sellers in Poland). The energy company, which has about 2 million customers, sends thousands of letters every day, and every employee dealing in written correspondence responds to dozens of customer inquiries. This makes it necessary to use ready-made response templates that employees can further modify. It is important that these templates are professionally prepared, easy to personalize and, above all, adapted to the changing expectations of customers. This article is the second paper in the series devoted to written communication. The purpose of the article is to identify and adapt key elements of written communication of a large company with young consumers to their preferences. The study identified consumer segments to examine their preferences and find out what different expectations have different customer groups. The article will analyze the results of the research on young consumers (up to 40 years of age). In addition, mature customers and companies were also tested (see: research methodology).

## **2. SPECIFIC NATURE OF WRITTEN COMMUNICATION**

Communication research is an important area of research relating to the activities of the organization (e.g. Bavelas and Barret, 1951; Simon, 1976; Engel, Warshaw and Kinnear 1998; Kelly, 2000; O'Sullivan et al., 2005; Simon and Violani 2011). The quality of the relationship between the sender and the recipient is significantly influenced by written communication. It is often preferred by managers (Gray, Ottesen, Matear 2005). Efficient written communication, compliant with the highest standards and expectations of addressees, is a very important element of building a large organization's relationship with clients. Raciti and Dagger's research has shown four components of written communication that influence the development of customer relations: message clarity, aesthetics, accuracy and physical features [Raciti, Dagger, 2010, pp. 103-108]. It is worth to follow certain rules that facilitate communication. J. Pulitzer formulated the following principles of correct written communication: short - for the text to be read, clearly - for the content to be understood, figuratively - for the information to be remembered, - exactly - so as not to be misled and encourage action [Drucker, 1992, p. 153]. Symbols and choice of fonts that influence the perception of the company and may be an element enabling recognition of the brand are also important in marketing communication [Cvitić, Šimić, Horvat, 2014, pp. 49-50]. Handwritten messages are the element of written communication that can strongly influence the relation. Handwritten messages are more effective than print messages in building relationships in a service context because they elicit stronger feelings of warmth because of both the perception of greater effort and feelings of greater psychological closeness to the service provider (Xingyao, Lan, Jiangang, 2018). Written communications include: notes, letters, e-mail, faxes, internal bulletins, notices placed on notice boards or any other form of written communication involving words or symbols [Robbins, 2004, p. 225]. The company's written communication should be linked to the company's vision. Research shows that there is a correlation between the clarity of the company's vision and the quality of written communication of the company [Sethi, Adhikari, 2012, pp. 43-48], which is primarily aimed at the permanent preservation of the information contained in it and its precise transmission [Trocki, 2012, p. 321]. The disadvantages of this form of communication are: long waiting time for the answer, the possibility of inaccurate understanding of the content by the addressee, the official character, and the possibility of occurrence of the so-called knowledge

effect. The knowledge effect is a tendency of individuals to assume that their own knowledge is shared by others (Hayes, Bajzek, 2008). It makes written communication incomprehensible due to a lack of understanding of the words and terms used in it. Written communication is also closely related to the skills of people who run it. Companies pay more and more attention to these skills when recruiting potential employees (Krapels, Davis, 2003). Also, universities are trying to prepare students, including written communication as one of the key business skills (Addams, Allred, 2015). Written communication is one of the basic (generic) business skills (Calma, 2013). It should be developed by the company, according to the specifics and characteristics of its clients. The analysis of written documentation must be clearly embedded within the context in which it is written: successful inference is based on this premise (Clarke, 1999). Attention should also be paid to the cultural aspects of written communication. It is still a new issue in scientific research. Despite the pervasive nature and importance of written language, scant research has addressed differences between East/West consumer responses attributable to native script processing (Hernandez, Minor, 2010).

### **3. SEGMENTATION OF CONSUMERS**

In the serial correspondence, due to the difficulty of adapting the letter to an individual recipient, it is advisable to segment the buyers, enabling the most important elements of the letter or form to be adapted depending on a given group the recipient belongs to. It is necessary to match the message, vocabulary and form to the circumstances, so as to use this form of expression for the best communication with its addressees [Simerson, Venn, 2010, p. 197]. Along with generational changes and rapid development of the technical and technological environment, it is possible to observe the formation of communication habits characteristic for the analyzed market segments (e.g. baby boom generation, generation X, generation Y, millennials). Young people who have been included in the research (under 40 years of age) belong to the X, Y and millennials generations. Generation X (32-46 years old) are people who use computers and smartphones, but most trust "face to face" contacts or in a written form as well as a paper archive. Generation Y and millennials (18-32 years) are young people who are characterized by: free use of electronic devices, impatience, lack of ability to communicate directly, perception of the world through the prism of their own benefits, comfort and convenience, also in relation to contacts with the environment. Internet usage is common among the youngest Poles 18-24 years (100% Internet users) and almost universal among people aged 25-34 (96%). Among respondents from 35 to 44 years it is 87% of people (CBOS, 2017, p. 2). Habit and trust in proven forms and channels of communication become the basis for making decisions in the conditions of a leisure time deficit. The latest CSO report on the quality of life in Poland shows that Poles feel a deficit of free time. As many as 19% of respondents over 16 said they did not have any time off during the weekday. Lack of free time can be noticed mainly in two age groups: 25-34 years and 35-44 years. In these groups, respectively, 28% and 31% of the respondents determined that they did not even have enough time to do the necessary activities or could hardly do everything, but at the expense of free time [CSO, 2017a, pp. 67-68, 87-90]. The generations of X, Y and millennials combine high professional activity, affecting the pace of life, perception and the ability to use various forms of written communication. In particular, in addition to traditional letters, they use e-mails and text messages in written communication (Höflich, Gebhardt, 2005).

### **4. RESEARCH METHODOLOGY**

The conviction of consumer rationality and domination in his/her thinking of cognitive processes is visible in most publications on consumer behavior (Kaczmarczyk, 1995, Smyczek, Sowa, 2005, Kieźel, 2010, Kieźel, Smyczek 2011, Rudnicki, 2012). Modern research, however, shows that consumers have little awareness of their consumer needs and motives of choices and

attitudes and their sources. This has huge consequences for marketing research, directing them to the development of qualitative research (Maison, 2015; Tyszka, 2000). The changes observed in classical qualitative research (Merton, 1946) are a consequence of two phenomena: thanks to the findings in psychology of the last 20 years, which were popularized under the name of behavioral economics (Ariely, 2009) and the emergence of new technological solutions that allowed relatively easy collection of data from respondents using the Internet, e.g. bulletin board or analyzes based on information present in the network (discussion groups or social forums), at the same time allowing for careful observation of real feelings and discovering the causes of specific behavior and decisions of people. The presented research was conducted in Szczecin, in the focus workshop in the Service Inter Lab center from 13.06 to 06.07.2017. The authors of this article were responsible for the scenario of the research, selection of respondents and moderation of interviews. The energy company provided sample templates of written communication and participated in adjusting the scenario of the research to the specifics of the industry. People using the services of the energy company, selected in a targeted manner were the respondents. Differentiating criteria included: gender, age, education, as well as the type of customer - individual or business. In the first stage of the study, three focus group interviews (FGI) were conducted - two among individual consumers divided into young people (up to 40 years of age) and mature people (over 40 years) and one of the company's representatives. During the second stage of the study, i.e. the verification stage, two research groups were accepted - individual persons and corporate customers. Each group interview (FGI) was attended by 7-8 participants, this is the optimal number due to the duration of the study and possibility of an effective examination. The objectives of the focus studies and individual interviews were as follows:

- Objective 1: Analysis of customer behavior and preferences regarding written communication.
- Objective 2: Analysis of the current state of written communication in visual terms.
- Objective 3: Analysis of selected elements of the written message in terms of its affordability.

The written communication presented during the research included, for example, personalized letters based on templates provided by the energy company and which concerned the most common cases of correspondence with consumers.

## **5. DESCRIPTION OF CONCLUSIONS**

### **5.1. General expectations concerning communication**

#### *5.1.1. Evaluation of the company and the way of communication*

The examined energy company is in most cases positively perceived by young people. There were natural associations with energy, electricity, bills and payments. The associations with the company color - blue and promotional activities of the company (sponsoring sports events) have been mentioned, and well evaluated by the respondents. The energy company is seen as a reliable service provider and the most important operator in this industry.

#### *5.1.2. Electronic form of correspondence*

Young people prefer e-mail correspondence because of its virtual character and the possibility of checking it from different places. It is also easier to find it in the e-mail box and later reach for the given information. Communication through this channel is faster and cheaper. The only advantage of the paper form is that it contains stamps, subject, customer number - placed in the content of the letter.

### *5.1.3. E-mail correspondence*

Also, e-mail correspondence contains permanent elements relevant to the addressees. The first element indicated is the subject of the e-mail, which should be formulated briefly and clearly specify what the correspondence relates to. E-mails to customers should be sent from the address with the possibility of replying so that they would not have to look for an address on the company's website. If the graphic with the ad is placed at the top of the message, then they notice the risk of not reading the message further. For this reason, the respondents suggested that the promotional content may be on the side of the message or under the right message, always with the possibility of automatic redirection to the source page. As a start of the e-mail, you can put the formula "thank you for contact", which is received positively by the young. However, in the case of unpleasant matters for the client - such as complaints, it is worth to refer directly to the point without thanking for contact. The content of the e-mail should be short and written in a simple language, with an indication of what steps the client should take or what is the outcome of the case. The signature of the person writing the e-mail should be on the left, which is generally accepted in electronic correspondence. Each customer application, which is sent from electronic service office or from a form on the website, should also be known to the client.

### *5.1.4. Contact by electronic service office*

Young consumers like the separation of an electronic service office, where after logging in they can submit a case for implementation and follow the course of completion. This is a relatively new service available to all customers of this company from mid-2016. The young people surveyed so far have not used the electronic service office of this energy company, and as the main reason they reported lack of knowledge about this service. The company was mainly interested in encouraging customers to give up traditional invoices sent by post to electronic invoices, which would significantly reduce the cost of correspondence (sending one letter in Poland costs about 0.5 Euro and invoices are sent every two months). However, young respondents would like to receive specific benefits from the company for the inconvenience caused by them, resulting from the need to print an invoice. Such a positive incentive would be the possibility of obtaining a small discount in subscription fees (e.g. in the amount of 0.25 Euro per month). According to the respondents, the e-invoice should be sent by e-mail in the form of a PDF, because every time you log in to your account, to print an invoice is inconvenient. Other expected benefits are SMS or e-mail notifications with information about the invoice issued and the upcoming payment date.

### *5.1.5. Frequency and assessment of correspondence*

Young respondents repeatedly corresponded with companies. The preferred form of communication is e-mail, but they also contact by the hotline. Correspondence with corporations is difficult due to the formal language of the scripts and the long waiting time for a response. Letters sent by companies are first of all too long, written in incomprehensible language (industry terms) and too many articles and laws are cited in them. Young consumers have a feeling of being unable to influence the way a large company communicates, so they only browse correspondence without trying to understand the content in depth. In this case, the headline is important to understand what the company wants to convey. Letters regarding changes in regulations, which must be sent by companies (statutory duty), are treated as general information, none of the surveyed young people reads them.

### *5.1.6. Understanding the message*

The examples of written correspondence presented to the respondents were assessed as very complicated.

You need to read the entire content twice to understand the meaning and find specific information. The letters lacked information, for example: from what and on what tariff a change is introduced, what amount will be payable, after changing the terms of the contract, if there was a change in the account number - there should be clear information for the client, which account is valid along with its number. The letters were considered improperly arranged - the most important information for the client should be in the introduction of the letter, so that he/she would not have to delve into the content to find out what is the company's decision in his/her case. The models provided in the letters contained numerous abbreviations incomprehensible for young recipients, e.g. TPA, Tariff CX ... GX. Some abbreviations have been explained like DSO, but customer would also like a glossary who is this "Distribution System Operator". Each abbreviation according to the respondents should be explained in brackets, and it is best to use a simple language devoid of technical jargon instead of "Measurement and accounting device" simply "meter" should be used.

#### *5.1.7. Explanation of a complicated procedure*

In the case of a complicated procedure, for example connecting to the network, young people suggested infographics explaining the next steps. Thanks to this, the letter would have greater readability and it is easier to remember pictures of the recipient. The procedure can also be explained on a separate page, as an attachment in which the procedure is shown in detail.

#### *5.1.8. The length and layout of written communication*

The visual layout of the written communication is of great importance to young consumers. The basic expectation includes a carefully designed letterhead - containing the company logo in the header and contact details in the footer (website, email address, telephone, mailing address). If such data is contained in letterhead, there is no need to repeat it in the content of the letter, unless in a given case one should contact a specific person or department, then this information should be provided in bold characters. After reading the model letters, the respondents stated that there is too much content in them. The company used a single line, but it created the impression of a lot of information. Young people suggested a 1.15-1.5 line spacing between the lines. In the templates, the margins should be unified - which was not standard in the company. They should not be too wide (from 2 to 3 cm), so that the content of the letter does not extend to subsequent pages. The individual paragraphs should be clearly separated and there is no need to indent at the beginning of the paragraph. In the opinion of young customers, it would be good if the issue could be described on one page. If there is more than one page, then the page numbering should be included (in the format: page 1 of 2, or 1 of 2).

#### *5.1.9. Font size and bold characters*

Young people pointed to the lack of unified fonts in the presented letters. The company should choose one type of font and consistently use it, because the lack of uniformity creates an impression of lack of professionalism. In their opinion, all elements should have a fixed size - date, customer data, contractor's number, correct wording of the letter, word 'concerns', signatures. Some of them can be either bold or bigger (letter number or contractor's number) to make them easier to find. The person who writes the letter should select the most important information, so that the client can quickly find it when looking at the written communication. Such key information is, for example, the date of payment / notification / implementation, the account number to be paid, the notice period.

#### *5.1.10. Structure of sentences*

In the presented model letters, the messages were built of long and repeatedly composed sentences.

Young people perceived this way of communication as anachronistic and official. Their task should be short and without specialized vocabulary. This is best reflected in the opinion of one of the respondents, "The simpler the better, to the point, simply and clearly." The content should contain only important information, and all unnecessary phrases: "We would like to inform you, we mention that, we remind you that" should be replaced with simple messages.

#### *5.1.11. Letters of admonition about arrears*

Caution is advised in formulating the content of debt collection letters, it seems necessary to verify the exact situation, and only then to issue notes or invoices to clients. Negative customer experience, such as problems with unjustified claims for debt collection, strongly affect the perception of the brand. The respondents would prefer SMS reminders about the upcoming payment date for the invoice, and if the deadline expired, also a delicate reminder "We remind you about the overdue invoice and we ask you to settle it". The first notification should be based on the principle of the "lack of bad will" of the client, resulting from omission or inattention. In the event of power disconnection, without fault on the part of the customer, young customers expect a formal apology and compensation from the company.

### **5.2. Analysis of standard elements of written communication**

#### *5.2.1. Contractor's number*

Young participants believed that the contractor's number should be placed in the written communication and additionally emphasized by bold characters because it is used to identify and refer to this number when communicating with the company. In the template presented, this number was in the upper part of the letter on the left, under the number of the letter.

#### *5.2.2. The phrase "concerns"*

The heading in the form of "concerns" was assessed as useful, the form makes the impression of an official letter, but it facilitates the understanding of the content of the letter. The headlines in the letters should be reformulated to make them shorter and present a solution for the client.

#### *5.2.3. Courtesy phrases*

In the formal correspondence of the company with clients, the recipient should not be addressed by name, but always with courtesy forms. The form "Dear Sir / Madam, Ladies and Gentlemen" is acceptable, but without adding a name. This phrase should be personalized by using the right form in greetings and also in the entire content of the letter. This involves the need to personalize many fields in the content of each template, because if the letter is addressed to a specific person, then all content must be adequate. At the end of the written communication, the respondents suggest a formal phrase "sincerely".

#### *5.2.4. Standard phrases*

The message should be formulated in a polite and understandable way for the client. Also in traditional correspondence, the phrase "thank you for contact" was positively evaluated, subject to situations described when discussing e-mail correspondence. Then, the phrase "In reference to the letter of ...." is useful, because the client knows which application the company refers to. The phrase "we inform you that we verify all matters carefully" was assessed negatively. Young people suggested that they would prefer the phrase "Please be advised that the case reported by you has been thoroughly analyzed". It is important for the addressee whether his/her case has been thoroughly investigated. In the event of a negative decision regarding the cancellation of the penalty imposed on the client, the respondents suggested that the company would be able to offer a payment in installments. It was very desirable to send the letters of apology for the mistake made by the company ("We apologize for the situation ...").

They show respect and serious approach to customers. As stated by the respondents, such admission of error "humanises" the company. "If you have any questions, please contact us" is sufficient information in the letter, unless it is recommended to contact a specific person, then his/her name and phone number should be provided. The phrase ending the letter "We hope for further cooperation" was received positively, but its placement should be conditioned by a specific situation. If the company refuses to help the client, it should not be included in the letter.

#### *5.2.5. Signature*

Correspondence should be formulated in first person in the plural, because it represents a large organization. Statements - "we checked, analyzed" increase the credibility of the message. However, the letter should be signed by a specific person, so that it is clear who is leading the case and who wrote the letter - name, surname, function, stamp and facsimile, which increases the credibility of the correspondence. The respondents expect to personalize correspondence. The signature "sincerely the customer service department" has been negatively evaluated, because there is no specific person who is responsible for the letter. In traditional correspondence, the signature should be on the right side, offset from the right margin.

#### *5.2.6. Legal basis*

The legal basis is useful, it is a reference point, because you can check specific provisions if you have any doubts. There may be a reference to the legal basis in the letter (a specific article), but one should not quote the content, because no one will read it and this is incomprehensible. The legal basis should be in the form of the reference in the content and explained in the footnote under the letter.

#### *5.2.7. Contact info*

The contact details should be in the footer of the letterhead. Also, the traditional postal address should be placed there, because if consumers receive a traditional letter from the company, some respondents would like to respond to it as well. The company's address increases the company's tangibility and increases its credibility.

#### *5.2.8. Advertising of company's products*

The ad is colorful, it looks nice, but you can overlook it if it is on the other side of the written correspondence. On the other hand, a separate card for advertising is, according to the respondents, a non-ecological solution, because it is a waste of paper. The advertisement placed at the bottom of the letter does not bother consumers.

## **6. CONCLUSIONS**

The communication channels preferred by young consumers include e-mail or telephone customer service. The choice of communication channel depends on the type of problem. In the opinion of young people, the need to visit a stationary office is the worst option. Young people participating in the research believe that letters addressed to them should be short, specific, written in simple language, informing about one topic best, and the content should not exceed one A4 page. It is important to explain "step by step" procedures, avoiding technical terms, abbreviations and quoting extensive legal provisions. The participants of the study were tasked with arranging the letters from the puzzles, which suited them best in terms of the distribution of fixed elements, which made it possible to match the templates of the letters to their preferences. On the basis of the conducted research, young clients (up to 40 years) common elements of the layout were developed (from the top of the page):

- letterhead - containing the logo on top left,



- unified date format (place, day.month.year),
- complete customer data together with the number,
- an explanation of what the letter concerns,
- welcome phrase,
- the content of the written communication (unified margins, justified text),
- farewell phrase (on the right side of the traditional letter, on the left in emails),
- legal aspect at the end in the form of links,
- attachments,
- contacts as a footer in a letter (letterhead: all contact details for the company including mailing address).

This arrangement results from the traditional layout of the formal letter, but it is worth noting that it is modified by information contained on letterhead (e.g. address of the sender). The young respondents also paid attention to the aesthetics of the communications, so that they look carefully and were the hallmark of the company (color logo, justified text, standardized fonts and margins). For young individual customers (mass), the basic form of contact with the energy supplier is written communication addressed to them, coming in the form of letters attached to invoices. It is important first and foremost as a material certificate of service quality and a supplement to other communication channels. That is why large companies servicing this largest segment of young clients should particularly care that written communication be professional and adapted to the expectations and preferences of young recipients.

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## **DYSFUNCTIONAL ORGANISATIONAL GAMES: ORIGINS AND DEVELOPMENT MECHANISMS**

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### **ABSTRACT**

*Organisational games are a common, although difficult to identify, phenomenon. Most frequently they identified as a competition for some stakes that are not always clearly defined, and sometimes one that the players may not even be aware of. An organisational game may be initiated for different reasons, and the game itself may have various consequences. Games are a natural social process, and therefore it is natural that they also appear within organisations. A majority of those games are neutral or positive for the organisation in which they take place. However, there are also dysfunctional games that reduce the organisation's effectiveness. As a result of dysfunctional games organisational systems are subject to stresses and change in undesirable ways. Long-term dysfunctional games may lead an organisational system to pathological condition. Dysfunction generated by a game leads to interruptions in the organisation's effective operation and makes it difficult, and sometimes even impossible, to correctly manage the given organisational system. Dysfunctional games are zero-sum games where the victory of one player means the loss of another (or others) on a similar scale. The purpose of this paper is to present the sources and selected mechanisms of emergence and development of dysfunctional organisational games. Phenomena discussed herein will include such things as externalisation, coalition-building, confrontations, or entrapment. Organisational games are a phenomenon that is characterised by strong subjectivity, and at the same time they are a very delicate subject-matter both from the point of view of the researcher and the study participants. The basis for the deliberations presented below comprise the author's qualitative studies carried out among entrepreneurs, managers, and specialists in organisations of various sizes.*

**Keywords:** *Dysfunction, Organizational game, Pathology*

### **1. INTRODUCTION**

Limited quantity of broadly understood resources, peer pressure, and individual traits of organisation members contribute to the emergence and progress of multilateral games both within the organisation as well as at its point of contact with its environment. The game's goals, progress, and consequences affect whether or not its effects are beneficial, neutral, or adverse for the organisation. If such a game has been going on for a longer period of time and it has an adverse effect on the operations of the organisational system, we can say that such a game is dysfunctional. The purpose of this paper is to present the reasons, symptoms, and mechanisms of development of selected dysfunctional organisational games. Recognising the problems of broadly understood dysfunctional organisational games, attempting to classify them, as well as identifying the reasons for their emergence can be a key condition to reducing the inconveniences they cause or even to eliminating them. This is an important task from the point of view of management. Any and all organisational dysfunctions are a material factor that reduces the organisation's value, and in extreme cases such dysfunctions may lead to serious problems within organisations. Eliminating them can be the obvious (though not always simple) way to heal the organisation.

## **2. ORGANISATIONAL GAMES: THE THEORY**

The notion of a game can be understood in many different ways. Games comprise social plays conducted in accordance with certain rules, competitions taking place between players or teams according to the principles specified in the rules of the given discipline, role-playing on stage or in a movie, rivalry of several competing persons or groups, behaviour consisting in maintaining a pretence. Each of these meanings can partially apply to organisational games. They comprise games played according to certain rules, they contain elements of rivalry, they require the participation of individuals or groups, organisational roles are their important element, and some of the actions taken during them are only a pretence. The concept of an organisational game originates in the critique of the economic theory of enterprises and similar to other concepts subscribing to the neoinstitutional school it questions the realism of applying formally (methodologically) rational decision-making processes (March, Olsen 1984, p. 741-742; Clemens, Cook 2007, p. 16-17). An enterprise is not a monolith, but a socio-political system of conflict that is the object and the subject of various economic and social pressures. The variety of organisational actors and external stakeholders, as well as their varying and competing expectations cause the organisation's situation to be constantly subjected to varied interactions. One specific role is played by coalitions: dynamic social systems that emerge as a result of the action of different forces and interests. Coalitions enable pooling of resources, which strengthens them in their drive towards fulfilment of particular goals; however, due to their inner diversity they do not last very long and they are also a field on which games are played. By definition, games are characterised by changeability and unpredictability. These are caused by, among other things, the player's preferences that can be unclear or can change in time, unequal access to information, diverse mental traits of the players, unequal access to resources available to the players. The stakes that the game is played for can be the power of individual actors or groups (Crozier, Friedberg, 1980), control over rare resources (Pfeffer, Salancik, 1978), participation in decision-making processes (March, Simon, 1964), the ability to reduce uncertainty (Hinings, Hickson, Pennings, Schneck 1974), legitimisation (DiMaggio, Powell, 1983; Hensel 2008). The stakes won become an important resource in the next organisational game. According to the neoinstitutional point of view organisational games are a natural and unavoidable phenomenon. Some authors say that they have their roots in the environment (Gotsis, Koretzi, 2010, p. 498), others point to the special role of personal antagonisms (Vince 2001). An important role is also played by the individuals' special traits (Znaniński 1974; Pfeffer 1994) that facilitate or make it more difficult to hold the game effectively. Confrontations between reasons and interactions, engaging efforts and emotions are usually a condition of social progress, and therefore, games should not always be viewed as a negative phenomenon. However, some of them are of dysfunctional nature.

## **3. DYSFUNCTIONAL GAMES**

Dysfunction is a phenomenon that has a negative impact on a specific social system (Pasięczny, 2017, p. 20). Dysfunctional organisational games are frequently treated as behaviours aimed at securing one's interests at the others' expense (Cacciattolo 2014, p. 238) and this behaviour usually remains contrary to the organisation's goals (Ladebo 2006, p. 265; Vigoda – Gadot 2007, p. 665). According to Beugre and Liverpool, such organisational games are an example of antisocial behaviour (Cacciattolo 2014, p. 238). Similar to the other types of games, the key issue are the advantages and benefits achieved by the players. And similar to constructive games, such advantages and benefits do not always have to be tangible. Frequently, the participation in the game itself is a source of pleasure for the player. According to Liu, the individuals who gain advantages and benefits from organisational games experience pleasure and excitement, especially when such advantageous or beneficial results are obtained solely in illegitimate ways (Vigoda – Gadot 2007, p. 168).

Some researchers believe that the inclinations to play games are an effect of evolution and are inherited genetically (Vredenburg, Shea-VanFossen, 2010, p. 27). Evolution leads to the creation of behaviours and attitudes that are conducive to undertaking challenges, which in a way promotes competitive attitudes. However, the sources of dysfunctional organisational games may be quite varied. They can include cultural conditioning (Vredenburg, Shea-VanFossen, 2010), management errors, such as clear violation of people's interests or manipulation (Cacciattolo 2014, Gestmann 2001), narcissism (Lubit 2001), formal or informal power (Crozier, Friedberg, 1980; Nicholson 1997). Factors that increase the games' dynamics may also include the shortage of resources in the organisation, lack of clarity in the organisation's goals, rapid changes taking place in different subsystems of the environment (Pfeffer, Salancik, 1978; Gotsis, Koretzi 2010; Ladebo 2006), or inadequate institutional logics (Hensel, 2015). Moreover, people are willing to participate in games when the decision-making process is accompanied by uncertainty and the organisational resources are clearly limited (Othman 2008; Poon 2003). Similar to other types of games, groups, in addition to individuals, also take part in dysfunctional games. In certain conditions informal groups and coalitions have a tendency for rapid growth (Romm, Pliskin 1997, p. 96). According to James, groups can be strengthened or weakened by specific organisational culture (Cacciattolo 2014, p. 238). Some games take place at the point of contact between the organisation and its environment (Minzberg 1983), and sometimes passive stakeholders become active when phenomena of import to their interests manifest themselves (Romm, Pliskin 1997).

#### **4. METHODOLOGY AND METHODOLOGICAL LIMITATIONS IN THE STUDIES**

This paper is based on qualitative studies carried out in the form of partially-structured interviews. Their purpose was to identify and become familiar as closely as possible with dysfunctional organisational games. The anticipated result of these studies was the creation of an open catalogue of such games. The interviews were held with 46 purposefully-selected entrepreneurs, managers, and specialists of various degrees of seniority. The interviewed persons comprised 12 entrepreneurs, 3 specialists working for international corporations, 1 specialist working for a housing co-operative, and 30 managers of various degrees of seniority. Among the managers there was a sub-group of 10 persons who were simultaneously entrepreneurs, as they also acted as presidents of their own companies. Industries represented by the interviewees included: healthcare, construction, retail, wholesale, property protection, shoe industry, power engineering, municipal services, and others. The interviewees were a very diverse group: starting with owners of one-man start-ups to highest level managers of corporations operating on global markets, which enabled the author to view the issues analysed from different points of view. First of all, the respondents were encouraged to tell their own stories and share their experiences regarding dysfunctional phenomena within organisations. Next, the respondents were asked and requested to indicate examples of organisational games taking place within their organisations, at the point of contact between the organisation and its environment, or in its near vicinity. Furthermore, they were asked to indicate the sources and consequences of such games. The auxiliary list for the interview was drawn up basing on the literature and contained 35 examples of games that may take place in the above areas, but due to the specifics of the study and the goal assumed, the researcher tried to avoid pointing out specific examples and making suggestions to the respondents. The interviews lasted from 30 minutes to 6.5 hours. The interviews were recorded and later transcribed. The works are still ongoing, but the research material collected thus far already enables drawing certain conclusions and observing certain regularities. Studies of organisational games constitute an element of broader studies dedicated to organisational dysfunctions and pathologies. The author had been convinced to commence the study of dysfunctions and pathologies by his long-term experiences in organisational consulting, which enabled him to notice long-lasting, serious, and

recurring problems that many organisations are facing. They also appeared multiple times in organisations applying sophisticated management solutions and managed by people with in-depth managerial education. The sources of such phenomena were frequently difficult to identify by using traditional instruments utilised in diagnosing organisations. This convinced the researcher to take interest in organisational “parallel reality” that is not encapsulated by any formal patterns of behaviour. The goal of this study, and primarily the study area, in a way determined the selection of the study’s methodology. In order to create as broad a set of organisational games as possible a very close, sometimes even informal contact with the respondents is required. This possibility was offered by partially-structured interviews that only guide the interlocutor towards the specific subject while at the same time providing him or her with a lot of freedom to express his or her opinion. Achieving this goal would have been very difficult if quantitative methods had been applied, because by definition they narrow down the study. The study methodology applied is characterised by limitations typical for qualitative studies that pertain to the lack of representativeness as well as limited possibility of generalising the conclusions drawn from the studies. The relatively large number of respondents is the effect of the researcher’s drive to achieve theoretical saturation that he managed to obtain within the field of the notions discussed in this paper. Organisational games are a phenomenon that is characterised by strong subjectivity, and at the same time they are a very delicate subject-matter both from the point of view of the researcher and the study participants. Studying them is difficult, which is caused by several reasons. First, this term is not obvious even to those representatives of management sciences who are dedicated to studying these phenomena. For example, P. Hensel instead writes about policies within organisations or political activities within organisations [Hensel, 2008]. Similar terminology is also used by other authors [March 1962; March, Olsen, 2005; Lewis 2002; Pfeffer 1994]. Even though the terms “organisational game” and “political activities” are used interchangeably, in the case of this article it seems prudent to use the former term. The term “political activities” is very closely related to the issue of power within an organisation, and power may, but need not be, one of the stakes in “organisational games”. Therefore, it seems that “political activities”, “political coalitions”, or “organisational policies” should be treated as a type of the games. The purpose of the studies described was to identify the broadly-understood dysfunctional organisational games, including those that remain outside the area of power within an organisation. Second, the terms “organisational games”, and especially “organisational policies” or “political activities”, are not commonly used in everyday speech or in the organisational vernacular. Therefore, this terminology was avoided during the interviews. Using it during the interviews would have required many explanations or providing examples, which, as stated above, the author tried to avoid. Third, organisational games are perceived very subjectively. Classifying specific attitudes or behaviours as a game is a matter of the judging party’s individual perspective. Organisation members perceive social processes through the lens of their own position within the organisation, their systems of values, and also their interests. Fourth, organisation members are simultaneously participants in organisational games. Participation in a game is not always conscious, and its participants usually do not feel the need to name these games or even to identify them. However, even just a conversation with the researcher may make the interviewee aware of such participation. Still, this is not always tantamount to the interviewee’s wish to share his or her opinion with the researcher. Fifth, the purpose of the study was to identify dysfunctional organisational games. Meanwhile, studying pathologies, dysfunctions, errors, or inabilities does not seem to be particularly difficult. The attitude that “one mustn’t speak badly about the company” is deeply entrenched. It may result from one’s fear of doing the organisation harm. It can also be motivated by sanctions possibly imposed by the organisation. And sometimes, it would seem, the interviewees are afraid that their own attitudes will be judged negatively or presented in bad light.

Potential respondents frequently refuse to participate in the interview or do not agree to it being recorded. Sometimes such consent is given under the condition that the contents of the interview are not used, even anonymously, in publicly-shared publications. Respondents with personal motives, e.g. people who suffered from mobbing, employees who were laid off or who are in a dispute with their organisation etc. are more willing to establish contact with the researcher. For obvious reasons, information from such sources must be subject to in-depth verification.

## **5. SYMPTOMS AND MECHANISMS OF DYSFUNCTIONAL GAMES - STUDY RESULTS**

Analysis of the research materials made it possible to identify numerous symptoms of games within organisations. Some of them were typically dysfunctional, and in several cases such games led to serious problems – in one of them they threatened the company's survival. Dysfunctional organisational games appeared even in companies in which the managers tried to meet the conditions of ethical leadership (see: Vevere, Linina 2017, p. 93). Obviously, the quantity and the intensity of the games will grow together with the organisation's size. Entrepreneurs participating in the interviews sometimes never noticed the games, and sometimes they noticed their symptoms only in the environment or at the point of contact of their organisation with its environment. They also initiated such games with the environment themselves, although they considered these games to be constructive and aimed at bringing benefits to their companies. The most information about dysfunctional games can be gleaned from middle management and specialists. It is possible that top level managers do not notice some of such games or do not want to talk about them. However, the conversations held with their subordinates show that sometimes it is the top level managers who purposefully initiate such games or don't. It is also very difficult to draw any conclusions about the reasons, motivations, and goals of the individual players. Description of phenomena is actually coloured by the interviewee's subjective point of view. However, even holding an interview with each participant of a game would not provide objective insight into this phenomenon, even though it would have provided a fuller picture of it. Motivations and goals of game participants are dynamic and complex, which makes classification of games more difficult. Frequently, a game allows one to achieve a number of goals, and sometimes it may seem to be irrational or inconsistent. During the studies the researcher managed to identify the following dysfunctional organisational games:

1. **Lack of co-operation.** This phenomenon was observed by both the top level managers and by their subordinates. Lack of co-operation is shown through reluctance to act jointly, bad information flow, or refusal to share knowledge. Usually such behaviours are accompanied by verbal declarations of being ready to co-operate. Some symptoms of lack of co-operation may be relatively easy to observe. For example, one of the managers noticed very poor flow of information between employees working in the same, not very big room. Whole sections of the organisation, groups, and (very frequently) individual employees may participate in this type of game. They can be guided by various goals. Lack of co-operation in sharing information, knowledge, and experience gives an individual (more rarely a group) an advantage of his or her partner, which can be reduced to informal power. Sometimes it also allows one to gain a privileged position in a team and, consequently, provides one with the opportunity to be in touch with the team's superiors. Lack of co-operation can also have its roots in the wish to ensure one's security: having a monopoly on information and knowledge reinforces and secures the employee's position within the organisation. Reluctance to co-operate may also be caused by the employee's frustration with or dislike for the organisation or his or her colleagues. This reluctance need not be personal: some respondents stressed that gaining knowledge cost them a lot of effort while others just want to have it for free.

2. Externalisation - projection to the outside. Externalisation may apply to duties, responsibilities, and also broadly understood costs. Externalisation may apply to nearly anything that is unpleasant, constitutes broadly understood burden, or is accompanied by risk. This type of game can be played by both individuals and groups. One of the most frequently occurring examples of externalisation is transferring one's duties to others. This can take place through currying favour with one's superiors, deliberate negligence, making suggestions, presenting someone with a *fait accompli*, and many other ways. Transferring one's duties to others is a rather popular type of game whose purpose is to improve the effort-reward relation. Successful externalisation of one's duties encourages the game participants to continue their actions in this field. One drastic symptom of externalising responsibilities is looking for and finding scapegoats: people who are burdened with the responsibility for failure. Another example of externalisation is the transfer of costs. Such actions are aimed at charging another entity – individual, organisational cell, or an entity in the environment – with costs. It should be added that during their interviews small entrepreneurs viewed externalisation of costs as a type of constructive game, because it improved the financial results of their companies. In corporations, where the individual parts have their own budgets, this game takes place on the level of individuals or groups. The stronger the organisation the broader its options of externalising costs outside. Just-in-time solutions, outsourcing, imposing extremely difficult terms of co-operation on suppliers or subcontractors can constitute examples of externalisation games. The strongest organisations are even capable of externalising some of their costs onto public entities. This takes place in the case of large corporations or politically-powerful industries. Numerous respondents from larger companies listed this type of game as present and sometimes highly dysfunctional in their organisations.
3. Confrontations. This type of game may have various grounds: striving for power or reluctance to co-operate, but it can also be caused by personality traits or emotional factors. Sources of confrontations, similar to other games, do not have to be and frequently are not rational. Confrontations may also be the result of a failed or clumsy attempt at externalisation. In such situations confrontations are accompanied by emotions of one or several parties participating in the game. However, confrontations may also be the result of cool calculation of one or more players who believe that they have the chance to benefit from provoking or accepting an open challenge. Even though an open confrontation may lead to a positive outcome, it usually spoils the mood, reduces trust and willingness to co-operate. This in turn may have a dysfunctional impact also on the areas and entities that were not the field of the confrontational game or even parties thereto. Confrontation may be a more brutal form of externalisation, for example when it takes the form of attack or accusation used to divert attention from one's own fault. Its extreme form is the above-mentioned searching for scapegoats. Externalisation of responsibility may also have such confrontational nature. In several of the organisations studied extreme cases of confrontation were observed, and in one of the companies the role of the scapegoat had been pinned on its president.
4. Coalition-building. Coalition-building is a classic tool in organisational games, and – in accordance with the premises of this concept – it need not have a negative impact on the organisation. Coalitions are a natural way of pooling resources: power and influence, information, knowledge and skills, relationships, authority etc.. However, multiple interviewees noticed the dysfunctional character of such groups and described them with pejorative labels such as: cliques, mutual admiration societies, cronies etc.. In some of the organisations studied such groups activated themselves when changes were taking place, and especially during restructuring processes. Interviewees stressed that such situations enable securing one's interests, with the game being played for improvement in the



positions of its participants or as a means of defence. Such group action may be aimed against the intents of the organisation's executives, but it can also go against the interests of other members of the organisation. Groups have broad spectrum of instruments at their disposal: they can act in a sophisticated and camouflaged way through their representatives or they may quite openly announce their expectations. Group composition is frequently variable, with individual members losing their motivation to play the game when their private interests are secured. Participation in this type of games may, however, be grounded in personal circumstances or be a derivative of the employee's personality. Some respondents said that there are people in their companies who are always trying to form coalitions and use them to put pressure on other individuals, groups, or the whole organisation.

5. **Entrapment.** This type of game is most frequently used to gain power, influence, or other organisational resources and it consists in finding a sponsor within the organisation and maximising the benefits of remaining close to this sponsor. It is a game played by individuals and its addressees are both the sponsor(s) and the other members of the organisation. Entrapment itself consists in gradual "load reduction": taking over the duties of one's superiors and isolating them from their subordinates. One of the study participants described an example of such a game which led to a complete taking over of control over the organisation and actually cutting the company's owner off from any real impact on the organisation's life. This process is of evolutionary nature and therefore it may be difficult to identify. Furthermore, such situation, especially in the early stages, is very convenient for the superior who is frequently grateful for being relieved of some duties and appreciates such attitudes. However, in the case cited above the game of entrapping the owner resulted in severe problems for the company.
6. **Using information as a tool in the game.** This type of game may manifest itself through various behaviours. One of its symptoms includes gossiping and spreading false information. Depending on the assumed goal the gossip may emphasise or mask certain phenomena, weaken or reinforce the position of selected entities. Spreading false information may be used to discredit one's opponent, deprive him of support, building or reinforcing a coalition. As uncertainty grows, the demand for information also grows, and therefore provision of alternative information may provide the initiator with significant advantages. However, this action is not devoid of risk should the information be easy to verify. Other games based on the flow of information may come down to withholding or publicising important information. Some of the managers participating in the interviews said that publicising a false, but sensational piece of information may be an instrument that secures the perpetrator. Any attempts punishing this person are viewed as "trying to destroy the just one who was unafraid to be in the opposition". Publicising information may also be a tool for creating an "expert's" image: a professional person who is essential and who deserves additional rewards.
7. **Illusion of activity and false appearances.** Both managers and regular employees pointed to the existence of this type of games. Managers observed ostensible actions of their subordinates aimed at being presented in positive light, for example consulting ambitious, but unfeasible or unnecessary projects, publicising their achievements and specifically presenting the performance of standard duties as unusual projects and achievements. Such approach may be aimed at a future promotion, striving to increase access to organisational resources, or playing for increased prestige. Interestingly, regular employees also observed such behaviours among their superiors: middle managers or even the heads of local branches of international companies. Changes of headquarters or reorganisation of supporting departments are presented as projects of highest importance, about which one may boast before the top-level executives.

If financial gain, even short-term, is the result of such undertakings, then there is a high probability that such games bring individual advantages.

8. Legitimation. Theoreticians' deliberations on the subject of legitimisation find confirmation in research, although none of the persons interviewed actually used this term. The game for legitimisation is usually played on the top levels of the organisational hierarchy. Its symptoms may include imitation, yielding to herd effects, following the trends, and other actions undertaken in order to gain acceptance of the given individual's or group's actions. Meanwhile, entrepreneurs strive for legitimisation through internalisation of entrepreneurial ethos: using the peculiar "start-up" language or copying business myths, or even relative isolation from other entities. Depending on the on the organisation this type of game can be played with investors, the supervisory board, competitors, creditors, industrial or economic media etc.. Therefore, it is a game that is most frequently played at the point of contact between the organisation and its environment.

## 6. CONSLUSION

Organisational games are the subject matter of numerous publications, but they still remain an interesting field of study. However, due to the delicacy, complexity, and dynamics of this issue learning everything there is to learn about them is impossible. This is because it is a probabilistic area of contact between organisational solutions and human efforts to improve one's social and financial standing. Still, these issues should be explored in more depth because they are an integral element of social functioning and they have significant influence of the functioning of organisations. This is of particular import in the case of dysfunctional games that can materially contribute to reducing an organisation's value. The boundaries between constructive and dysfunctional games are not always clear, and games of one type can transform into others, with different parameters and consequences for the organisation. According to Buchanan, games with structural background may be played within organisations in which one group of employees may be guided by completely different goals and evaluation parameters than other groups [Buchanan 2008, p. 54]. Such conflicts are positive from the organisation's point of view because they lead to improvements in the decision-making process and they initiate constructive criticism [Jehn 1997, p. 532]. However, it also probable that the same constructive game may transform into a dysfunctional game when emotional reactions are evoked and differences in organisational positions affect personal preferences of the organisation's members [Jehn 1997, p. 532]. The same author claims that dysfunctional games also arise as a result of unclear distribution of duties and responsibilities, because it directly affects the preferences and antipathies within the organisation. Completed studies show that some dysfunctional games are intentionally initiated by organisation members, while others are the effect of personality and situational factors. Sometimes, the stimulus to start a game comes from the outside. The feeling of control over the game that some managers have is also illusory, because the actions performed by game participants more frequently take place on an informal level rather than within the formal organisation, and a controllable game may easily transform into an uncontrollable one. This questions the assumption of Koźmiński and Zawislak that management must be a controllable game system [Koźmiński, Zawislak 1979, p. 59]. Completed studies show that in many cases managers had no way of controlling a game because they learnt of its existence late. Upper managers were frequently even unaware that there were ongoing games taking place in their organisations. Even though in some companies the managers were aware of ongoing games, they did not try to control them. Dominating reasons included the motive of broadly understood power and influence, as well as financial matters. There were also situations in which identifying the motives of the games' initiators and identifying the most prominent players was not easy.

This could act as confirmation of the idea that group and individual tendencies to play games are conditioned genetically or culturally [Vredenburg, Shea-VanFossen, 2010, p. 27; Vigoda – Gadot 2007, p. 168; Znaniecki 1974]. Due to the complexity and dynamics of this issue learning everything there is to learn about organisational games is impossible. Even just recognising the individual games taking place within organisations can be very difficult. Still, these issues should be explored in more depth because they are an integral element of social functioning and they have significant influence of the functioning of organisations.

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## THE IMPACT OF MONETARY AND FISCAL POLICY ON THE ECONOMY IN POLAND

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### ABSTRACT

*Decisions taken by the economic authorities within the monetary and fiscal policy influence each other and thus affect the economy of a given country. The literature on the subject indicates that it is essential for the economy that the monetary and fiscal authorities cooperate with each other. However, such coordination of actions of economic authorities is not easy to achieve because the central bank seeks to ensure price stability, while the government strives to maintain high economic growth and a low unemployment rate. In addition, it should be emphasized that the decisions of economic authorities are made at various stages of the business cycle, which may also affect a degree of coordination of monetary and fiscal policy (policy mix). The aim of the article is to identify the relationship between economic variables in the monetary and fiscal policy and thus variables describing the economy in Poland in 2000 - 2016. Particular attention is paid to the following economic variables: economic growth, unemployment rate, General Government debt and deficit, the main interest rate of the central bank or inflation. The article verifies the hypothesis that variables from the monetary and fiscal policy statistically significantly interact with each other and thus influence the economic variables in Poland. The research methods were based on statistical analyzes. The contribution of this article consists in presenting a role of monetary and fiscal policy in influencing the Polish economy in the years 2000 - 2016.*

**Keywords:** *economy, fiscal policy, monetary policy, policy mix*

### 1. INTRODUCTION

The combination of monetary and fiscal policy functions in the economic literature as the notion of policy mix. Many authors indicate a significant impact of policy mix on the economy and this group includes, among others: M. Buti, A. Sapir (1998), R. Clarida, J. Gali, M. Gertler (2000), A.H. Hallet, P. Mooslechner, M. Schuerz (2001), R. Beetsma, X. Debrun (2004), L. Onorante (2004), Woroniecka-Leciejewicz (2011) and L. Krus, I. Woroniecka-Leciejewicz (2017). While analyzing the influence of monetary and fiscal policy on the economy it must be emphasized that the aim of monetary policy is an inflation target that is to maintain a stable level of prices, whereas fiscal policy aims at the highest possible economic growth and low unemployment. It appears that in the context of economic theory objectives of economic authorities may counteract each other. For instance, the central bank that decreases inflation, often simultaneously increases unemployment, which is a problem that the government tries to combat. In turn, increased government expenditure, which may generate a budget deficit, results in growth of global demand, which then causes demand inflation. Monetary policy and fiscal policy play an important role in the economy. They also have an impact on a number of economic variables and influence each other. In the face of the recent financial crisis, which turned into a debt crisis, it was observed that fiscal and monetary authorities had been working together to revive economic activity. The aim of the article is to identify the relationship between economic variables in the monetary and fiscal policy and thus variables describing the economy in Poland in 2000 - 2016. The article verifies the hypothesis that variables from the monetary and fiscal policy statistically significantly interact with each other and thus influence the economic variables in Poland.

## 2. LITERATURE REVIEW

B. Kopeć [2015] examined whether impact of a specific policy translated into the macroeconomic situation, or whether some central bank or government actions were not reflected in the economy. The analysis comprised determination of a dominant option of economic policy understood in such a way that within business cycles a level of interest rate or budget deficit was changing more extensively. In order to set a dominant option of economic policy the author used a pendulum model, in which economic policy was perceived as a synthetic indicator of effects of fiscal and monetary policy. Monetary policy was determined as a standardized indicator of a level of long-term interest rate, whereas fiscal policy as a standardized indicator of a deficit level. As a result, it was observed that what is of crucial importance in the course of economic policy is business cycle and its phase in which the economy is. J. Jakóbiak (2013) stresses that within the area of internal compliance of policy mix special importance belongs to an issue of stability of individual elements of policy mix as well as the whole policy mix, which is additionally correlated with the reliability of actions of fiscal and monetary authorities. Moreover, monetary and fiscal policy are conducted within diverse time frames, which means that adjustments of monetary policy to volatile conditions occur in a continuous manner and economic entities react to monetary signals in a moderately delayed manner, whereas adjustments of fiscal policy are of jumping character and reactions of entities to fiscal impulses show bigger delays. It is assumed that fiscal delays mainly reduce the effectiveness of policy mix. T.J. Sargent and N. Wallace (1981) developed the "theory of unpleasant monetarist arithmetic" based on the idea that at the time of occurrence of the fiscal dominance, the monetary authorities are no longer able to keep inflation under control, regardless of the used strategy. Hence the conclusion is that the central bank's decisions regarding the conduct of monetary policy are affected by fiscal policy, among other things hindering the process of stabilizing the price level in the economy, which is the main objective of the central bank. In the short term stabilization of the economy turns out to be a difficult task due to the differences in goals or preferences of the central bank and fiscal authorities. The optimal solution for both authorities is to agree on their actions and decisions. Generally, the government seeks to achieve the planned economic growth and the central bank strives to hold inflation at some numerically specified level (so-called inflation targeting). The policy governed by fiscal authorities and priorities of the central bank greatly influence the decisions of the central bank concerning the conduct of monetary policy. In turn, the choice of a kind of fiscal policy depends on pursuing monetary policy and priorities of a government within the budgetary policy (Woronecka – Leciejewicz, 2011). The monetary - fiscal interactions and their implications are examined using models based on the game theory (Bennett, Loayza, 2001). K. Kuttner (2002) emphasizes that the coordination of fiscal and monetary policies strongly influences economy and at the same time they are interrelated. Analysis of the models based on game theory indicates that the coordination of these policies would be beneficial for the economy. The harmonization of these two policies limits sources of conflict, leads to the minimization of costs of maintaining price stability and contributes to the greater stability of the financial system. The use of these models allows to observe problems arising from the conflict of monetary and fiscal authorities. For many economists, coordinated monetary policy and fiscal policy are one of the best policy mix options. A lack of such coordination was criticized, for instance, by Nordhaus (1994) The IS-LM analysis shows that the combinations of economic policies are less important than the total level of aggregate demand that can be influenced by a fiscal policy, a monetary policy and a combination thereof. Many studies attribute the significant role of the central bank, for example, US Federal Reserve in maintaining macroeconomic stability in the country to the insufficient flexibility of a fiscal policy as a stabilization tool. In the neo-Keynesian models a fiscal policy is assumed to produce a demand shock that should be offset by the monetary authorities (Kuttner, 2002).

Relevant conclusions in the context of this research were also presented by I. Woroniecka-Leciejewicz (2015) indicating that under the influence of changes in the central bank and government priorities, the optimal fiscal and monetary responses change and as a result the Nash equilibrium shifts (equilibrium as a choice of policy mix). When the fiscal authorities plan a higher growth rate, the optimal budgetary response becomes more expansive. Additionally, a change in the priorities of the monetary authorities like permitting a higher level of inflation, causes a shift in the optimum monetary strategies resulting in more expansive monetary policy. I. Woroniecka-Leciejewicz (2013) conducted a study of decisive interactions and mutual conditions between monetary and fiscal authorities based on simulation research using fiscal-monetary game, in which strategies of fiscal and monetary policy are different in terms of restrictiveness or expansiveness. While analyzing the game it was assumed that an increase of interest rate *ceteris paribus* results in a decreased rate of economic growth and decreased inflation; additionally, increased budget deficit *ceteris paribus* results in increased inflation. Another assumption was that increased budget deficit *ceteris paribus* causes an increased GDP growth rate. Moreover, attention was focused on two cases: the first one when monetary authorities strive to minimize inflation and fiscal authorities try to maximize a GDP growth rate and the other case where monetary and fiscal authorities determine their own objectives that they want to achieve while determining a desired inflation target and planned dynamics of GDP. A logistics function used in the study to determine dependence between economic growth and inflation and instruments of fiscal and monetary policy enabled to note that possibilities of decreasing inflation by using increasingly restrictive monetary policy are limited, similar to possibilities of boosting economic growth by means of increasingly expansive fiscal policy. It was observed that impact of a fiscal instrument (i.e. budget deficit) on a GDP growth rate can be characterized by a growing logarithmic function, yet, to a certain range of fluctuations of instrument values. Both, increasingly expansive fiscal policy limits boost of economic growth, as well as increasingly restrictive fiscal policy has limited possibilities to influence dynamics of production. A similar situation occurs in a case of exerting influence of budget deficit on inflation. In turn, together with an increased interest rate decrease of GDP growth is observed from a maximum at extremely expansive monetary policy to the lowest one when an interest rate reaches an extremely high level. Similarly, together with an increased interest rate inflation reduction is observed from extremely high at highly expansive monetary policy to extremely low at highly restrictive one (Woroniecka-Leciejewicz, 2013). I. Woroniecka – Leciejewicz (2015) conducted also an analysis of effects of instruments of policy-mix on the economy using a dynamic macroeconomic model. In this study instruments of monetary policy – real interest rate and of fiscal policy – budget deficit in relation to GDP, influence the economy, as well as a pace of GDP growth and inflation. Moreover, a simulation was conducted for two variants of policy mix in a presented dynamic macroeconomic model, namely: an expansive and a restrictive one. In this model it was assumed that economic authorities strive to minimize deviations, respectively GDP growth and inflation, from desired values. Therefore, it was assumed that for every monetary strategy fiscal authorities choose an optimum fiscal strategy minimizing the square of the deviation of GDP growth from a desired value; in turn, monetary authorities choose optimum monetary strategy for every fiscal strategy minimizing the square of the deviation of inflation from a desired value i.e. inflation target. Conducted simulations present effects observed in time that are evoked by a change in macroeconomic policy stance to more expansive or restrictive. As a result, a new state of balance in product market and money market is noted and results of simulation enable to observe in which direction and to what extent the main variables changed i.e. production, investments, public finance and inflation. Summing up the discussion on the impact of monetary and fiscal policy on the economy it must be added that policy mix has a particular sense in the extraordinary conditions such as the financial crisis. Fiscal and monetary policies have influence on macroeconomic stability.

The lack of appropriate policy mix was one of the reasons of the recent financial crisis and lead to many adverse effects on the economy. Both these policies are used by economic authorities in order to achieve its macroeconomic objectives. That is why this issue is so essential and should not be marginalized by authorities (Stawska, Grzesiak, 2014, p. 141).

### 3. ANALYSIS OF RELATIONSHIPS BETWEEN MONETARY AND FISCAL POLICY VARIABLES

The discussion on the impact of monetary and fiscal policy on the Polish economy in the period between 2000-2016 started with the presentation of crucial, in the context of the paper objective, variables from the area of fiscal and monetary policy. Table 1 contains data from monetary policy area in Poland between 2000-2016. The National Bank of Poland while realizing a strategy of direct inflation target observes inflation indicators in Poland. Table 1 shows Consumer Price Index – a month ending a period – December of the previous year = 1. Inflation in Poland in the analyzed period remains at a low level (creeping inflation) with the exception of year 2000 when inflation amounted to 8.5%, otherwise it is generally within the inflation target (2.5% +/- 1p.p.), with some exceptions (such as 2004 - inflation of 4.4% - when Poland joined the European Union). The years 2007 - 2008 are a period of intensifying disturbances on global financial markets, hence inflation in 2007 was 4.0% and exceeded the inflation target. Significant signs of price declines were observed in the second half of 2014. Deflation lasted until 2015, mainly due to the fall in oil prices (which reduced production costs and increased corporate profits). In the last two years of analysis (2015-2016) deflation initially remained and 2016 saw low inflation.

*Table 1: Selected monetary policy variables (Source: Central Statistical Office database. Retrieved 22.04.2018 from <http://stat.gov.pl/wskazniki-makroekonomiczne/>*

Years	INF_CPI	M3_index	IR_NOM	IR_REAL
2000	8.5	38.1	18.25	8.99
2001	3.6	42.8	14.43	10.45
2002	0.8	43.9	8.28	7.42
2003	1.7	44.9	5.88	4.11
2004	4.4	48.2	6.08	1.61
2005	0.7	54.5	5.15	4.42
2006	1.4	61.3	4.13	2.69
2007	4	71.1	4.63	0.61
2008	3.3	82.4	5.54	2.17
2009	3.5	93.2	3.88	0.37
2010	3.1	100	3.5	0.39
2011	4.6	109.3	4.13	-0.45
2012	2.4	120	4.5	2.05
2013	0.7	127.3	3.21	2.49
2014	-1	135.4	2	3.03
2015	-0.5	146.7	1.5	2.01
2016	0.8	161.6	1.5	0.69

The level of inflation is linked to money supply in the economy, hence, table 1 also presents money supply index in Poland between 2000-2016. Money supply in Poland measured by the broadest aggregate - M3 - in the analyzed period is systematically increasing (Official webpage of NBP). Now, in Poland, the central bank uses a policy of low interest rates (compared to historical data) which should favor the economy (though not always). Currently (April 2018) the main interest rates of NBP have been not changed since March 2015 (table 1).



In the context of coordination of monetary and fiscal policy variables of crucial importance concern public finance and they include: revenues and expenditures of public finance sector or General Government deficit and debt. Table 2 shows the revenues and expenditures of the Polish public finance sector and the general government (GG) deficit/surplus and debt in relation to GDP, in the country between 2000 and 2016. The data show that public expenditures were moderate in those years, ranging from 36.4% to 39.3% of GDP. The only years when they rose above the level of 40% were 2007 and 2008. The fact that in 2016 they accounted for 37.9% implies that the government refrained from significantly increasing the fiscal burden.

*Table 2: Statistical data on public finances in Poland – selected fiscal policy variables*  
(Source: Central Statistical Office database. Retrieved 22.04.2018 from <http://stat.gov.pl/wskazniki-makroekonomiczne/>).

<b>Years</b>	<b>Revenues to GDP</b>	<b>Expenditures to GDP</b>	<b>GG_DEF</b>	<b>GG_DEB</b>
2000	36.4	39.2	-3	36.5
2001	37.4	42.3	-4.8	37.3
2002	37.6	43.3	-4.8	41.8
2003	37.8	43.2	-6.1	46.6
2004	37.1	41.6	-5.1	45
2005	38.6	41.6	-4	46.4
2006	39.3	41.4	-3.6	46.9
2007	40.8	40.7	-1.9	44.2
2008	40.1	41.7	-3.6	46.3
2009	39.3	43.0	-7.3	49.4
2010	38.1	44.0	-7.5	53.1
2011	38.7	42.3	-4.9	54.1
2012	39.6	42.0	-3.7	53.7
2013	39.3	42.2	-4	55.7
2014	39.3	41.6	-3.3	50.2
2015	38.2	40.7	-2.6	51.1
2016	37.9	40.4	-2.4	54.4

The general government deficit in Poland proved particularly vulnerable to the crisis, rising to 7.3% of Polish GDP in 2009 and to 7.5% in 2010 (it is notable that the deficit is one of the main measures of fiscal policy). A crisis usually reduces tax revenues and causes budget expenditures to increase (in Poland, particularly high increases in expenditures were noted in 2009 and 2010), thus raising the amount of public debt (table 2). This part of the article discusses regression results obtained for monetary and fiscal policy variables (the GDP growth and real GDP, the rate of unemployment, the inflation rate and real NBP reference rate in Poland). Regressions were carried out to highlight statistically significant dependencies, between selected variables from the monetary and fiscal policy. Prior to regression analysis, variables were tested for stationarity with the ADF test (Dickey-Fuller test), as well as for normality. Variables were transformed into first differences, yielding stationary series and variables with a near-normal distribution. To perform the analysis, data spanning the years 2000-2016 were sourced from the website of the Polish Central Statistical Office. Table 3 shows the regression results for the dependent variable: 'the rate of GDP growth in Poland' [GDP\_DYN] and independent variables: NBP nominal reference rate [IR\_NOM] and NBP nominal reference rate lagged by one year' [IR\_NOM\_1].

Table 3: Regression results for dependent variable (Y): GDP\_DYN and independent variables: (X<sub>1</sub>): IR\_NOM and (X<sub>2</sub>): IR\_NOM\_1 (developed by the author with the GRETL software package)

Variable	Coefficient	Standard error	t-Student	p-value
Const.	3.87042	0.738623	5.240	0.0002***
IR_NOM	0.678859	0.370843	1.831	0.0902*
IR-NOM_1	-0.614244	0.259809	-2.364	0.0343**
Selected regression statistics and analysis of variance: N= 16 observations from 2001–2016				
SD of the dependent variable = 1.734731; Standard error of residuals 1.504226				
R-square = 0.348351				
F(2, 13) = 3.474693 p-value for F test 0.061814				

\*\*\* means that p – value < 0.01; \*\* means that p – value < 0.05; \* means that p – value < 0.10

In this case, the t-Student statistics are 1.831 at p-value of 0.0902 ( $p = 0.10$ ) and -2.364 at p-value of 0.0343 ( $p = 0.05$ ). Therefore, in the years 2000–2016 the GDP responded statistically significantly to the rate of NBP nominal reference rate and NBP nominal reference rate lagged by one year. The probabilities of the NBP nominal reference rate and NBP nominal reference rate lagged by one year having a statistically significant influence on the rate of GDP growth are 90% and 95% respectively (table 3). The coefficient for the NBP nominal reference rate (0.678859) is positive meaning that the Polish GDP increased following rises in the NBP nominal reference rate in 2000 – 2016. The negative value of the coefficient (-0.614244) for the second NBP nominal reference rate (lagged by one year) indicates that the relationship was consistent with the economic theory (table 3). Table 4 shows the regression results for the dependent variable ‘the rate of GDP growth in Poland’ [GDP\_DYN] and independent variables ‘the inflation rate’ [INF] and ‘the inflation rate lagged by one year’ [INF\_1].

Table 4: Regression results for dependent variable (Y): GDP\_DYN and independent variable (X<sub>1</sub>): INF and (X<sub>2</sub>): INF\_1 (developed by the author with the GRETL software package)

Variable	Coefficient	Standard error	t-Student	p-value
Const.	3.61393	0.588122	6.1449	<0.0001***
INF	0.592241	0.225854	2.6222	0.0211 **
INF_1	-0.508808	0.16968	-2.9986	0.0103 **
Selected regression statistics and analysis of variance: N= 16 observations from 2001–2016				
SD of the dependent variable = 1.734731; Standard error of residuals 1.370825				
R-square = 0.458808				
F(2, 13) = 5.510519 p-value for F test 0.018484				

\*\*\* means that p – value < 0.01; \*\* means that p – value < 0.05

Now the t-Student statistics are 2.6222 and -2.9986 at p-values of 0.0211 ( $p = 0.05$ ) and 0.0103 ( $p = 0.05$ ). This indicates that in the years 2000-2016 the rate of GDP growth responded statistically significantly to the rate of inflation and to its counterpart lagged by one year, as well as that at probabilities of 95% the inflation rate and the inflation rate lagged by one year had a statistically significant influence on the GDP growth rate.

The coefficient for the first inflation rate (0.592241) is positive meaning that the Polish GDP increased following rises in the inflation rate in 2000 – 2016. The negative value of the coefficient (-0.508808) for the second inflation rate (lagged by one year) indicates that the relationship was consistent with the economic theory (table 4). The regression results in table 5 concern the dependent variable ‘the first differences of inflation rate in Poland’ [d\_INF] and the independent variable ‘the first differences of the rate of unemployment in Poland’ [d\_UNEMP].

*Table 5: Regression results for dependent variable (Y): d\_INF and independent variable (X): d\_UNEMP (developed by the author with the GRETL software package)*

Variable	Coefficient	Standard error	t-Student	p-value
Const.	-0.730170	0.507926	-1.438	0.1725
d_UNEMP	-0.585694	0.273607	2.9507	0.0504 *
Selected regression statistics and analysis of variance: N= 16 observations from 2001–2016				
SD of the dependent variable = 2.201278; Standard error of residuals 1.977745				
R-square = 0.246596				
F(1, 14) = 4.582334 p-value for F test 0.050387				

\* means that  $p - \text{value} < 0.10$

The data show that from 2000 to 2016 the first differences of inflation rate in Poland was statistically significantly influenced by the first differences of the rate of unemployment. The t-Student statistic of 2,9507 at p-value of 0.0504 ( $p = 0.10$ ) indicates a 90% probability that in that period the first differences of the rate of unemployment statically significantly determined the first differences of the inflation rate (table 5). Table 6 shows the regression results for the dependent variable ‘the first differences of the real GDP in Poland’ [d\_GDP\_REAL] and independent variable ‘the first differences of the unemployment rate in Poland’ [d\_UNEMP].

*Table 6: Regression results for dependent variable (Y): d\_GDP\_REAL and independent variable (X): d\_UNEMP (developed by the author with the GRETL software package)*

Variable	Coefficient	Standard error	t-Student	p-value
Const.	31449.4	3715.21	8.4650	<0.0001***
d_UNEM	-9994.14	2001.29	-4.9938	0.0002 ***
Selected regression statistics and analysis of variance: N= 16 observations from 2001–2016				
SD of the dependent variable = 23307.60; Standard error of residuals 14466.17				
R-square = 0.640459				
F(1, 14) = 24.93851 p-value for F test 0.000197				

\*\*\* means that  $p - \text{value} < 0.01$

In this case, the t-Student statistic is -4.9938 at p-value of 0.0002 ( $p=0.01$ ), meaning that in the period under consideration the rate of unemployment had a statistically significant influence on the real GDP in Poland. The numbers also indicate a probability of 99% that the first differences of the unemployment rate had a statistically significant influence on the first differences of the real GDP (table 6). The regression results lead to a conclusion that the NBP nominal reference rate, NBP nominal reference rate lagged by one year, inflation rate and inflation rate lagged by one year as variables related to monetary policy and unemployment as variable related to fiscal policy statistically significantly determined the GDP in Poland from 2000 to 2016.

In the context of interactions between variables from the area of monetary and fiscal policy it can be observed that unemployment rate statistically significantly influences a rate of inflation in Poland in the analysed period. Based on these analyses we can confirm the hypothesis that variables from the monetary and fiscal policy statistically significantly interact with each other and thus influence the economic variables in Poland. Thus, we have achieved the purpose of this article and identified the relationship between economic variables in the monetary and fiscal policy and thus variables describing the economy in Poland in 2000 - 2016.

#### 4. CONSLUSION

Proper cooperation of monetary and fiscal authorities as two independent decision makers responsible for two main areas of economic policy remains a crucial condition of meeting its objectives. Special focus is put on the relevance of development of efficient coordination mechanisms in order to achieve stability of a level of prices and permanent economic growth (Marszałek, 2006, p. 57). However, there are numerous factors distorting the coordination of monetary and fiscal policy and thereby, influencing effectiveness of economic policy. Factors that have impact on effects of policy mix on the economy include, for instance, diverse objectives and preferences of economic authorities, delays in implementation of fiscal and monetary policy as well as internal and external economic impulses such as financial crises. In this article particular attention was paid to the following economic variables: economic growth, unemployment rate, General Government debt and deficit, the main interest rate of the central bank or inflation. It was also noted that decisions of economic authorities were strongly influenced by the financial crisis that contributed to a higher rate of unemployment, slower economic growth, decreased revenues and higher expenditures of the public finance sector, as well as to larger public deficit and debt. Furthermore, an attempt was made to identify the relationship between economic variables in the monetary and fiscal policy and thus variables describing the economy in Poland in 2000 - 2016. Finally, it was confirmed that variables from the monetary and fiscal policy statistically significantly interact with each other and thus influence the economic variables in Poland.

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# **THE IMPACT OF THE OIL PRICES SHOCKS ON THE INTERACTION BETWEEN THE LIBYAN ECONOMY AND THE ECONOMIES OF IT'S MAIN TRADING PARTNERS**

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## **ABSTRACT**

*The authors in the paper analyze the impact of the oil prices shocks on the interaction between the Libyan economy and the economies of it's main trading partners, such as: Italy, Germany, Spain, France, Greece, Great Britain and Tunisia. Using statistical methods of available data, the authors in paper study the trade relationship between Libya and its major trading partners, as well as the rest of the world. The time series used in the paper focuses on the period from 1970 to 2008.*

**Keywords:** *Oil price, Economy, Export, Import and Trade*

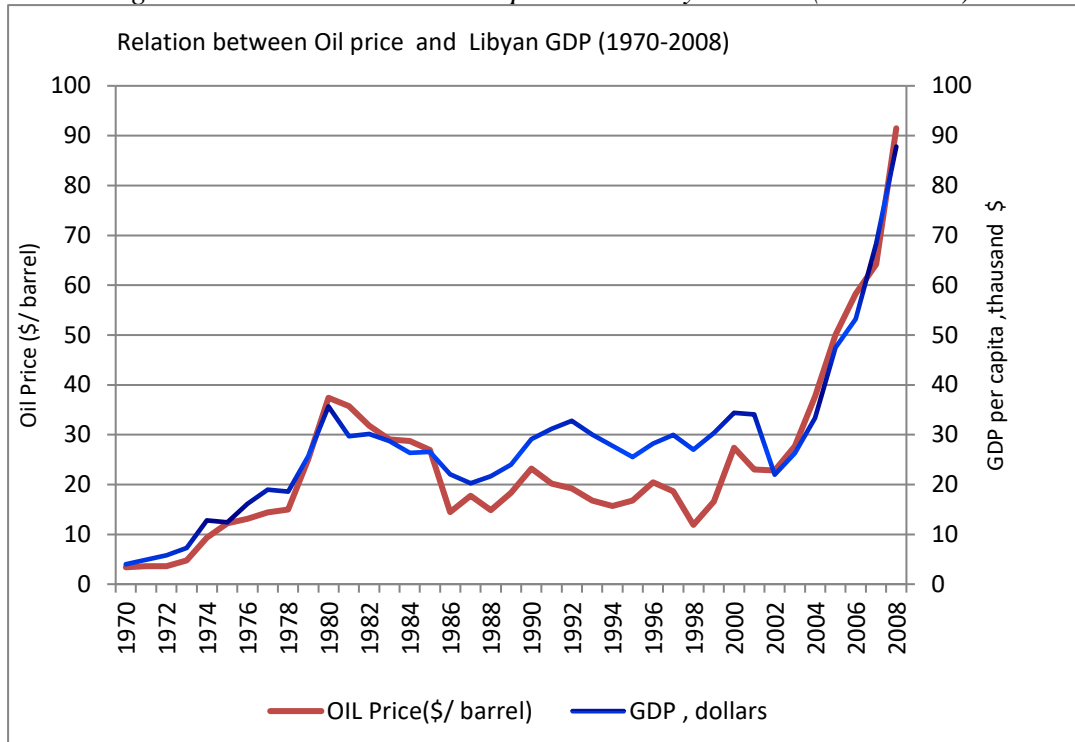
## **1. INTRODUCTION**

The main aim of this paper is to show the impact of shocks in oil prices on the main components of the balance of payments, it is important to examine the trends in oil prices during the period. More specifically, to assess the effect of the changes in exporting oil prices on Libyan economic growth, to explore its effects on the relationship of economy in Libya and economy of its major partners in trade, to examine what kind of impact can these changes in prices of oil have on the balance of resources in Libya. The data collected for the analysis include years from 1970 to 2008, during which time a number of important economic development plans were started in Libya. In order to achieve the study aims, the correlation between the increase of Libyan oil export and the country's GDP is tested and co-integration analysis is used to study the long-term correlation of Libyan GDP and exports of oil. The paper also uses the simultaneous-equations models to study the trade relations of Libya and its main trade partners. Furthermore, single and simultaneous-equations models are developed and tested to study the effects of oil price fluctuations on balance of payments of Libyan economy.

## **2. SIGNIFICANCE OF OIL EXPORTS IN THE LIBYAN ECONOMY**

This section provides an overview of the Libyan economy with a particular focus on the role of oil. Figure 1 provides a first impression regarding the relation between GDP as well as the oil price. It is evident that both variables follow a very similar pattern. Therefore, the Figure confirms impression that high levels of GDP are accompanied by high levels of the price of oil. During the period of high oil price (1973-1981) and (1999-2008) there is increase in Libyan GDP, while during the periods of low oil price (1982-1989) and (1990-1998) there is decrease in Libyan GDP.

*Figure following on the next page*

*Figure 1: Relation between Oil price and Libyan GDP (1970-2008)*

Source: The Central Bank of Libya, the economic bulletin, various issues . 2) Secretariat of the General People's Committee for Planning.

Furthermore, Table 1 demonstrates Gross Domestic Product (GDP) of the Libyan economy by oil and non-oil GDP during the period from 1970 to 2008. It can be seen from the table that the Oil revenue dominates the Libyan economy, accounting for high proportion of national income. Also, Oil production makes a greater contribution to GDP than other economic activities. However, the percentage of the oil contribution to GDP differed in various periods due to fluctuations in oil prices.

*Table 1 Libyan Gross Domestic Product in selected years (1970-2008)*

Year	GDP	Oil GDP	Non-Oil GDP
	Value in billion \$	%	%
1970	4.0	62.5	37.5
1975	12.4	59.6	40.4
1980	35.6	68.7	31.3
1985	26.5	55.0	45
1990	29.1	40.5	59.5
1995	25.5	43.9	56.1
2000	34.4	48.5	51.5
2004	33.3	74.4	25.6
2008	87.8	81.3	18.7

Source: The Central Bank of Libya, the economic bulletin, various issues.  
2) Secretariat of the General People's Committee for Planning.

The oil sector contributed almost 62.5% of gross domestic product in 1970, which had decreased to about 40.5 % by 1990. The total contribution of the non-oil sector was about 37.5% in 1970, increasing to 56.1% in 1995. The gross domestic product at current prices was 4 billion dollar in 1970, and this increased about 5 fold and 21 fold to 29.1 billion and 87.8 in 1990 and 2008 respectively. Because of Libya's great dependence on oil revenues, the general level of the Libyan economy is closely related to the health of the petrochemicals industry.

### 3. RATES OF GROWTH OF LIBYAN OIL EXPORTS AND NON-OIL SECTORS

Since the main aim of this paper is to find the impact of shocks in oil prices on the main components of the balance of payments, it is important to examine the trends in oil prices during the period 1960-97. It is possible to distinguish four sub periods over which oil prices fluctuated heavily. These sub-periods are: 1974 -1981; 1982-1989 ;1990 -1998 ;1999-2008. The first and fourth periods represent the years of relative stagnation in oil prices while the second and third periods represent substantial increases in oil prices. Table 2 represents estimates of the (constant proportional) rates of growth over the four periods that experienced fluctuations in oil prices since 1974. The growth rates were calculated using the regression model:

$\text{Log}_e Y_{it} = \beta_0 + \beta_1 T + \eta_t$	1
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Where  $Y_{it}$  represents the output of the  $i$ th sector in period  $t$  and  $t$  represents time. The coefficient  $\beta_1$  represents the proportional (constant) rate of growth i.e.

$\beta_1 = (dy/dt) / y$	2
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The data in Table 2 shows that the rates of growth of output of Libyan oil exports and output of non-oil sectors (assessed in current values and measured in US dollars.) were greater (in most cases during the period 1974-1981 and 1999-2008 when oil prices were high comparing with periods 1982-1990 and 1991-1998 when oil prices were low . The data in the Table also suggest that because the Libyan Dinar was highly devalued against the US dollar since 1999, the values of sectoral output, measured in US dollars, had declined significantly over the period 1999-2008.

*Table 1 Rate of Growth of Libyan sectorial output (percentage)*

sectors	1974-1981	1982-1990	1991-1998	1999-2008	1974-2008
Oil Exports	16.1	-6.3	-5.2	22.2	2.6
Total Non-Oil	15.3	5.9	-1.7	-0.4	3.0
Agriculture	16.1	13.9	-0.4	-6.7	4.7
Manufacturing	20.6	11.8	-2.6	6.8	6.0
Construction	13.7	-6.6	-1.1	4.6	0.7
Wholesale & Retail trade	16.7	5.6	-1.0	1.2	3.3
Transport & Communication	14.5	5.9	-1.1	1.7	3.2
Other activities	15.3	7.0	-2.2	-3.3	2.8

*Source: author calculations*



As a result, the growth rates of all sectors were negative during that period, despite the fact that oil exports (measured in US dollars) during the same period, enjoyed a very high rate of growth. When measured in local prices, all Libyan non-oil sectors, with the exception of agriculture and trade, had a zero rate of growth. This suggests that the Libyan economy did not benefit from the growth in its oil exports during the last few years.

#### 4. RESEARCH RESULTS

The mechanism by which exports could act as an 'engine of growth' (or leading sector) and the determinants of the overall impact of an export stimulation on the economy have been well discussed in the literature (Metwally 2004; Ram 1987); (Severn 1968) ; (Srinivasan 2001), (Syron and A. 1968), (Tamachke and London 1979) and (Watkins 1977). Exports contribute to economic growth directly (through direct contributions to GDP) and indirectly through contributions to GDP per medium of spread (or carry-over) effects. The indirect contribution to growth holds Hirschman-type linkages and can broadly be considered as a sequence of multiplier-accelerator mechanisms. It is also claimed that the instability of commodity prices has an important impact on economic growth (Cashin et al. 2002; Ghosh and Ostry 1994; Massell 1990; Maitah et al. 2013). The postulated relationship between export growth and GDP over time is central to the 'exports as an engine of growth' model; theoretically exports can contribute to the growth of GDP directly and indirectly per medium of spread effects, which taken time. It is important to note even at this early stage, that apart from the notion that the growth of the export sector and GDP are related over time (per medium of a sequence of multiplier-accelerator mechanisms), the model says little or nothing about what length of time might actually be involved. This shortcoming is obviously not confined to the 'exports as an engine of growth' model alone and seems to be common to all economic theory postulating lagged time relationships between variables. The question of determining time lags between export growth and economic growth must therefore be central to econometric investigations of trade and growth. As Metwally and Tamaschke (1980b) argued, this aspect has in fact been sadly neglected in the existing econometric literature in the area. With this in mind the central tool used in the analysis to follow, is the dynamic (or lagged) regression relationship utilizing annual data, which is the form taken by most of the important available series. When preliminary investigations suggested that the current period provided the most important weight, geometrically declining weights were imposed from the current period (that is a Koyck distributed lag scheme, Koyck, 1954). For statistical reasons, discrete lags were used in other cases. The equations were calculated from variables in natural logarithmic first difference form (that is: log-log), which is virtually a percentage change. There are a number of theoretical reasons for this. First, because spread effects include acceleration effects, proper specification suggests that the equations incorporate some concept of change. Second, since we do not necessarily expect a constant impact on the economy over time of an export stimulus of given intensity (for instance because of diversification of the economy, import substitution and technological change) simple linear relationships would seem to be inappropriate (Metwally and Tamaschke 1980b). Hence, natural log differences have been used in an attempt to deal with these problems. The equations were tested for multicollinearity along the lines suggested by (Farrar and Glauber 1967) and give no undue cause for concern. Inspection of the residuals in the series (that are too short to test the assumption of homoscedasticity amongst the residuals about the fitted equations), suggested that there is no cause for concern in this respect. Autocorrelation tests, using Durbin "h" statistics, suggested by Durbin (1970) were not used in small periods. Table 3 provides the econometric results of the investigations into the relationship between export growth and GDP (in current prices) for the four periods that exhibit variations in oil prices.

The following regression model was used:

$\ln(Y_t / Y_{t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{t-1} / Y_{t-2}) + \eta_t$	3
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Where: Y = GDP

X = Oil exports.

The regression results suggest that the current period export coefficient is highly significant in all periods. By way of contrast, however, the lagged GDP variable (representing all lagged exports via the Koyck geometrically declining weight assumption Koyck, 1954) is significant at least at the 5% level only in the periods that enjoyed high oil prices (1974-1981 and 1999-2008). As this part of the results could be explained as representing the spread effects, the results clearly imply that the Libyan GDP has benefited from opportunities generated by increase in oil exports. However, the lagged effects are outweighed by the current period contributions, which could suggest that the investment opportunities generated, are not fully exploited. Two important points can be raised against the econometric results in Table 3: (i) These results were computed from data valued at current prices and thus may show strong inflationary impacts; (ii) The result of the coefficients of the variable  $\ln(X_t/X_{t-1})$ , may be a expression of the simple fact that exports are an element of GDP. To exclude the inflationary effects the relationship between oil export and GDP was re-estimated in constant prices. As Metwally and Tamaschke (1980) argued, that deflating exports by an index of import prices and not by an index of export prices should be more acceptable.

*Table 2 Libyan oil exports and gross domestic product (current price)*

The Model: $\ln(Y_t / Y_{t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{t-1} / Y_{t-2}) + \eta_t$						
Periods	$\hat{\beta}_0$	$\hat{\beta}_1$	$\hat{\beta}_2$	F	R <sup>2</sup>	DW
1974-1981	.023	.690**	.156*	0.99	249.04	3.69
t	1.09	20.30	2.41			
1982-1990	.009	.315*	.075	0.61	4.79	1.89
t	.29	2.68	.24			
1991-1998	.025	.422*	.621*	0.68	5.21	1.63
t	.99	2.99	2.53			
1999-2008	-.091	.826*	.302	0.62	5.71	2.83
t	-1.15	3.27	1.31			
1974-2008	.021	.529**	.195*	.696	36.700	2.463
t	1.073	8.308	1.993			

*Note: \* denotes 1 percent level of significance and \*\* denotes 5 percent level of significance*

*Source: author calculations*

Therefore, both GDP and oil exports were deflated by an index of import prices. Given that, an increase in the price of exports relative to that of imports (i.e. an improvement in the terms of trade) reflects a true gain to the economy.

The following model was tested:

$\ln(Y_t / Y_{t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{t-1} / Y_{t-2}) + \eta_t$	<b>Error! No text of specified style in document.</b>
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Where: Y- = GDP valued at constant import prices (1973=100)

X- = Oil exports valued at constant import prices (1973=100)

The econometric results obtained using this method of deflation is shown in Table 4. These results conform partially with those in Table 3 (where variables are valued at current prices). The regression results indicate that the export coefficient is highly significant in all periods.

*Table 3 oil exports and gross domestic product (deflated by import price)*

The Model: $\ln(Y_t / Y_{t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{t-1} / Y_{t-2}) + \eta_t$						
Periods	$\hat{\beta}_0$	$\hat{\beta}_1$	$\hat{\beta}_2$	F	R Square	Durbin-Watson
1974-1981	.011	.743**	.078	.983	144.98	2.90
t	.498	13.68	.819			
1982-1990	.065	.340	-.194	.535	3.453	2.36
t	1.607	2.10	-.994			
1991-1998	.069	.520	-.006	.368	1.454	2.23
t	1.13	1.67	-.017			
1999-2008	-.098	.933**	.154	.850	19.788	2.08
t	-1.69	5.62	.997			
1974-2008	.012	.703**	.122	.723	41.744	2.15
t	.459	9.13	1.31			
Note: * denotes 1 percent level of significance and ** denotes 5 percent level of significance						

*Source: author calculations*

In contrast, the lagged GDP variable was not significant at any period. Therefore, the improvement in terms of trade, show that the oil sector in Libya is smaller when valued at constant import prices and that spread effects in this country depend more on export prices rather than on export quantities. It would be, of course, absurd to disregard the price effect of oil exports when the rest of the world is expressing great concern about the continuous rise in these prices and when a real export price rise (i.e. relative to the price of imports) represents a rise in real income and theoretically could generate its own sequence of spread effects. To suppress the component effect the contribution of the oil (i.e. mining) sector from GDP has been excluded and the changes in the output of the remaining sectors (i.e. GDP minus oil) were regressed on changes in oil exports. To suppress both the component and the inflationary effects (i.e. the rise in prices which does not represent a rise in real incomes) the deflated value of total non-oil output (i.e. the domestic product -46 of industries other than mining) was regressed on the deflated value of exports (using an import price index with 1963 =100). The following model was tested:

$\ln(Y_{non-oil,t} / Y_{non-oil,t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{non-oil,t-1} / Y_{non-oil,t-2}) + \eta_t$	3
---	---

Where: Y- non\_oil = (GDP - Oil) valued at constant import prices

X = Oil exports valued at constant import prices

Table following on the next page

*Table 4 Libyan Oil Exports and Non-Oil GDP (Deflated by Import Price)*

The Model: $\ln(Y_{non-oil,t} / Y_{non-oil,t-1}) = \beta_0 + \beta_1 \ln(X_t / X_{t-1}) + \beta_2 \ln(Y_{non-oil,t-1} / Y_{non-oil,t-2}) + \eta_t$						
Periods	$\hat{\beta}_0$	$\hat{\beta}_1$	$\hat{\beta}_2$	$R^2$	F	DW
1974-1981	.250	.065	-.369	.31	1.123	2.09
t	1.748	.492	-.545			
1982-1990	.141	.643	.609			
t	.026	-.129	-.014	.08	.418	1.72
1991-1998	.565	-.691	-.034			
t	.592	.515	.974			
1999-2008	.035	.179	.433	.14	.276	1.11
t	.693	.602	.895			
1974-2008	.519	.573	.412			
t	.029	.338	-.162	.15	.629	1.96
Note: * denotes 1 percent level of significance and ** denotes 5 percent level of significance						

*Source: author calculations*

The regression results are given in Table 5. These results show that when both the component and the inflationary effects are excluded there is no evidence of spread effects of oil exports to the rest of the economy (non-Oil GDP).

## 5. SUMMARY

The conclusions reached in this paper are very significant for understanding the effect oil price changes have on functioning of Libya's economy. The key conclusions are:

In the first place, in regards to impact of oil price changes on economic development of economic sectors in Libya it can be said that;

1. The rates of growth of all sectors in Libya were significantly higher in periods that demonstrated oil price increase than during periods that the prices had a downward fall. However, throughout the last several years, the overall economic growth of all sectors didn't have any gain from the oil export increase and that might indicate a shortage of opportunities for investing in the last years.
2. GDP of Libya profited from opportunities created by growth in oil exports. Never the less, the delayed effects are overpowered by the contributions for the current period and that could indicate that the created opportunities for investment are not used to their full capacity.
3. The increase of exports has caused no response from the real output of all Libyan sectors, except when it comes to trade (wholesale and retail) and other economic activities (including insurance, finance, and other services). On the contrary, the increase in the

manufacturing sector has been following a trend that is opposite to the oil exports during the last 40 years.

4. There is no data to support the claim that a long-term relationship between Libyan GDP and Libyan oil exports exists.
  - Export of oil is a great part of Libyan exports even though it has experienced great declines in periods when oil prices are low. Oil price changes have also influenced the share merchandise exports have in the country's GDP.
  - The proportion of the trade balance to GDP has experienced great change in the period from 1974 till 2008 and that behavior can also be assigned to the oil price fluctuations. In the period between 1975 and 2008, the proportion of current account to GDP has also changed immensely.
  - The data received from the single-equation regression demonstrate a considerable negative correlation between the resource balance and income from non-oil sectors. On the other hand, the growth on the world level creates a considerable positive effect on Libya's resource balance due to its positive effect on exports of oil. These trends show that the growth of non-oil income brings an increase in imports.
  - Data from the simultaneous-equations model results show that the non-oil income serves as a big factor in determining the amount of spending Libya will have for imports. The data also shows that the fluctuations in imports that are a consequence of non-oil income changes are subjected to a partial adjustment mechanism.
  - The results received from regression show that the changes in the portion of OPEC world oil supply determine the export of oil by Libya.
  - The results received from simultaneous-equations model show that between imports and exports there is no considerable feedback effect primarily due to the small size of Libyan imports' contribution to world incomes.

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## CHINESE SOES VS CHINESE PRIVATE COMPANIES IN INTERNATIONAL MARKET

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### ABSTRACT

*The opening of China to the world began in 1979 under the leadership of the Chinese leader Deng Xiaoping and, in a way, that was the beginning of the international development for Chinese companies, slowly but surely it became a significant competitor in international market. The process of internationalization started in the 1990s through various infrastructure projects that were conducted by Chinese state-owned enterprises in Africa and Asia. After their expansion abroad, Chinese private companies started to work overseas at the beginning of a new millennium. Their first investments were in IT industry in the United States of America and they purchased some of the world's most recognizable brands. Nowadays, Chinese companies are among the leading investors globally. On prestigious business lists, such as Forbes and Fortune 500, they occupy high positions in all categories. Slowly but steadily, they are leaving behind big global players from the US and the EU. Primarily, the progress has been achieved because the Chinese companies enjoy great support from the Chinese Government, which provides support to them both on financial and diplomatic level. The aim of this paper is to show how Chinese private and state-owned enterprises behave in the international market and point out the similarities and differences of their strategic approach (both through individual cases and through a comparative analysis of two case studies). The authors will elaborate on the dominant areas and investment branches for both types of companies, and also what problems those companies encounter in international business market.*

**Keywords:** *China, private companies, state-owned enterprises, international market, strategy*

### 1. INTRODUCTION

China implemented its opening-up policy in 1979 under the leadership of the leader Deng Xiaoping, along with the process of internationalization of Chinese business operations. Primary foreign investment markets for China are the countries in its immediate neighbourhood, such as Taiwan, Hong Kong and Myanmar, while in the mid-1980s it expanded to the rest of the Asian continent. Interestingly, these investments were exclusively made in the energy and transport sectors and they never reached more than few hundred million US dollars, which is relatively low compared to the current investments. The first significant steps of Chinese companies in the international market were recorded in the early 1990s when there were considerable investments in the African continent. Chinese state-owned enterprises (SOEs)<sup>1</sup> dominated through infrastructure projects in the countries such as Ghana, Chad, Congo etc., slowly but steadily, enabling business operations to other Chinese entrepreneurs. By the beginning of the new millennium, there was steady expansion of both the Asian and the African markets, in particular, investing in the water, mining and mineral resources sector.

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<sup>1</sup> A state-owned enterprise (SOE) is a legal entity that is created by the government in order to partake in commercial activities on the government's behalf. It can be either wholly or partially owned by the government and is typically earmarked to participate in commercial activities.

In this period, for the first time Chinese companies exceeded the value of one billion US dollars for an individual foreign investment, which captured global attention. The beginning of the new millennium brought about the first changes. Actually, Chinese companies started expanding their business operation to other continents, getting interested in modern business segments as well. Global players got introduced to Chinese private companies, which through their investments primarily in the IT and real estate sectors in the USA and Europe, slowly but surely, have been entering the world's sphere of interest. This consistently growing trend has been noticed over the next fifteen years; therefore, nowadays Chinese companies are among the leading global companies that can compete with the giants from America and Europe. Furthermore, this is supported by the fact that the Chinese companies are taking over leading positions on eminent lists such as Forbes or Fortune 500. The aim of the paper is to demonstrate the behaviour of Chinese private and state-owned enterprises in international markets, to point out similarities and differences in the strategic approaches, to show the problems they encounter, i.e. to display their dominant areas and investment areas both in individual cases and historic perspective, as well as through a comparative analysis of two case studies.

## **2. THE RISE OF CHINESE COMPANIES IN INTERNATIONAL MARKET - HISTORIC PERSPECTIVE**

One of the key aspects of the growth and development of Chinese companies in the international markets is the economic modernization of China itself, which through foreign direct investments immensely encouraged the growth and development of its domestic companies in the early 80s of the 20<sup>th</sup> century. By encouraging already modern and reputable companies (from America, Europe, and Japan) to invest in China, Chinese companies became acquainted with business operation of these companies in the international markets. Although former Chinese authorities severely limited foreign investments of their state-owned enterprises, some initial experience was acquired in the 80s and 90s of the 20<sup>th</sup> century. The gained experience was based primarily on investments in the energy sector, through infrastructure projects and certain initial investments in the stocks and shares of large world giants. Simultaneously, foreign investments in China were enlarging and the development of Chinese companies was taking place in the international markets. Chinese state giants began to work on large infrastructure projects in Asia and Africa, primarily thanks to the enormous diplomatic and financial help of the Chinese government. The amount of these investments varies from 50 million US\$ to 1 billion US\$. It is invested in energy, water resource management, transport and increasingly in agriculture. Economic relations with the neighbouring countries in Asia are improving significantly, and the trust of African countries is building up (<https://www.imf.org/external/pubs/ft/op/232/>). However, in 2000 there was a major turning point in the operations of Chinese companies in the international business markets. The Chinese government decided to launch a new type of business strategy called "Go out policy".<sup>2</sup> One of the key reasons that led to this strategic initiative is the huge accumulation of foreign exchange reserves in China. Some of these reserves were invested mostly in low-yield assets such as American bonds that provided a low but safe return on capital. The other part of these reserves was used to invest and promote Chinese state-owned enterprises globally. The emphasis was on investing in traditional economies and infrastructure projects, primarily in Asia and Africa, but with the steady entry of Chinese companies into the EU and America markets. Increasing investments were made in the stocks and shares and acquisition of foreign companies, to acquire the latest technology and modern management skills.

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<sup>2</sup> **Go Out Policy** (Going Global Policy) is China's current strategy to encourage its enterprises to invest overseas (est. 2000). For more references about "Go Out Policy" see: Zakić, K., Radišić, B. (2017), "The Results and Challenges of Chinese "Go Global" Policy", Review of International Affairs, Vol. LXVI, No. 1160, Institute for International Politics and Economics, Belgrade.



Gradually, the framework of traditional economy was becoming less dominant and Chinese companies made significant investment by taking over world-renowned brands to raise their global status. Chinese private companies went global in 2003 when they were allowed to invest in the international business markets in compliance with the decision of the Chinese government. Although Chinese state-owned giants such as CNOCC, State Grid, China Power Investment and China Railway Construction were still dominant, whose individual investments were already well over 1 billion US\$, Chinese private companies were developing constantly. The first investment was definitely the acquisition of IBM's segment by Lenovo, which marked the start of large-scale private investment by private Chinese companies in the international markets. This acquisition took place in 2005<sup>3</sup>, when the IBM Personal and Tablet PC segment was purchased for 1.75 billion US dollars. After the acquisition, Lenovo became a recognizable brand that recorded big sales jumps and its global market share has been growing for years. According to Global Investment Tracker, the amount and the number of Chinese investments abroad was constantly increasing in the period from 2005 to 2017. Initially, there was an average of 20 to 30 investments totalling around 30 billion US dollars; in 2016 they reached the peak amounting to 342 transactions, with annual amount of 247 billion US \$.

*Table 1: The biggest individual overseas acquisitions of Chinese companies*

Year	Company name	Quantity in Billions US\$	Transaction Party	Sector/Country
2017	Chem China (SOE)	<u>43.06</u>	Syngenta	Agriculture/EU Switzerland
2012	CNOOC (SOE)	<u>15.1</u>	Nexen	Energy/NA Canada
2017	CIC (SOE)	<u>13.79</u>	Logicor	Logistics/EU G.Britain
2008	Chinalco (SOE)	<u>12.8</u>	Rio Tinto	Metals/Australia
2017	HNA (private)	<u>10.3</u>	CIT Group	Transport/USA

*Source: The authors' research is based on: China's Top 500 Enterprises and China Global Investment Tracker*

Although in terms of the total number of investments and their height (Table 1) SOEs still dominate, primarily thanks to the enormous support of the Chinese Central Government, which has 102 companies under its protectorate, China's private companies have statistically the largest number of acquisitions. This primarily relates to investments in the IT sector, the real estate sector, the entertainment industry and the investments in the field of finance (stock and shares of banks and insurance companies) in the EU and America, where the individual average of private companies is slightly above 2 billion US\$. The leading private Chinese investors, Dalian Wanda, HNA Group and Anbang Insurance Group are among the top ten, with global

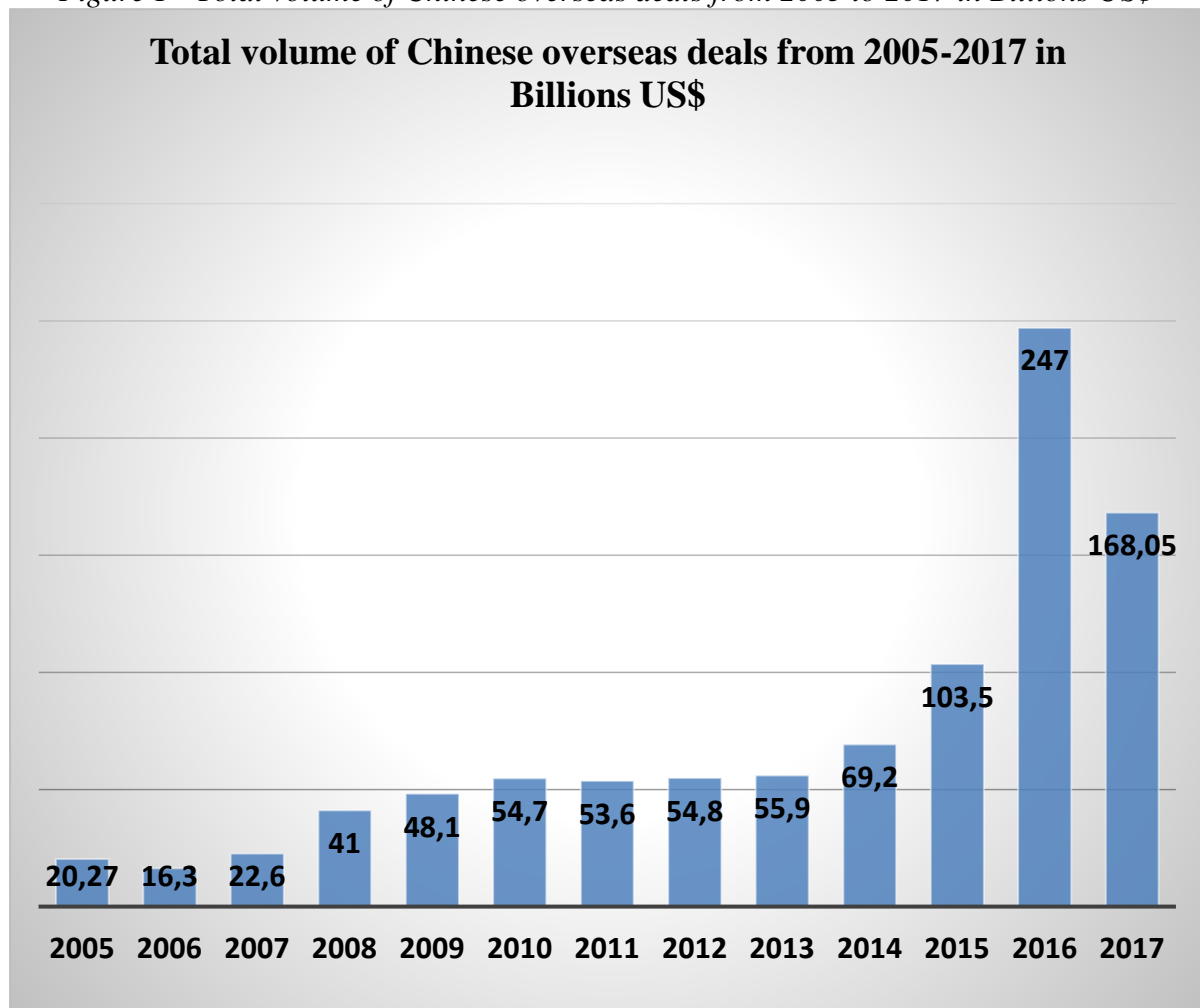
<sup>3</sup> The *acquisition* strategy relates to the purchase of the company that is being integrated and as such becomes a part, i.e. a unit of the company that has initiated the purchase. The acquisition process takes place between the companies that are different in size and can be hostile and friendly. For more references about the strategies that Chinese companies are using when going abroad see: Zakić K., Radišić B. (2017), "Strategies of Chinese Companies when Entering Global Market, Economic and Social Development", 21<sup>st</sup> International Scientific Conference on Economic and Social Development, Belgrade, 18-19<sup>th</sup> May 2017, (pp. 169-180), Varaždin Development and Entrepreneurship Agency in cooperation with John Naisbitt University, University North, Faculty of Management - University of Warsaw.

investments exceeding a figure of 100 billion US \$ over the past eight years (Collier, 2018, pp. 11-14).

### 3. MARKET APPROACH (SOES VS PRIVATE COMPANIES)

Over the last twelve years, Chinese overseas investments have been steadily increasing; in the period from 2012 to 2017 they reached record levels both in terms of deal values and the volume of transaction. (Figure 1)

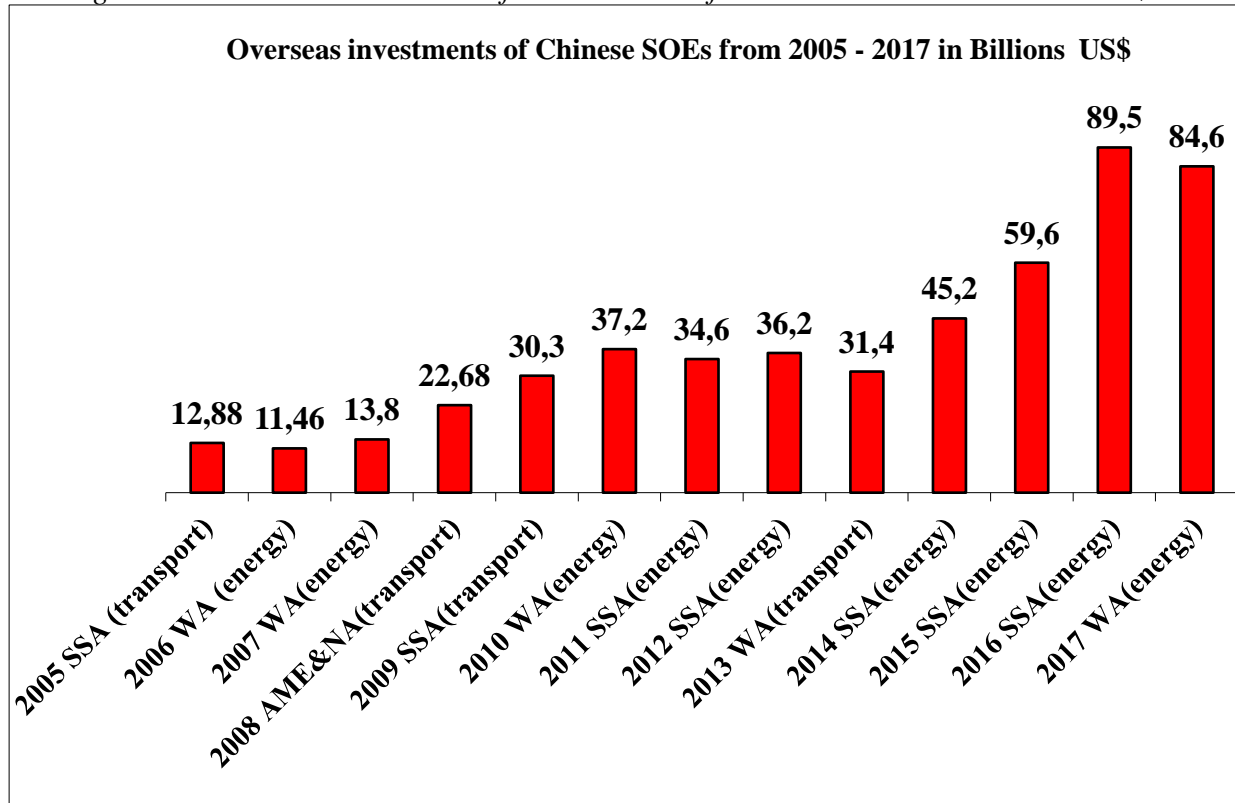
*Figure 1 - Total volume of Chinese overseas deals from 2005 to 2017 in Billions US\$*



*Source: The authors' research is based on China Global Investment Tracker, Bloomberg, RHG Group*

Although the strategic choice of acquisition<sup>4</sup>, as a primary way of acting in the international business market, is common both for SOEs and private Chinese companies, there are some differences regarding the choice of geographical areas and business segment. As it was already mentioned in the previous chapter, SOEs have been present in the international business markets for more than a decade compared to Chinese private companies, thus their way of business operation is quite different. SOEs investments are based exclusively on traditional aspects of economy (Figure 2) and they do not differ a lot from their primary activities, unless the Chinese Central Government approves it.

<sup>4</sup> Note: The acquisition strategy is present in over 97% cases for the analysed period from 2005 to 2017, when nearly 3,000 investment transactions were conducted.

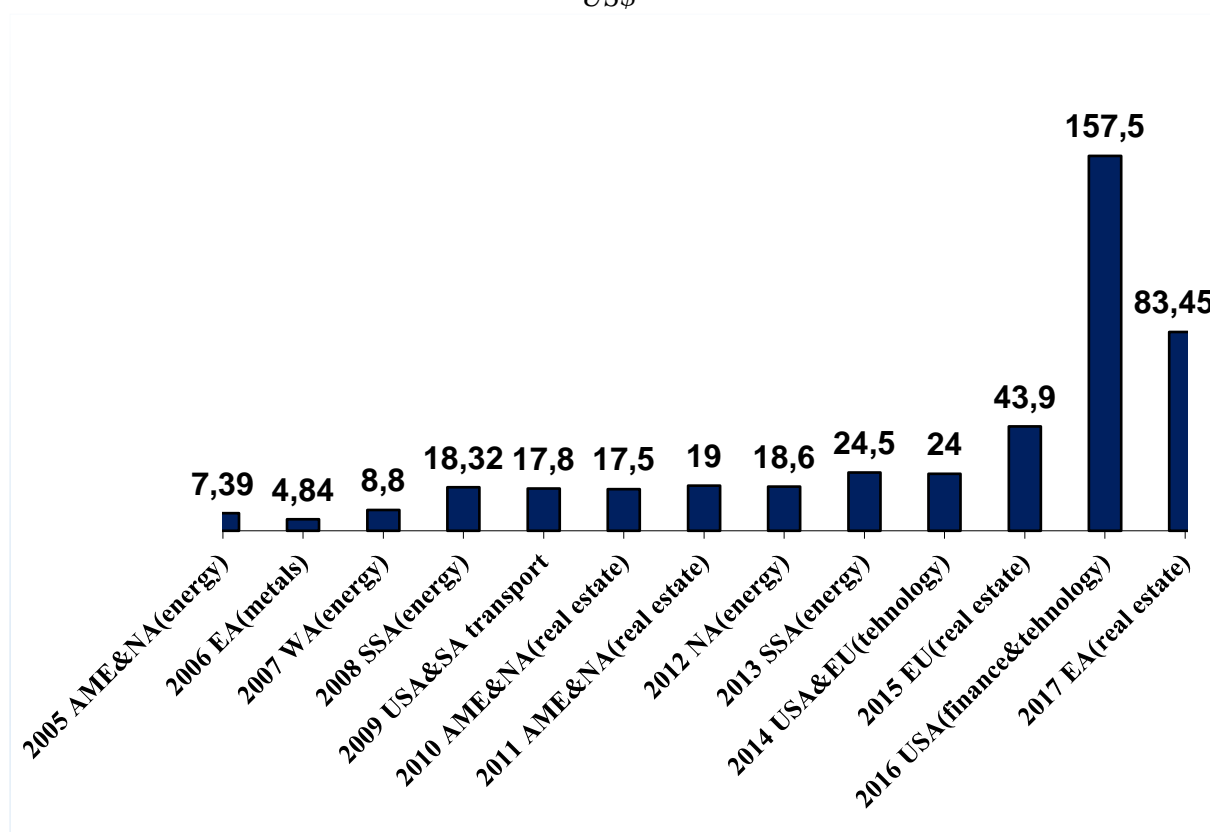
*Figure 2 - Overseas investments of Chinese SOEs from 2005 to 2017 in Billions US\$<sup>5</sup>*

*Source: The authors' research is based on China Global Investment Tracker, Bloomberg, RHG Group*

The Figure 2 clearly depicts that the primary areas of SOEs are Sub-Saharan Africa and East Asia. Initial overseas investments started off in these regions. Namely, over the past 25 years, the Chinese government has established fairly good economic and political relations in the countries of Africa and East Asia, and thus their companies win almost all important projects in these regions. The two most dominant sectors are the transport sector and the energy sector. In the transport sector, major infrastructure projects are the construction of railways and highways. These are large projects for Sub-Saharan Africa, where the countries such as Kenya, Zambia, Chad and Nigeria dominate, having an average investment of approximately 2.5 billion US\$. The most important infrastructure projects are the construction of the railway in Nigeria 2014 (the investment worth 6.8 billion US\$), and the construction of the road and railway in Chad in 2011 (the investment worth 5.63 billion US\$). The contractor in both projects was the Chinese state-owned enterprise China Railway Construction. As for the energy sector, it is certainly the most dominant sector for SOEs, and the main investment regions are East Asia and Sub-Saharan Africa as well. It is invested heavily in the countries such as Malaysia, Indonesia and Laos; however, over the past few years, the investments in the countries of former USSR, the EU and the South American countries have become more frequent. The amount of these investments is on average 3.5 billion US dollars, while the main investors are two state-owned Chinese enterprises SINOPEC and China National Nuclear (<http://www.aei.org/china-global-investment-tracker/>). Chinese private companies began their internationalization process in 2003 when the Chinese government decided to allow the private sector to go international. The purchase of one part of IBM by Lenovo was the first major investment, resulting in the constant global increase of Chinese private investments (Figure 3).

<sup>5</sup> **Note:** EA - East Asia, WA - West Asia, AME&NA - Arab Middle East and North Africa, SSA - Sub Saharan Africa

Figure 3 - Overseas investments of Chinese private companies from 2005 to 2017 in Billions US\$<sup>6</sup>



Source: The authors' research is based on China Global Investment Tracker, Bloomberg, RHG Group

In their first years of operations in the global market, Chinese private companies were the same as SOEs, investing mostly in the traditional economy (energy, metallurgy and transport sectors), choosing their primary destinations in the Arabian Peninsula and East Africa, while the Asian Continent and Sub Saharan Africa were the second choice. However, the real boom in the global market was experienced in 2009 and 2010, when Chinese private companies attracted global attention by acquiring a number of transport companies which were affected by the US crisis, as well as the property in Qatar, UAE and Saudi Arabia. This trend was slowly declining the following two years, so they directed their forces slowly to North America and Sub-Saharan Africa where more and more funds were invested in the energy sector (mostly oil investments, with an average investment of around 3 billion US\$). Unlike SOEs, they do not enjoy the overwhelming support of the Chinese government, except when it comes to some extremely large investment. On the contrary, they are constantly monitored by the Chinese state due to certain suspicious investments primarily in Africa and East Asia. Over the last three years, Chinese private companies are well-known for their investments in the US and the EU. It has been invested in the entertainment, IT, finance, real estate and sports sectors. The average cost of the investments amounts to just over 4 billion US\$, and the largest investors are HNA Group, Wanda Group, Anbang, Ping An, etc. (<https://knoema.com/pvzaxg/china-global-investment-tracker>). As compared with SOEs, private companies are constantly expanding their business segments (they do not operate only in their primary business); they often change investment regions and tend to make risky investments, especially in the field of entertainment and finance.

<sup>6</sup> Note: EA - East Asia, WA - West Asia, AME&NA - Arab Middle East and North Africa, SSA - Sub Saharan Africa, SA- South America, EU- European Union

The record amount of investment was 157.5 billion US\$ in 2016, which would probably never repeat, as the Chinese government introduced the control of investment in early 2017; primarily due to the disrupted diplomatic relations with the United States, but also because of a number of suspicious transactions in the field of finance and technologies ending up in US courts.

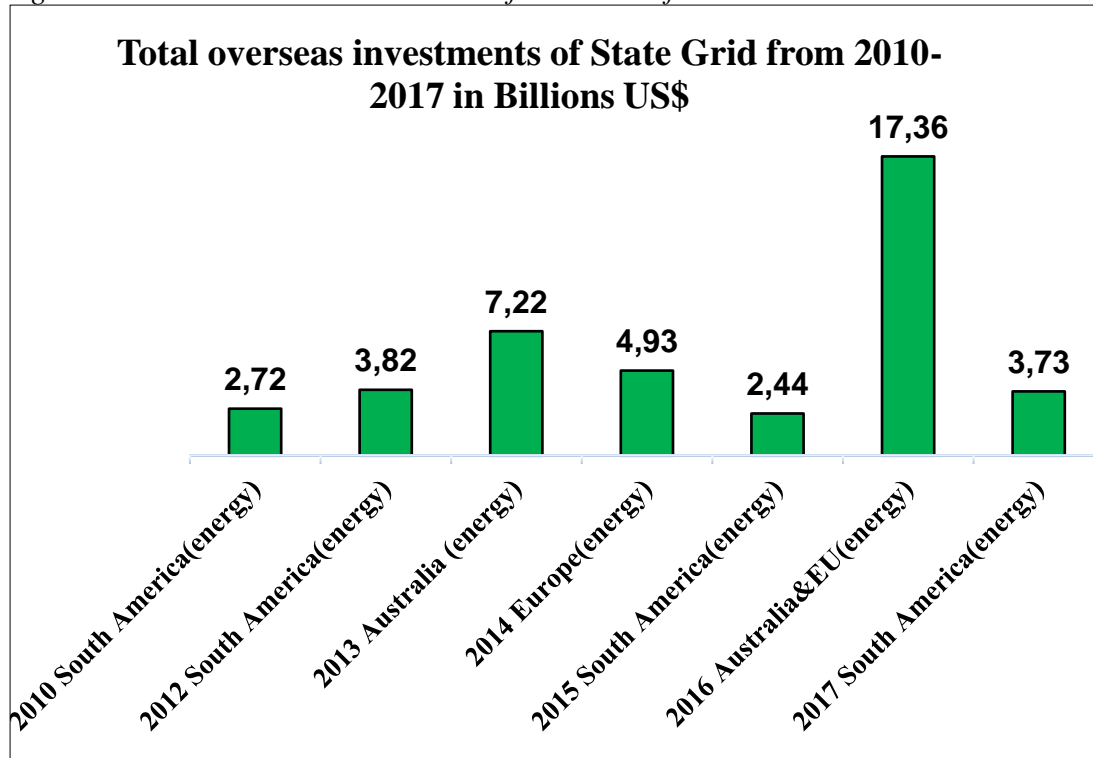
#### **4. CASE STUDY (STATE GRID INT. VS WANDA GROUP)<sup>7</sup>**

State Grid International was established in 2008 as a subsidiary of one of the largest state-owned enterprises. The complete power network of NR China is under its protectorate, thus being the largest utility company in the world. On the prestigious Fortune 500 list, the enterprise is currently on the second place with annual revenue of 316 billion US\$ immediately behind the US Walmart retail chain (<http://fortune.com/global500/>). State Grid Int. started its internationalization process in 2008 when it bought 40% of stakes in Monto Oro for 1.58 billion US\$, the largest power company in the Philippines. Its expansion into foreign markets continued in the following two years, when it bought the parts of electric plants in Brazil and Portugal with the assets share of 25-50%. From 2012 to 2014 it received global attention when it made a lot of acquisitions in South America, East Asia and, particularly, in Australia (Figure 4). After purchasing 20% and then 60% of Singapore Power Corporation totalling 4.6 billion US dollars, State Grid became one of the most powerful electric companies in the world, having under its control over 60% of the electric networks in Asia, South America and Australia. It continues its overseas investments in Europe in November 2014 by purchasing 35% of the Italian private company CDP Reti, one of the largest electricity retailers in the EU for \$ 2.5 billion US dollars. This event particularly alarmed US competitors who are known for buying shares in such companies in the EU. It should be noted that the company set a record when it comes to foreign investments in 2016, which amounted to 17.36 billion US dollars. The trend continued in 2017, only in a lesser extent, primarily due to the control of foreign investments by the Chinese government. Nevertheless, it acquired 95% of stakes in CPFL Brazil, the largest private electric company in South America for just over 3 billion US\$. State Grid International has become one of the leading global players in the field of electricity in a very short time. According to its ten-year plan and with constant investment in infrastructure and R&D segment, along with the support of the Chinese government, it aims to become the global leader in electricity supply by 2030.

*Figure following on the next page*

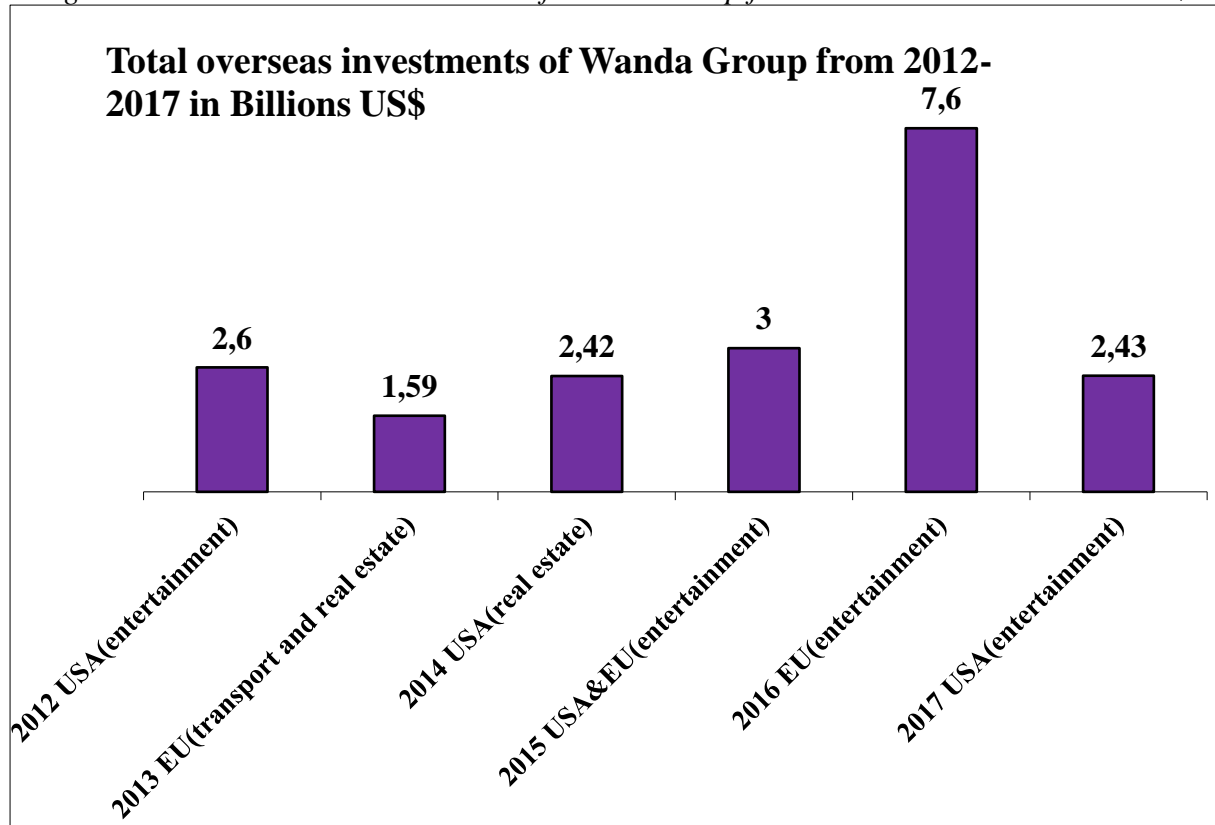
<sup>7</sup> Note: for this part of the paper several sources were used:

[http://www.stategrid.com.cn/sites/sgid/en/en\\_index.jsp](http://www.stategrid.com.cn/sites/sgid/en/en_index.jsp), revised 25.04. 2018.,  
<https://www.bloomberg.com/profiles/companies/0612934D:CH-state-grid-international-development-ltd>, revised 25.04.2018.,  
[https://www.wanda-group.com/overseas\\_holdings/](https://www.wanda-group.com/overseas_holdings/), revised 26.04.2018.,  
<https://www.wanda-group.com/about/>, revised 26.04.2018.,  
<https://rhg.com/research/chinas-state-investment-surge-stimulus-or-statistics/>, revised 26.04.2018.

*Figure 4 - Total overseas investments of State Grid from 2010 to 2017 in Billions US\$*

*Source: The authors' research is based on China Global Investment Tracker, Bloomberg, RHG Group*

Wanda Group was established in 1988 and it is one of the largest Chinese private conglomerates dealing with real estate, finance and management, the cultural industry and, recently, the entertainment industry. It is one of the best employers whose prime goal is the education of young experts. Every year the company offers internships to over 200 thousand best students to work in four different business segments, many of them get employed here. On the prestigious Fortune 500 list it is currently on the 380<sup>th</sup> place, making a progress every year. Its internationalization process began in 2012, when it purchased AMC Entertainment the second largest cinema chain in the world for \$ 2.6 billion (Figure 5). The investment proved to be very successful because in the following three years the company recorded a steady increase in the revenues along with its Wanda Group - one of the largest movie theatre chain operators in the United States. In the following two years the company continued its expansion in EU countries (by purchasing Santander in Spain and Sunseeker luxury yacht manufacturer in the UK). By purchasing the Legendary Entertainment Group in 2016, Wanda Group received global attention. Namely, many American filmmakers rebelled against Chinese capital in Hollywood; the acquisition was, however, made at a cost of 3.5 billion US dollars. This event had a positive effect on the group itself, primarily due to the rise of share price in the international stock exchanges of about 9%. The same year, the company also bought 50% of the French Auchan retail chain for \$ 1.73 billion US, which is also very well-known brand in China. Nowadays, Wanda Group is one of the world top investors in the field of entertainment, media, real estate, etc. The growth and development of the company is due to enormous investments. Furthermore, it is a diversified company in terms of operating in more industries and markets. This is largely due to the fact that the parent company is in China, and although being a private company, it is constantly recording its revenue growth, and in that way improving the image of its brands worldwide. As for the future, the company's management certainly plans to expand primarily in field of entertainment in the US and EU, but also in the field of real estate in the Arabian Peninsula and East Asia.

*Figure 5 - Total overseas investments of Wanda Group from 2012 to 2017 in Billions US\$*

*Source: The authors' research is based on China Global Investment Tracker, Bloomberg, RHG Group*

## 5. CONCLUSION

The expansion of Chinese state-owned and private enterprises has been gradual, both under strict control and support from the Chinese government. The investments were first in traditional forms of economy, and in recent years, Chinese companies have significantly expanded their scope of business. The Chinese government has recently limited the expansion of Chinese capital with a prior strategic preparation and decision at the state level. It is evident that the Chinese capital over the last two years has been mostly directed to the countries participating in the initiative One belt - one way (that is, New Silk Road). The idea is to strengthen the cooperation between the China and the countries of Asia, the Middle East, Europe and Africa through various forms of projects. To sum up, Chinese state-owned enterprises are limited by the Chinese government in terms of where, when and under what conditions they can invest. Chinese private companies have greater freedom of choice, but recently, there have been additional restrictions regarding the countries they can invest in. Both types of enterprises choose mainly acquisitions as the main form of overseas investment, and one of the reasons is certainly having a greater degree of influence and control, than in mergers or strategic alliances. Through these investments, Chinese companies are certainly enhancing their reputation than they had in the 1990s, and it can certainly be expected that state-owned and private enterprises will continue with this strategy, as it favours the development of the Chinese economy.

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9. [https://www.wanda-group.com/overseas\\_holdings/](https://www.wanda-group.com/overseas_holdings/), revised: 26.04.2018
10. <https://www.wanda-group.com/about/>, revised: 26.04.2018.
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## **RISK ASSESSMENT BASED ON INTEGRATED FUZZY MEP METHODOLOGY**

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### **ABSTRACT**

*In the effort to overcome the limitations of some mathematical models to deal with real-world problems, evolutionary algorithms were developed as alternative optimization technique. Genetic Programming (GP) represents a branch of evolutionary programming, where encoding is performed by using an evolutionary algorithm and resulting in solutions that consist of computer programs. So far, genetic programming has been successfully implemented in various optimization, search and model approximation problems. As a subset of machine learning paradigm, GP, developed by Koza, uses genetic algorithms (GA) to automatically generate computer programs. Multi Expression Programming (MEP), a Genetic Programming variant, is used in developing models for characterization of system behavior by directly extracting knowledge from data. MEP is considered an efficient technique for solving complex problems, having a distinctive feature to store multiple solutions in a single chromosome. However, the decoding process remains at the same complexity level. MEP has a potentially wide range of applications. Real systems that exist in socio-economic environment are characterized by dynamic structure, reflected in nonlinearity, uncertainty and other inherent aspects. Thus, standard mathematical approach, relying on precise mathematical relations, has certain limitations in modeling complex systems. As an alternative, fuzzy mathematics is applied when modelling vague and complex relations and systems. The application of fuzzy systems theory is recommended in situations where data values and relations are uncertain and imprecise and their estimation relies on incomplete expert judgment. The principles of fuzzy mathematics have been extensively used in risk assessment. This paper proposes an integrated methodology for risk assessment that combines MEP and fuzzy mathematics.*

**Keywords:** *Credit scoring model, Genetic Programming, Risk Assessment*

### **1. INTRODUCTION**

Banks industry are exposed to challenges in finding new ways of doing business with less risk, but efficient and profitable. Credit risk is a critical component of any banking organisation and loans are the largest source of credit risk. Credit scoring models have been used by banks to determine if applicant belong to a good or a bad applicant group. It is shown that these models reduce the cost of credit analysis, enable a faster credit decision, and reduce the potential risk (Lee et al, 2002).

Credit risk assessment was mostly based on statistical and operational methods. Most recently different neural network, expert systems, fuzzy systems, genetic algorithm and genetic programming techniques have been proposed. Hybrid systems such as Genetic Fuzzy Systems (Cordón, 2011; Koshiyama, 2015, Prasad et al, 2008, Grosan and Abraham, 2006) have been widely employed to solve classification and regression problems. They have capability of extracting knowledge from datasets and state it in the linguistic labels with reasonable accuracy. In this paper we proposed integrated method of MEP and Fuzzy Inference System (FIS). Multi Expression Programming is a Genetic Programming variant. MEP techniques are substantially helpful for determine empirical models and to indicate behavior by directly extracting experimental information (Kerkez et al, 2017). One of the advantages of this tool is that, unlike traditional methods, the MEP does not require assumptions that simplify the development of the model. Evaluation of the applicant's is done using fuzzy logic and Fuzzy Inference System. Defining applicants not only in good and bad group, but in „somewhere between“ provides the possibility of reconsidering a particular client using an individual approach as a proactive model of cooperation.

## 2. ABOUT MULTI EXPRESSION PROGRAMMING

The MEP uses the following steps to develop the best program until a termination condition is achieved (Oltean and Grosşan, 2003; Alaviatal, 2010; Alaviand and Gandomi, 2011):

- a) two parents are selected using the tournament procedure and they are again combined with the fixed crossover probability,
- b) obtaining two off spring on the basis of a re-combination of two parents,
- c) mutation of the off spring and the replacement of the worst individual in the current population with the best of them.

In the MEP scheme, the first symbol of chromosomes must be a terminal symbol. In this way, only syntactically correct programs are obtained. MEP chromosomes, using a set of functions  $F = \{+, *\}$  and a set of terminals  $T = \{a, b, c, d\}$ , is represented as follows:

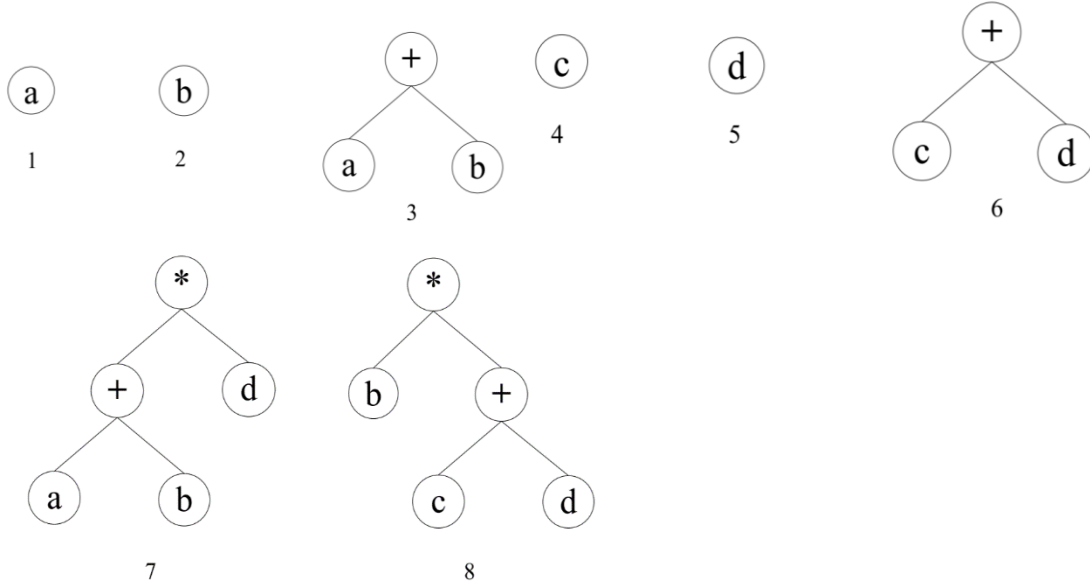
```

1: a
2: b
3: +1,2
4: c
5: d
6: +4,5
7: *3,5
8: *2,6

```

The algorithm starts with a randomly selected population of individuals. There are certain limitations for creating a valid MEP individual (more about that in Oltean and Dumitrescu, 2002). The value of these expressions can be calculated by reading the chromosomes from the top to the bottom. Partial results are calculated using dynamic programming and are placed in a conventional manner. The chromosome described above encodes the following expressions:

E1	a
E2	b
E3	a+b
E4	c
E5	d
E6	c+d

E7      $(a+b)*d$ E8      $b*(c+d)$ *Figure 1: MEP chromosome represented as trees (adapted from Oltean, 2006)*

Due to their multiple expressions, each MEP chromosome should be viewed as a forest of trees (Figure 1), not as one tree, as is the case with genetic programming. As MEP chromosomes encode more than one problem solution, it's interesting to see how fitness is assigned. The best expression is chosen after controlling the fitness of all expressions in MEP chromosomes using the following equation (Oltean and Grosşan, 2003):

$$ff = \min_{i=1, g} \left\{ \sum_{j=1}^n |E(k) - O_k^i| \right\}$$

where  $n$  is the number of fitness cases;  $E(k)$  expected value,  $O_k^i$  is the rate comes for the  $k$ -th case by the  $i$ -th expression encoded in the current chromosome,  $g$  is the number of genes.

The standard MEP algorithm uses the evolutionary model as a stable state, as its basic mechanism. The MEP algorithm begins with the creation of a random population of individuals. The standard MEP algorithm looks like this (Oltean et al, 2009):

```
%Randomly create the initial population P(0)
while not stop condition do
% Select two individuals  $p_1$  and  $p_2$  from the current population
% Crossover the parents  $p_1$  and  $p_2$ , obtaining the  $o_1$  and  $o_2$ 
% Mutate the  $o_1$  and  $o_2$ 
if fitness (the best offspring) is better than fitness (the worst individual) then
% Replace the worst individual with the best offspring
end if
end while
% Output  $S$  as the best solution (individual) found
```

The MEP accepts a set of data relating to our research. In order to achieve a consistent, data are divided, several combinations of training and testing sessions are considered. The model with the best performance of data sets for learning and testing was finally selected as a result of the work. Operators are selected in relation to the problem and the data of interesting. Problems of regression type, binary classification and classification of several classes can be done in the MEP. For the regression type model, in order to evaluate the performance of the derived models, the correlation coefficient (R), the mean square error (RMSE) and the mean percentage error (MAE) are used.

### 3. GENETIC FUZZY SYSTEMS APPLICATION

In this part of the paper we will present the possibility of applying an integrated approach to fuzzy mathematics and multi expression programming in personal credit risk assessment. For the purpose of this work we use German data<sup>1</sup> set with 15 attributes and 520 past applicants for credit. A large set of data, with high dimension and sometimes with irrelevant attributes in the training dataset, can lead to less accurate results in analysis. Therefore, it is important to extract the most significant features to increase predictive accuracy, speed and scalability. In addition, the data are slightly adjusted by the experts due to the easier presentation of the proposed methodology. Data conclude the following three groups: (a) The personal condition (age, sex, marriage, education etc.), (b) The financial condition (profession, job and title, years of services, income, and annual family revenue), (c) Social condition (bad credit record if any, insurance). In classification problems we used methodology described in (Koshiyama, 2015). The main source of information consists of a dataset containing  $n$  patterns  $x_i$ . Each patterns are described by values of  $m$  characteristics  $X_j (i = 1, \dots, n \text{ and } j = 1, \dots, m)$ .

In the fuzzification process we have membership functions:

$$A_{ij} = \left\{ \left( x_{ij}, A_{ij}(x_{ij}) \right) \mid x_{ij} \in X_j \right\}, \text{ where } A_{ij} : X_j \rightarrow [0, 1].$$

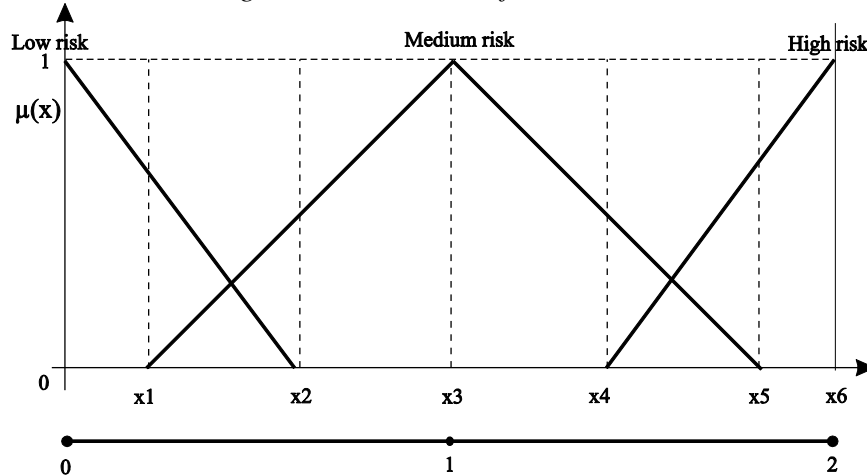
Fuzzy numbers are symmetrical triangular fuzzy number and membership functions are defined by the expert. Input data are membership degree of fuzzy set as result of mapping crisp data set. In the next step Fuzzy Inference System accepts data. Fuzzy rules are defined as follows

R: IF  $X_1$  is  $A_{i1}$  and  $X_2$  is  $A_{i1}$  and ....and  $X_j$  is  $A_{i1}$  THEN  $x_i$  in score  $s$

The rule base is a set of linguistic terms in the form of IF–THEN rules with antecedents and consequents connected with AND operator. Aggregation operator used in this work is maximum. The output of the fuzzy system are in the interval  $[0, 2]$  (see figure 2). Each risk element is described by fuzzy sets as low risk, medium risk, and high risk; values  $x_1, x_2, x_3, x_4, x_5$ , and  $x_6$  are for left and right borders of triangular fuzzy numbers. Those values represent value of total evaluation. More detailed information about this procedure can be found in (Gajovic, Kerkez and Kocovic, 2017). Several combinations of training and testing sets are considered, where data are randomly divided into learning and testing subsets and in different percentage of data representation (60:40, 80:20, 70:30, 50:50). The basic operators and mathematical functions are used with uniform crossover type. Crossover probability is set on 0.9 and number of iterations is 100/500. Based on fuzzy rules, each new applicant can be apprise with selected variables and based on the predictor values, be classified in a high credit risk (score 2), medium credit risk (1) and low credit risk (score 0).

<sup>1</sup> This data set originally consist of 30 variables for 1000 past applicants for credit.

Figure 2: Score classification



The German credit dataset composed of 700 instances of creditworthy applicants and 300 instances of bad credit applicants. Result of our model shows 0,6444 creditable applicant with 0.003 standard deviation. Percent of applicant that need to be reconsider is 6,80%. The rest are the bad credit applicant. The proposed methodology provides flexibility regarding the specificity of the problem and can easily be adapted to different classification problems with different types of attributes. The model is characterized by interpretability and ability to present a possible classifier in different ways.

#### 4. CONCLUSION

Real systems such as bank borrowing activities are characterized by dynamic structure, reflected in nonlinearity, uncertainty and other inherent aspects. Credit risk assessments is crucial for banks to help determine probable risk and to make right decision regarding credit approval, but and other connected factors, such is interest rate, repayment, grace period etc. In the process of the personal credit risk analysis credit scoring is evaluating technique that helps banks to determine customer's credit risk. In this paper we used empirical credit scoring model, based on past data of relevant attributes to identify creditable or bad credit applicants. Even more, methods can be used in identifying creditworthiness of new applicants. Thus, standard mathematical approach, relying on precise mathematical relations, has certain limitations in modelling complex systems. As an alternative, integrated techniques are gaining in greater significance in risk assessments. Presented method using integrated techniques of genetic programming and fuzzy mathematics. The model helps in the faster applicant selection, but it also require credit professionals to make decisions in the definition of attributes, and in the evaluation process.

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## MULTIDISCIPLINARY APPROACH TO SUSTAINABILITY OF NATURAL RESOURCE MANAGEMENT IN LIBYA

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### **ABSTRACT**

*Development of environmental protection technologies, scientific monitoring of ecosystems, integrated environmental management and biodiversity protection, environmental hazards and ecosystem risk assessment, climate change research and their impact on the environment, all of these contributions sustainability and sustainable exploitation of natural resources. This working paper analyzes issues of sustainable environmental development in the sense of conserving nature and its resources in Libya. Ecological safety, sustainable development and environmental issues are part of regional initiatives and should be a factor in the internal stability and economic development of each country, including Libya. Over the past decades, it has become clear that the global environment under serious threat is the consequence of human activities that lead to comprehensive water and air pollution, exhaustion of natural resources such as forest and fish stock, destruction of plant and animal species and their habitats and growing threats to the global warming up. High pollution of natural resources, primarily water, land and air, and the fact that climate change is happening much faster than anticipated indicates the need to place this area in the priorities of the scientific and technological development strategy. The field of environmental protection covers almost all segments of the society, and for these reasons, a multidisciplinary approach to research is needed. An increasing number of multidisciplinary studies and teams simultaneously engage in natural-mathematical, technological, but also social and humanistic disciplines. Issues like protecting the environment, food safety, energy efficiency, and biomedicine cannot be solved without a comprehensive approach and the contribution of science and scientific institutions. The application of research results can improve the state of the environment is of utmost importance for the future economic development of Libya. In order to achieve this, it is extremely important to establish stronger cooperation between scientific research organizations and users of research results.*

**Keywords:** *Economic development, Environmental issues, Libya, Multidisciplinary approach*

### **1. INTRODUCTION**

Ecological safety, sustainable development and environmental issues are part of regional initiatives and should be a factor in the internal stability and economic development of each country, including Libya. Over the past decades, it has become clear that the global environment under serious threat is the consequence of human activities that lead to comprehensive water and air pollution, exhaustion of natural resources such as forest and fish stock, destruction of plant and animal species and their habitats and growing threats to the global warming up. High pollution of natural resources, primarily water, land and air, and the fact that climate change is happening much faster than anticipated indicates the need to place this area in the priorities of the scientific and technological development strategy. Sustainable development strategies have their roots in Agenda 21, a key document that describes a sustainable development agenda adopted at the 1992 Rio Summit. Agenda 21 urged all countries to develop what strategy is. Agenda 21 plays the role of statistical indicators and the importance of monitoring progress towards sustainable development based on indicators. Brundtland's definition of sustainable development as "meeting the needs of the present without jeopardizing the needs of future generations" is extremely difficult to turn into an operational definition. The Brundtland report elaborated a complex concept of sustainable development that is far beyond a single phrase.

In the past, many people in the world, including those from the MENA region, took their natural heritage for granted and viewed the environment as an almost unlimited source of raw material that could be exploited by disadvantages due to the rising economy. This opinion has changed somewhat in recent years, and people in most countries now realize that environmental environments for material supplies and waste absorption are limited. This rise in environmental awareness has led to requests for new types of information that indicate the relationship between the economy and the environment. In response to the request for additional information, during the 1980s and 1990s, there has been a huge increase in attention dedicated to the integration of environmental and economic issues in decision-making. The influential World Environment and Development Commission (known as the Brundtlands Commission) recognized the need for integrating the environment and economic accounting in 1987, when it called for annual reports and audits on changes in environmental quality and the state of the nation and means of protecting the life middle. The Commission noted that such a report was necessary to obtain an accurate picture of the real health and wealth of the national economy and to assess progress towards sustainable development. (World Commission for Environmental Protection and Development, 1987). In the following period, a number of other studies emerged that called for the need to integrate environmental issues into the national budget (Daley and Cob, 1989, pp. 3-6). Thus, many countries began formulating and implementing environmental actions, and as a result, today many industrial countries have a well-established environmental and resource management system with budgets that quantify the links between ecology and the economy. A growing number of developing countries are also in the process of establishing such a relationship with the environment. In addition to economics, many other natural and social sciences are included in the concept of sustainable development.

## **2. SUSTAINABLE DEVELOPMENT**

Sustainable development is not the same as environmental protection; it is already a much wider concept. The main goal of sustainable development lies in the relationship of three basic pillars: environmental protection, society and economies. The problem is that these three pillars in our world do not occupy equal relations and positions. The economic pillar is very often characterized by focusing on economic growth at any cost, where the main characteristic is the accumulation of profits. We often forget that nature is irrelevant both from the economy and from society. Another approach advocates Levett with his model "babushka" (Chambers et al., 2004, pp. 3-8), where within the context of circles economy is placed in the middle, which symbolizes its purpose only when it ensures the quality of life for people, when it increases the quality of life in society. Around it is a society that realizes its development without endangering the environment, which occupies the ultimate concentric circle. Danis Goulet points out that there are three types of rationality that can lead us in our relationship to sustainable development (Goulet, 1995, pp. 9-18). The problem arises, which very rarely supports one another, but more often in relation to the competition. Three rationalities are: technological, political, and ethical (Tryzna, 1995, pp. 12-24). So we have projects that are technologically efficient, have political support, but destroy the world. Or we have ideas on an ethical basis, but totally useless or do not have the support of political elites or the public. All these theses and views on sustainable development have been summarized by Richard Heinberg in the text *Five Axioms of Sustainability* (2007). Any society that uses the most important resources unsustainably must fail (Tainter axiom). Joseph Tainter is the author of the classic book *The Collapse of Complex Societies* (1990), and that's why Heinberg named this axiom for him. Tainter believes that the reduction of social complexity in a society becomes a terrain suitable for the collapse of that society. The growth of the population must be aligned with the growth of the resource consumption rate (Bartlett axiom). Heinberg points out that the current population growth must stop, because we spend too much.



At current rates of growth in 2075, there will be 13 billion people on the planet. The global population growth fell from 2% a year in 1970, to 1.2% in 2004. Nevertheless, the state of the ecosystem is deteriorating, which means that consumption is rising unevenly. What should be concerned is that the increase in the number of inhabitants will be limited mainly to developing countries, and most of the rich developed countries are experiencing even a decline in the number of inhabitants. If a society seeks sustainability, the use of renewable resources must not go beyond the rate of natural renewal. There are renewable energy sources that are consumable, such as trees, water or fish fund. With our irresponsible use, we can spend more than they can recover. Therefore, the maximum use of natural resources should be explored to a point where the ability to restore them is not jeopardized. If society seeks sustainability, the use of non-renewable energy sources must be reduced, and the rate of reduction must be greater or equal to the rate of their exhaustion. How many complications we create in the integration of development and sustainability can be seen through different perceptions of sustainability itself. For these reasons, we have a different approach in the active implementation of sustainability and sustainable policies in our societies. O'Riordan concluded that we are only at a stage of very low sustainability, where we are satisfied with the reduction of the impact of damage and the prevention of the obvious and the biggest incidents of un-sustainability (O'Riordan, 1998. pp. 25-27). The concept of sustainable development, as a general definition, has three aspects (Wright, 2005, pp. 21-24): economic sustainability, which implies more efficient use and increase productivity of available resources, taking care to eliminate or reduce negative environmental impacts; Social sustainability, which implies that development must be just and satisfy the needs of most people on the planet, including the fight against poverty, productive employment, promotion of social unity, effective and accessible health care and education, prevention of negative social phenomena, democratization of social life and changing consumer habits and ecological sustainability, which includes the integrity of the ecosystem and the care of their capacity and biodiversity, which includes taking care of the preservation of air, water and soil qualities, the protection of wild habitats and the more efficient use of natural resources and energy.

### **3. PRINCIPLES OF SUSTAINABLE DEVELOPMENT**

It is virtually impossible for a modern man to avoid environmental impact, but this impact can be reduced to a minimum (minimize) by observing certain principles (principles) that make up a sustainable development policy. In principle, adherence to these principles enables the development of a human society with the preservation of the environment. These principles, above all, belong to (Wright, 2005): Integration, Precaution, Resource renewal and Preventive action. The principle of integration, as the most comprehensive principle, refers to making political decisions in all decision-making domains, and it is carried out on three levels of concern about life-threatening, ie, at the level of society, economy or product. At the company level, this principle is implemented in politics, when making decisions, with restrictions on legal remedies. At this level, environmental concerns include the public or the entire population, which is achieved through the development of public awareness and the acquisition of appropriate knowledge of all aspects of environmental protection. At the level of the economy, it implies the introduction of legal obligations for legal entities to manage all types of waste responsibly and integrate the problem of waste. At the level of the product, as a preventive measure is created, the legal obligation of the manufacturer is to define in advance the impact of the product on the environment, integral throughout the life cycle of the product, i.e. from raw materials and production to waste. The precautionary principle implies that each activity must be carried out without relying on the absence of scientific evidence of its environmental impact, such as, for example, the definition of products based on genetically modified organisms.

The principle of resource renewal is usually reduced to preserving the natural resource of a resource - raw material or energy. This principle implies increasing the efficiency of resource use, increasing savings (reducing losses) and increasing recyclability. From the point of view of this principle, all resources are divided into renewable and non-renewable. The principle of preventive action is the main method and approach in the integration of environmental policy into other policies and decision-making and universal technique for the implementation of all principles of sustainable development.

#### **4. THE ROLE OF THE LIBYAN STATES IN SUSTAINABLE DEVELOPMENT**

In developing countries, structural transformation is carried out with the efficient development of the state. A successful state is the one that brings long-term growth and structural transformation as its main goal and aims to create policies and institutions that facilitate the evolution of the economic system, so that the goals of economic development are achieved. The Libyan state will have to take on not only the development role, but also the broader role of sustainable development in order for the country to be successful. Promoting economic development is not the only task. Successful developed countries have a common approach to government. Perhaps it is most fundamental that they did not seek the replacement of the private sector through state ownership or the direct control of large parts of the economy. Instead, they tried to fulfill the vision through policies and institutions that exploit private ownership, the spirit of entrepreneurs, and the drive for profit and the achievement of national economic development goals. Thus, the creation of dynamic development and the focus of the private sector should be at the heart of a policy to promote sustainability by the developing country. Key elements of the Libyan government strategy should be public investment, private investment, and rules in the manufacturing sector to create a strong response from the private sector aimed at increasing investment and technological change in the development directions the government is seeking to achieve. Successful countries also had a number of other common features. First, they formulated a clear vision for the future of sustainable economic development, which provided a common-sense approach to the coordination of the evolution of various parts of the economic system. Second, they sometimes encouraged the emergence of political elites that were not primarily dedicated to the promotion and maintenance of their privileges. They have built technically competent bureaucracies that are relatively isolated from other interests capable of acting in the general interest. Finally, successful developing countries have built their legitimacy to development outcomes, ensuring that the benefits of development are widely accepted and that the population is actively engaged in a joint national sustainable development project (UNCTAD, 2012). All of these development management features are also relevant to promoting sustainable development. The state of Libya should see the environment as an integral part of the development strategy. In this way, the state would play a leading role in formulating a vision that sets clear goals to change the structure of the economy, to include a relative separation of resources and environmental impacts, as well as an increase in human well-being in the short term, in the medium to long term. It should also formulate a set of appropriate policies, regulations and incentives to ensure the successful fulfillment of sustainable development objectives and take necessary measures through key actors, and in particular in the private sector, to ensure their effective implementation. Investments and technological change are key drivers of sustainable development. The challenge is to create an appropriate and balanced combination that is good enough to achieve the desired goals. Such a policy should provide incentives and penalties for those who do not comply with the rules laid down (for example, not paying taxes on the environment). In the end, it is important to take into account the costs and benefits associated with the intended policy. Libya should conduct a cost-benefit analysis and decide on the optimal mix of instruments. For example, potential environmental benefits, savings from the use of resources, are potential benefits.

In the Libyan context, the large negative adverse effect of the phase of structural adjustment is the erosion of state capacities. An important area in which much more work is needed is that the Libyan government will establish a system for monitoring and evaluating progress towards sustainability. This should include the strengthening of statistical capacity in the design of sustainability indicators, using the national system through monitoring the state of the environment and monitoring the productivity of resources, strengthening institutional capacity to track the objectives of sustainable development over a given period of time on the progress towards these indicators. In addition, the current institutional environment for the implementation, monitoring and evaluation of environmental protection measures should be revised in terms of assessing the needs for new institutions and reviewing legal, regulatory and supervisory frameworks. In addition, the relationship to the capacity building needs of existing institutions and agencies should be reviewed, marking their role and responsibilities for greater transparency and accountability. National vision of development is particularly effective when it becomes a common national project and there is social mobilization behind the objectives of this project. In this regard, some NGOs (NGOs) can have an impact in promoting social mobilization of environmental sustainability. Libya's NGOs have emerged during the last decade. Some of them advocate measures that can contribute to the promotion of the conservation and restoration of natural resources, such as fisheries. The Libyan government must play a leading role in formulating and implementing a sustainable development strategy, in order to create an appropriate environment, including support measures, it should be established internationally. This can be interpreted in many ways. However, in a broader sense, it means an approach where the country should not be prevented in its pursuit of accelerated economic development and structural transformation, but should strive to improve environmental sustainability. The critical strategic issue that the Libyan government faces in developing a sustainability strategy is a matter of priority. As sustainable development, environmental sustainability is related to economics, as well as to other sciences, in each economy, some sectors are more or less important in terms of resource use, and certain resources are associated with higher or lower levels of impact on the environment. An environmental sustainability strategy should strive to do so in such a way that the rate of economic growth is at least limited, and the human well-being of economic growth is most improved. However, strategic choices can be identified by assessing relative strengths in sector-level measures, targeting economic sectors where resource use is found to be more intense, such as agriculture, industry, energy, and construction. At the same time, the government can assess the relative benefits in terms of measures to improve the sustainable use of specific renewable and non-renewable sources, such as water, land, fossil fuels, materials and metals and mineral resources. In addition, it is important that politicians have in mind the life cycle phases associated with economic resources and activities. The development of productive activities at the national and regional levels will be crucial for the structural transformation processes in Libya. However, industrialization is likely to exacerbate environmental pressure and intensify more use of materials, water and energy, increased emissions and air pollution, higher wastewater discharges, and higher waste production. Therefore, the goal of Libya must be to achieve not only industrial development, but also to improve the efficiency of resource use and mitigate pollution and waste generation. The focus on agriculture is indispensable, because it is clear that successful structural transformation usually begins with the improvement of agricultural productivity and the growth of a reliable food supply. This is especially important in Libya where most of the population continues to earn their living from agriculture. However, the inefficiency of land use in terms of biological productivity prevails. Therefore, the main focus of the policy must be the intensification of sustainable agriculture, which involves the production of more outputs from the same land surface, as well as mitigation of negative environmental impacts and the maintenance of natural capital.

Tripoli, as the largest urban center and capital of Libya, faces many ecological problems, although similar problems have the second largest city of Benghazi. The intensive industrialization and urbanization, as well as the demographic development of Tripoli in the second half of the 20th century, have had negative impacts on the environment and the quality of life of the inhabitants, both in the city itself and in its surroundings. The main environmental problems in Tripoli, which have been tracking the development of the city for decades include: irrational use of resources (land, water, energy, etc.), increasing traffic problems, lagging behind the development of communal infrastructure, degradation and pollution of the land, air and water pollution, risks of natural disasters and industrial accidents, destruction of natural and cultural assets.

## 5. CONCLUSION

Sustainable development is based on meeting the needs of people and overcoming the conflict between economics and ecology. By realizing this model in practice, it is possible to create the conditions for economics and ecology to go hand in hand. In order for this development to run without contradiction, it is necessary at the same time to take into account social issues, ranging from the lowest (local) to the highest (global) level of their manifestation. Libyan academies, universities, high institutes and research centers have launched an initiative to allow the reuse and recycling of resources, products and services to build a country to combat the effects of the Libyan crisis in 2011. Libya today is working on the preparation of actions, ideas and best practices to alleviate the impact of extreme events and to implement effective measures to increase the use of renewable resources, and to address climate change. The ecological hotspots that exist in Libya should turn to bright spots based on people's awareness and readiness for ecological ventures at the local level, along with a number of Libyan and UNEP initiatives and programs that require a multidisciplinary approach. The introduction of the concept of sustainable development in policy making is the main milestone for our societies over the last two decades. It has become clear that no matter how we define sustainability. Considering the complexity of the concept of sustainable development and the importance of measuring what is important for the well-being of both present and future generations, it is evident that all robust tools and indicators for the 21st century are needed. As the Commission Report noted, many of these tools already exist and can be found within the ecological footprint. For countries in the MENA region, including Libya, natural capital measurements in natural assets and the implementation of a sustainable development strategy with the help of all interested academies, universities and institutes can be a significant step forward in improving sustainability measures. Additional research and analysis is needed to fully understand the difficulties of establishing a sustainable environment for Libya and to monitor the progress of establishing sustainability of resource use in Libya. One of the important contributions of the Commission's Report Stiglic is the emphasis on the need to follow the different policy objectives in particular; economic performance, quality of life and environmental sustainability. The environmental footprint has the potential to support this plan in which the resource is part of the micro-economic performance and indicators of social progress. Al Basama Al Beeia project in the United Arab Emirates can serve as a model for information and lead other countries in the region seeking to learn more about their environmental footprint. In Libya, the subject of environmental sustainability and the development of appropriate indicators of sustainable development is in its infancy, and Libya will benefit from much more research and analysis on these topics. This includes an assessment of incentives and disincentives contained in selected regulatory schemes across the country and the sector. Future research projects that will be useful include deeper analysis of regional challenges and constraints on the sustainable development of resources and environmental footprint. More analysis is needed to understand the problem. Sustainable development, as a model of the development of anthropocentric character, focuses

on meeting the needs of people and overcoming the conflict between economics and ecology. By realizing this model in practice, it is possible to create the conditions for economics and ecology to go hand in hand.

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## **CORPORATE GOVERNANCE – PITFALLS BEST PRACTICE IN ATLANTIC**

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### **ABSTRACT**

*To have a business idea and a strong belief in its growth is certainly a primal step to establish a company. But the second step should surely be a decision on how you want to run your business. This is where the topic of the corporate governance shows its importance. There are numerous resources for the establishment of the good corporate governance, from regulatory frameworks to good business practices around. They all share variations of preconditions that need to be met in order to reach a unique goal, which is to provide protection to company's existing shareholders and the other stakeholders, as well as to attract the interest of new ones. But somehow, corporate scandals still fill the news. The corporate scandal with one of the biggest food producer and retailer in the region, Agrokor company, which was made public in April, 2017, shook the Croatian economy to the extent that it resulted in emergently adopted law unofficially named "lex Agrokor," in order to prevent the company's bankruptcy and its domino impact on the national economy. One could say that the history with Parmalat, WorldCom, Lehman Brothers or Enron corporate scandals hasn't learned us much. Analyzing their mismanagement practices lead us, coincidentally or not, to common corporate governance pitfalls. In this paper, the authors intend to summon the most important pillars of the good corporate governance and accentuate its importance through the most common corporate governance pitfalls of the world known scandals on one hand, as well as, on the other hand through the example of the implementation of the good corporate governance practices on the example of Atlantic Grupa – the company which, in recent years, became successively awarded and well known for its quality in the corporate management and transparency.*

**Keywords:** *corporate governance, good business practices, pitfalls*

### **1. INTRODUCTION**

Purpose of the corporate governance is to provide the management, in the best interest of the company, with tools to insure effective risk management system and to eliminate conflicts of interest in the company. This topic is in the biggest focus in Croatia than ever, as the corporate scandal with the Agrokor group, which left the mark on the whole BDP of the country, is taking its course, in spite the developed corporate governance regulatory framework and good domestic practice. In this article, the intent of the authors is to present the main pillars of the corporate governance based on the regulation in place, as well as on the good corporate governance practice. They set preconditions concerning the company's management that need to be achieved in order to provide protection to company's existing shareholders and the

other stakeholders, as well as to attract the interest of new ones. Sound corporate governance is the foundation upon which their trust is to be built.

### **1.1. Selected topic – importance of the corporate governance**

Corporate governance is a hot topic in the corporate world as it every now and then fills out the news. The reason for this is the growth of the awareness of its importance for any serious business to keep it going. “Essentially, corporate governance is about the way power is exercised over corporate entities.” (Tricker, 2015, pp. 4). With the recent history, the regulation of the corporate governance shown the remarkable progression, mostly following globally known corporate scandals like cases of Enron, WorldCom, Parmalat or Lehman Brothers, as well as one which recently shook the Croatian domestic economy scene – Agrokor company, the biggest food producer and retailer in the Region. However, as it is wise to learn from the bad cases from the history, there are companies as Atlantic Grupa d.d., which was in recent years awarded several times for its good corporate culture and corporate governance practice. That is the reason for taking it in this overview, as exemplar to follow.

### **1.2. Problem description - pitfalls in the corporate governance practice**

When analyzing cases of corporate scandals, it can be summarized that corporate governance pitfalls arise when and where there is negligence or ignorance in implementation of the corporate governance regulatory framework conducted. Hereby it is relevant to highlight the importance of the preventive purpose of the corporate governance policies, as it is their purpose to increase and guard the accountability of the company and prevent the appearance of financial and reputational risks. Analyzing mismanagement practices through history, they lead us, coincidentally or not, to common corporate governance pitfalls, which could be categorized as follows:

- malpractice in accounting and auditing processes - unfortunately, there are still companies as Agrokor which did not learn from the case lessons like Enron and their auditing history led by Arthur Andersen auditing company, which left itself drowned into the same trap of too much make up and creativity invested in the composition of financial statements;
- exaggerations in executive compensations - in theory, executive compensations should adequately reflect the time, effort and experience related to the management or supervisory functions respected, in terms that they must be established in such a manner that it would not impact ability of their beneficiaries to fulfil their duties and make decisions in the best interest of the company and its shareholders. When setting the size and appropriateness of executive compensations there should be, without the exception, taken into account: the size and financial status of the company, alignment with strategic and annual plans; the scope of competencies of an individual member of the board and the economic environment in which the respective company operates;
- existence of the conflict of interest – the meaning of conflict of interest relates to decision makers in the company i.e. supervisory or management board members, in cases when a person is not neutral in relation to the decision-making in place or it can be assumed from facts that by his or her relation to other company, person or cooperation, he or she can have an interest which do not correspond to interests of the company, thus influencing his/her ability to make a proper decision in company's best interest;
- failure in the risk management systems – this equals to the belief that bad things are happening to someone else, neglecting the existence of any factor that influence the business which is unmanageable from the inside of the company, such as for instance, the bankruptcy of the biggest customer on which current prosperity of the company's business relies to;
- deficiencies in the supervisory set-up – either in terms of the lack of any supervisory role or having one without prerequisites of independency, professional knowledge and

objectiveness of its members, as noted in the Enron, or now again, in the Agrokor case. The main problem that was pointed out after the initial phase of the restructuring of Agrokor company was that the shareholding, management and supervisory roles were unified in just one person;

- low level of awareness of the importance of corporate governance system - the cases of corporate debacles from the history proved us that their systems collapsed when there were too many flaws left duly neglected, which turned into an unmanageable hank;
- flaws in the disclosure policy – it is critical to sustainable high performance of any business in the long term, to commit on accurate, transparent and, timely disclosure policy of the company which is the best indicator of its good corporate practice.

### **1.3. Need for further analyses or why problems still arise?**

Despite the existence of already school-known cases, as presented above, Agrokor case showed us this topic continuously seeks for its attention. Hereby, the great importance is to highlight the preventive role of implementation of the corporate governance policies. The main findings of the first external audit of Agrokor, after the case became public, was absence of any distinction in roles of supervision, management and shareholding. It was surely easier and cheaper to do drive the business that way. However, was it wiser – the national scandal followed said it all. Initially, the crisis resulted with the urgent adoption of the Law on Procedures for extraordinary management in companies of systematic significance (Official Gazette of the Republic of Croatia; No. 32/17), so called “Lex Agrokor“, with an aim to provide a bankruptcy protection for such types of companies. The extraordinary management appointed by the word of Lex Agrokor, who took over managing of the company, hurried up to set the basis for its future corporate governance, but it was too late to repair majority of damages. Maybe they will prevent the future ones, but only after they win a battle with skeletons from the past.

### **1.4. Topicality of the issue - why the topic is up-to-date?**

It would serve as a comfort knowing that all those corporate debacles that happened will stay in the history and use as a support to the development of the good practice in the future. Unfortunately, we are now witnessing a fresh crash of the Croatian company Agrokor which showed the coarse negligence in implementation even of a basic corporate governance culture. Financial crash that came as a result of such misdemeanor revealed that the company slipped onto nearly every school-case pitfall in corporate governance recounted above.

### **1.5. Main purpose and goals of the analyses**

The basis of the development of the corporate governance in theory lies in the companies' law which sets basics for the foundation of the company itself. But the history learned us that there is a need to also set directions on how to run the company to insure its business conduct on the longer run. Thereby the OECD Guidelines, adopted for the first time in 1976 (later - the Guidelines of multinational enterprises, 2011) were set as pioneer of global standard of good corporate governance on which basis national corporate governance codes in every modern national economy are adopted. Moreover, some companies, usually ones with the more developed system of investor relations, adopted their own codes of the corporate governance, making them more custom made to the daily business, taking thereby the matter of its corporate governance on a higher level. Own codes provide more individual and therefore more effective rules that enables companies and their stakeholders to track more easily its business organizational network and responsibilities set thereto. Therefore, as the main purpose of this paper, authors present how important corporate governance is, what are the commonly applied standards and best practices, what are the potential pitfalls and how to avoid them. Furthermore, the main goal of this paper is to prove that it is possible for any company to avoid corporate



governance pitfalls, if properly respecting and applying the corporate governance rules, standards and best practices.

## **2. THEORETICAL BASES**

At the beginning, one should provide for a definition of the corporate governance. The authors agree that corporate governance is: “the framework of rules and practices by which a board of directors ensures accountability, fairness and transparency in company’s relationship with its all stakeholders (financiers, customers, management, employees, government and the community). The corporate governance framework consist of: (1) explicit and implicit contracts between the company and the stakeholders for distribution of responsibilities, rights and rewards, (2) procedures for reconciling the sometimes conflicting interests of stakeholders in accordance with their duties, privileges and roles, and (3) procedures for proper supervision, control and information-flows to serve as a system of checks-and-balances.” (Business dictionary, 2012). The starting point of all corporate governance principles is the equal treatment of all company’s shareholders, no matter if they hold a small stake in the company or are in possession of bigger ones, which give them a tool to impact on the management of the company. Hereby, transparency of the company’s business is a key principle for the call on the mutual trust. Moreover, such principle also contains a commitment to a fair and ethical treatment of other stakeholders, different from the shareholders - like employees, customers, suppliers or creditors, which usually show their appreciation by their grater relationship with the company, which brings a greater value to the company on both, financial and reputational side. There is a very general but widely applicable rule: „be ethical, be responsible, be moral“ (Tipurić, 2008, pp.13). Further on, there is a principle of the transparent distribution of information. The management board should be responsible for the provision of the balanced information to its stakeholders relating to both positive and negative sides of the Company’s business activities, in order to enable them to correctly understand and evaluate the Company’s status and, based on such collected information, make a decision on their investment or entrance in cooperation. „Investor protection is not attainable without adequate and reliable corporate information“ (Fernando, 2012, pp.147). The next principle of the great importance is the clear outline of boards’ responsibilities that must be clearly set and communicated to all stakeholders of the company in order to keep accountability for the company’s business conduct. “The duty of trust, or fiduciary duty, requires directors to act with integrity, behaving honestly and fairly for the benefit of shareholders equally, recognizing the interests of any minority shareholders, they should also promote the aims of the company to ensure its success, and act solely within powers delegated to them in the company’s constitution” (Tricker, 2015, pp.97). Auditing control of the company as an imperative principle must be entrusted to the professional and independent internal and external auditing system. The internal audit should track the company’s health on the daily basis, making sure that all corporate governance mechanisms are fulfilling their role, while external auditor should, by their greatest objective approach; verify the integrity of financial statements. Once those basic principles are replaced in favor of the higher profit or personal interest it is a sure path to the unsustainable corporate system where there is no more question if, but when it is going to collapse. “With increasing government awareness, the focus is shifted from economic to the social sphere and an environment is being created to ensure greater transparency and accountability.” (Fernando, 2012, pp. 27)

## **3. DESCRIPTION OF RESEARCH AND RESEARCH RESULTS**

### **3.1. Subject of research**

The corporate governance of Atlantic Grupa d.d., Zagreb (hereinafter: “the Company”) is set and led by the Management Board and the Supervisory Board of the company, which along with all employees of the company work together under the guidance of the Code of the

Corporate Governance of Atlantic Grupa and supervision of General Assembly. The Code presents the framework of company bodies' responsibilities in accordance with the guidelines as set forth by the Code of the Corporate Governance of Zagreb Stock Exchange. The company shows a commitment by implementation of such highest standards the Code provides, enabling the Company to gain it well known respect from our stakeholders and public. Basic principles of this Code are avoidance of the conflict of interest, transparency of business activity, strictly regulated procedures of operation of the Supervisory Board, Management Board and other bodies which are related to decision-making, efficient internal control and structured risk management system. The company has strict rules for the disclosure of information in order to ensure proper information distribution. Besides the information which the Company is obliged to disclose in accordance with the law or other regulations, it provides for practice, in the shortest time possible, to publicly disclose and give access to all interested parties, all relevant information about the work and operation of the Company as well as all information about the facts and circumstances which can influence the Company's business activity. It gives an appreciable attention to handling of different categories of information as each one of them has its own disclosure procedure. Thereby, information related to the company are divided as: market-sensitive information; financial reports; annual, semi-annual and quarterly reports; calendar of important events; information on the ownership structure - which include information such as detailed overview of the shareholders structure, information on cross-shareholding, information on shares and other securities of the Company owned by every individual member of the Management Board or the Supervisory Board; information on risk factors, i.e. information on main risks to which the Company is exposed, probability of realization of potential risks and the measures and plans adopted for the avoidance or decrease of those risks; information on biographies of members of the Management Board and Supervisory Board; information on convocation of the General Assembly; as well as all other information which can be considered market-sensitive or in any other way essential for the financial or any other relevant position of the Company. The Company has a good corporate practice of the disclosure, as all those information categories are always available in a clear and understandable manner to a relevant group providing a clear and timely communication system internally and externally. Related to this matter the Company pays a significant attention to the usage of privileged information that are, in line with the legal acts, not publicly disclosed. By the Code as well as with the special internal act named - Rules on Disposal of Securities, it strictly forbids to all persons who have an access to such information any usage of such information, since it could lead to an unfair advantage when trading in the Company's securities, regardless whether the privileged information is being used by such an insider personally or some third person on the basis of information received from such insider. Said prohibition of using privileged information relates to all shareholders, members of the Management Board, Supervisory Board, external company advisors as well as all persons which, considering their position in or outside the company, have access to such privileged information. Moreover, the company had established effective mechanisms which insured that the persons possessing access to or coming in contact with privileged information are explained the nature and significance of this information and related restrictions, as well as control of their flow. Further to the aforementioned, the company invest the great effort in its relationship with the shareholders striving to maintain an open communication with them. It set the rules of equal treatment of all shareholders in the manner which provides that the number of votes belonging to a shareholder in the General Assembly corresponds to his participation in the initial authorized capital of the Company. In reference to this matter, different types of shareholders are treated in an equal manner and under equal conditions, regardless of the number of shares at their disposal, country of their origin or qualification as individual and institutional investors.

Hereby, it is worth noting that in comparison to other peer companies, the company introduced the practice whereby voting of shareholders through proxies is extremely simplified and without strict formal requests, except those prescribed by law and its Statute. By such practice, the Company wants to encourage shareholders' participation in the General Assembly for which it does not prescribe any burdening terms for shareholders, except those prescribed by law and the Statute. In respect of the dividend payment, the company provides practice that is not in favor to any particular shareholders. Each decision on paying a dividend or a dividend advance contains a date when the person who is the shareholder acquires the right to a dividend payment and the date or period when a dividend is to be paid. Further on, operation of the General Assembly, Supervisory Board and Management Board as main bodies of the company are strictly divided which directly corresponds to roles they hold, in order to avoid the conflict of interest. Moreover, the Rules of each body and the practice in the system of voting forbid every action between members that could limit the liberty of each individual member to act independently. On the other hand, there is a request to their harmonization as there are all bound to fully cooperate between each other in the best interest of the company and to mutually discuss and reach the agreement on strategic guidelines of the company's business activity. The General Assembly is the decision-making body through which the shareholders participate in the supervision and control of the company by realizing their rights to vote. Hereby, it is very important to accentuate that decisions defined by law or the Statute of the Company, which are of significant influence to the state of assets, financial position, business results, ownership structure and its management, can be reached by the prescribed majority of shareholders' votes. The Supervisory Board's authority refers to the appointment and dismissal of the Management Board, supervision of the Management Board's performance in managing the Company's affairs, submitting to the General Assembly financial reports on performed supervision, setting strategy, approving budget, by which activities it evaluates the overall business efficiency of the Company. In constellation to the relationship of its members with the company, the Code of the Corporate Governance of the Company prescribes rigid rules on independent character of members in terms of its composition. Moreover, it strictly prescribes that if a member of the Supervisory Board is exposed to pressure or limitations from the majority shareholder or any other persons, which affects the performance of his/her duties, he/she is obliged to inform the Supervisory Board about it and take an independent standpoint during voting or give his/her resignation. The Management Board of the Company manages the business operation of the company in its own responsibility and makes decisions exclusively in its own judgement and independence. By managing the company's business activities, the Management Board performs activities defined by the Law, the Statute and other internal regulations including provisions of the Code. The existence of conformity or instruction of other Company bodies does not preclude the responsibility of the Management Board for the management of business activities with the precaution of a conscientious and diligent manager. The Management Board is by every decision it reaches bounded to act independently, with the goal of increasing the Company's value, but in any time in the interest of the Company.

### **3.2. Research results**

The corporate practice in the Company showed us that a neat order in terms of our corporate governance set up, made a good basis for an exceptional leadership that was several times in recent years recognized and cherished by the external evaluators. By listing its shares in the Zagreb Stock Exchange in 2007, the Company had committed to the highest standards of the corporate governance, for which has been continuously awarded through recent years. Such external acknowledgements brought to company valuable public recognition as transparent and liable company. As appreciation to its constant efforts in building and developing quality working conditions and distinguishable corporate governance system, the Company was in

successive years from 2010 to 2017 awarded by Zagreb Stock Exchange for its investor relations and transparency. In 2015 the Company received prestigious Euromoney award for the best-governed company in Croatia and second best in CEE Region, while in 2016 the Company is being awarded as best governed company in Croatia, provided by professional community.

#### **4. DISCUSSION**

Having in mind the abovementioned cases of the corporate scandals as well as good practice and maintenance implemented in the Company, problems concerning the corporate governance arise when and where there is a discrepancy between regulatory framework and implementation made in practice. Hereby, it is relevant to highlight the importance of the preventive purpose of the corporate governance policies for the reason that the preservation of such discrepancy, due to the low level of awareness or by intention, is a high investment in gambling with potential risks that could push the company into irrecoverable condition.

#### **5. CONCLUSION**

Corporate governance is inevitably the important component of the business of a company as it addresses to all stakeholders, giving each one of them a certain role that has to be fulfilled in order to keep the company moving in direction of their common benefit. Surely, as there is always some good in the bad, such cases from the history tend to afresh the interest of regulatory authorities and companies themselves, making them revise and accommodate their corporate governance structures to their growth, expansion of their stakeholders and the constant change of its business environment. Since the Company is being treated as an important “player” and entrepreneur at the Croatian market and in the Croatian economy, it is of vital importance for the Company to respect and obey the corporate governance rules and to apply the best corporate governance standards and practices. With this paper, the authors have shown that the Company is fully respecting the corporate governance rules, standards and best practices. Such statement of the authors is being confirmed by many awards earned for its investor relations and transparency as well as for the best-governed company. All of the abovementioned is in fact indicating that it is possible for any company to avoid corporate governance pitfalls, but only if properly respecting the corporate governance rules, standards and best practices. In respect to the other Croatian companies, as we wait for the whole Croatian economy to recover, we all hope that there will be no more place for excuses nor the ignorance of the terms and the meaning of the good practice of the corporate governance.

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## **WOMAN IN ARMED CONFLICT: LEGALLY PROTECTED OR GENDERLY DISENFRANCHISED?**

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### **ABSTRACT**

*Introduction: For centuries, women fighting for the protection of their fundamental human rights, endangering of these rights is escalating especially at the outbreak of armed conflict. Although that status of women in the 21st century is globally greatly improved, social structures and prejudices still hinder, full and immediate implementation of the human rights of women throughout the world. Armed conflicts are taking place everywhere in the world and women are exposed to continuous attacks on life and body, to personal dignity. Fighting is still going on.*

*Objective: Regardless of which reason wars going on, whether international or civil conflict women are victims. They are victims in all forms of war, whether on the front line or behind it, they make a overwhelming majority of civilian victims of modern forms of warfare. They are multiple victims of violence that often remain socially invisible. In this paper we present the basic provisions of legislation that emphasizes legal protection of women.*

*Literature review: besides raping, which, unfortunately continues all war conflicts, women suffer other forms of sexual violence, fear, physical violence by members of other nationalities or returned from the battlefield. The adoption of the Geneva Convention of the Treatment of Prisoners of War of 1929, women enjoy special protection under international humanitarian law. The provisions of Article 14, paragraph 4. I of Geneva Convention, which states: "the women must be treated with all considerations that owe their sex" is most important. The principle of equality between men and women is a fundamental principle underlying the protection of women in international humanitarian law and is contained in all the clauses of the Convention which prohibiting discrimination.*

*Conclusion: International Humanitarian Law by its regulations made enormous efforts to provide broad protection for women. All four Geneva Conventions, the two Additional Protocols, the Statute of the International Criminal Court and the Rome statute of the International Criminal Court devotes a whole chapter, a number of provisions relating to women and their rights and protection, as well as the status of the armed conflict. Despite all the legal regulations, women in armed conflict are fully unprotected and exposed to violence.*

**Keywords:** *women, protection, armed conflicts*

### **1. INTRODUCTION**

For centuries, women are fighting for the protection of their fundamental human rights, whose threatening to escalate, especially at the outbreak of armed conflict. Although that status of women, in the 21st century, is globally greatly improved social structures and prejudices still hinder the full and immediate implementation of human rights of women throughout the world. Fighting is still going on.

Women often become the first victims of violence during war and armed conflict. It turns out that in many cases military strategy to destroy the enemy is taking women as a target. Women who rarely taking an active role in decisions which leading to armed conflicts are together with children biggest victims. Rapes are very common during armed conflicts and often make most serious crimes after murders and also represent genocide whose intended is to completely or partially destroy a group of people, destroying dignity and personality of a woman who are the basis of the family, as pleaded by the International Criminal Court in Rwanda, in the judgment of Jean - Paul Akayesu. The Rome Statute of the International Criminal Court from 1998 (ratified in 2002) for the first time in history explicitly referred crimes such as rape, forced pregnancy, enforced prostitution and so on. With this statute were created systematic prerequisites for sanctioning perpetrators of such crimes and to provide justice to the victims. Women's participation in wars namely armed conflicts, we can find from 17th - 19th century. During the First World War in Germany, women worked in factories of weapons, participated in supplying of ammunition and till 1917 nearly 70,000 women was changing men on the battle lines. In England, women were involved in the war, either as paid or unpaid civilians, as well as support staff or as nurses. Significant and massive participation of women in the fighting was observed in the Second World War. In Germany, over 1 000 000 women worked in factories of weapons and ammunition, a significant number was in the reserve military forces. In England women's military unit numbered about 450 000 women and special place in the Second World War was taken by soviet women armed forces who participated in direct combat, in all branches and units, they were even in the units as snipers, members of firing squads, artillery and bomber pilots.

## **2. OBJECTIVE OF SCIENTIFIC WORK**

No matter for what reasons wars are fighting, whether in a matter are international or civil conflicts women are victims. They are victims in all forms of war, whether they fighting on the front line or behind it they make the overwhelming majority of civilian victims of modern forms of warfare. They are multiple victims of violence that often remain socially invisible. In this paper we present the basic provisions of legislation that emphasizes legal protection of women.

## **3. THE LEGAL PROTECTION OF WOMEN IN ARMED CONFLICTS**

The number of participants of women in armed conflicts until the First World War was negligible, so there was no need for their special protection. This doesn't mean, that women didn't have any protection till then, because they had, until 1929, enjoyed general legal protection as men, according to the rules of international humanitarian law. Only with the adoption of the Geneva Conventions on treatment of prisoners of war in 1929, was considered the facts about the participation of a significant number of women in the First World War. With adoption of that Geneva Convention, women start to enjoy special protection under international humanitarian law. The provisions of Article 14, paragraph 4 of the First Geneva Convention, which reads: "the women must be treated with all considerations that is owe to their sex" is most important. Women's participation in the war and their protection should be seen as part of measures to protect the civilian population and civilian war victims. In World War II from a total of 50 000 000 dead, 24 000 000 were civilians, among them a large number of women.<sup>1</sup> It becomes clear why was necessary to be ensure much better normative protection of women in armed conflicts, all in the context of international humanitarian law. As a result of these events, occurs a new legislation relating to the protection of civilians as war victims. The most important are the four Geneva Conventions adopted on 12 August 1949. For the protection of women during the war as a special category of civilians, are most important third

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<sup>1</sup> Data according to the report of the Federal Office for the protection of civilians in Bern, Switzerland 1988

Conventions on treatment of prisoners of war and fourth Convention on the Protection of Civilian Persons in Time of War. New methods of warfare, new strategies and new resources and their unselective application, for the result had in the later period of newer armed conflicts increasing of number of civilian casualties and that percentage was up to 90%. Therefore, the protection provided by these two Conventions (third and fourth) should in some way be amended. It came to the new forms of conflict between the regular army and guerrilla forces, in which is difficult to make difference between combatants and civilians, and that leads civilians into even more vulnerable position. The International Committee of the Red Cross has recognized this problem and their initiative about Additional Protocols to the Conventions was adopted in 1977 and together with Convention, provide better legal protection to the civilian population, therefore to women too.

#### **4. THE BASIC PRINCIPLES OF THE PROTECTION OF WOMEN**

The principle of equality between men and women is a fundamental principle underlying the protection of women in international humanitarian law and it is contained in all the clauses of the Convention that prohibiting discrimination. This principle is enshrined in Article 12, paragraph 4 of the First and Second Geneva Convention. An Article 14, paragraph 2 of the Third Geneva Convention states: "the women must be treated with all the considerations that owe their sex and they in any case must enjoy same treatment recognized to men." Protocol II in Section 4, item 1 provides treatment "without any adverse discrimination by sex". The prohibition of discrimination does not mean the prohibition of distinction, because the difference must be made considering the state of health, age and sex of the protected person. This principle of equality has been extended and it says that to women must be treat with all special considerations that owe their sex, with the consideration of their physical specificity, honor and modesty, pregnancy and childbirth. The principle of differential treatment is applicable how in to situations where its application is explicit provided (separate prison facilities, dormitories), as well as in situations which are not separately reported but are understood (protection against insult and curious public hearing, hearing, clothing, intellectual, educational and recreational activities, work, identification, etc.). Third Geneva Convention in Article 49, paragraph 1, item 1 talks about the special treatment of women when it comes to the work of prisoners of war, and it states: "force that detaining POWs can use healthy prisoners as workers, taking into account their age, their sex, their actions as well as their physical abilities, especially in order to keep them in a good state of physical and mental health.

#### **5. WOMEN AS VICTIMS IN ARMED CONFLICTS**

In armed conflicts woman are the victim of attacks and the manifestation of force. In addition to rape, which unfortunately continues to follow all war conflicts, women suffer other forms of sexual violence, fear, physical violence by members of other nationalities or returned from the battlefield. In the armed conflicts are also known cases of sexual slavery, forced prostitutes, forced impregnation, forced sterilization, as well as various other humiliating and degrading processes towards women. Women endure stressful situations with more difficulty than men. They suffer because of the separation from family, husband, children, relatives, due to loss of property, forced exile and all that life in exile bringing. Examples are many women suffering from the most recent wars that took place in the former Yugoslavia.<sup>2</sup> Although international humanitarian law pays special attention to the protection of women in armed conflicts and with that protection dealing all Geneva Conventions, I and II of the Additional Protocols, the Statute of the International Criminal Court and the Rome Statute of the International Criminal Court. Crimes against women are continuing and in all armed conflicts of recent date.

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<sup>2</sup> Read more about "Women, violence and war," Nikolić - V.Ristović and other, Belgrade 1955

## **6. PROTECTION OF WOMEN (GENEVA CONVENTIONS AND ADDITIONAL PROTOCOLS)**

International humanitarian law provides the same protection to women and men, whether they are combatants, civilians or persons no longer taking part in combat (*hors de combat*). All rules that are included in this study, therefore, apply equally to men and women without distinction. However, taking into account their special needs and vulnerability of international humanitarian law provides special protection and rights for women. This rule contains some of these additional measures of protection and rights.<sup>3</sup> The Geneva Conventions and Additional Protocols protect women as part of the civilian population not taking part in hostilities, as well as when they are fighters falling into enemy hands. In addition to the general protection that women enjoy as civilians under the provisions of the Fourth Geneva Convention on the Protection of Civilian Persons in Time of War (respect for life, physical and moral integrity, the prohibition of coercion, corporal punishment, torture, collective penalties, reprisals, looting and hostage-taking, the right to an independent trial) "women are especially protected against any attack on their honor, in particular against rape, enforced prostitution, and against any attack on their shyness." (Article 27 Paragraph 2 of the Geneva Convention IV, as well Article 76, Item 1 of Protocol I). The result of the huge number of women suffering in the last world war showed the need for an additional layer of protection to women. In this war, countless women of different ages and even children have been exposed to the worst possible forms of violence. There are known cases of rape committed in occupied territory, physical torture, mutilation, forced to work in brothels etc. In the case of armed conflict that has not an international character, women are protected with basic guarantees which protect all persons taking no active part in the conflict and those guarantees are contained in Common Article 3 of the four Geneva Conventions. That include humanitarian treatment without discrimination based on race, color, religion, sex, financial status, the prohibition of murder, mutilation, cruel treatment, torture, taking of hostages, outrages upon personal dignity, humiliating and degrading treatment, the right to a fair trial. In order to fully protect of women is adopted Protocol II, where in Section 4, point 2 indicates "forbidden to insult human dignity, degrading and degrading treatment, rape, enforced prostitution and any form of indecent assault". In the case of an international armed conflict situation should not be different from the status of aliens in time of peace. However, their previous status is not always possible to preserve. These persons are forced to comply with various restrictions that apply to the population as a whole. In the event of war special benefits accorded to pregnant women and mothers with children up to 7 years, according to national legislation should be respected. In this regard, Article 38, paragraph 1, item 5 of the Fourth Geneva Convention clearly defines "children under 15, pregnant women and mothers with children under 7 years old will enjoy special privileges to the same extent as nationals of the State concerned", and Article 50 of the Convention in paragraph 5 says, "the Occupying Power shall not prevent application of benefits approved before the occupation in favor of children under the age of 15 years, pregnant women and mothers with children younger than 7 years old when it comes to food, medical care and protection against the consequences of war."

## **7. PROTECTION OF INTERNED WOMEN**

IV Geneva Convention in Section 4 of Articles 79 to 135 is devoted to the rules on the treatment of internees. Also, Supplementary Protocols I provides additions to the guarantee to internees, requiring humane treatment on all occasions without any disadvantage based on race, sex, language, religion or belief, political or other opinion, national or social order, wealth, birth or other status, or any other similar criterion. Each party will respect personality, honor, convictions and religious rites of all such persons.

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<sup>3</sup> Customary International Humanitarian Law, Jean-Marie Henckaerts i Louise Doswald-Beck, Cambridge 2005, - pg.483



This Protocol lists acts that are and remain, forbidden at all times and in any place, whether made by civilian or military representatives. Thus, Article 75, Count 5 of Protocol I states: "Women whose freedom is restricted for reasons related to armed conflict shall be held in departments, separate from the men's department. They will be under the special supervision of women. However, in cases where families are detained or interned, they will be kept in the same place if it is possible and accommodated as family communities. " IV Geneva Convention, in Article 85, paragraph 5, provides that internees, who not belong to one family, whenever necessary as an exceptional and provisional measure, provide accommodation in the same place for internment that involving men, but it must be provided with special dormitories and special sanitary facilities. Also, Article 97, paragraph 4 of this Convention provides that an interned woman may only be examined by a woman. Article 119 of the Convention also provides disciplinary penalties that may be imposed on internees, where in paragraph 2 it states "disciplinary punishments shall in no case be inhuman, cruel or dangerous to the health of internees. They must take into account their age, their gender and health status, "and Article 124 of the same Convention, in paragraph 3, states:" Internally displaced women who are serving a disciplinary punishment shall be held in separate rooms from those in which men are and will be placed under direct surveillance of women ". Supplementary Protocol II in Article 5, item 2 further elaborates rights of internally displaced women, about accommodation, receipt of shipment, place of interception, right to medical examination, and that their physical and mental health and integrity will not be compromised by any unjustified act or omission.

## **8. PROTECTION OF PREGNANT WOMEN AND MATERNITY**

An example of respecting the special needs of women is requirement of special treatment with pregnant women and mothers with small children, especially nursing mothers, with special care. This request is in the IV Geneva Convention as well as in the Additional Protocol I. These provisions require special care for pregnant women and mothers with small children in the form of food, clothing, medical assistance, evacuation and transport. Such requests are included in many military manuals, even in the legislation of some states.<sup>4</sup> The Supplementary Protocol I provides that the obligation to provide protection and care to wounded and sick people also implies women in childbirth and they enjoy special rights that include adequate medical care and medical-based priorities. It is regulated by Article 76, paragraph 2 of Protocol I, that "pregnant women and mothers with small children who depend on them, who are arrested, detained or interned on grounds relating to armed conflict, will enjoy the highest priority when considering new cases", while IV Geneva Convention states in Article 132, paragraph 2, that "the parties in conflict shall ensure that during the hostilities, agreements on release, repatriation, return of the place of permanent residence and placement in a neutral country of certain categories of internees and in particular of children, women and mothers with infants and young children, wounded and sick or internees who have been interned for a long time. " This is not a binding provision, but nature of it has urgent recommendations. During Second World War, warring parties, made countless repatriations of internally displaced persons, where the Protectorate Force and the ICRC played a major role, which encouraged conclusion of such agreements. IV Geneva Convention, in Article 89, paragraph 5, provides that "pregnant women and mothers with children under the age of 15 shall be given supplements in food proportionate to their physiological needs". The aim of this clause is to avoid vitamin deficiency which, in this category of women and future generations, could cause serious harmful effects on health. Article 91, paragraph 2 of this Convention provides that "maternity must be admitted to every professional institution, to be treated therein, and care provided in it shall not be less than care given to other populations".

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<sup>4</sup> Customary International Humanitarian Law, Jean-Marie Henckaerts i Louise Doswald-Beck, Cambridge 2005, - pg.486

This measure is envisaged as a precautionary measure in favor and interest held by protected persons and it can not cause harm to the persons under their control. Article 127 paragraph 3 of this Convention states that "maternity must not be moved as long as the journey can be harmful to their health, unless their safety promptly requires it." In order to facilitate fast and free passage of all shipments of medical supplies and other materials for pregnant women and mothers, IV Geneva Convention, Article 23, paragraph 1 foresees obligation of the Parties to "facilitate the free passage of each consignment, medicines and medical supplies and free passage of each consignment with necessary foodstuffs, clothing and strengthening means for children under the age of 15, pregnant women or mothers. " Supplementary Protocol I Article 76, paragraph 3, provides measures for the benefit of women and children and requires that "the parties to the conflict shall as far as possible try to avoid imposition of the death penalty for violations in connection with an armed conflict over pregnant women or mothers with young children who depend from them. The death penalty for such injuries will not be committed against such women." Also, Supplementary Protocol II in Article 6, paragraph 4 provides that "the death penalty shall not be pronounced against persons who have not attained the age of 18 at the time of the violation and shall not be committed against pregnant women and mothers with small children."

## **9. STATUS AND PROTECTION OF WOMEN PRISONERS OF WAR**

According to the International Humanitarian Law, women who participate in war conflicts and fall into captivity in the hands of the enemy parties, enjoy protection. The Third Geneva Convention regulates in particular the treatment of prisoners of war and creates obligations for all parties to this Convention and deals with the general protection of prisoners of war and, in Article 14, paragraph 2, states: "Women shall be treated with all due care which is owed to their gender and, in any case, must enjoy the same favorable treatment that is recognized to men." For this is necessary to be, at the moment of capture, members of the armed forces in the conflict, mainly the status of prisoners of war. How woman could have status of a prisoner of war, she must have previously had the status of a combatant, which means that she previously belonged to the armed forces that were organized and placed under the command of a responsible person, even when they belong to a government or government not recognized by the opposing party. Such armed forces must have a disciplinary system of punishment that implies application of the rules of the International Humanitarian Law. Fighters must have all characteristics of a fighter, regardless of gender, and must be distinguished from civilians by uniform or some other sign of recognition and must openly carry weapons. In the event of a suspicion of the status of prisoners of war, this status shall be assumed until the decision of the competent authority. Status of prisoners of war may also be acquired by other categories of non-combatants, such as persons authorized to be accompanied by armed forces and not being their integral part, merchant navies and civil aviation crew members of military personnel serving in civil protection organizations. The Third Geneva Convention generally requires treatment of prisoners of war of all parties to the conflict and requires them to act in a humane manner against prisoners of war, mainly forbids, killing, mutilation, torture, hostility, hostage taking, violation of personal dignity, degrading treatment, pronouncement and execution sentences without implementation of court proceedings. Special attention is paid to the development of repatriation agreements and accommodation in neutral countries of the wounded and sick. The parties to the conflict are obliged to do everything to return the prisoners to their country, if possible. These agreements stipulate that all pregnant women prisoners of war and mothers with their infants and young children will be accommodated in neutral countries, that is, repatriation in cases of normal pregnancy and prisoners suffering from chronic and serious gynecological and obstetric disorders will be possible set in a neutral country.

Conflicted parties, which hold prisoners of war, will treat all of them in the same way, without any disadvantage. The Third Geneva Convention, in Article 29, paragraph 2, provides that "war prisoners shall be provided with hygienic devices day and night, and they shall be kept in a permanent state of cleanliness. In detention camps, prisoners of war must be provided with separate devices." Also, the third Geneva Convention provides mandatory separation of male and female dormitories of prisoners of war, where the prohibition of female dormitory access is imperative. This Convention also provides special protection for women prisoners of war in the use of prisoners of war as workers. It is widely known that prisoners of war are often used as labor force. Article 49, paragraph 1 of this Convention provides that "the force which holds prisoners of war as workers shall be obliged to take care of their age, their gender, their status as well as their physical abilities, and in particular in order to maintain them in a good state of physical and mental health". The International Humanitarian Law takes into account protection of women prisoners of war and referred that in Article 88, paragraph 2 of this Convention, that "women prisoners of war cannot be punished with more severe punishments, nor may they be treated with stricter treatment than with women belonging to the armed forces of force that holds prisoners of war who have been punished for a similar cause."

## 10. CONCLUSION

International Humanitarian Law has made enormous efforts with its regulation in providing broad protection to women. All four Geneva Conventions, both Supplementary Protocol, the Statute of the International Criminal Court, and Rome Statute of the International Criminal Court devote a whole chapter, a large number of provisions relating to women and their rights and protection, as well as status in armed conflicts. Although a very good legal protection, that is ensured by the above-mentioned regulation, women are still the largest victims of armed conflict. The causes and further brutal violence against women should be sought in armed units that are involved in conflicts and their relationship to these crimes, as well as the actions of the competent judicial authorities and institutions that ensure the application of the rules of the International Humanitarian Law. It is necessary to deepen the awareness of all, and especially the participants in armed conflicts, that certain categories must be specifically protected. It is also necessary to effectively prosecute those responsible for crimes, especially for crimes against women in armed conflicts, also is needed effective and fair trials, as well as properly sanctions, will be the best defense against further violence against women. The public and the media must support such activities, with respect and protection of damaged women and necessary discretion.

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## EXPORT OF GOODS FROM POLAND TO GERMANY AND SLOVAKIA IN THE LIGHT OF SELECTED INDICES

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### ABSTRACT

*Traditions of economic and political relations between Poland and Germany reach far into the past. Undoubtedly, the most interesting is their development in the 20th century, specifically after the end of World War One, when Poland regained its independence after having been wiped off the political and economic stage for more than a hundred years. 1990 was an exceptional year for the German economy with regards to German reunification; however, it was also significant for Poland and Slovakia, especially for its foreign trade, since certain changes in external relations have occurred. On account of dynamically developing trade relations between Poland and Germany, the author conducted a scrupulous analysis of the export of Polish goods through the use of three popular indices: the trade coverage index (TC), the revealed comparative advantages index (RCA) and the Grubel-Lloyd index (G-L) for measuring the intra-industry trade intensity.*

**Keywords:** *export, Grubel-Lloyd index, intra-industry trade, revealed comparative advantage*

### 1. INTRODUCTION

The author decided to analyze the competitiveness of Polish export of industrial commodities on the EU market for two reasons. The first reason is the lack of complex research concerning the competitiveness of Polish merchandise trade. The publications, with which the author is familiar, either lack complex research concerning the competitiveness of export, or the selected aspects of the competitiveness of export. The second reason is the lack of sufficient information necessary for the construction of the Polish pro-export policy. Traditions of economic and political relations between Poland and Germany reach far into the past. Undoubtedly, the most interesting is their development in the 20th century, more specifically after the end of World War One, when Poland regained its independence after having been wiped off the political and economic stage for more than a hundred years (Ziółkowski, 2010, p. 893). 1990 was an exceptional year not only for the German economy due to German reunification, but also for Slovakia after its separation from the Czech Republic. It was also significant for Poland, especially for its foreign trade, since certain changes in external relations have occurred and Polish economy has experienced a reorientation from East to West (Ziółkowski, 2013, p. 427). Since the beginning of the 21st century, the economies of individual countries are more than ever tightly interconnected through the exchange of goods and services, as well as the flow of investments. Never before has the international economy been as important as it is today. International trade plays a substantial role in the global economy, and also in Poland the export and import dynamics are much higher than the pace of economic growth. Moreover, in recent years the world economy created many new challenges. Economists have successfully applied current analysis tools to these dilemmas, yet they often had to reconsider numerous essential matters presented in this article (Krugman, Obstfeld, 2007, pp. 1-2). The factors determining both streams of foreign trade and the interplay structure are to a large extent similar in all developed economies. What changes, is the impact of individual factors, which results from countries adapting to the new situation on the international market (Barteczko, Przystupa, 2006, p.4). On account of the dynamically developing trade between Poland and Germany, the author conducted an analysis of the export of Polish goods to the Federal Republic of Germany and

Slovakia. The study incorporated a hypothesis that the meaning of the intra-industry trade in the trade turnover is increasing. What is more, the author examined and evaluated the factors determining the comparative advantage of the export of goods from Poland to Germany and Slovakia in specific sets of commodities.

## 2. THEORETICAL FRAMEWORK

The aim of this article is to explain the conditions and prospects of Polish merchandise export to Germany and Slovakia. The article discusses the question: What are the factors determining both streams of foreign trade and what factors determine the comparative advantage of the export of goods from Poland. Traditional theories explain the flow of goods between countries in terms of absolute or comparative advantage (differences of productivity and costs of production – “Ricardian” comparative advantage). On the other hand, old trade theory explains the flow of goods due to the combination of cross-industry differences in factor intensity or cross-country differences in factor abundance (compare “Heckscher-Ohlin” comparative advantage). These old theories explain “inter-industry trade” where countries export a certain type of goods and import another. In view of the “Heckscher-Ohlin old trade theory”, owing to the diverse specializations in country “A” and in country “B” there is a disparate demand for various factors of production (Bernard, Redding, Stephen, Schott 2007, pp. 2-53). New theories explain the flow of goods between relatively similar partners, apparent within industries (Grubel and Lloyd, 1975). These new facts lead to “new” trade models by Paul Krugman (1980), Elhanan Helpman (1981) and William Ethier (1982). In these models, the reason for “intra-industry” trade between countries is explained. These models discuss economics of scale with a combination of consumer preferences (“different of variety”). In comparison to “old” theories, where the welfare advantage stems from the differences in opportunity costs of production across countries, “new” trade theories (NTT) gain from a wider range of similar goods available for consumers. In 1985, Krugman and Helpman, similarly to Heckscher-Ohlin, integrated “old” trade theories with “new” trade theories. They combined horizontal product differentiation with an increasing model of scale. This “integrated” trade theory will soon become a standard paradigm in contemporary world economy. In 1999, Helpman introduced an enhancement in NTT combining existing model differences in technology, factor price inequality and trade costs. Empirical challenges to old theories and the new trade theory have led to the development of richer theoretical models. Nowadays, the theory of international trade is “accelerating” and mainly discusses: why do some enterprises go outside the country’s market? Why do certain enterprises export merchandise and others do not? Why do most companies deliver goods just for the internal market? The new, new trade theories (NNTT) try to discuss this latest approach in international theory (Bernard, Redding, Stephen, Schott, 2006; Melitz, Ottaviano, 2005; Helpman, Melitz, Rubinstein, 2007). These models provide natural explanations for some of the empirical and theoretical challenges noted above. Their analysis occupies a large portion of international trade theory research. One of these frameworks, developed by Bernard (2003), introduces stochastic firm productivity into the multi-country model (Ricardian model) of Eaton and Kortum (2002). A second class of models was initiated by Marc Melitz (2003), who introduces firm heterogeneity into Krugman’s (1980) model of intra-industry trade. The Melitz framework has stimulated a great deal of analysis into the implications of firm heterogeneity for a wide range of issues in international trade theories.

## 3. EMPIRICAL SPECIFICATIONS

In order to fully depict structural changes in Polish trade with Germany and Slovakia one may employ three popular indices: the trade coverage index (TC) (Pawlas, Adamiecki, 2008, p. 65), the revealed comparative advantages index (RCA) (Lechman, Olczyk, 2010, p. 877) and the Grubel-Lloyd index (G-L) (Borowski, 2001, pp. 22-23).

The trade coverage index enables to specify the sector/group of goods “*i*” a given country has an advantage in over others. It reflects the coverage of domestic import by domestic export. The TC index is used in studies on the export-import relations regarding a given sector or commodity.

The formula for TC is:  $TC = \frac{Ex_i}{Im_i} * 100$ ,

where:

$Ex_i$  – denotes the export value for a commodity or a set of commodities,

$Im_i$  – denotes the import value for a commodity or a set of commodities.

A TC index value above 100 indicates a relative inner advantage a given country has over its examined partners, since the export value exceeds the import value. The second of the aforementioned indices, that is, the revealed comparative advantage index, was introduced in 1989 by Béla Balassa (1989), who suggested that comparative advantages of a country *k* in the export of goods *i* to a country *j* were assessed on a relative contribution of the class of goods *i* in the export of the country *k* to the contribution of these goods in the import of the country *j*, that is (Barteczko, Przystupa, 2006, p. 5):

$$RCA = (Ex^k_i / Ex^k) / (Im^j_i / Im^j),$$

where:

$Ex$  – export value for a commodity or a set of commodities,

$Im$  – import value for a commodity or a set of commodities.

The RCA index above 1 indicates a revealed comparative advantage of a country in its export to an examined foreign market. The third of the aforementioned indices, that is, the Grubel-Lloyd intra-industry trade assessment index, is grounded on determining the percentage of trade turnover between two economies produced in the scope of a specific industry (the intra-industry trade) and the percentage of trade turnover produced between those industries (the inter-industry trade) (Borowski, 2001, p. 22). The Grubel-Lloyd index value was based on the below formula:

$$IIT_i = \frac{(Ex_i + Im_i) - |Ex_i - Im_i|}{Ex_i + Im_i} \times 100,$$

where:

$Ex_i$  – export value for a commodity or a set of commodities,

$Im_i$  – import value for a commodity or a set of commodities.

The above index ( $IIT_i$ ) is a relative measure of values in [0, 100]. If  $IIT_i=100$ , then it is assumed that the entire trade is characterised by an exchange of goods of the same industry, that is,  $Ex_i = Im_i$ . However, if  $IIT_i=0$ , then export and import do not overlap in the scope of this *i*-sector, which means that an intra-industry trade does not occur at all. All three indices were analysed on the basis of the Yearbook of Foreign Trade Statistics issued yearly by the Central Statistical Office. Calculations were made on the grounds of Combined Nomenclature (CN), a system for classifying goods in the trade turnover of the European Union. The above is applied in customs proceedings and for record purposes. The Combined Nomenclature is used in 27 EU member states as well as in Morocco and Tunisia. It is a specific classification of goods, within which every commodity is given an 8-digit code.

The first two numbers of the code stand for the section, the following two – the division a given product is assigned to<sup>1</sup>. The Combined Nomenclature is divided into 21 sections.

#### 4. RESULTS

When using the TC index to analyse the trade between Poland and Germany in selected years 2008 - 2017, one may notice that Poland has “inner advantage” in the 11 CN section (see Table 1). A systematic increase in the TC index may be observed in the following sections: vegetable products, pulp of wood, paper, paperboard and articles thereof, textiles and textile articles, machinery and mechanical appliances, electrical and electrotechnical equipment. Poland has an advantage in its trade exchange with Germany, since it is characterized by a low add-value and low production technology. Using TC analyses for trade between Poland and Slovakia in years 2008-2017 one can notice a stability trend in more than half of the CN sections (see Table 4). Poland has an advantage in its trade with Slovakia in the following sections: live animals, fats and oils, products of the chemical industry, raw hides and skins and articles thereof, textiles and textile articles, footgear, articles of stone. In comparison to Germany, Polish trade advantage over Slovakia is similar in some sections, such as in: live animals, textiles, footgear, wood, articles of wood, but the scale of this advantage is much higher. The results show that in those sections Poland also has an advantage over other European Union countries. Those sections are mostly Polish export oriented, that is why Poland has such a strong advantage over Slovakia. An additional observation is that Slovakia has an advantage over Poland in electrical and machinery sections which are more significant in terms of “know-how” and financial outlays for R&D (Ziółkowski, 2013, p. 79).

CN	Section	2008	2010	2015	2017
I	Live animals; animal products	172	142	190	205
II	Vegetable products	149	225	230	167
III	Fats and oils	79	96	49	29
IV	Prepared foodstuffs	103	95	122	150
V	Mineral products	69	94	69	70
VI	Products of the chemical industry	37	46	55	65
VII	Plastics and rubber and articles thereof	59	68	92	90
VIII	Raw hides and skins and articles thereof	161	166	105	81
IX	Wood articles of wood	164	256	528	537
X	Pulp of wood, paper, paperboard and articles thereof	67	81	107	112
XI	Textiles and textile articles	157	200	219	229
XII	Footgear, headgear, etc.	30	552	264	233
XIII	Articles of stone, ceramic products, glass	87	94	153	149
XIV	Pearls, precious stones and metals, articles thereof	162	179	321	61
XV	Base metals and articles thereof	94	94	98	96
XVI	Machinery and mechanical appliances, electrical and electrotechnical equipment	93	117	111	110
XVII	Transport equipment	79	112	117	112
XVIII	Optical, photographic, measuring, checking instruments, etc.	44	53	87	98
XIX	Arms and ammunition	0	2	13,6	10
XX	Miscellaneous manufactured articles – furniture, prefabricated buildings, toys, etc.	503	681	573	500
XXI	Works of art, collectors' pieces and antiques	4	5	0,89	0,54

*Table 1: TC in the trade between Poland and Germany in years 2008- 2017 (%) [Own elaboration based on data collected from: Yearbook of Foreign Trade Statistics, GUS, Warsaw].*

<sup>1</sup> <http://www.ipo.pl> [accessed 10/02/2018].

The next part of the analysis concerns the RCA index. The study of the above-mentioned index proved that a comparative advantage is present on the Polish side in all sections characterised by low added value products. This in turn indicates that Poland is capable of producing such goods at lower prices than Germany, which results from low labour costs and access to raw materials. Yet, the decreasing RCA index in the majority of sections in years 2008-2017 indicates the falling competitiveness of Poland in comparison to Germany and Slovakia, which is a result of, among others, the increasing salaries in Poland, the beginning of the global financial crisis, and economic slowdown in both countries. The section with the greatest comparative advantage is miscellaneous manufactured articles – furniture, prefabricated buildings, toys, etc. The lowest index for Poland in 2008-2017 was recorded in arms and ammunition, as well as in works of art, collectors' pieces and antiques (see Table 2). Contrary to the results obtained above, the greatest comparative advantage in Polish export of goods to Slovakia is section one – live animals and textiles section. The lowest index for Poland in 2008-2017 was recorded in arms and ammunition (see Table 4).

CN	Section	2008	2010	2015	2017
I	Live animals; animal products	1,94	1,33	1.59	1.72
II	Vegetable products	1,68	2,10	1.92	1.41
III	Fats and oils	0,90	0,90	0.41	0.25
IV	Prepared foodstuffs	1,16	0,90	1.02	1.27
V	Mineral products	0,78	0,88	0.58	0.6
VI	Products of the chemical industry	0,41	0,43	0.46	0.55
VII	Plastics and rubber and articles thereof	0,67	0,63	0.77	0.76
VIII	Raw hides and skins and articles thereof	1,82	1,55	0.88	0.69
IX	Wood articles of wood	1,86	2,39	4.4	4.51
X	Pulp of wood, paper, paperboard and articles thereof	0,76	0,76	0.9	0.94
XI	Textiles and textile articles	1,77	1,87	1.83	1.93
XII	Footgear, headgear, etc.	0,34	5,16	2.2	1.96
XIII	Articles of stone, ceramic products, glass	0,98	0,88	1.28	1.26
XIV	Pearls, precious stones and metals, articles thereof	1,83	1,68	2.68	0.51
XV	Base metals and articles thereof	1,06	0,88	0.82	0.81
XVI	Machinery and mechanical appliances, electrical and electrotechnical equipment	1,05	1,09	0.93	0.93
XVII	Transport equipment	0,89	1,05	0.98	0.95
XVIII	Optical, photographic, measuring, checking instruments, etc.	0,50	0,50	0.73	0.83
XIX	Arms and ammunition	0,01	0,02	0.11	0.09
XX	Miscellaneous manufactured articles – furniture, prefabricated buildings, toys, etc.	5,68	6,36	4.78	4.21
XXI	Works of art, collectors' pieces and antiques	0,05	0,05	0.01	0.005

*Table2: RCA in the trade between Poland and Germany in years 2008 – 2017 [Own elaboration based on data collected from: Yearbook of Foreign Trade Statistics, GUS, Warsaw].*



It is currently believed that the significance of intra-industry trade concerning global economy is increasing. Moreover, the higher its intensity, the more competitive a given country is (Rynarzewski, 2004, p.32). The most notable intra-industry exchange between Poland and Germany may be observed in section 7 - Plastics and rubber and articles thereof – about 94, in section 8 - Raw hides and skins and articles thereof – 90, in section 15 – base metals and articles thereof – 98, in section 16 – machinery and mechanical appliances, electrical and electrotechnical equipment – 95 and in section 13 – articles of stone, ceramic products, glass, 17 – transport equipment. The intra-industry exchange within the above industries is relatively intensive (see Table 3). In the following sections (2 – vegetable products, 3 – fats and oils, 5 – mineral products) intra-industry trade is also observable, though not as intensive as in the aforementioned cases. Contrary to the results mentioned above, one can notice (see Table 4) that the most notable intra-industry exchange between Poland and Slovakia may be observed in section VII - plastics and rubber and articles thereof, X- pulp of wood, paper, paperboard and articles thereof. A further conclusion is that Polish trade with Slovakia has different trade patterns in comparison to Germany according to Grubel-Lloyd index. The entire trade is characterised in different sections by an exchange of goods of the same industry.

CN	Section	2008	2010	2015	2017
I	Live animals; animal products	73,5	82,40	68.9	65.5
II	Vegetable products	80,3	61,50	60.4	74.8
III	Fats and oils	88,6	98,20	66.5	45.7
IV	Prepared foodstuffs	98,5	97,90	89.8	79.8
V	Mineral products	81,6	97,20	82.2	82.9
VI	Products of the chemical industry	53,6	63,40	71.5	79
VII	Plastics and rubber and articles thereof	74,3	80,90	96	94.8
VIII	Raw hides and skins and articles thereof	76,7	75,20	97.2	89.9
IX	Wood articles of wood	75,7	56,10	31.8	31.4
X	Pulp of wood, paper, paperboard and articles thereof	80,4	89,80	96.3	94.3
XI	Textiles and textile articles	77,9	66,60	62.6	60.7
XII	Footgear, headgear, etc.	46,5	30,70	54.9	60
XIII	Articles of stone, ceramic products, glass	93	97,20	78.8	80.2
XIV	Pearls, precious stones and metals, articles thereof	76,3	71,40	47.4	75.8
XV	Base metals and articles thereof	96,6	97,20	99.5	98.2
XVI	Machinery and mechanical appliances, electrical and electrotechnical equipment	96,5	92,10	94.5	95.1
XVII	Transport equipment	88,3	94,00	91.9	93.9
XVIII	Optical, photographic, measuring, checking instruments, etc.	61,4	69,60	93.6	99.3
XIX	Arms and ammunition	1	4,00	23.9	18.6
XX	Miscellaneous manufactured articles – furniture, prefabricated buildings, toys, etc.	33,2	25,60	29.7	33.3
XXI	Works of art, collectors' pieces and antiques	8,1	10,50	1.8	1.1

*Table3: Grubel-Lloyd index values for the trade between Poland and Germany in years 2008 - 2017 [Own elaboration based on data collected from: Yearbook of Foreign Trade Statistics, GUS, Warsaw].*

When comparing Polish intra-industry trade to that of Germany, one may conclude that it corresponds to the overall Polish intra-industry trade and specifically to Poland's intra-industry trade with other EU countries, only its intensity is generally several percentage points higher (Pawlas, Adamiecki, 2008).

CN	TC				RCA				Grubel-Lloyd Index			
	2008	2010	2015	2017	2008	2010	2015	2017	2008	2010	2015	2017
I	538	525	368	480	5,09	5,1	2,57	3,39	31,3	32	42,7	34,5
II	60	36	70	59	0,57	0,36	0,49	0,42	75,2	53,4	82,3	74,4
III	2645	581	2860	180	25,05	5,67	19,99	1,27	7,3	29,4	6,8	71,4
IV	321	237	287	233	3,04	2,32	2,01	1,64	47,5	59,3	51,7	60,1
V	75	108	154	209	0,71	1,05	1,08	1,48	85,4	96,2	78,8	64,6
VI	128	126	239	269	1,21	1,23	1,67	1,9	87,8	88,7	58,9	54,2
VII	124	110	144	127	1,17	1,08	1,01	0,9	89,5	95	81,8	88,1
VIII	204	354	68	214	1,93	3,46	0,47	1,51	65,9	44	80,8	63,7
IX	69	109	152	149	0,65	1,07	1,06	1,05	81,4	95,6	79,4	80,4
X	83	81	80	100	0,79	0,79	0,56	0,71	91	89,4	88,9	99,9
XI	435	492	81	527	4,12	4,80	0,56	3,72	37,4	33,8	89,3	31,9
XII	201	119	245	257	1,90	1,16	1,71	1,81	66,5	91,5	58	56,1
XIII	687	477	463	509	6,51	4,66	3,24	3,29	25,4	34,7	35,5	32,9
XIV	7	-	892	222	0,06	-	6,24	1,57	12,8	-	20,2	62,2
XV	73	104	99	80	0,69	1,01	0,69	0,57	84,2	98,1	99,4	89,1
XVI	87	91	91	75	0,83	0,89	0,63	0,53	93,2	95,5	95,1	86
XVII	114	104	176	183	1,08	1,02	1,23	1,3	93,7	97,9	72,6	70,6
XVII I	73	87	172	157	0,69	0,85	1,2	1,11	84,1	93,1	73,5	77,8
XIX	2	-	22	69	0,02	-	0,15	0,49	3,3	-	35,8	81,5
XX	335	339	317	325	3,17	3,31	2,21	2,29	46	45,6	48	47,1
XXI	3724	1980	843	172	35,2	16,8	5,89	1,22	5,2	9,6	21,2	73,3

*Table 4: TC, RCA and Grubel-Lloyd index values for the trade between Poland and the Slovakia [Own elaboration based on data collected from: Yearbook of Foreign Trade Statistics, GUS, Warsaw]*

## 5. CONCLUSIONS

The study provides some new evidence on the role of trade between Poland and Germany, and Slovakia. The study considers several indices which help characterize the role of the export of goods in mutual relations between Poland and Slovakia, and also between Germany. This tendency is not surprising, as more than one quarter of Polish goods is exported to Germany and only 2,7% of goods is exported to Slovakia. Additionally, the presence of intra-industry trade between Poland and Germany in so many sections may be considered highly positive, since it demonstrates that Polish commodities are competitive on the German market. Nevertheless, as it has already been mentioned, a more profound analysis of the section with the Grubel-Lloyd index indicates that the intra-industry trade exists in those sections, in which Poland is capable of producing goods at lower prices than Germany and Slovakia (due to low labour costs and the access to less expensive raw materials). Insignificant financial outlays for R&D result in lower competitiveness of Polish products (especially high-tech goods) in Germany and Slovakia, which in turn decreases the intra-industry trade index (Ziółkowski, 2013, p. 79),

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## MACHINE ECONOMY

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### ABSTRACT

*Economy development is in a direct correlation with determinant of society development. At the same time socio-economic development was rising based on industrial revolutions and the human neglecting has been higher. Every industrial revolution was leading to more neglectation and the new economics form. First industrial revolution with invention of steam machine, created the surpluses value and economy of individuals became the economy of scope. Additional contribution to that was provided by second industrial revolution and invention of electricity and the economies were facing the mass production. So, the national markets were small for all that surplus values. Third industrial revolution presented in information technologies brought at the beginning the economy of information and technology, but at the end the brain economy, considering the acceleration of innovation development. In all this economies, from first to third industrial revolution we are facing an ever-increasing replacement of a man by a machine, so we can conclude that the last three centuries there was the development of the machine economy. The fourth industrial revolution brought the processes of digitalization in every sphere of society also the communications between machines. So, machine to machine economy is new form of economy. Is this mean that we can assume that economy is in era of creative destruction, accelerating technology and disappearing jobs.*

**Keywords:** *economy development, machine economy, society, industrial revolution, technology*

### 1. INTRODUCTION

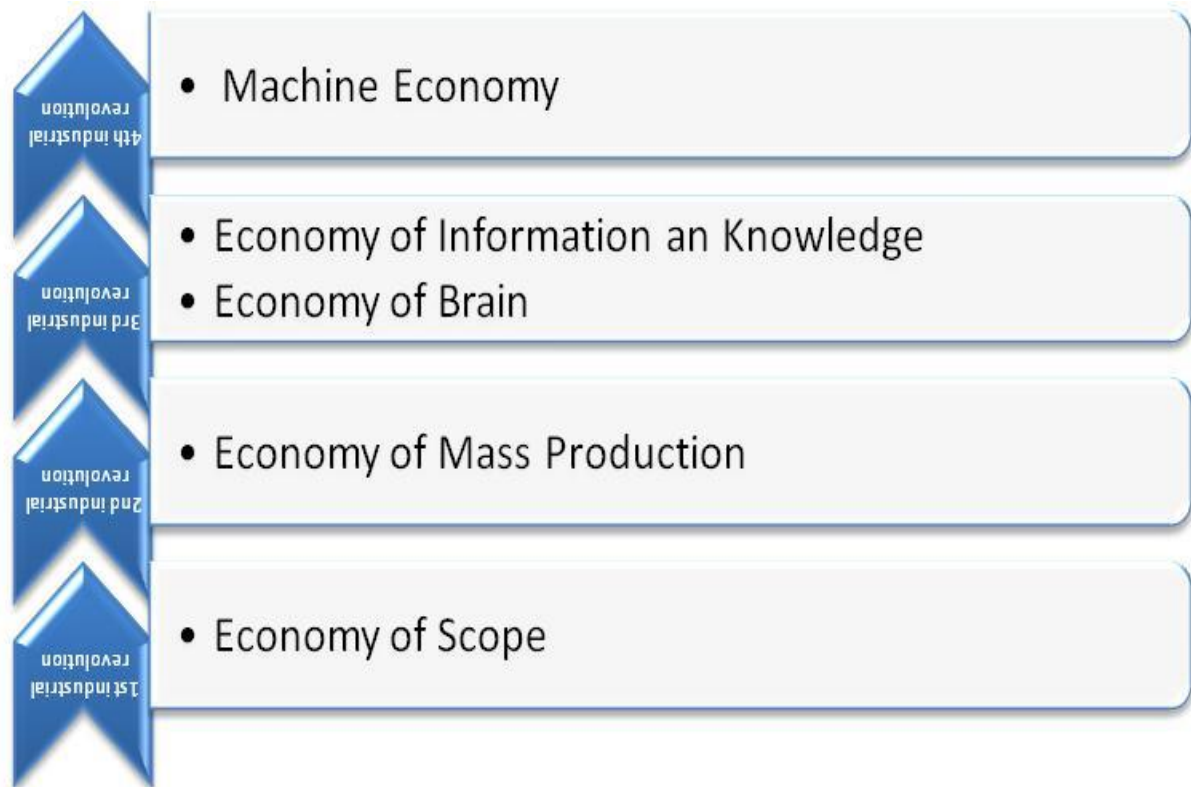
By studying determinants, aspects and instruments of economic development, scientists and researchers have come to the conclusion that economic, technological and social aspects of development are in direct positive correlation. Hobson in his book "The Evolution of Modern Capital" (1894), confirms this thesis. He explores the origin and structure of capital development in the perception of the basic economic factors: production, distribution, exchange, consumption, markets, profits, labor, at the same time looking for their correlation with changes in the technical and technological development of the society (inventiveness sublimated through the trends of industrial revolutions) but also social trends with a special emphasis on the quality and quantity of labor. By studying the evolutionary development of economics, technology and society, a clear linear connection is evident. The initial stage of economic development was related to the economy of an individual, in which there was no creation of surplus value, but economic activity was conditioned by the existence of an individual, primarily in conditions of using natural resources. We can say that those activities has created conditions for the presumption of the next evolutionary phases. Under the following phases of economic development, it was assumed that the growing intellectual power of an individual (derived from an increasingly powerful, more systematic study of natural and other phenomena to society) created intellectual potentials, which condition the greater inventiveness, also the faster technological progress, and at the same time was opening the way

of economic power development societies in terms of creating surplus value. Creation of surplus value conditioned the dissolution in the society, but also sets new demands in the study of determinants of economic activity. Each subsequent phase of technological development of the society has produced new economic phenomena, as well as new social structures. Thus, the invention of the steam engine in the first industrial revolution opened the chapter of economies of scale, thanks to the potential of the increasing production, at same time opened the question of social classes. One class were the owners of capital, other were creators of surplus value. In such a order, there was the alienation at the side of the creators of surplus value, workers. The invention of electricity in the second industrial revolution opened the doors of mass production, but also the internationalization of the market, which is in direct correlation with the changes on the human side of the society, in terms of higher demands for education of labor, major migration, labor fluctuation, ecological standards, cultural and political harmonization, etc. The third industrial revolution, reflected in the informatics and knowledge economy, has brought the new bases of economic activity in terms of their acceleration. With the previous processes of internationalization, occurred acceleration has, both, positive and negative determinations. In a positive sense, economic activity is focused on the service sector, which recorded enormous growth at the global level, information and knowledge have become the most expensive factor, while the negative sides in the acceleration have created an increasing presence of economic manipulations, with a special emphasis on financial markets. Money with its exchange means, under conditions of accelerated exchange, tends to acquire the new forms, such as, representative money has become the fiduciary according to the demands of economic activities. All previously created a reification of relationships within the company between owners, managers and employees. Digitization processes are the basis of the fourth industrial revolution, which with the previous determinants opened a new kind of communication, between machines. In the field of financial markets, were occurred the first changes, so the payment transactions in the processes of exchange and consumption, from non-cash electronic payments brought the changes in the phenomenon of so-called electronic money (e.g. Bitcoin), where the role of central monetary authorities is excluded, but communication between people is minimized and reduced to communication between machines. In that sense, we can talk about the economy of machines in a modern environment. Therefore, we can assume a linear relationship between the development of economics, society, technology and labor, which directly conditions the emergence of new complex forms such as the machine economy, conditioning the acceleration of positive and negative correlation relations.

## **2. EVOLUTION OF SOCIETY, TECHNOLOGY AND ECONOMY (ESTE)**

The conditionality and connection of economic and social development was Fromm's subject of research in the book "Escape of Freedom", where he pointed out the direct correlation between an individual with nature, on the lower economic development of society, and the alienation of an individual in society with conditions of higher economic development: "Social history of man began with his uplift from the state of unity with the nature to the consciousness of itself as an entity separated from the surrounding nature and people." (Fromm, 1983, 41) What constitutes a common bond of negative correlation in the development of society, technology and economics, not only according to From, but also according to others philosophers and economists (More, Engels, Marx, Bentam, Mill, Neef, etc.) from the 16th century to the present, is the significance of surplus value and unjust distribution of the same. In their various works, a common clue was found, technological development is thought to be directly conditioned by higher productivity and the creation of surplus value and class differences caused by unfair distribution, since the surplus value is not appropriated by its creator, but by the owner of capital. The alienation of nature is conditioned by technological development and surplus value, and the frameworks of this alienation capital owners have been

formalized through the legal distribution rules. “As soon as the rich decide that gimmick should be implemented by the interest of the community, and therefore on behalf of the poor, they immediately become laws.” (More, edit.1952, 100).

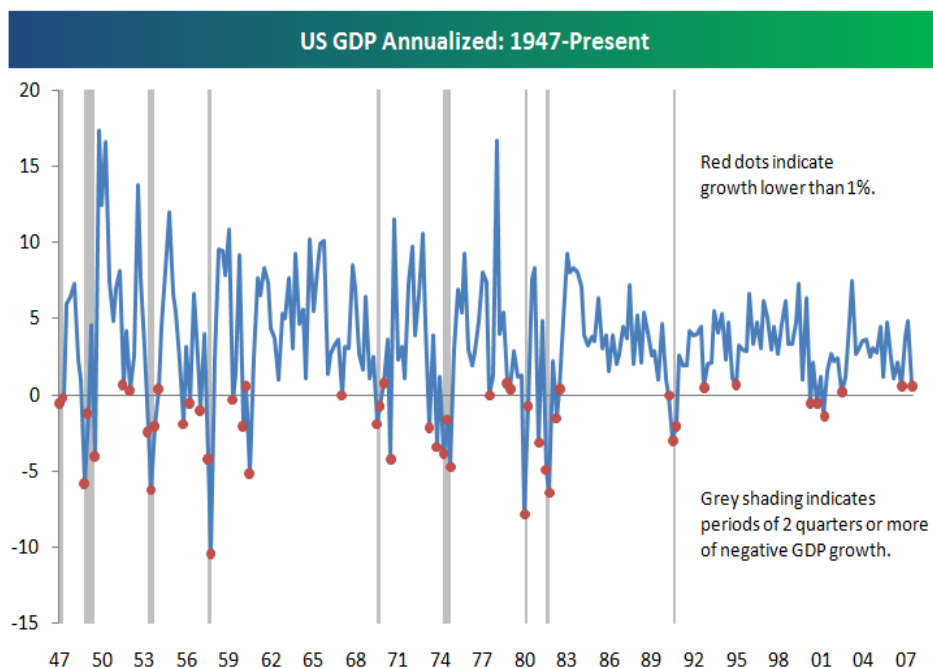


*Picture 1 Correlation between industrial revolution and economy evolution*  
Source: Authors

The first industrial revolution and the invention of the steam engine in 1764 precipitated precisely the productivity growth and surplus value that the economists and philosophers of the mentioned period spoke of. The industrialists of that time strived to create the new social norms in the function of making profits. Technology has gained a new innovative and advanced dimension, the economy has progressed thanks to it, but social norms have suffered a certain degree of materialization and alienation. In the function of surplus value, women and children were engaged in working in a very inhumane condition, as Dickens testified in the book "Heavy Times" from 1854. About that period also writes Hobson in "Evolution of Modern Capitalism" and emphasizes as follows: "Wherever in the course of history a conjunction of certain essential economic and moral forces has appeared, capitalist industry in some form and size has existed" (Hobson, 1894, 2). According to Hobson, the causes of such phenomena should be strived under the following conditions:

- Creation of wealth is not solely intended to meet the needs of the owner of the capital
- Existence of the working class implies earning by investing in their work, but also free spending, sale or purchase for personal gain
- The development of the industry enables the creation of a new production method that will enable profitable employment through an organized group of workers in the use of tools and machines
- The existence of a large market
- The existence of a capitalist spirit in the accumulation of wealth

All these conditions created a correlation of technological progress-accumulation of wealth-social stratification. He further thinks that the historical discovery in the capitalism was the rent and surplus value. They are creators of super-eccentricity and assigns a political and economic power to the owner of capital or land. This was not only an rent system but also a taxation system. (Hobson, 1894, 2-4). An additional importance in the function of generating, not just, surplus value, but also an unfair distribution, is money as a means of exchange, which brings an indirect and time-delayed role in the exchange and in that way creates a new benefit for the capitalist. The second industrial revolution at the end of the 19th and the beginning of the 20th century, the innovativeness in the field of electricity and the creation of electricity transmission possibilities, opened a new field for the development of the economy and productivity growth, as it caused electrification of factories and innovations in the field of transport. All of these have led to acceleration of distribution and exchange and created the conditions of mass production (Mokyr, Strotz, 1999, 8). The third historical milestone in the development of society, technology and economy is manifested in the third industrial revolution. When considering this period, two evolutive periods in the economy can be viewed. The first refers to the information-based economy and the second based on the brain economy. The period that encompasses this revolution and economic development encompasses the middle of the 20th century and the beginning of the 21st century. The introduction of forming technologies has enabled acceleration of accounting, creation of new empirical techniques in the field of production and enterprise management, new market access, etc. When it comes to social determinants, the use of the Internet has enabled quick access to information, linking local and global knowledge in terms of faster access, etc. Observing the changes in the GDP growth since World War II to the present (the period of the Third Industrial Revolution), less negative amplitudes are observed, indicating a direct correlation between the information revolution and the economy.



Picture 2. Historical GDP 1947-present

Source: <https://seekingalpha.com/article/62350-historical-gdp-numbers-1947-present>

Creation of intellectual capital has also led to the emergence of an increasing number of intellectual manipulations, besides advocating the protection of intellectual property, as well as demands on the side of creating the potential of the workforce.

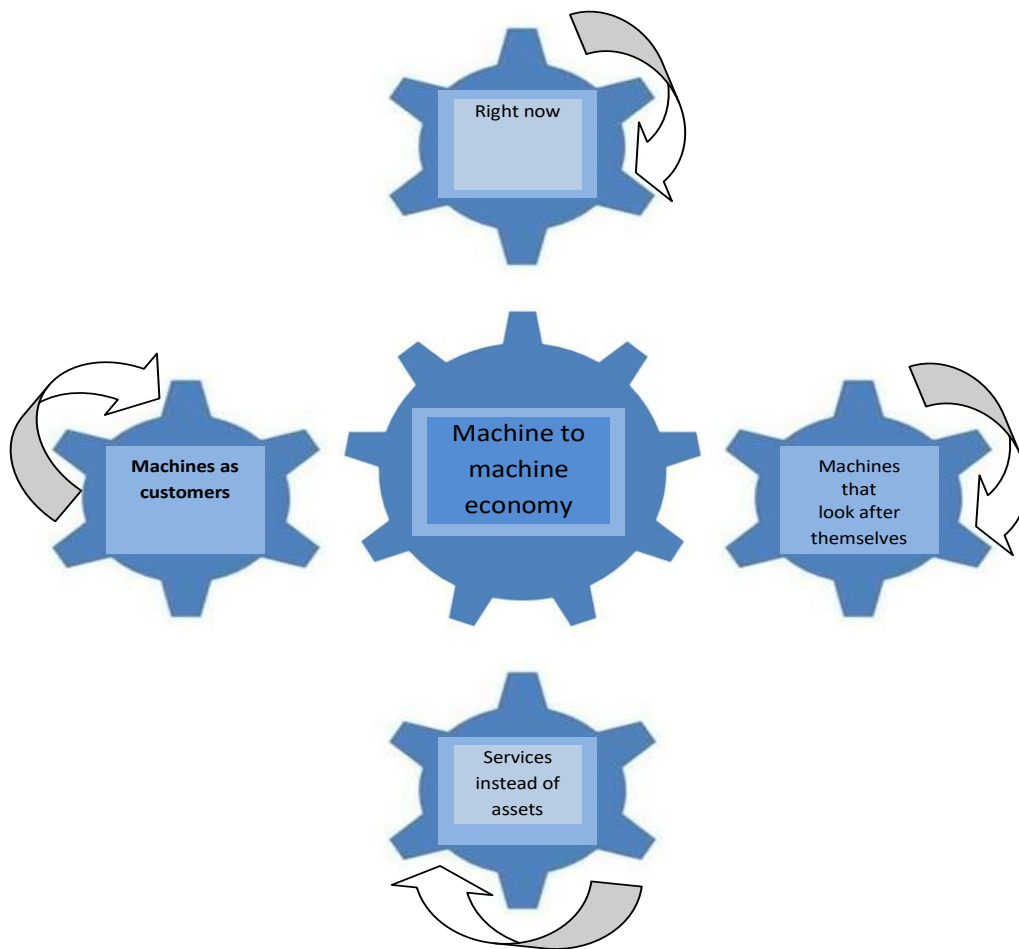


Today we witness the radical changes in the environment, which was opened by the fourth industrial revolution, manifested through the processes of digitization and communication with new technologies in all spheres of society. This revolution fundamentally changes the way of life, work, communication, and so on. "Consider the unlimited possibilities of having billions of people connected by mobile devices, giving rise to unprecedented processing power, storage capabilities and knowledge access. Or thinking about the staggering confluence of emerging technology breakthroughs, covering wide ranging fields such as artificial intelligence (AI), robotics, the internet of things (IoT), autonomous vehicles, 3D printing, nanotechnology, biotechnology, material science, energy storage and quantum computing, to name a few. Many of these innovations are in their infancy, but they are already reaching an inflection point in their development as they build on and amplify each other in a fusion of technologies across the physical, digital and biological worlds" (Swab, 2017, 1). These changes have led to the formation of a new form of economy so-called the "Machine to Machine Economy". All listed sets new challenges to scientists, what are the dimensions, determinants of the new form of economy, but also what is their correlation with social, human, technological development. At the same time, the question is the sign of these correlations.

### **3. MACHINE ECONOMY**

Digital technology, that basically involves the existence of hardware, software and the network gets important when it adopts the global dimensions of its application and creates a sophisticated and integrative change in society and the global economy. The basis of the machine's economy, as the product of the fourth industrial revolution, is the communication between the physical, manufacture and the virtual system, which enables the creation of new operational models in terms of smart and connected machines and systems, from the sequencing of genes to nanotechnologies. These models enable faster implementation of innovations, but also their expansion (Swab, 2017, 7-9). The economy of machines involves a reduction in the working hours of a human resource, but also the cost of production, which means the price of products and higher demand, which in turn means more demand for labor and more education. "The pessimistic view predicts that in the long run only a small fraction of the population will have the talent and education necessary to work alongside machines. The optimistic view predicts that advances in artificial intelligence and broad technological development will create employment possibilities that we cannot yet begin to imagine." (Kearney, Hershbein, Boddy, 2015, 6). Today's economy and society are functioning in a more and more degree of machine communication. Examples can be found in households, on roads, factories, etc. In that sense, decisions are increasingly automated and brought by smart machines. Efficiency and effectiveness in this way are in progressive growth. Dylan Rajasingham believes that there are four steps that will lead to "machine to machine economy" (picture 2). (Rajasingham, 2017, 4).

*Figure following on the next page*



*Picture 3 Four steps in the evolution of the machine-to-machine economy*

*Source: Commbank Whitepaper, Machine to Machine economy*

*<https://www.commbank.com.au/content/dam/caas/newsroom/docs/Commbank-Whitepaper-Machine-to-Machine-economy.pdf>*

According to him, as the first step, machines are instruments with sensors, self-monitoring and communication skills. The everyday tools we are using are smart and connected (mobile phones, cars, refrigerators, televisions, etc.). The second step is the self-control of machines, which involves automatic maintenance, making some decisions that were previously made by their owners. The third step are services instead of assets. By this step, Rajasingham explains the processes of the so-called. "Uberization"<sup>1</sup>. Companies operate and share their services on a decentralized basis. Model of subscriptions and leasing of the machine is becoming prevalent. The fourth step, assuming that sublimating everything previously, the machines become more and more autonomous market participants, but also financial actors. An example is found in crypto currencies and blockchain technology.<sup>2</sup> Previous positions suggest that radical changes in the economy follow the models and ways of achieving business results. Physical communication is increasingly replaced by virtual, the physical assets of the company are

<sup>1</sup> Uber – the world's largest taxi company, which owns no vehicles, but directly connects the providers and users of the transport services on the basis of the digital platform

<sup>2</sup> Blockchain technology is the world leading software platform for using digital assets

replaced in a decentralized system, by virtual means, through the form of service, leasing. All this can indicate that the machine's economy can be more efficient than the previous ones.

#### 4. CONCLUSION

The determinants of the modern environment, primarily manifested through the advancement of technology, imposed the new forms of social and economics frameworks and communications. Digitization and artificial intelligence as a product of the fourth industrial revolution have brought communication between people increasingly in the virtual world, creating new forms of social norms based on these processes. Economics is a feature of the global economy, and the processes of digitization are increasingly influence the creation of artificial intelligence systems. On this basis, we can talk about a new form of economy so-called the economy of machines, where the basic characteristics will be: automation of business processes, physical assets are no longer the basic business resource, the service becomes dominant activity, productivity increases, machines become more efficient in terms of increasing self-control and self-monitoring. Previous indicates a decrease in the need for human work, but also a growing need for more educated workforce. The human factor as a risk becomes more and more minimized, artificial intelligence has an upward growth line, dependent costs are lower, transport faster, quality is better, communication between people is becoming more and more virtual. It all points to the confirmation of the hypothesis that there is a linear relation between the development of economics, society, technology and labor, which directly determines the emergence of new complex forms such as the economics of machines, conditioning the acceleration of positive and negative correlation relations. Future research will indicate which sign is more dominant.

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## CONSTRUCTION OF DIGITAL SECURITY FOR INDIVIDUAL, SOCIETY AND THE STATE IN DIGITAL ECONOMY

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### ABSTRACT

*Digital economic security is understood as an information model of synthetic knowledge, whose individual judgments, while within the boundaries of economic and information security, lose their former autonomy and, integrating with social security, become elements of a new system. In this system, the phenomenon of the appearance of new products, new markets (digital platforms), new ways of conducting economic activity (digital algorithms) begins to play a big role, while the commodity itself becomes free, but monetized in other markets. A key role is played by the phenomenon of acquiring "big data" properties of capital that form market power. A special place is taken by "traps", in which economic subjects fall, responding to suggestions of timeliness, convenience and comfort of providing goods or services in the digital economy. Originality value - as far as the authors are aware, this study is the first one, which explores not only the benefits of the digital economy, but it also addresses the threats to economic security of the subjects of the digital economy.*

**Keywords:** *digital economy, economic security, personality, society, state, risks, challenges, threats*

### 1. INTRODUCTION

The development of the theory of digital economic security presumably involves the formation of new knowledge that adequately describes the emerging social and economic threats in the digital economy and, in the course of time, will give digital economic security the status of a scientific discipline. At the same time, digital economic security is understood as an information model of synthetic knowledge, certain judgments of which, within the boundaries of economic and information security, lose their former autonomy and, integrating with social security, become elements of a new system. The specific scientific task consists in the initial development of a number of new provisions derived from the economic theory and information security theory on the basis of the hypothesis that the more digitized is the economy, the higher the level of individual, societal and national security is required. Such provisions require the development of the following:

- a) mechanisms for ensuring digital economic security, based on an effective analysis of big data for solving the problems of the digital economy, including problem-oriented applied algorithms, machine learning systems and other methods of intellectual analysis;
- b) coordination of new designs of digital economic security and demonstration of links between the elements of these structures as part of a more complex system - the digital economy;

- c) (c)the construction of derivative designs of digital economic security, combining approaches to ensure the economic, information and social security of the individual, the society, and the state on the basis of an effective analysis of big data for solving the problems of the digital economy.

## 2. BRIEF LITERATURE REVIEW

The development of the digital economy in the scientific literature is seen mainly as a good cause. At the same time, the issues of possible threats of the digital economy for the national security have become one of the reasons for the formation of the agenda of the Security Council of the Russian Federation on June 30, 2017. However, there are still no clear answers to the questions related to the threats of the digital economy and, above all, to the use of Big Data. The analysis of the literature indexed by the Russian Scientific Citation Index (RSCI) showed that no more than a thousand publications are devoted to the problems of the digital economy. Moreover, most of these papers are devoted to the promotion of Big Data. Thus, the problem of linking the digital economy to Big Data was raised in the publication [1], the use of Big Data in economic studies was described in the publication [2], the problem of asymmetry in the digital economy is discussed in the publication [3], the use of Big Data for business purposes is described in the publication [4], and in the publication [5] an algorithm for analyzing Big Data in the economy is presented. A lot of publications concerning the role of Big Data in the digital economy are contained in the work of D. Cherubin, D. Gelitto & V. Venkatesan (2016), A. Orlov (2016), V. Krylov (2015), D. Serov (2013), V. Korzhov (2013), M. Musolesi (2013), D. Hurlbert & D. Voas (2013), L. Chernyak (2012), M. Isaev (2012), N. Smirnov (2017, 2016, 2015 ), I. Sheyan (2017), A. Esaulenko (2016), D. King (2014) and others. D. Elder-Vass believes that the digital economy today is the site of a range of competing economic models, and this is reflected in clashes between a corresponding range of moral economies [7]. P. McClure writes that the rapid adoption of new technologies in the workplace, especially robotics and artificial intelligence (AI), has motivated some researchers to determine what effects such technologies may have [8]. M. Herrmann, P. Boehme, J. Mondritzki, S. Kavadias, H. Truebel consider that at an economic scale, business models can be strengthened and disruptive innovation models can be enabled [9]. J. Kraemer & M. Wohlfarth believe that the increased economic significance of digital services has profoundly changed the power structure in the markets [10]. Problems of digital economy and security of economic entities have been described in the work of O. Hudec [11], A. Florea, C. Kifor, S. Nicolaescu, N. Cocan, I. Receu [12], B. Rondovic, Z. Dragasevic, J. Smolovic [13], A. Bikbulatova, V. Mkrttchian, T. Tolstych [14], M. Vinogradova, O. Kaurova [14,15], O. Kulyamina, A. Larionova [15], A. Maloletko [14 - 18] and others. At the same time, the interests of the individual, the society, and the state in the digital economy and the desired characteristics of the object of digital economic security still remain beyond the attention of modern researchers. The authors of this article have attempted to fill these gaps. In this regard, the purpose of this work is to gain new knowledge about the changing interests of economic agents in the conditions of digitalization of the economy and their social security.

## 3. METHODOLOGY

The benefits arising from the digitalization of the economy and the negative consequences for consumers and conditions of competition should be researched in order to reveal new interests and patterns of economic behavior of subjects of the digital economy and describe the significant changes in the daily life of a person connected with the use of digital technologies. For this purpose, the phenomenon of the appearance of new products, new markets (digital platforms), new ways of conducting economic activity (digital algorithms) should be investigated in conditions when the commodity itself becomes free, but monetized in other

markets. Along with this, it is necessary to research the phenomenon of acquiring by Big Data properties of the capital that forms market power. In addition, it is necessary to investigate the change in the preferences and forms of consumption by the change driver - a modern consumer. It is essential to investigate the negative influence on the personality of omnichannel tools, analytics, scoring, adaptability and forecasting to test the hypothesis of the need to increase the level of economic security of the individual, the society, and the state in the conditions of acquisition of the liquidity properties by data in the digital form due to its alternative value. At the same time, it is necessary to describe the "traps" in which economic subjects fall, responding to suggestions of timeliness, convenience and comfort of providing goods or services. It is vital to rethink the established point of view that "the changes in the digital economy allow conducting a completely open business that minimizes the risks of fraud." The study of the negative consequences of digitalization in the context of the changing spheres of the digital economy will help to identify the emerging problems of ensuring economic freedoms of a person and a citizen in the conditions of manipulation of the supply and demand in the economy and on this basis describing changes in citizens' trust towards the digital environment. This requires the construction of simulation models that replicate the dynamics and state of decentralized public administration at different levels of mastery of the digital technologies by the population. It is important to describe the problem of data accumulation by a narrow circle of beneficiaries - representatives of the large businesses, IT technologies, and the banking sector. It is necessary to give a scientific justification for a new phenomenon, the so-called 'digital feudalism'. It is also needed to describe the negative consequences of total control over the movements and activities of a person and his environment in real time, tracking the 'digital trajectories' of citizens' lives. It is necessary to assess the risks of the changes in the education system associated with the formation of exclusively practical skills in using the products of the 'digital economy'. It is essential to define the negative consequences of replacing the management of Internet optimization of search engines based on the results. It is necessary to conduct a study of the conflict between the paradigms of digital economic security for solving the problem of describing new, including derived constructions of digital economic security and the links between the elements of this design as part of a more complex system - the digital economy. A key role in this will be played by the detected anomalies for subjects, objects, threats, factors, levels (scale of negative consequences), indicators, indices, thresholds of digital economic security. Special attention should be paid to the short-term and long-term consequences from the point of view of competitiveness and security. For instance, according to M. Delyagin, "the creation of a national payment system in terms of security in the short term is necessary, and from the point of view of competitiveness – it is not." For these purposes, it seems that the construction of a predictive model is required (forecasting will be presented in the form of the mathematical expectation of the parameters of digital economic security), which can be built on the assumption of a certain form of probability density of values [6].

#### **4. RESULTS**

At the presentation of the National Technology Initiative of Russia, held on July 21, 2016, D. Peskov noted that "the image of the future for 2035 will represent a world of decentralized networks capable of embodying the brightest dreams of humanity. On the other hand, it is a world of conflicting hierarchies selling two things: fear and freedom from this fear - a sense of security." In this connection, the authors of this article have set themselves the task of obtaining new knowledge about the interaction of economic entities in the conditions of the digitalization of the economy, the ability of the society to preserve its essence in the conditions of the digitalization, as well as the emerging, changing and discontinuing social relations that suppress the individual and social groups as a result of using the methods of artificial intelligence, collaborative filtration technologies, effective analysis of big data and other methods of

intelligence analysis. New interests and patterns of economic behavior of subjects of the digital economy make it possible to describe the significant changes in the daily life of an individual connected with the use of digital technologies (Fig. 1).

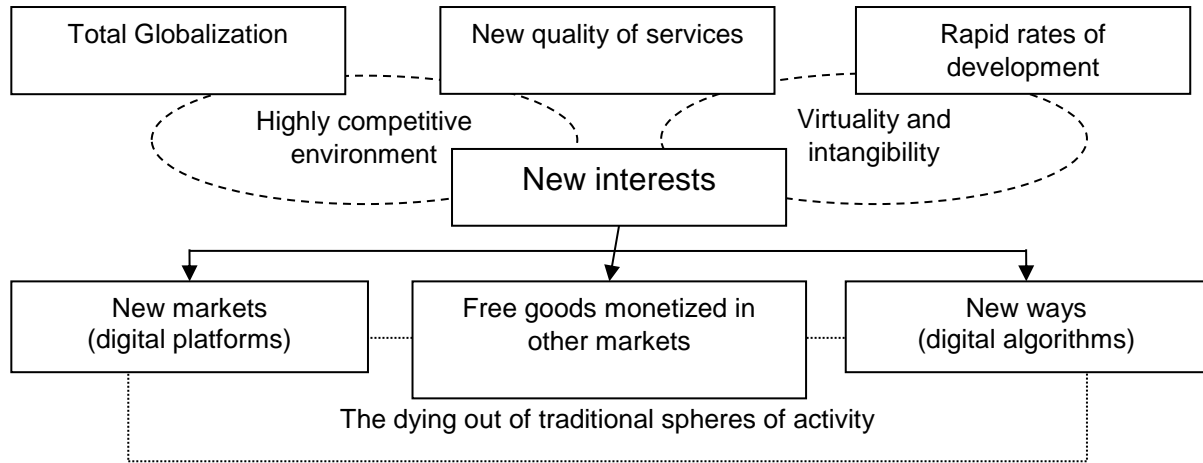


Figure 1: Changes in economic behavior of subjects of the digital economy.

The changes shown in the Fig. 1 emerge, in our opinion, as a result of the appearance of some new technologies. But not all new technologies contribute to these changes. It concerns only the technologies that possess both creative and destructive potential. These technologies have the following properties:

- a) the property of rapidly evolving;
- b) the property of quickly spreading beyond the boundaries of traditional methods of conducting economic activity;
- c) they promote the emergence of new business opportunities.

In this connection, new challenges arise for the economic agents (Table 1).

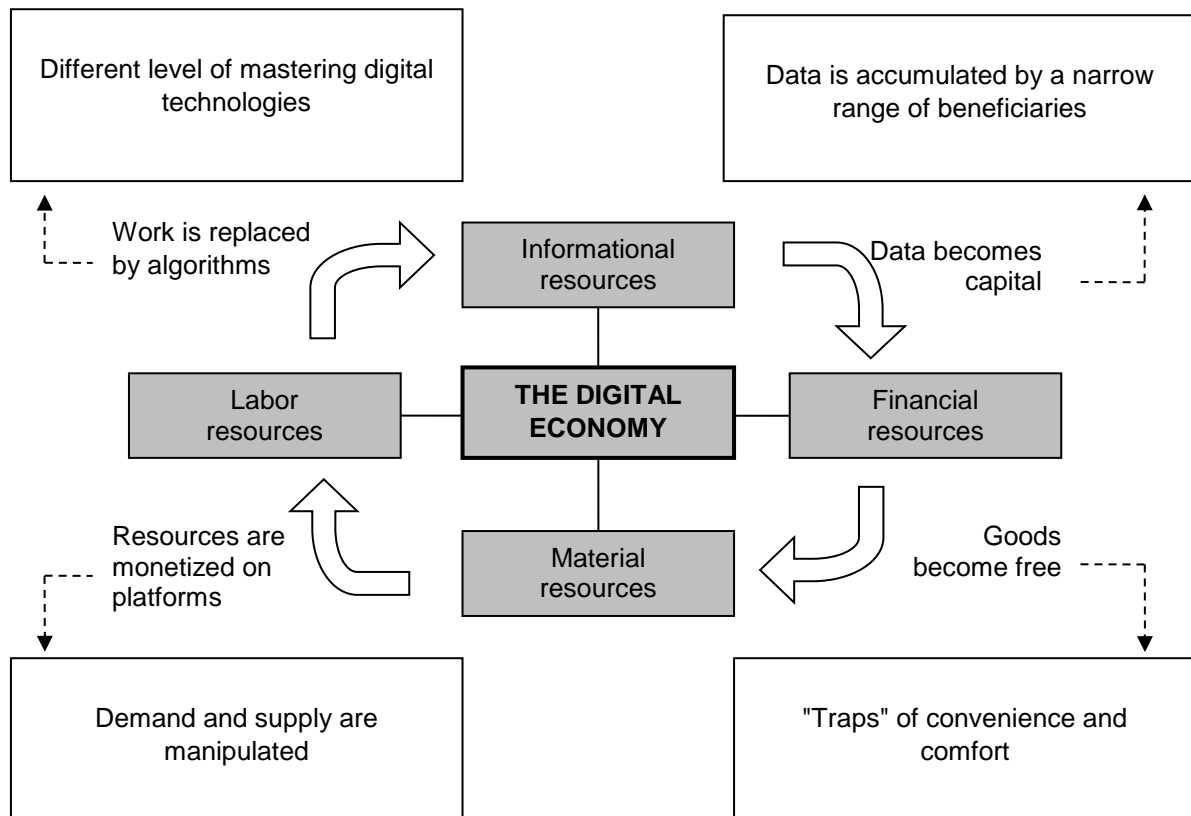
Table 1: New Challenges of the Subjects of the Digital Economy

Property of technologies	Effect	Challenges
Rapid development of technology	Dying away of the old technology	Responding to change
Rapid proliferation	Change in the way of conducting economic activities	Prediction of new opportunities
Emergence of new business opportunities	Significant economic effect	Change of status quo

- Rapid development of technology. Economic security is achieved through the ability of the subjects of the digital economy to function in the extended reproduction regime. This means that the subjects of the digital economy must have the ability to function simultaneously both in the conditions of the dying out of the old technologies and in the conditions of the development of new technologies.
- Rapid spread of technology. Economic security is achieved through the ability of the subjects of the digital economy to predict new business opportunities and to avoid a critical dependence on the former ways of doing business.

- The emergence of new opportunities. Economic security is achieved through the ability of the subjects of the digital economy, to see emerging problems along with new emerging opportunities.

The emerging problems of ensuring the economic interests and freedoms of the individual and a citizen in the digital world are described by the authors of this article from the standpoint of five known factors of production: labor, land, capital, information and entrepreneurial ability (Fig. 2). At the same time, the entrepreneurial ability as a unifying factor is presented by us in the center of the scheme and is replaced by the term ‘digital economy’.



*Figure 2: Emerging problems of ensuring economic interests and freedoms of the individual and a citizen in the digital world.*

The proposed approach to describing the emerging problems of ensuring economic interests and freedoms of man and citizen in the digital world allows future researchers:

- a) to test the hypothesis of the need to improve the level of economic security of the individual, society, the state under conditions of acquisition by the data in digital form of the liquidity properties due to their alternative value;
- b) to describe qualitatively how the citizens' confidence in the digital environment is changing;
- c) to identify new threats to the individual, society and the state associated with the tendencies to build complex hierarchical information systems in conditions of increasing external information impact on economic entities and the application to them of technologies for the effective analysis of large data and other methods of intellectual analysis;
- d) to describe new, including derived designs of digital economic security and the relationship between the elements of this design as part of a complex digital economy system.



As for the design of digital economic security, in general terms it can be illustrated in Fig. 3.

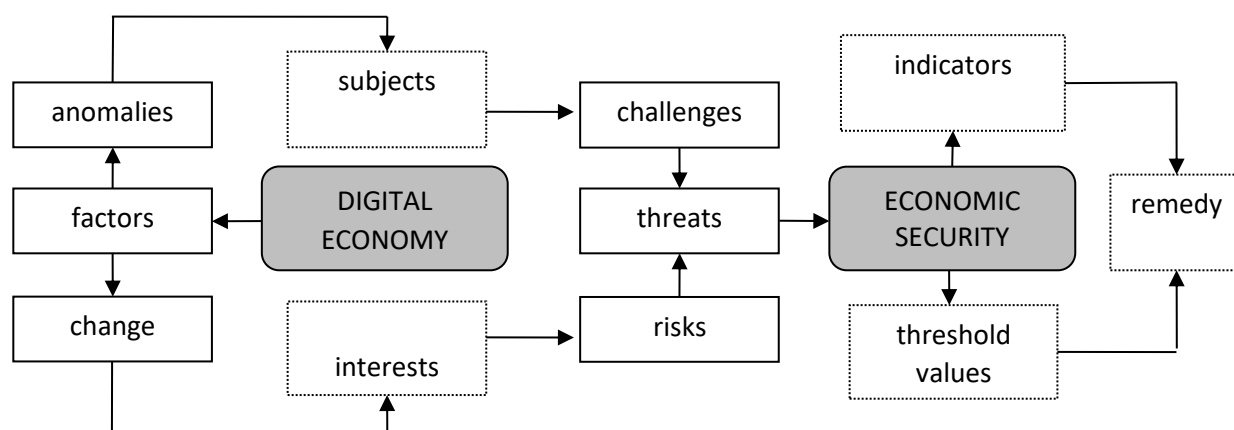


Figure 3: Designs for ensuring digital economic security.

The proposed design is also based on five factors of production. Under the impact of new digital technologies, there may be anomalies in the behavior of subjects of the digital economy and the interests of these subjects may change. Anomalies in the behavior of subjects of the digital economy and changes in their interests provoke the emergence of new challenges and create risks. In the future, challenges and risks are transformed into real or potential threats to economic security. It is necessary to create a system of indicators and establish their thresholds to find and detect these threats. The system of digital economic security must have a set of measures to neutralize threats.

## 5. CONCLUSION

The approach described in this article assumes the development of a method for observing significant changes in the daily life of a person connected with the use of digital technologies, which is based on the model of adaptive imitative behavior of subjects of the digital economy. The proposed approach makes it possible to solve the problem of determining the natural utility function of subjects of the digital economy by analyzing external influences and, on this basis, identifying mechanisms for its change. The originality of the proposed methods lies in their basing on the evolutionary theory of games, which will permit to identify evolutionary-stable models of behavior of subjects of the digital economy and elements of ensuring their economic security, provided that the total suitability of the individual, society and the state for changes in the digital economy is maximized. The result of the simulation modeling of the developed algorithms based on the proposed method of observation and the proposed solution to determine the natural utility function will become the revealed patterns of economic behavior of subjects of the digital economy. Comparison of these results with the scenarios of penetration into the economy of problem-oriented applied algorithms, machine learning systems and other methods of intellectual analysis will help to reveal new threats to the individual, society and the state related to the tendencies to construct complex hierarchical information systems in the conditions of growing external information impact on economic subjects and the application towards them of technologies for the effective analysis of big data and other methods of intellectual analysis. In addition, the proposed approach allows for a qualitative description of the emerging problems of ensuring economic interests and freedoms of a person and citizen in the digital world, in the conditions when the demand and offer of the economy are being manipulated, and the citizens' trust in the digital environment is changing. This article is published for the purpose of developing the research 'Constructions for ensuring the digital

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## ESTIMATION OF THE VARIANCE OF PROJECT RETURNS THROUGH A CASH FLOW BETA APPROACH

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### ABSTRACT

*The variance of the return on a project is a necessary input parameter for several financial calculations that have high potential in decision-making practice, such as real options analysis and project portfolio selection. To proper estimation of this variance, an obvious obstacle is the lack of stock price data regarding projects. However, historical project cash flow data may better be available. Building on the theoretical framework published in previous studies, we propose an approach how the variance of project return can be estimated in the context of the Capital Asset Pricing Model (CAPM) if historical cash flow data are available. We show how the return on the project's hypothetical stock can be decomposed into a normal return dictated by the CAPM and an abnormal return stemming from the revision of expectations regarding the project's cash flows. The part of variance attributable to the abnormal component can be estimated from a series of expectations generated from historical data regarding the project's cash flows. The part attributable to the normal component can be determined by estimating a cash flow beta from the same series via regression on market portfolio returns. By the help of the formulas developed for the total variance determination, we also express the idiosyncratic and the systemic variance of the project return as functions of the cash flow beta and the abnormal component. We point out that the framework we propose is applicable not only to projects but privately held companies as well, since the lack of stock price data is similarly an issue in their case. Furthermore, our findings also make it possible to extend the application of the Treynor – Black portfolio model, for which the idiosyncratic variance is a key input parameter.*

**Keywords:** CAPM, cash flow beta, idiosyncratic, project return, variance

### 1. INTRODUCTION

The variance of the return on an investment is an important input for several financial models and calculations, such as real options (see, e.g., Dixit, Pyndick, 1994; Trigeorgis, 1996; Copeland, Antikarov, 2003) and portfolio selection (see, e.g., Markowitz, 1952, 1959; Treynor, Black, 1973; Chien, 2002). However, estimation of this variance is not always straightforward (see, e.g., Davis, 1998; Luehrman, 1998; Cobb, Charnes, 2004; Godinho, 2006; Brandão, Dyer, Hahn, 2012).<sup>1</sup> A plausible way of estimation would be to look at historical prices of the investment, from which historical returns could be calculated and then their variance could be estimated. A sufficient series of historical prices are usually available if the investment is publicly traded (e.g., a stock traded on a stock exchange), and then variance estimation can be

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<sup>1</sup> We note that, in the real options literature, often the term “volatility” is used to refer to the variability of returns over a given period of time. However, as it is, in essence, just a kind of standard deviation (or variance), we use the general mathematical term of variance throughout this paper.

done directly and specifically to the investment the analyst is interested in. However, often such investments are the subjects of analysis that are not publicly traded and, therefore, no price data are available about them (e.g., privately held companies and capital budgeting projects). In their case, estimation would look for publicly traded investments with similar risk characteristics, i.e., so-called “comparables.” The application of comparables usually entails a compromise as similarity is typically limited; therefore, estimation directly regarding the investment concerned is desirable. Even if price data about the investment are not available, cash flow data are more likely to be available, either specifically about the investment or about comparables with better similarity. It is intuitive that the variance of the investment returns stems from the variance of the underlying cash flows of the investment. The motivation of our paper is to derive the mathematical formulas by which the cash flow variance could be translated into return variance, which could thus open a way to overcome the obstacle of lack of price data. It is also intuitive that the mathematical relationship is dependent on the framework describing the risk – return relationship in the capital market. We conduct our investigation in a multi-period setting where the Capital Asset Pricing Model (CAPM) is assumed to hold in each period. To the best of our knowledge, no paper addressing return variance estimation (see, for example, the references earlier) has so far considered formally the conditions imposed by assumption of the CAPM. Our research is, however, not without previous related studies to build on: the fundamental theoretical framework is provided by Fama (1977), who showed how the uncertainty related to cash flows affects the valuation in the multi-period CAPM. Empirical applications of Fama (1977)’s paper are Kreuzberg (1996) and Andor, Dülk (2015), who provide estimations of the beta parameter for the cost of capital of energy efficiency projects. Andor, Dülk (2015) also report the formulas to convert the systemic cash flow risk, as measured by a so-called “cash flow beta,” into the traditional CAPM beta of the investment return referred to as “stock beta.” They discuss that, following Fama (1977), such cash flow risk stems from uncertain revisions of expectations over time regarding the amounts of future cash flows until the actual realization of the cash flows. They also posit that the cash flow beta yields from the regression between the revisions of these expectations and the market portfolio returns. Based on the work of Andor, Dülk (2015), we discuss that the return variance is determined, on the one hand, by the variance of the abnormal return, which is attributable to the uncertainty of revisions of cash flow expectations, and, on the other hand, by the normal return, which is the expected return dictated by the equilibrium model CAPM. The main contribution of our paper is that, by application of the cash flow beta, we derive the formulas that express the total, systemic, and idiosyncratic variances of the return as functions of only cash flow risk (i.e., cash flow beta and variance of revisions) and general market parameters (i.e., risk-free rate, and market portfolio return expectation and variance) in the CAPM context. We find that the return variances have their cash flow variance counterparts, which are proportionate according to the ratio of the stock beta and the cash flow beta (unless the cash flow beta is zero, in which case the stock beta must also be zero and the proportion is determined by the risk-free rate). As regards estimation in practice, we summarize the key related findings of Andor, Dülk (2015). To obtain the probability distribution of revisions of cash flow expectations, a model can be estimated from historical cash flow data, which model describes the evolution of cash flows. Then, a series of expectations can be generated from this model, from which a series of revisions can be calculated, from which the variance of revisions can be estimated as well as the cash flow beta via regression on historical market portfolio returns. Finally, knowing the general market parameters, the various return variance components can be calculated. The remainder of this paper is structured as follows. In Chapter 2, we discuss the related theoretical background and introduce the formulas we employ for our derivation of variances. In Chapter 3, we discuss the variance decompositions and develop our formulas. In Chapter 4, we discuss the practical estimation aspects. Chapter 5 concludes the paper.

## 2. THEORETICAL BACKGROUND

Our investigation of the variance of returns is conducted in the framework of the CAPM, which states a linear relationship between expected return and risk in the following form:<sup>2</sup>

$$(1.) \quad E(r_S) = r_f + \beta_S(E(r_M) - r_f)$$

where  $r_S$  is the return on investment  $S$ ,  $r_f$  is the risk-free rate,  $r_M$  is the return on the market portfolio  $M$ ,  $\beta_S$  is the beta of the investment  $S$ , and  $E(\cdot)$  is the expectation operator. Furthermore, the beta is composed as:

$$(2.) \quad \beta_S = \frac{\text{cov}(r_S, r_M)}{\sigma^2(r_M)}$$

where  $\text{cov}(\cdot)$  denotes covariance, and  $\sigma(\cdot)$  denotes standard deviation.

The detailed derivation of the CAPM and the discussion of its assumptions can be found in the original papers by Sharpe (1964) and Lintner (1965). We use the notation “S” to refer to a “stock” as the investment, as the beta directly is typically estimated for stocks and the typical objective in corporate finance is the maximization of stockholders’ wealth. As it is implied by (1.) and (2.), there is a linear relationship between the return on the stock  $S$  (that is,  $r_S$ ) and the return on the market portfolio  $M$  (that is,  $r_M$ ), which can be written in the following formula:

$$(3.) \quad r_S = r_f + \beta_S(r_M - r_f) + \gamma$$

where  $\gamma$  is a disturbance term, a random variable with mean zero and is stochastically independent of  $r_M$ , by definition. Note that, in (3.),  $r_S$ ,  $r_M$ , and  $\gamma$  are random variables, whereas  $r_f$  and  $\beta_S$  are constants (deterministic variables), by definition as follows from the CAPM. The CAPM, in its original form, is a single-period model; that is, it formulates a relationship between expectations regarding only the “next period’s” returns. Fama (1977) discusses the valuation of cash flows in a multi-period setting where the CAPM is assumed to hold in each period, and also points out the restrictions on the evolution of valuation parameters imposed by the assumption of the multi-period CAPM. It is concluded by Fama (1977) that the only admissible source of uncertainty in this setting is the revision of expectations over time regarding the amount of future cash flows. That is, the only uncertainty is how the investor would modify his expectations of a future cash flow as new information is randomly being revealed over time until the actual realization of the cash flow. (For a more detailed summary of this theory and the valuation equation, see Andor, Dülk, 2015.) Thus, considering a stock  $S$  which provides a claim only on a single cash flow  $F$  to be received at some future time  $t$ , the value  $V$  of this stock can be written at any time  $\tau$  (not later than  $t$ ) as:

$$(4.) \quad V_{S,\tau} = \frac{E_\tau(F_t)}{(1+E(r_S))^{t-\tau}}$$

In the same manner, the value of the same cash flow at time  $\tau-1$  can be written as:

$$(5.) \quad V_{S,\tau-1} = \frac{E_{\tau-1}(F_t)}{(1+E(r_S))^{t-\tau+1}}$$

<sup>2</sup> We note that, throughout this paper, we mostly use the notations, expressions, and formulations as found exactly in the related studies referenced.

where  $F_t$  is the cash flow occurring at time  $t$ , and the time subscript of  $E(\cdot)$  indicates conditional expectation, that is, an expectation formed regarding the amount of the future cash flow and based on the information set available as of a given time prior to realization of the cash flow.

These formulas also reflect the simplifying assumption of a constant (time-invariant) cost of capital (discount rate,  $E(r_S)$ ) (see also Andor, Dülk, 2015).<sup>3</sup> Essentially, these formulas show that a stock is valued as the present value of its expected amounts of future cash flows, where the expectation is formed at the time of valuation, based on the information set available as of that time. The discount rate is the expected return dictated by the CAPM as equilibrium model, corresponding to the (systemic) risk of the stock as determined by its beta  $\beta_S$ . From (4.) and (5.), the return on the stock from time  $\tau-1$  to  $\tau$  (that is, over the period ending at time  $\tau$ ) can be expressed as (see also in Andor, Dülk, 2015):

$$(6.) \quad r_{S,\tau} = \frac{V_{S,\tau}}{V_{S,\tau-1}} - 1 = \frac{E_\tau(F_t)}{E_{\tau-1}(F_t)} (1 + E(r_S)) - 1$$

As  $E(r_S)$  is assumed to be deterministic, the term that is the ratio of the cash flow expectations is the one from which the risk of the stock return stems from. This is referred to by Fama (1977) as “expectations adjustment variable” and is denoted by  $\varepsilon_\tau^t$ , defined more precisely by deducting 1 (to reflect a percentage change in expectations) as:

$$(7.) \quad \varepsilon_\tau^t = \frac{E_\tau(F_t)}{E_{\tau-1}(F_t)} - 1$$

The expectations adjustment variable reflects how the expectation regarding the future cash flow is revised from time to time. It is a random variable because such revisions are due to new information being revealed that was not anticipated earlier. Fama (1977) assumes that expectations are formed rationally; that is, all the relevant information available as of a given time are used to formulate the expectations; therefore, any revision of expectations later must be completely random and due to new information that was not part of the information set available earlier. Mathematically, this implies that expectations follow a martingale process and the expectations adjustment variable has zero mean (conditional on all past information, that is,  $E_{\tau-1}(\varepsilon_\tau^t) = 0$ ). By (7.), (6.) can be rewritten as:

$$(8.) \quad r_{S,\tau} = (1 + \varepsilon_\tau^t)(1 + E(r_S)) - 1$$

By taking expectation conditional per  $\tau-1$  (or earlier), we would get an identity of the left and right-hand side, as expected under rational expectations. As discussed by Fama (1977), it can be considered reasonable to generalize the equations in the multi-period CAPM framework to any point in time if the risk characteristics of a given cash flow can be assumed stable over time (see also Footnote 3) as well as to many cash flows with the same risk characteristics (see in more detail also in Andor, Dülk, 2015). Thus, the  $\tau$  and  $t$  time indices can be dropped, and we will use the following simplified statement of (8.), which is thus harmonised with (1.)-(3.):

$$(9.) \quad r_S = (1 + \varepsilon)(1 + E(r_S)) - 1$$

<sup>3</sup> As discussed in Fama (1977), the multi-period CAPM implies that the discount rate might differ across periods but cannot be stochastic. That is, the discount rate must evolve deterministically over time; therefore, the assumption of a constant, time-invariant rate can be considered more reasonable (see Fama, 1977).

From (2.) and (9.), and the discussion provided by Fama (1977), it can be seen that the key item determining the systemic risk of a stock is how the revision of the expectations regarding its cash flows covaries with the market portfolio return. In order to grasp this relationship directly, a so-called “cash flow beta”  $\beta_C$  was introduced by Andor, Dülk (2015), analogously to the traditional “stock beta”  $\beta_S$  in (2.), according to the following formula:

$$(10.) \quad \beta_C = \frac{\text{cov}(\varepsilon, r_M)}{\sigma^2(r_M)}$$

Furthermore, based on the simplifying assumptions mentioned so far in this paper, Andor, Dülk (2015) also derive the mathematical relationship between the cash flow beta and the stock beta as:

$$(11.) \quad \beta_S = \frac{\beta_C(1+r_f)}{1-\beta_C(E(r_M)-r_f)}$$

Andor, Dülk (2015) also discuss the conditions under which the two betas can be numerically equal. However, the equations so far clearly demonstrate that changes in the stock price are not necessarily equivalent to changes in the cash flow expectations (or variations in the cash flows themselves); nevertheless, there is an obvious theoretical link between the evolution of the two, and this link is also explicitly formalized into mathematical equations. In the following sections, we will use these equations to express the variance of the return and suggest a related estimation procedure.

### 3. VARIANCE OF RETURN AND ITS DECOMPOSITIONS

From (9.), it can be seen that the return on a stock is actually a combination of two components. One is a deterministic component,  $E(r_S)$ , which is the equilibrium expected return dictated by the CAPM – this is referred to as “normal return”. The other is a stochastic component,  $\varepsilon$ , which is the uncertain revision of expectations of the cash flows – this corresponds to the “abnormal return” mentioned in investment theory (see, e.g., Brealey, Myers, Allen, 2011). By taking the variance of (9.), we get:

$$(12.) \quad \sigma^2(r_S) = (1 + E(r_S))^2 \sigma^2(\varepsilon)$$

This shows that the variance of the return is also made up of a normal component (determined by  $E(r_S)$ ) and an abnormal component (determined by  $\varepsilon$ ). The left-hand side of (12.) is the so-called “total risk” of the stock; in other words, the risk an investor would perceive by holding the stock alone (i.e., undiversified). Under the CAPM, which builds crucially on the fact of diversification, the total risk is divided into two parts: the “systemic risk” and the “idiosyncratic risk,” of which only the former is relevant to determine the equilibrium expected return, because the latter is eliminated via diversification in the market portfolio. This decomposition of the total risk can be expressed based on (3.) as:

$$(13.) \quad \sigma^2(r_S) = \beta_S^2 \sigma^2(r_M) + \sigma^2(\gamma)$$

Note that the above builds on the facts that, in (3.), only  $r_M$  and  $\gamma$  are random variables, and they are stochastically independent of one another. On the right-hand side of (13.), the beta part coupled with  $r_M$  is the systemic part, and the  $\gamma$  part is the idiosyncratic part. By knowing from the theoretical background that  $E(r_S)$  is determined by  $\beta_S$ , which can be expressed as a function



of  $\beta_C$ , we can translate (13.) – which is an equation using “stock return variables” – into an equation using only “cash flow variables,” by combination of (1.), (11.), and (12.):

$$\sigma^2(r_S) = \beta_S^2 \sigma^2(r_M) + \sigma^2(\gamma) = \left( 1 + r_f + \frac{\beta_C(1+r_f)}{1-\beta_C(E(r_M)-r_f)} (E(r_M) - r_f) \right)^2 \sigma^2(\varepsilon),$$

from which, by performing the algebraic simplifications, we get:

$$(14.) \quad \sigma^2(r_S) = \beta_S^2 \sigma^2(r_M) + \sigma^2(\gamma) = \left( \frac{1+r_f}{1-\beta_C(E(r_M)-r_f)} \right)^2 \sigma^2(\varepsilon)$$

Equation (14.) provides the mathematical link between the risk of the stock returns and the risk of the cash flows. An alternative formulation of (14.), by using a rearrangement of (11.) and assuming non-zero cash flow beta<sup>4</sup>, is:

$$(15.) \quad \sigma^2(r_S) = \beta_S^2 \sigma^2(r_M) + \sigma^2(\gamma) = \frac{\beta_S^2}{\beta_C^2} \sigma^2(\varepsilon)$$

which shows that the total variance of the stock return stems from the cash flow risk and is determined by the proportion of the stock beta and the cash flow beta. Note that, from (14.), if the cash flow beta is zero, then the proportion is simply  $1+r_f$  squared. Finally, based on the discussion so far, we can express the systemic and the idiosyncratic variance of the stock return in terms of cash flow risk separately as:

$$(16.) \quad \sigma^2(r_S)_{systemic} = \beta_S^2 \sigma^2(r_M) = \left( \frac{1+r_f}{1-\beta_C(E(r_M)-r_f)} \right)^2 \beta_C^2 \sigma^2(r_M)$$

$$(17.) \quad \sigma^2(r_S)_{idiosyncratic} = \sigma^2(\gamma) = \left( \frac{1+r_f}{1-\beta_C(E(r_M)-r_f)} \right)^2 (\sigma^2(\varepsilon) - \beta_C^2 \sigma^2(r_M))$$

It is also worth to note that if  $\beta_S \approx \beta_C$ , then:

$$(18.) \quad \sigma^2(\gamma) \approx \sigma^2(\varepsilon) - \beta_C^2 \sigma^2(r_M)$$

In the following section, we discuss how the above variance parameters may be estimated in practice.

#### 4. ESTIMATION OF VARIANCE PARAMETERS

In order to calculate the above-discussed variances, one group of parameters to be estimated consists of  $r_f$ ,  $E(r_M)$ , and  $\sigma^2(r_M)$ , which may collectively be referred to as “market parameters” (see also Andor, Dülk, 2015) because they are describing the market as a whole and are the same for any investment under examination. The estimation approaches of these market parameters are out of the scope of our current paper as they are addressed extensively in the available literature. The other group of parameters, which is the focus of this paper, is related to the probability distribution of the expectations adjustment variable,  $\varepsilon$ . As done usually, estimation could be based on historical data. Thus, the main question is how historical observations regarding  $\varepsilon$  can be obtained.

<sup>4</sup> Note that, from (11.), if the cash flow beta is zero, then the stock beta is also zero.

This is discussed by Andor, Dülk (2015) in much detail; therefore, we only provide the key findings of their discussion here. First, it is to be emphasized that the observations used for estimation must pertain to cash flows with the same risk characteristics (referred to as “cash flow type” by Andor, Dülk, 2015). A fortunate case is when expectations formed in the past about “to-be-received” (future) cash flows are available directly. However, most likely, such expectations are not available but historical cash flow data are. Therefore, an indirect approach can be taken, in which hypothetical expectations are generated from a process assumed to describe the evolution of the cash flows. Thus, based on the series of historical cash flow data, a model of the cash flow process is estimated, and it is assumed that investors have been formulating their expectations of cash flows (prior to realization) according to this model. From the series of hypothetical expectations according the model, a series of revisions of expectations can be calculated (analogously to stock returns from stock prices). In view of (10.), the cash flow beta can be estimated via linear regression run between the series of revisions and the market portfolio returns, according to the specification:

$$(19.) \quad \varepsilon = \text{const} + \beta_C r_M + \varphi$$

where *const* refers to the intercept, a constant, and  $\varphi$  is a disturbance term with mean zero and is stochastically independent of  $r_M$ .

This is analogous to the estimation of the stock beta from a series of historical stock returns and market portfolio returns. The variance of  $\varepsilon$  can also be estimated directly from the series of revisions generated for the above regression. As follows from the time-invariance assumption of risk characteristics, contemplated by Fama (1977) and also used by Andor, Dülk (2015), one-period-ahead forecasts can conveniently be used for estimation in practice; that is:

$$(20.) \quad \varepsilon \equiv \varepsilon_t^t = \frac{E_t(F_t)}{E_{t-1}(F_t)} - 1 = \frac{F_t}{E_{t-1}(F_t)} - 1$$

which reflects how the actual realization of the cash flow (at a given past time) deviated from the expectation formed about it one period earlier. We also note that, after introducing the specification in (19.), the variance of  $\varepsilon$  can be written as:

$$(21.) \quad \sigma^2(\varepsilon) = \beta_C^2 \sigma^2(r_M) + \sigma^2(\varphi)$$

which is a decomposition analogous to (13.). In view of this, and assuming non-zero cash flow beta, the systemic and the idiosyncratic variance expressed in (16.) and (17.) can be restated as follows:

$$(22.) \quad \sigma^2(r_S)_{\text{systemic}} = \beta_S^2 \sigma^2(r_M) = \frac{\beta_S^2}{\beta_C^2} \beta_C^2 \sigma^2(r_M)$$

$$(23.) \quad \sigma^2(r_S)_{\text{idiosyncratic}} = \sigma^2(\gamma) = \frac{\beta_S^2}{\beta_C^2} \sigma^2(\varphi)$$

Furthermore, if  $\beta_S \approx \beta_C$ , then (23.) reduces simply to:

$$(24.) \quad \sigma^2(\gamma) \approx \sigma^2(\varphi)$$

These equations, together with (15.), show that the same variance decompositions as can be done for the stock risk can also be done for the cash flow risk.

The two are related to each other by the proportion of the stock beta to the cash flow beta, unless the cash flow beta is zero, in which case the stock beta must also be zero and the proportion is determined by the risk-free rate. Thus, in case the difference between the two betas is relatively small (including the case they are both zero, as the risk-free rate is usually relatively small), the cash flow variances can be directly used without any mathematical transformation as approximation for the return variances.

## 5. CONCLUSION

As a stock is a claim on future cash flows (e.g., dividends), it is intuitive that the variance of stock returns stems from the variance of the cash flows. In this paper, we derived the mathematical formula that links the two kinds of variance in a multi-period framework where the CAPM is assumed to hold in each period. Tracing back variance to the cash flow level and being able to convert cash flow risk into stock return risk has important practical implications. Often, analysts performing discounted cash flow analyses and using the CAPM for cost of capital estimation face the challenge of lack of stock price data regarding the project or company under analysis, and thus they need to look for “comparables.” However, historical data about project or company cash flows are more likely to be available, and thus, by the methodology described in this paper, estimation can be performed specifically to the project or company, or better comparables can be used at least. We note that, although our discussion referred to stock return characteristics (e.g., stock beta, stock return variance), it is readily applicable to projects as well: the objective in case of project valuation is also the maximization of stockholders’ wealth, that is, maximizing the value of equity invested in the project. So, in that case, the discussion relates to the hypothetical stock of the project, assuming the project has stocks issued as equity financing. The applicability to privately held companies is evident as they may actually have stocks issued. In this paper, we discussed how the variance of the return is determined by the abnormal return and the normal return (which concepts are familiar from existing investment theory). The former is a stochastic component, which reflects the uncertain revisions of expectations about the future cash flows. The latter is a deterministic component, which reflects the equilibrium expected return on the investment per the CAPM. The contribution of our paper is that, by application of a cash flow beta – defined by previous studies as the traditional CAPM (stock) beta where stock returns are replaced by revisions of cash flow expectations –, we showed how the total, the systemic, and the idiosyncratic variances of the return can all be expressed as functions of only cash flow risk and general market parameters. We generally find that these return variances are all proportionate to their cash flow counterparts, where the proportion is identically the ratio of the stock beta and the cash flow beta (unless the cash flow beta is zero, when the proportion is determined by the risk-free rate). Based on previous related studies, we also summarized how the return variance estimation could be performed in practice. For that, from historical cash flow data, a model is to be estimated that is considered to describe the evolution of cash flows, and then, by that model, approximations for the historical series of cash flow expectations can be generated, which are the necessary inputs for the regression on historical market portfolio returns to estimate the cash flow beta. The formulas and methodology discussed in this paper may open a new way to obtain the inputs for several interesting practical financial calculations (such as, e.g., real options analysis, project portfolio selection, Treynor – Black model).

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## **INNOVATIVE AND CREATIVE COMMUNICATION CAPACITY OF BUSINESS ORGANISATIONS IN COMPLIANCE WITH GLOBALISATION TRENDS**

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### **ABSTRACT**

*Globalisation is defined as an increasingly integrated world economy and has the main potential to bring up synergy among management skills, communication potential to fit into the new trends of how to be competitive in the global market. The research was conducted in leading business organizations in the Republic of Croatia and has thus shown that the success of business organizations and the acquisition of market games lays in clearly set objectives, resources, factors and innovative capabilities of business organizations in order to follow the modern trends and benefits in global management.*

**Keywords:** *communication, creativity, globalisation, innovation, innovative communication, management*

### **1. GLOBALISATION TRENDS IN INNOVATIVE COMMUNICATION**

Globalization as a term has a widespread use, and the unambiguous definition of the concept of globalization does not exist. The term is complex, sensitive and multi-faceted as a phenomenon. As seen in a number of scientific journals, it implies different phenomena and processes on an interdisciplinary basis, especially in the field of social and humanistic sciences. The etymology comes from the word *global* and is clarified as a social process that seeks the comprehensiveness and uniqueness of the world (Turek, 1999). Then, it may refer to the “reduction” of the world, but also to the strengthening of the world awareness as a whole (Robertson, cit., El Milardović 1999). We find the reasons for globalization in the rapid development of science, modern technology, open market economy, democracy (Lončar, 2005). In the 1980s, Ronald Robertson (Robertson, 1992) sets theoretical paradigms of globalization. Some of the scientists (Beck, 1997) describe eight globalities: the economic type, the technological type, the university values, the global cultural industry, the polycentric world politics, the world's impoverishment, the global destruction and destruction of man's environment, transcultural conflict. Since the Second World War, the empowerment of multinational companies that are transnationalized into the supra-national alliances has started (NATO, EU). Their impact is important for making investment decisions at the national level, networking of financial markets, continuous ICT development, the development of global culture and polycentricity of European politics. The goal of business organizations must strive to: global thinking and understanding of global impacts, exploiting business opportunities in the global environment, spreading global thinking, understanding technology, knowledge and applying the latest technologies available in the world market, developing creative and innovative capabilities of employees, investing in employee education, developing partnerships

and fostering innovative communication, building top teams, managing continental teams, and developing partnerships with other organizations through understanding the framework of thinking and behaviour of employees of other business organizations, creating a common vision, stimulating creative and innovative (constructive) communication, managing changes, pursuing consumer satisfaction, securing competitive advantages, and so on. By following contemporary globalization trends, creativity and innovation are viewed directly and indirectly, and are divided into activities - individual creativity, team creativity, which contributes to the innovation of the business organization.

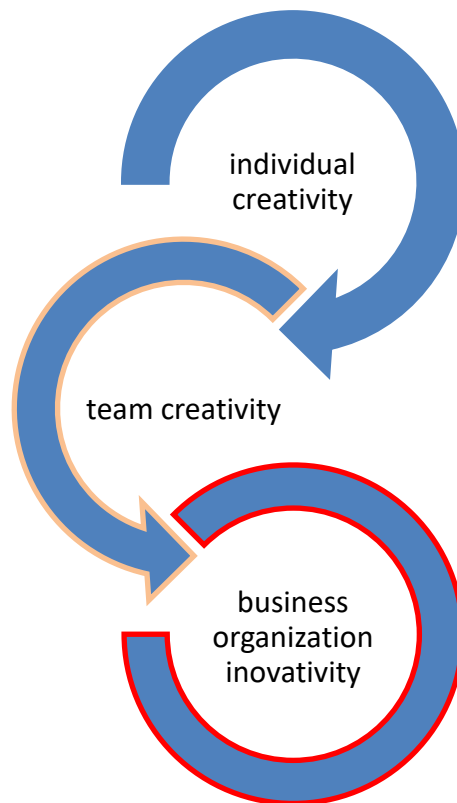


Figure 1: Model of the „Perpetum mobile“ creativity – innovation (Dvorski, 2017)

## 2. METHODOLOGY

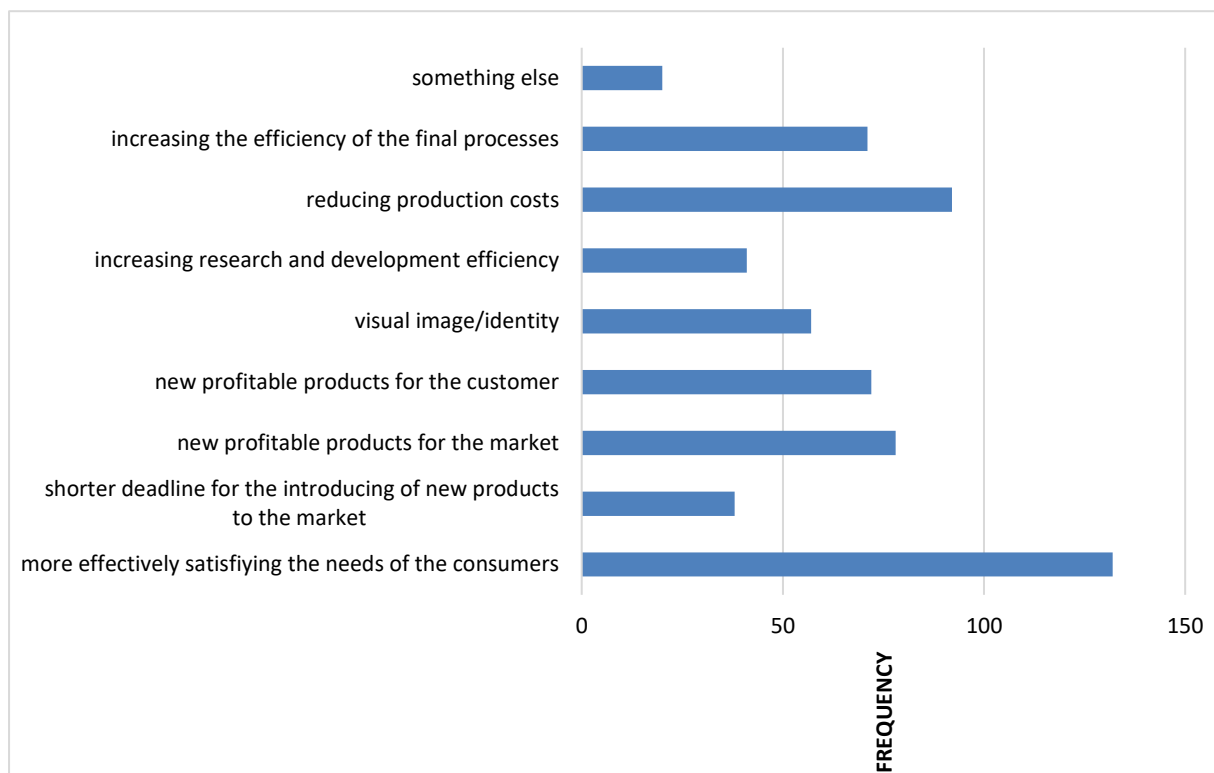
For the purpose of a doctoral thesis research (Dvorski, 2017), this research was conducted using an adjusted (for business organizations in Croatia) and translated questionnaire of the author: Zerfass and Ernst: Forschungsprojekt "Kommunikation als Erfolgsfaktor im Innovationsmanagement" (Zerfass and Ernst, 2008). The target group were the CEOs of communication organizational units (N = 202). The questionnaire measures communicational determinants of innovative communication management which follows the globalisation trends. In statistic analysis qualitative and quantitative data analysis methods have been used. Socio-demographic characteristics (independent variables) were examined: the number of respondents, gender, age, position in the business organization. Dependent variables are: information, opinions and attitudes of respondents about the processes and results of these processes in the field of innovative communication. The aim of the whole research was to determine the importance of innovative and creative communication and to find which forms and types of communication are used by their CEOs in order for their organizations to become recognized by innovativeness in the global market. A hypothesis has been set: Only specific forms and types of communication stimulate the innovativeness on behalf of communication management in a business organization.

### 3. RESULTS AND DISCUSSION

*Table 1: An innovation and creativity sociogram (Dvorski, 2017)*

<b>For me, the term most associated with innovation is..</b>	<b>f</b>	<b>%</b>
creativity	145	71,78%
innovation	99	49,01%
imagination	56	27,72%
market competition	101	50,00%
change	95	47,03%
proactivity	110	54,46%

The strategic importance of innovation has been tested by the association of terms by providing key words to respondents about innovative activities of their business organization (proactivity, change, market competition, imagination, innovation, creativity): What do you associate with the innovative actions in your business organization? "Creativity", as the most important term was chosen by 71.78% of the respondents, followed by the term "proactivity" 54.46%



*Figure 1: Innovation goals at the business organization (Dvorski, 2017).*

Figure 1 (N = 202) shows the goals which require an innovative approach. Defining the goal as the terminal point for business organizations to direct their activities, i.e. outcomes of the plan and the mission, some of the goals were offered to respondents in order to examine their attitude towards innovation in their business organization. The respondents concluded in a large percentage (65.35%) that the crucial goal for positioning innovativeness is "meeting the needs of end users more effectively". On the second place with 45.54% is the statement "reducing production costs" and it fits with the constraints of business organization to be uniquely competitive on the global market.

“Shorter deadline for introducing new products to the market” is not crucial (18.81%) because innovation and communication must match the needs of customer, with pleasure in the internal structures of business organization.

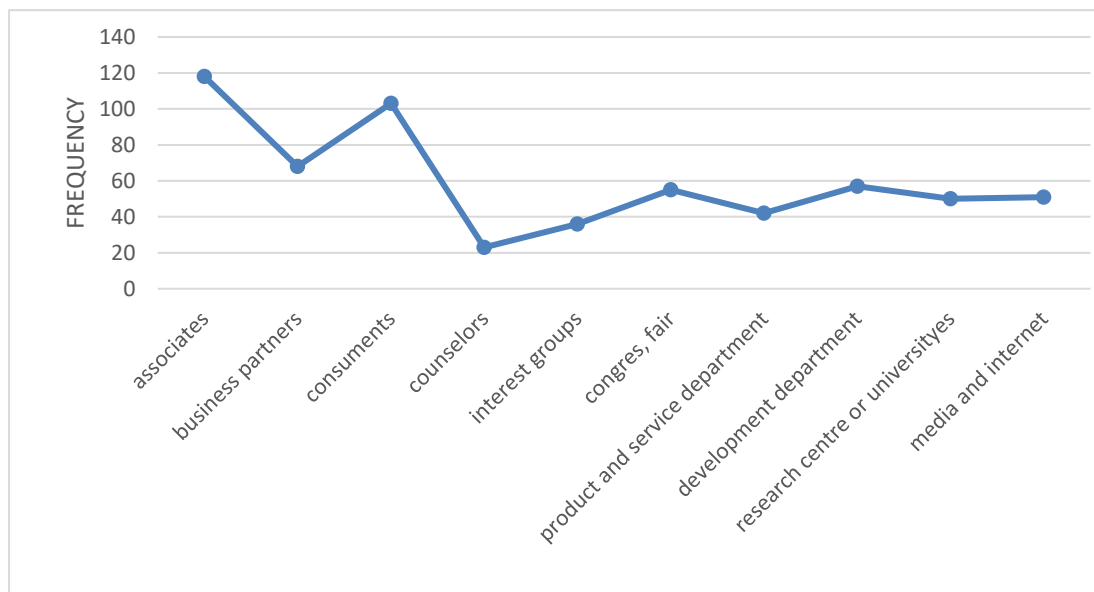


Figure 2: Internal and external sources of innovative ideas (Dvorski, 2017)

The statistical survey of the respondents (N = 202) in Figure 2 suggests a close cooperation of the external and internal factors of the business organization in order to bring creative ideas. The statistically significant source are associates (58.42%), then the consumers as the inexhaustible source of inspiration for the improvement of the business process (50, 99%) and as the third part of the triad of the influence and importance of innovation sources are business partners (33.66%) (Fig.2).

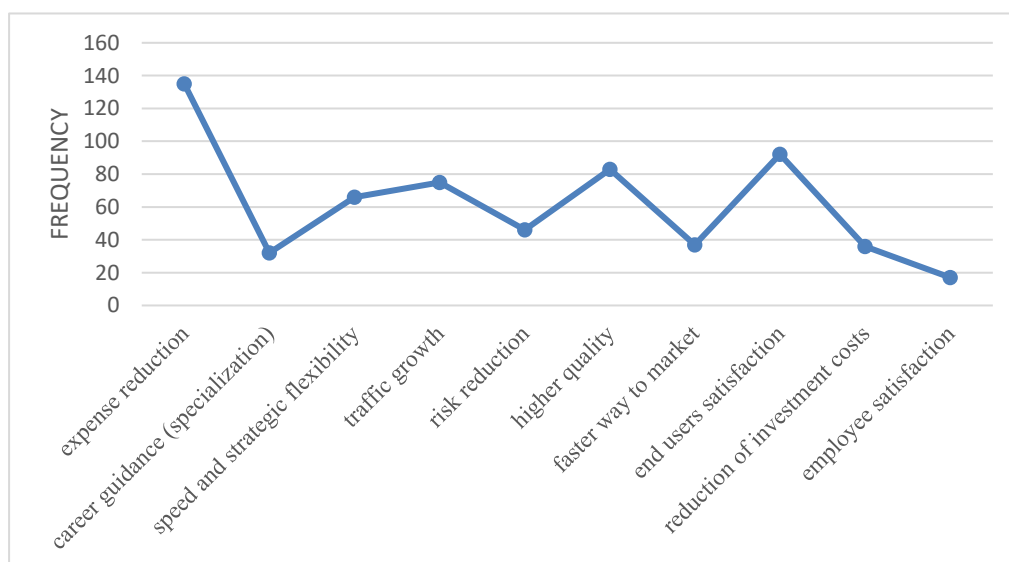


Figure 3: Goals of cooperation with inner and external partners (Dvorski, 2017)

Figure 3 shows the attitude towards the objectives of innovative communication in the global market in order to achieve innovative and creative capacity. Cost/expense reduction (66, 83%) and end-user satisfaction (45.54%) was a statistically significant (N = 202) choice compared to other statements (Figure 3).



*Table 2: Ways of establishing innovative and creative communication processes (Dvorski, 2017)*

Ways of establishing innovative and creative communication processes	Total			1,00	2,00	3,00	4,00	5,00
	N	M	SD	%	%	%	%	%
"The spirit of innovation" is inspired and lived in our organization.	202	3,26	1.080	5,0%	20,8%	30,7%	30,7%	12,9%
All business organization employees are actively involved in the innovation process.	202	2,85	1.162	10,4%	32,7%	30,2%	14,9%	11,9%
The task of developing a business organization is to systematically anticipate market / technological trends and demand for ideas.	202	3,63	1.044	2,0%	13,4%	27,7%	33,7%	23,3%
Innovation development in my business organization applies only to selected employees who work in the field of research and development.	202	3,16	1.277	13,4%	17,3%	25,7%	26,7%	16,8%
There is a remuneration system for ideas and their successful implementation.	202	2,89	1.339	20,3%	20,8%	22,8%	22,3%	13,9%
There are interdisciplinary teams that are independent of the hierarchical structure that deals with innovation.	202	2,67	1.361	26,7%	20,8%	23,8%	15,8%	12,9%
Processes of innovation from development to market access in my business organization are strictly maintained and implemented without external influences.	202	3,16	1.192	9,9%	18,3%	33,2%	22,8%	15,8%
<b>Communication and collaboration are of crucial importance for the exchange of ideas and discussion.</b>	<b>202</b>	<b>4,12</b>	<b>1.010</b>	<b>2,0%</b>	<b>5,9%</b>	<b>15,8%</b>	<b>30,7%</b>	<b>45,5%</b>
<b>Management and controlling sectors participate in the implementation of innovative projects.</b>	<b>202</b>	<b>3,77</b>	<b>1.097</b>	<b>3,5%</b>	<b>10,4%</b>	<b>22,3%</b>	<b>33,7%</b>	<b>30,2%</b>
Information channels to all internal and external partners are eligible to promote innovation in my business organization.	202	3,38	1.030	4,0%	16,8%	29,2%	37,6%	12,4%
<b>Employee qualifications, their competencies and knowledge are considered to be the strategic potential of the organization.</b>	<b>202</b>	<b>4,03</b>	<b>1.046</b>	<b>1,5%</b>	<b>8,9%</b>	<b>17,3%</b>	<b>29,7%</b>	<b>42,6%</b>

Looking at the ways and possibilities of establishing innovation processes, Table 2 shows that almost half of the total number of business organizations surveyed (N = 202) chose the claims - "Communication and collaboration are of crucial importance for the exchange of ideas and discussion" (45.5%, M = 4.12, SD = 1.010) and - "Employee qualifications, their competencies and knowledge are considered to be the strategic potential of the organization." (42.6%, M = 4.03, SD = 1.046). This is also in line with the data from the online pages of the surveyed business organizations where the investment in various forms of innovative communication in order to be competitive in the global market is shown, i.e. by targeting the employment of a qualified staff, by investing in scholarships to attract the staff, which speaks in favour of all business organizations putting innovative communication in the first place. The statements with lower percentage of positive answers: "The spirit of innovation is inspired and lived in our organization." (2.9%, M = 3.26, SD = 1.080), then "Information channels to all internal and external partners are suitable for promoting innovation in my business organization.", (12.4% M = 3.38, SD = 1,030) and "There are interdisciplinary teams independent of the hierarchical structure that deal with innovation" (11.9%, M = 2.85, SD = 1.162), can serve in future surveys as a starting point for improvement innovation strategies and creativity by involving employees in the innovation process.

*Table following on the next page*

*Table 3: Innovation through Connecting Innovation and Communication (N = 202) (Dvorski, 2017)*

Connection of Innovation and Communication	Total			1,00	2,00	3,00	4,00	5,00
	N	M	SD	%	%	%	%	%
Improving communication processes in a business organization influences the promotion and building of a culture of innovation.	202	4,23	,797	1,0%	2,0%	10,9%	45,5%	40,6%
Communication primarily serves as a tool for professional disclosure of innovation results in a business organization.	202	3,44	1,017	1,5%	16,8%	35,6%	28,2%	17,8%
<b>Communication promotes and revives innovative processes in a business organization.</b>	202	4,34	,709	,5%	,5%	9,4%	44,1%	<b>45,5%</b>
Communication serves to unite the external ideas gained from end users, suppliers, associates and professionals.	202	4,10	,831	,5%	2,5%	19,3%	41,6%	36,1%

Table 3 shows the allegations of innovation and communication that contribute to the realization of the business organization's innovation. 45.5% of respondents agree that "Communication promotes and revives innovative processes in a business organization". The least agreed with statement with 17.8% (M = 3.44, SD = 1.017) is expressed by saying, "Communication primarily serves as a tool for professional disclosure of innovation results in a business organization," arguing that respondents of all business organizations are aware of the need for innovative communication and do not yet understand and use innovative communication options as a dry exchange of information, but in the daily performance of tasks using innovative methods of communication.

#### 4. DISCUSSION

Analyzing also the web pages of the examined business organizations and responding to the survey questionnaire of all respondents from business organizations involved in the research, we confirmed the hypothesis: Only specific forms and types of communication stimulate the innovativeness on behalf of communication management in a business organization - i. e. innovative communication oriented to the global market requirements (professional, proactive communication, investment in creativity, innovation, imagination, market competition, development, change). All surveyed business organizations have created their web pages with great professional care and detail (arranged vision, mission, social responsibility, investment in human resources, etc). Creativity and proactivity are of great importance to all respondents in order to create inspirational communicational environment and thus create an atmosphere for innovative communication. The innovation procedures and communication skills have to be the strength of a business organization in order to design innovative communication at work. Team work, clear mission and vision of the business organization, reputation / image of the business organization, are closely related in achieving the main goal: the innovative and creative communication capacity of business organisations according to globalisation trends.

## 5. CONCLUSION

Globalization is a complex multifunctional phenomenon that affects all the segments of a business organization. It has the power to create and re-create business organizations in their creativity and steadfast aspirations to innovation. One must not exclude critics and critics of globalization as one of the factors to improve the direction of thinking and movement of business organizations. Creative and innovative communication is an indispensable component of all successful business organizations which strives to the open market. Innovative and creative procedures of communication in a business organization are characterized by clear positioning in the market, fluidity of information inside and outside the business organization, high quality, proactive relationships in business organization, appreciation of time as an inexhaustible category, but very important in all segments of business, openness, investing in permanent employee knowledge, corporate reputation in the market (Dvorski, 2017). The global market imposes vital quality criteria that imply innovative communication and the burden of creative techniques in business. Innovative and creative communication in the business organisation is a strategic potential for tracking globalization trends. It is extremely important that the business organization and its stakeholders interact with innovative approaches to products, services, technologies and ideas, with the aim of creating a quality bonded network with many ways of innovative communication.

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## MODEL OF SMALL BUSINESS MONITORING

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### ABSTRACT

*Business management includes a numerous processes and activities. One of the most important process is the business planning. That planning implies monitoring changes in the environment, anticipating the impact of these changes on business and planning future business activities. Thus, business planning is a complex process, as well as business management, and requires engagement of an expert team to manage the company. However, small business has no the capacity to engage such an expert team, and small business owners manage the company themselves. In that sense, they need help to manage the enterprise. Taking into account the needs of small business owners and results of previous researches, model of small business monitoring has been created and described in this paper. The proposed model enables monitoring key business performances, understanding of the environment, and perceiving development opportunities. Small business owners can see current state values of performances, environment and opportunities, as well as their future expected trends on one simple view – dashboard. Likewise, the proposed model is simple to use and can be a kind of early warning toll of small business failure, because it enables spotting potential threats to business and activities that should implement to prevent business failure. The proposed model is created for small profit companies, but it is flexible, and can be adjusted and used in small non-profit companies, as well as in big companies.*

**Keywords:** *anticipating, small business, early warning, model, planning, system, tool*

### 1. INTRODUCTION

Small business is very important for the world economy in term of turnover, employment, etc. More than one third of workpeople are employed in small enterprises, which account more than 99% of all companies. However, small business faces the problems, especially management problem. That problem is generated by lack of staff, so small business owners have to take a responsibility. Hence, small business owners need a help. The purpose of this paper is to help small business owners in the business management area. In that sense, model of small business monitoring is created on the basis of the Balanced Scorecard (Kaplan & Norton, 2005; Kaplan & Norton, 2001; Niven, 2008) and models applied in the defence (Kankaraš, Stojković, & Kovač, 2014) and the policy (Kankaraš, Radović, & Petrović, 2017) sector. Furthermore, these models are adjusted according to small business owners' needs. The proposed model has a double purpose, business monitoring tool and early warning tool of business failure.

As business monitoring tool, the model enables business evaluation, spotting shortcomings and future possibilities. As early warning tool, the model enables identification of future threats and timely undertaking actions to prevent business failure. Except introduction and conclusion, this paper include two parts. The first part points out on the definition and significances of the small business. The second part describes the proposed model and its possibilities.

## 2. MEANING AND SIGNIFICANCE OF SMALL BUSINESS

There is no precise definition of small business in the literature. Practically, the definition is reduced to classification. The classification is based on certain criteria (number of employees, annual turnover, total assets, total annual sales, etc.). According the World Bank, there are three quantitative criteria for business classification: number of employees, and two financial criteria – total assets (expressed in US dollars – \$) and annual sales (expressed in US dollars – \$). To assort business, number of employees is mandatory criterion and least one of financial criteria. On the basis of the criteria, business can be categorized as micro, small, medium or large business (Figure 1).

*Table 5: Business classification (Customized: The World Bank, 2018)*

Business category	Number of employees	Total assets (\$)	Total annual sales (\$)
Micro	≤10	≤100.000	≤100.000
Small	>10≤50	>100.000≤3.000.000	>100.000≤3.000.000
Medium	>50≤300	>3.000.000≤15.000.000	>3.000.000≤15.000.000
Large	>300	>15.000.000	>15.000.000

The main criteria to classify business in European Union are headcount (number of employees), annual turnover (expressed in euros – €) and annual balance sheet total (expressed in euros – €). As similar as the World Bank, headcount and one of two financial criteria are mandatory (Table 2).

*Table 6: Business classification in European Union (Customized: European Comission, 2005)*

Business category	Headcount	Annual turnover (€)	Annual balance sheet total (€)
Micro	≤10	≤2.000.000	≤2.000.000
Small	>10≤50	>2.000.000≤10.000.000	>2.000.000≤10.000.000
Medium	>50≤250	>10.000.000≤50.000.000	>10.000.000≤43.000.000
Large	>250	>50.000.000	>43.000.000

Classification of business in The Republic of Serbia is defined by Accounting Law. According the law there are three criteria to categorize enterprises: average number of employees, annual business income expressed in € and average value of business assets expressed in € (Accounting Law, 2013). Least two of three criteria are mandatory for business classification (Table 3).

*Table 7: Business classification in The Republic of Serbia (Customized: Accounting Law, 2013)*

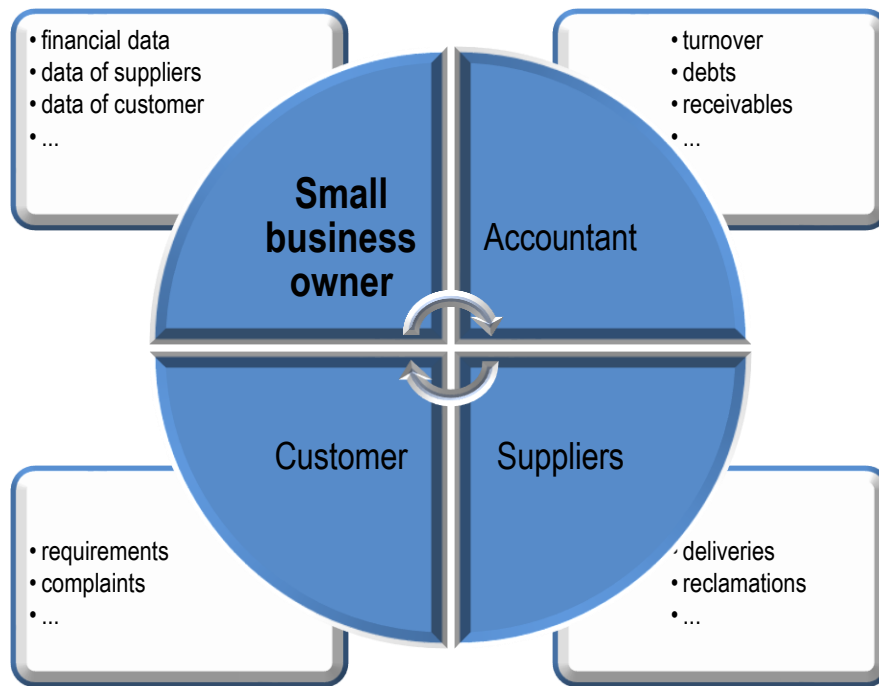
Business category	Number of employees	Annual business income (€)	Average value of business assets (€)
Micro	≤10	≤700.000	≤350.000
Small	>10≤50	>700.000≤8.800.000	>3500.000≤4.400.000
Medium	>50≤250	>8.800.000≤35.000.000	>4.400.000≤17.500.000
Large	>250	>35.000.000	>17.500.000

As seen, classification criteria are different by countries and regions, as well as the limit values of criteria. However, despite the differences, one criterion is the same – number of employees. On the basis of that criterion, small business includes companies with fewer than 50 employees. Bearing in mind that, and in the sense of this paper, small business implies entrepreneurs, micro and small enterprises. In spite of the prefix small, small business plays a key role in economy, and accounts about 99% of all business. For example, in the 2017 in the United Kingdom there were more than 5.7 million enterprises or 99.4% of all business, and employ 38% of all employees (UK Government, 2018). According Chamber of Commerce and Industry of Serbia, small business in the Republic of Serbia account 97.1% of all business, and employ 35% of all employees. It can be concluded that small business is very important for economy (Chamber of Commerce and Industry of Serbia, n.d.). As seen, small business plays key role in economy, but there are no capacity to engage an expert team to manage the business. Small business owners have to manage the business activities themselves, cooperate with business partners, and take care of finances, and so on. One of the ways that science helps the owners is creation of management methods and models.

### 3. PROPOSED MODEL OF SMALL BUSINESS MONITORING

The business aim is profit, and small business owners are focused to finance, customer and suppliers, and need different data. In the financial terms small business owners needs data about turnover, debts, receivables, etc. A source of the financial data is an accountant. Also, small business owners ought to know customer requirements, solve their complaints, and track deliveries of suppliers. The complex needed data are shown in Figure 1.

*Figure following on the next page*



*Figure 1: Small owners' needs*

Meanwhile, they should organize other aspects of business, control employees, and so on. Bearing in mind a numerous duties, small business owners often miss other things, less or more important. For example, they do not think about development, future, as well as competition. Likewise, small business owners usually do not have daily data, but demand data periodically. On the basis of that, the following shortcomings can be noticed:

- insufficient data;
- obsolete data;
- deficient future data.

To improve business management, model of business monitoring is proposed. The proposed model is based on the Balanced Scorecard and different business perspectives. The Balanced Scorecard is created by Robert Kaplan and David Norton, and it is based on the performance measurement of the four perspectives: financial, customer, internal business processes, and learning and growth (Kaplan & Norton, p. 99). Based on the analysis of small business owners' needs, financial and customer perspectives are included, but internal business processes and learning and growth perspectives missing. Ditto, financial and customer perspectives are incomplete. To make a right and timely decision, small business owners ought to reach and monitor much more data. Besides of turnover, debts and receivables, liquidity and market share are significant for business. Also, except knowledge of customer requirements and complaints, small business owners should know number of customer, as well as their loyalty. As well, more data of suppliers and possibility of development are important for small business owners. Thus, small business can be monitored through the five perspectives and enough performances:

- Outcomes (turnover, liquidity, debts, receivables and market share),
- Development (employees satisfaction, quality of employees, technology, new products and uniqueness on the market);
- Customers (number, loyalty, requirements, complaints and number of billing days);
- Suppliers (number, reliability, solved complaints and diversification);
- Competitions (number of direct competitors, number of indirect competitors, market share and new products).



Optionally, number of perspectives and their performances can be adjusted according to the requirements of the users. Focus of development and competitions perspectives is the future. Beside these perspectives, determining the trend of performances and perspectives, and their extrapolation is very important for the future aspect. Finally, values of perspectives and performances, as well as their trend can be shown on the one piece of paper, named dashboard (Figure 2).

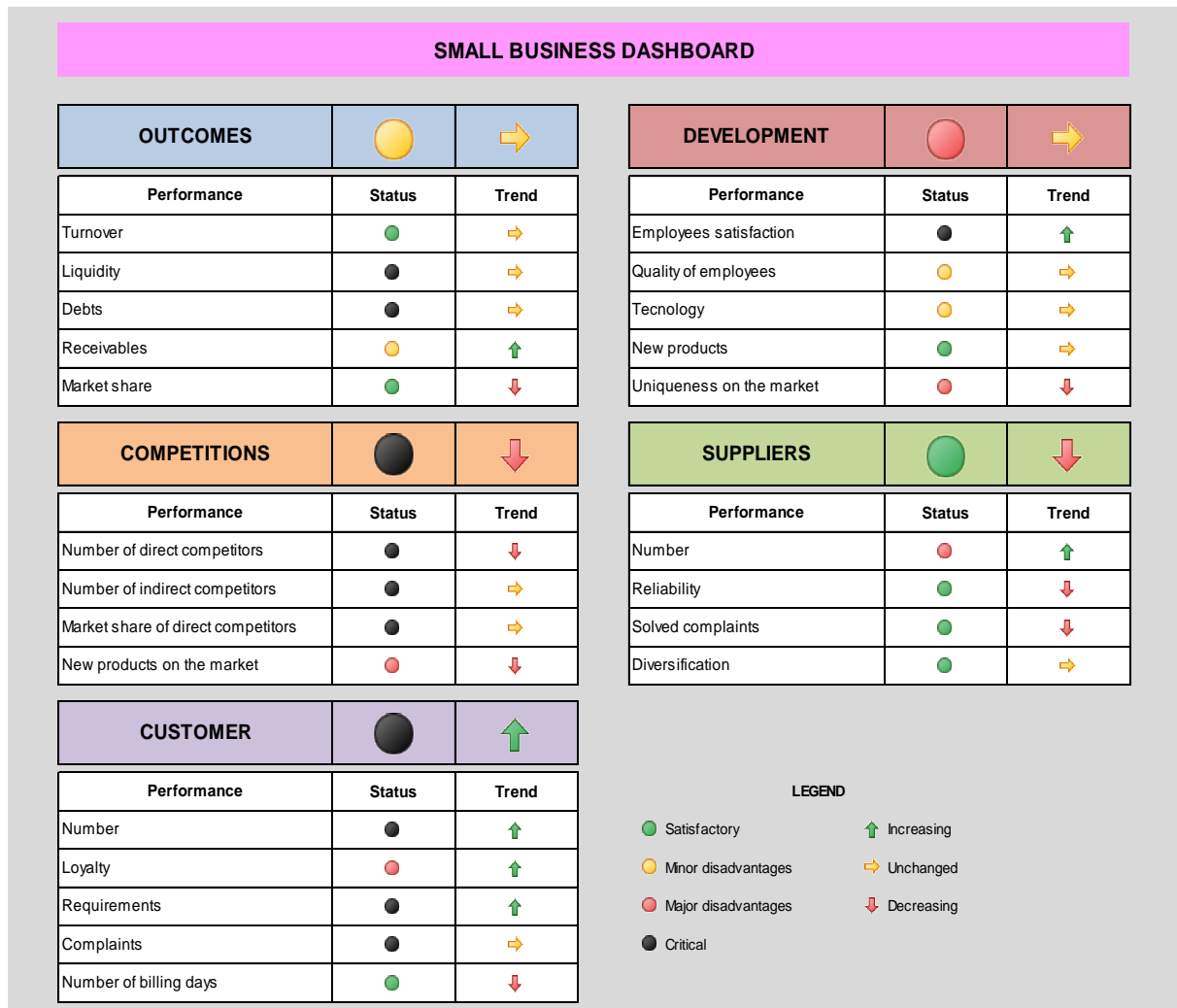


Figure 2: Small business dashboard (Customized: Kankaraš, Stojković, & Kovač, 2014, p. 1361; Kankaraš, Radović, & Petrović, 2017, p. 13)

In the process of small business dashboard creation there are some problems. One of them is performance measurement. Small business performances can be quantitative and qualitative, and quantitative performances can be expressed in different values – percent, number, days, currency, etc. In that sense their direct usage is impossible. The problem can be solved by adjustment of performances. Qualitative performances ought to transform on the linear scale (for example 1-4, 1-10, etc.). Further, quantitative performances, as well as transformed value of qualitative performances, should be transformed by equation 1 and determined performance status.

$$P_{fi} = \frac{V_i - V_{min}}{V_{max} - V_{min}} \quad (1)$$

Where:

$P_{fi}$  – performance status;

$V_i$  – current value of performance;

$V_{max}$  – sufficient value of performance;

$V_{min}$  – lowest acceptable value of performance.

Calculation of the perspectives status is simple, and represents mean of performances (Equation 2).

$$P_i = \frac{1}{N} \sum_{i=1}^n P_{fi} \quad (2)$$

Where:

$P_i$  – perspective status;

$N$  – total number of performances.

Proposed model of small business monitoring provides information about current state of business and future possibilities. Also, combination of performance status and trend can indicate possibility of business failure. For instance, performance status can be satisfactory, but its trend can be decreasing. That combination indicate possibility of business failure, and small business owners can take actions to prevent business failure. Besides, small business owners can see business status, identify potential problems and spot possible solutions at a glance.

#### 4. CONSLUSION

The share of small business in the world economy is significant. Bearing in mind lack of capacity to manage the business, small business owners need help. Governments and science ought to help them, and keep or increase the reached level. The purpose of this paper was proposal of small business monitoring model and help owners to manage the business. The model was created on the basis of the previously research results and usage similar models in the defence policy areas. Based on the research results following advantages are noticed:

- double purpose of the model (business monitoring tool and early warning tool of business failure);
- simple look of current and future business state;
- flexibility (perspectives and their performances can be changed and adjusted according small business requirements);
- usage of the numerous data;
- applicability in different organizations, etc.

Future research should consider identification and prioritization of perspectives and their performances as well as the possibility of the process automatization by creating adequate software to monitor small business.

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## CHALLENGES OF ECONOMIC GLOBALISATION IN HEALTHCARE CONSIDERING HEALTHCARE COOPERATIVES AS RESPONSE

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### **ABSTRACT**

*This paper deals with actual economic globalizations trends and its influence on healthcare systems, with specific intention on elaborating several issues in respect of Serbian healthcare system and its economic implications, but also its implications for other stakeholders (e.g. patients). Economical globalization is widely growing, mainly through process of liberalization of markets with eminence support of international financial and non financial organizations. Implication of neoliberalism and globalization on healthcare requires further restructuring of healthcare system and its inevitable model change. The health system in Serbia has not been set up so that the patient is in the focus of interest. On the one hand, the state does not invest in health care as much as is necessary to meet the needs of the insured, while on the other hand, the funds invested are not used in the optimal way. This paper discuss issues potential responses that could be saw in Healthcare cooperatives as a private ownership model.*

**Keywords:** *Economic globalization, healthcare issues in globalization, healthcare system in Serbia*

### **1. INTRODUCTION**

By satisfying curiosity and asking for answers to a number of questions, a person continually finds the answers he asked for and those he accidentally encountered. The causally connected, today's northern and southern hemisphere correlate with each other through a variety of ways and types of connections. Due to technical and technological development, the globalization of all forms of social connections, the planet Earth becomes one common entity, nowadays rounded off from the social aspect as well. The development of technology during the 20th and 21st centuries significantly contributes to further networking and function of the planet as a whole. Globalization is, by definition, a process, which is defined in some ways by the economic ideology of neo-liberalism (even the term global neo-liberalism is being criticized by some authors), it undoubtedly influences the further economic progress of humanity, while it is inspired by the argument of economic ideology. The history of neo-liberalism as today's leading economic ideology is not long enough to draw the final conclusions, but it is of great importance to analyze the flows and impacts of this economic ideology in the context of market development and liberalization (Stamenovic, Gulan, Dragas 2017). Globalization as a process (especially economic) and neoliberalism as ideology, cause deep and complex changes in the very nature of our society, bringing new opportunities and new risks. In addition, the effects of globalization are a growing concern for our health, and there is a growing problem of sustainable development (Stamenovic, Gulan, Dragas 2017). Market liberalization is certainly one of the most important processes that contributed to the acceleration of globalization and especially economic ones. Historically, the development of the market was preconditioned by the research of new geographic locations (new markets), but also by the development of production facilities in developed capitalist societies in the past. In Europe, organized markets developed much later than in the US. With the outbreak of World War I, countries abolished classical convertibility and passed on a paper standard, which allowed them to increase money printing to finance the needs of war, completely independent of the movement and size of gold reserves. It is worth mentioning that the ideas of Max Weber contributed significantly to the creation of an adequate "ambience" for the further development of modern capitalism, where the capitalist spirit and Protestant ethics are actually related to the notion of achievement, which

further defines the "society of achievements" and high developmental motivation, but also prosperity society. Therefore, on the basis of this, the distinction between motivated and prosperous societies and those that are backward is made. This concept is also determining healthcare in modern society. The World Health Organization defines health as a state of complete physical, mental and social well-being, not only as a lack of sickness and incapacity, where the right to health is interpreted as the right to enjoy various forms of assistance, products, services and conditions necessary to achieve the highest possible standard of health. On the other hand, citizens' concern for public affairs and the common good stems from the fact that it belongs to everyone and should be given to everyone, through the process of redistribution of power and not to some, oligarchies. However, health transformation is a process in progress, a process parallel with the development of society. The process of globalization is also underway. Mechanisms for the implementation of globalization (some international institutions, NGOs, etc.) work with the goal of accelerating globalization as a process. More and more loud are the opponents of this process that affect all areas of society, however, the most pressing issues of economic nature in the process of globalization - for example, studying the legality of the global economy, capital flows, restructuring of ever larger markets, the impact of foreign investment - that's all one face of globalization. It is very important to look at all the processes of globalization separately but also together, as a whole, and try to approximate further movements in order to eliminate potential risks in a timely - preventive, and not subsequent - reactive. It is also important to adapt health policy to both the opportunities and the goals that it should have. The globalization achieved by the richest countries of the world does not bring, unfortunately, the progress and benefits of technological and economic progress to all people and nations, which is clearly evident in the deepening of the differences in the health insurance system among the population of developed and underdeveloped countries. In addition, it is important to indicate the interconnectedness of different branches in the process of globalization, so that the medical profession is directly dependent on the economic and financial processes, as well as the processes that take place in the legislation and the competencies of the ministries of public administration, but also for the work and social rights. It is therefore difficult to see all the effects of globalization on the medical profession, but it is important to have certain orientations on the direction in which the development is taking place, and how it is possible to accelerate the interaction with other, already mentioned processes.

## **2. CERTAIN CURRENTLY NOTED ISSUES IN HEALTHCARE SYSTEM OF REPUBLIC OF SERBIA**

Certainly, in today healthcare it is necessary to take care of prevention, screening, nutrition, stop smoking, physical activities on individual basis in order to prevent health. But, on collective plan it is more difficult to manage all changes noted by globalisation in order to arrange sustainable development of this sector. Situation is not bright also looking from public health perspective and facts are showing that in 2016, 22,004 people died from the consequences of tumors in Republic of Serbia (Demographic yearbook 2016). If we are looking into this problem from a demographic point of view, it's a size of town in Serbia that disappears every year (in terms of number of people). Late diagnostics, or insufficient screening activities, insufficient education of the population for self-care are recognized as problems. Out of those 22,004 people, more than 9,000 are people who died in years of being able to work (Demographic yearbook 2016). According to some analyzes, close to 50% of these deaths can be prevented, and we have a steady increase in the number of new malignant tumors now at around 38,000 while a year ago it was 35,000. Treatment costs are high, and if you look at the costs of disability pensions, you will find that new disability pension beneficiaries are in fact 30% of people with a tumor (Statistical annual bilten, 2017). Hence, there is a huge systemic failure in many places because human lives are compromised due to large number of newly

diagnosed tumors, and those who survive these terrible diseases receive disability benefits, and they finally fall to the burden of the state and all citizens (tax payers). Also, more than 50,000 people annually pass from the consequences of a disease of the bloodstream, and again, if you look at the correlation with the beneficiaries of disability pensions - about 26% are just sick of these diseases and new users of disability pensions. In addition, officials report that 3.3 billion eur are spent on health care (approximately 10% of GDP of republic of Serbia). Due to the malpractice and corruption, it is suspected that almost 1 billion EUR is overpaid for medical services. Also, if we look at the work of institutions, about 30 health institutions are burdened with debt and 20 are in financial blockade (Bilten on information about financial business of healthcare institutions in Serbia, 2017). More than 50% of healthcare institutions ended last year in deficit (Bilten on information about financial business of healthcare institutions in Serbia, 2017). With approaching to the EU, more and more experts will emigrate what is being evidenced by the example of Croatia.

### **3. GLOBAL CHANGES IN LABOUR MARKET THAT AFFECTS HEALTHCARE INDUSTRY**

Following the development of economic systems in the world, analyzing globalization and neoliberalism as a contemporary economic ideology, it is clear that at the global level there are needs for continuous modernization of society and economy. Two areas of exceptional importance, based on the principles of solidarity, which are directly influenced by the change of modern economic relations, are certainly - health and pension insurance. For the sake of sustainability, in the neoliberal market concept there is great pressure on society in order to change the concept of health and pension insurance. Modern organizational approaches to the healthcare system are associated with full-time jobs, and seem unsustainable as the future will require less and less labor. From Amy's robot assistant, through industrial robots, 3D printers, automated vehicles, computer algorithms, technology is changing mankind. According to the World Bank data, significant growth in sales of industrial robots is evident, while the Federation for Robotics (IFR) in the forthcoming period predicts the number of installations of new robots on an annual basis, with a two-digit annual growth rate. An increasing number of scientific papers speak in favor of robotization in terms of productivity incentives, wages, and even a positive impact on the labor market (education and dispersion of ownership). Although robotization represents a major, continuous change that occurs globally, Serbia faces additional problems such as: negative natural growth, age, population insufficient, gray economy, departure of young people for temporary or permanent residence abroad, which to a large extent it complicates the functioning and planning of a health system based on intergenerational solidarity. Looking at the new circumstances in the labor market (and some not so new), robotization is a major challenge for the whole society and requires a social consensus including healthcare systems future.

### **4. GLOBAL CHALLENGES AND PROBLEMS WITH THE AVAILABILITY OF DRUGS REFERRING TO CASE OF REPUBLIC OF SERBIA**

Drug treatment is a key component in the implementation of human right to health. The World Health Organization believes that access to safe and affordable drugs is vital to maintaining the health standards of all. Innovative drugs appear on the markets of developed countries faster than ever and thus give hope to people suffering from rare, severe and incurable diseases. This opportunity should be accepted and provided with adequate therapy for everyone. Globally, since 2011, there has been a rapid development of new drugs in diabetes, as well as drugs for other indications. In Serbia it was a time of great financial restrictions and it was thought that in the field of innovative drugs it could "pass" by not having to be present in our country, that they are medicines from rich countries.

Subsequently, it turned out that Innovative drugs can significantly influence the benefit of treating the diseased because they carry new qualities and allow better control and reduced incidence of later complications. In certain disorders, the lack of timely therapy may lead to disability pension, and it also happens that caring for a particular patient means the obligation of a family member to leave the job. Pharmacoeconomic analyzes have shown that the cost of the disease, especially in chronic conditions with high incidence of illness, is usually significantly higher than the cost of prevention. Of course, there is a question of timely diagnostics, that is, prevention, regular systematic examinations and health education. From a bureaucratic point of view, in the process of being placed on the list of innovative drugs (and after registration), it is important that adequate pharmacoeconomic analysis was provided to demonstrate all the benefits of using a new medication viewed from an economic point of view. Then, special contracts are made that define the amount of drug that is planned for consumption as well as the ratio of participation in payment of medicines. On the other hand, for generic drugs, consumption approximation is often not adequate or significantly more drugs are consumed than planned. In this way, the budgetary funds can be spent more than planned and thus, for other activities healthcare state funds does not leave "financial space". Regulatory processes also directly and indirectly hinder innovative drugs to be found on the market. Extending the process of clinical studies in Serbia indirectly influences the deadline for registration of an innovative drug, therefore it is important to establish harmonization of regulations and avoid duplication of long-term procedures. A good example may be harmonization of regulations in clinical trials in the EU (voluntary harmonization procedure - VHP), which essentially avoids duplication of regulatory processes (Serbia is not part of that process unfortunately).

## **5. HEALTHCARE COOPERATIVES AS POTENTIAL MODEL THAT WOULD BE APPLIED THROUGH NEOLIBERALISM AND GLOBAL CHALLENGES**

The health care system in the Republic of Serbia, based on the principle of solidarity, will not be able to withstand the pressure of over-development of the medical and pharmaceutical industries. And it will not be able to provide citizens in the long run with the services they are and what will be possible and necessary - thanks to development. As international organizations, such as the World Trade Organization, promote private forms of health insurance, the existence of healthcare cooperatives would be absolutely justified and in line with modern postulates, only that they would not be paid to the private owner - rather than the cooperative. Healthcare co-operatives, although almost completely forgotten today, is not a new model in our area. After the First World War, Serbia was devastated not only in the economic, but also in every other sense, including numerous medical and sanitary problems. The loss of doctors and professional personnel due to the war (today also happens due to migration) has particularly affected the rural regions. The creation of Serbian health cooperatives was initiated by Dr. Gavriilo Kojić with the aim of raising the quality and prevention of further health and sanitation problems, but also the problem of premature mortality and demography, ecological and sanitary, the problem of population education, and the development of the village (Jeremic, Nikolic 2000). Financing healthcare co-operatives (where a cooperative consisted of 300-500 families) was done through a membership fee, the amount of which would depend on the level of health insurance and the number of families insured. These cooperatives were initially formed with the support of the joint work of the Ministry of Agriculture and the Ministry of Social Policy and Public Health of the then Kingdom of SHS. However, the first idea of establishing a health care cooperative was created much earlier - at the First Congress of the Association of Agricultural Cooperatives in 1895. At that time, the founding of funds for aid to agricultural cooperatives began, so it was suggested that the issues of health and social protection of the rural population be solved in health cooperatives, but on the principles of

agricultural cooperatives. There is an inevitable connection with the economic cooperatives, in this case the agricultural sector. And then experts from around the world came to see what a miracle it was from healthcare cooperatives in poor Serbia. In the framework of health cooperatives, it was not only on curative, but also on prevention and education of the population, it influenced the construction of adequate waterworks, and the use of adequate food (today is the physical construction of infrastructure such as water supply network of local government domains, but the food issue is viewed a lot away from local self-government). In 1949, these cooperatives were involved in the public health system, and then, with the onset of ethatism, they were abolished. Today, when you look at the structure of disability pension beneficiaries and see that about 30% are the cause of disability pension tumors, and 26% - blood circulation, you discover what is the burden on the pension fund. The total number of these cases can be reduced by about 50 percent through the process of prevention and education, something similar to what healthcare co-operatives sometimes used in the field of infectious diseases. Secondly, an increasing number of retirees, and the longer life expectancy, and more and more advanced medicine will make it difficult for users of the pension to have an adequate modern quality of life, and all this together supports the thesis that healthcare cooperatives are useful. The health fund does not have to be separately monitored because it includes: health care and treatment, labor medicine, ecology, sanitary conditions that are now prescribed by standards, control of water, food, infrastructure in the area of operation of the cooperative, in particular the fields of prevention and curative activities. The other thing is that earlier people lived in the same places where they were produced, but all of this can be modified in a contemporary form because the goal is positive. At that time, they still had education against the white plague because the war was just over. This was also used by medical personnel, which is still necessary today (at the time of IMF measures when employment in budget institutions is stopped!). Also, there are numerous benefits of education that can go in different directions. It is a very interesting aspect of education in which children were monitored not only as infants, but also later in the pre-school and school age, and their proper development was directed both through curative and preventive measures.

## 6. CONCLUSION

Globalization is, by definition, a process interconnected with neoliberalism as ideology demonstrating significant requirements related to neoliberal economic concept in modern societies. As mentioned within introduction, the history of neo-liberalism as today's leading economic ideology is not long enough to draw the final conclusions, but it is of great importance to analyze the flows and impacts of this economic ideology in the context of market development and liberalization. Innovation should be nurtured, smart technology should create new jobs in healthcare, where our experts from the biomedical science will be employed. Introspective endogenous theory of economic growth, which introspectively deprives us of social development is future of development. The creation of a National Center for Medical Research can bring about 600 million eur annually according to some research. With the stopping of mismanagement in healthcare services, around half a billion euros could be saved. Only with those funds in a short time the health system would flourish! The process of denationalization of the health system (and insurance) will soon be required due to development of globalization and neoliberalism, and population need adequate model. Neoliberalism does not approve state participation anywhere, even in health care. Serbia needs to advance a health policy as well as a strategy for sustainable development of health and to prepare for the changes that we expect in healthcare. Within this paper, answer to global concerns in healthcare and economic development could be saw in healthcare cooperatives as there is noted concern for further sustainable development of healthcare institutions in models known so far, changes and new models needs to apply.



One of proposed models could be healthcare cooperatives, as this is model that is supporting basic principle of neoliberalism (it is market oriented model, privately owned and it is not monopolistic by its nature meaning it is supporting free competence). From the other hand this model should be governed by people itself (through managerial boards made on elections principle) therefore, their trust on this project should be highly developed. Also, implementation of this model would require additional research and pilot project implementation in order to understand all pre-requisites for successful governing. This kind of cooperatives can overcome many problems as healthcare system will not be able to provide citizens in the long run with the services they are and what will be possible and necessary - thanks to development. As international organizations, such as the World Trade Organization, promote private forms of health insurance, the existence of healthcare cooperatives would be absolutely justified and in line with modern postulates, only that they would not be paid to the private owner - rather than the cooperative.

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# **FUZZY LOGIC INFERENCE SYSTEM MODEL FOR RISK ASSESSMENT IN INFORMATION TECHNOLOGY AND SERVICES ENVIRONMENT**

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## **ABSTRACT**

*Achieving security in ITS environment is a difficult task, one that is constantly evolving. With the development of technology over the last decades, risk assessments have become increasingly more complex. Availability of information for numerous risk parameters, affects the reliability of the risk assessment in information security processes. Due to that reason there is a need to develop a model that can contribute to increase of reliability of risk evaluation and reduction of subjectivity of the decision-maker regarding the risk level. In the paper, the authors proposed a concept to model the risk of specific processes in the system applying fuzzy logic and by using a procedure of expert valuation of weights of previously defined risk elements, their interrelation and relative importance compared to the total risk. ITS security process data for a specific company are incorporated into proposed model and validated with an example case.*

**Keywords:** *fuzzy logic, ITS, modelling, risk assessments*

## **1. INTRODUCTION**

Advances in information technology has a significant impact on security systems. Processes within systems are exposed to many risks that may occur due to negative scenarios and consequences that can be caused by various events. Frequently, they have significant uncertainty which is associated with their complexity, information reliability and estimation of statistical parameters from the past period of time. Fuzzy logic (FL) is often used to model complex systems, where appliance of other methods and techniques that determine interdependencies between particular variables is very difficult and cannot provide satisfying results. Fuzzy logic, as a mean to model uncertainty and imprecision in risk assessments, is suggested by number of authors, because FL offers a mathematically more precise way of modelling vague preferences. Subject of this paper is an analysis of the total risk in ITS environment, which is determined by five sets of data (basic risk elements). Each of the main risk elements consists of a number of sub-elements that permeates the entire system. Connections between main elements and their sub-elements are also problematic. Therefore, a precise classification is essential, in accordance with different criteria and perceptions of the expert. Consequently, a mathematical model for total risk evaluation, based on fuzzy logic, has been developed.

## 2. QUALITATIVE AND QUANTITATIVE EVALUATION

As a sets of models, methods and techniques, risk analysis and risk assessment could be qualitative and quantitative (Campbell and J. Stamp, 2004; Patel et al., 2008), but in recent years both approaches are combined (Markovic-Petrovic and Stojanovic, 2014; Ten and Liu, 2010; Wang and Zeng, 2010). Some, often used assessment tools for managing risks in information systems are: NIST, OCTAVE®, FRAP COBRA, Risk Watch etc. Qualitative risk assessment are based on experts' estimation by rating the various factors on a scale which could be, more or less, subjective. For example, that subjectivity is commonly reflected on linguistic variables, such as "very low risk" etc. For the same data, experts can give different linguistic values, which is inherent with a different human perception. For the same data, experts can provide different linguistic values, which are inherent with a different expert's perception, based on their relation to risk, experience etc. On the contrary, in some cases, expert opinion is easily available and may even be more valuable and accurate than historical data. However, risk assessment methods, which rely on expert opinion, must devote more attention to techniques for capturing, formalizing and ultimately turning into numeric values expert knowledge. Mathematically, quantitative risk can be expressed as:

$$\text{Annualized Loss Expectancy} = [\text{Single Loss Expectancy}] \cdot [\text{Annualized Rate of Occurrence}]$$

The formula is clear and logical, however, there are problems in its application in information systems. The most common causes for this are:

1. difficulties in identification and assigning a value to assets,
2. inability to determine the frequency, as a result of the lack of statistical data,
3. qualitative impact is exposed to many factors that can be potentially harmful,
4. difficulties in establishing mathematical principles and relations between assets.

However, estimating the cost of secondary effects is especially difficult because of the uncertainty associated with the ultimate impact on such intangible factors. For example, cost of a system may be easy to define, but this is not a case with the indirect costs, such as value of the information, loss of production activity and recovery cost. In information systems, the assessments is based on the formula: Risk = Probability x Impact, where probability and impact are values expressed in percentages, which is not mathematically correct, but helpful in ranking and determining risks priority.

Alternative formula in use is Risk = Threat x Vulnerability x Impact, in case there is sufficient historical data available, so that values can be assigned more often to frequent incidents (such as malware, spam, data entry errors, etc.). In the Table 1 is presented a hypothetical example (in illustrated purpose) of 4 risk and the procedure for calculating the rating of each individual risk. Raw probability and impact are specified by the persons responsible for monitoring and risk analysis, as a percentage value in the case of untreated risk. Raw risk rating is a product of those values. After evaluation treatment cost, status, probability and impact, current risk rating can be calculate as

$$\text{Raw risk rating} - [\text{Treatment status} \cdot (\text{Raw risk rating} - \text{Target risk rating})].$$

*Table following on the next page*

*Table1: Current risk rating calculation*

Risk	Raw			Treated				Target risk rating	Current risk rating
	Probability	Impact	Risk rating	Cost	Status	Probability	Impact		
Insider incident	35%	65%	23%	\$1.000	50%	82%	81%	66%	45%
Malware	85%	78%	66%	\$450	50%	25%	40%	10%	38%
Spam	85%	44%	37%	\$200	90%	10%	44%	4%	8%
New regulatory compliance	90%	15%	14%	\$300	90%	5%	10%	1%	2%

In the next table are guidance of scoring. The values assigned to each category are *arbitrary* and the colors green, amber and red corresponding to the values 0%, 50% and 100%.

*Table2: Guidance of scoring*

Impact/Probability		Extreme	Major	Moderate	Minor	Insignif.
		100%	80%	60%	25%	1%
(Almost) certain	100%	100%	80%	60%	25%	1%
Probable	80%	80%	64%	48%	20%	1%
Possible	60%	60%	48%	36%	15%	1%
Unlikely	25%	25%	20%	15%	6%	0%
Rare	1%	1%	1%	1%	0%	0%

The difficulties of the quantitative measurement of security which hold in the risk quantification context are discussed in Verendel, 2009. IT-risk-related data are always linked to the subjective expert evaluation. Complex quantitative methods mostly use limited datasets. That usually leads to an incomplete picture about risks, but on the other hand, simplistic methods can also lead to unreliable expectations about risk. The risk register should be based on a combination of qualitative and quantitative methods to leverage their advantages and avoid some of the disadvantages and encourage quantitative methods where it is possible. Despite that, the expected quality of data for the register is fairly low.

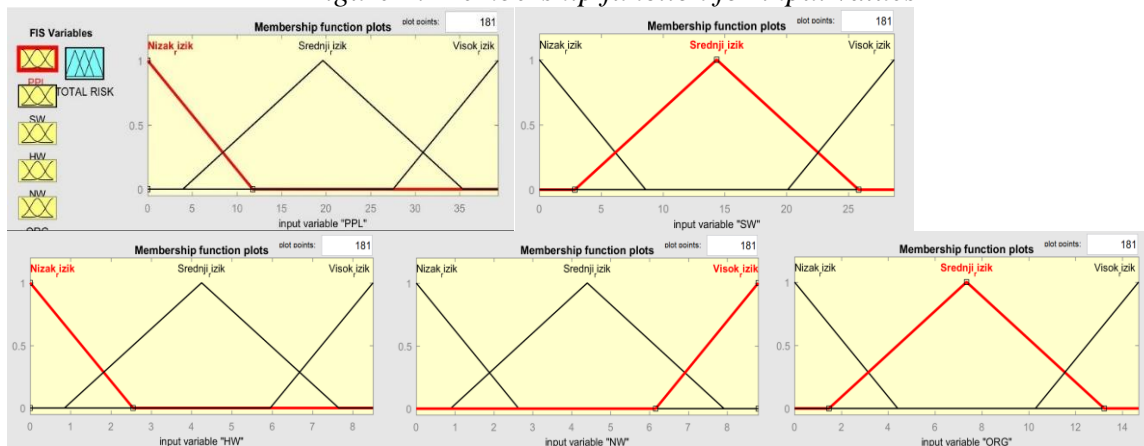
Natural extension to probability risk assessments involves the use of fuzzy concepts (Ralston et al., 2007). Hybrid models in information security, that is apply the fuzzy and hierarchy analysis model to security risk assess were presented in works of (Chang and Hung, 2005; Goel and Chen, 2005). Recently, a lot researches have been published trying to achieve, through a combination of fuzzy techniques and different mathematical methods, an acceptable solution in evaluating ITC risks in different systems (Jiang, 2016; Anikin, 2016; Dai et al., 2015). Quantitative and qualitative techniques have some advantages and disadvantages. Among these techniques, the application of proposed model for risk assessment in information security processes seems appropriate. Accuracy of expert's assessment and quality of output results could be improved by application of fuzzy mathematics.

### 3. MODEL DESCRIPTION

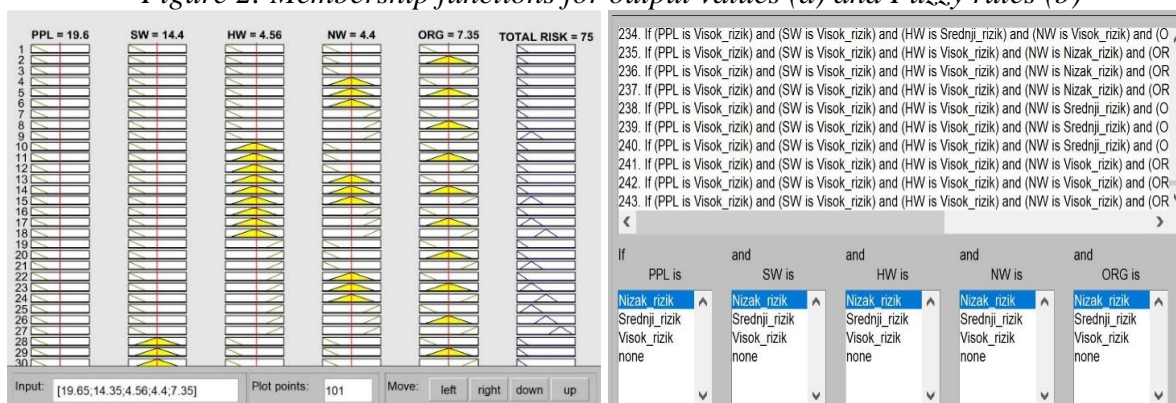
ISO27005 standard<sup>1</sup> proposes but substantiates the risk modelling process by providing the best practices for managing the risks related to information security. Standard distinguish primary and supporting assets. Considering the fact, that data on risk realization during the previous period often are not available or sufficiently reliable, expert knowledge about the risks and elements of risk, experience and intuition are a must in assessment of model value. For the purpose of work on this paper and on the base of available information, authors distinguish five basic risk groups of the ITS environment: Hardware (HW), Software (SW), Network (NW), Organization (ORG), People (PPL). Initial data, knowledge about processes and treats are from the packaging company from Serbia. Team of employees, in charge for different processes in the Company, in accordance with Company procedures, formed a risk matrix. That is the starting point for implementation of data in the proposed model. Basic matrix is in the form of language variables. For the purpose of this work, in cooperation with the company's team (experts), risks are transform in crisp numbers in accordance with the Saaty's scale (Saaty, 2008). The team assigns a risk level of high, moderate, or low for each assets area, based on values of assets, the most likelihood threats, identified vulnerabilities and implemented security controls for each assets area. In the next phase authors formed triangular fuzzy numbers from the experts evaluation. There are several types of fuzzy sets depending on the set of values of the corresponding membership function. In the basic type of the set, the membership function has values in the interval  $[0, 1]$ . If  $X$  is an arbitrary non-empty set, fuzzy set  $A$  with values in the interval  $[0, 1]$  defined on  $X$  is characterized by a function  $\mu_A : X \rightarrow [0, 1]$ . The function  $\mu_A$  is called the membership function of the fuzzy set  $A$ . The value  $\mu_A(x)$  is interpreted as the degree of membership of element  $x$  to the set  $A$ . Furthermore, the membership functions for selected risk elements are defined. Membership functions for each element are shown in figure 1. Each risk element are described by low risk, moderate risk and a high risk. MATLAB Fuzzy Logic Designer is used to calculate output values. The output value of the fuzzy system is the total risk in specific process (TR) and membership functions of fuzzy sets  $Y_{VL}$  - Very low risk,  $Y_L$  - Low risk,  $Y_M$  - Moderate risk,  $Y_H$  - High risk and  $Y_{VH}$  - Very high risk, are shown in Figure 2 (a).

*Figure following on the next page*

<sup>1</sup> ISO. BS ISO/IEC 27005:2011

*Figure 1: Membership function for input values*

Proposed model is a fuzzy system based on application of FL and an approximate reasoning algorithm. Fuzzy rules of all risk elements and levels of risk (very low, low, moderate, high and very high) are formed. System used the Mamdani technique and the rules are defined as in figure Figure 2 (b). System allows the application of different methods of defuzzification, bisector, centroid, mom, lom, som or customizes new method. For the purpose of this work authors applied centroid method.

*Figure 2: Membership functions for output values (a) and Fuzzy rules (b)*

In the next phase simulation is prepared on a large number of hypothetical data with input parameters obtained by generating random numbers. Output values of Fuzzy system simulation are shown in Table 2. The highest priority for the observed class of particular processes has PPL with 38,40% of influence, and the lowest priority has Nw with 8,60% of influence on total risk. The obtained results represent the total risk value, and their analysis included measuring of the relative weighting factors of each risk element and share in the total risk. The elements of membership functions for all input variables of fuzzy system are shown in Table 1. The output of the system (Table 2) is the total risk assessment of each specific process. Risk managers can make decision on the based on significance of every risk element. Their decision of acceptance, elimination or minimization of potential consequences of risk being evaluated are based on more precise and systematized data.

*Table following on the next page*

*Table1: Input variables for fuzzy system (Author's calculations)*

Risks	PPL	SW	HW	NW	ORG
Input values	0,384	0,288	0,087	0,086	0,155
Low risk	0,000	0,000	0,000	0,000	0,000
	0,000	0,000	0,000	0,000	0,000
	11,520	8,640	2,610	2,580	4,650
Moderate risk	3,840	2,880	0,870	0,860	1,550
	19,200	14,400	4,350	4,300	7,750
	34,560	25,920	7,830	7,740	13,950
High risk	26,880	20,160	6,090	6,020	10,850
	38,400	28,800	8,700	8,600	15,500
	38,400	28,800	8,700	8,600	15,500

*Table2: Result of the model (Author's calculations)*

Risks	PPL	SW	HW	NW	ORG
Output values	0,3901	0,2944	0,08	0,0778	0,1575

The highest impact on the total risk in observed processes has People (39.01%). The reasons are the insufficient users' security awareness and lack of general security culture. Then follow software, 28.6% due to none consistent patch management process. Organization risk has 15% of total risk, due to failures in compliance and contractors management. The less impact on total risk have Hardware and Network risks have the less impact on company risk, both due to a failure in assets management. The model enables a relatively easy implementation of expert knowledge, that is, the collected data from the indicated processes of the company. When implementing the risk, it is possible to use different linguistic scales of evaluation. Fuzzy logic designer makes it possible to convert these values into different fuzzy numbers, that is, different membership functions, triangular, trapezoidal, Gaussian, and other. Through the presented model, the degree of subjectivity of decision makers is minimized and a greater accuracy is achieved.

#### 4. CONCLUSION

Authors presented a model based on fuzzy logic, which integrates a qualitative and quantitative approach, for risk assessment. Model enabled risk assessment in each specific process in the company. The methodology of the model can be applied to different companies and certain processes, in accordance with the needs of the decision maker. This is extremely important in a dynamic environment with many different influences and risks.

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# **POWER RELATIONSHIPS OF SUSTAINABILITY-ORIENTED ACTORS IN THE SUPPLY CHAIN: THE ANTECEDENTS AND OUTCOMES OF THE POWER OF ACTORS**

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## **ABSTRACT**

*The sustainability orientation influences the evolving of the power of actors in the supply chain (SC). Most studies on the use of power in supply-chain relationships have investigated one actor, such as the focal firm. Actors have different power in transforming the SC into the sustainability-oriented supply chain (SO-SC). This study researches into the causes and consequences of the power of the key sustainability-oriented (SO) actors in the SC. Few studies have examined power relationships in the SC. In compliance with the marketing concept and the mantra that “the consumer is the king”, this study deemphasizes that the SO end consumers have the power. The most important drivers of embedding and achieving sustainability in the SC are powerful consumers. The SO lifestyle and the sustainable behavior of end consumers are “the foundation of sustainability”.*

**Keywords:** *Consumer, Sustainability-oriented actors, Sustainability-oriented supply chain, Power relationships*

## **1. INTRODUCTION**

The paper begins by asking the following research question (RQ): Who is he who has the power in the SO-SC? For the purpose of our presenting an answer to the RQ, content-based literature review method has been applied, beginning with searches of electronic databases, such as: Directory of Open Access Journals (DOAJ), Emerald Management Xtra (Emerald), EBSCO Academic Search Premier, EBSCO Business Source Complete, Google Scholar, Scopus & Science Direct (Elsevier), Springer/Kluwer and Wiley Online Library (Wiley) (the databases are listed in alphabetical order). The structure of the study is as follows. In the next sections, the related literature is reviewed. Actors have different powers, so that an analysis is carried out of the antecedents and outcomes of the power of actors in the SO-SC. The conclusions are presented at the end of the paper.

## **2. THE CONCEPT OF POWER**

The power concept lies in the heart of the understanding of interactions between different members of the supply chain, and the studying of it began as far as in 1950 (Shi, Zhang & Ru, 2013). Lewin (1951) highlights the fact that power represents a reciprocal interactive relationship between at least two parties. Scarce resources are responsible for the creation and implementation of power (Dahl, 1957). Emerson (1962) defined power as a potential influence. El-Ansary and Stern (1972) defined the supply-chain member's power as such a member's capability of controlling the decision variables of another member, at a different level in the supply chain. Reimann & Ketchen (2015) defined power as the ability to influence others' behavior or the course of events. Power has been classified into five sources, according to French and Raven (1959): expert, referent, coercive, legal legitimate and reward power.

Expert power is visible when specific expertise and knowledge of a firm are the subject matter of another one's desires. Referent power is present when the manner in which one firm performs its operations and simultaneously values it identifies with it is admired by another. Coercive power occurs when the exertion of a punishment by one firm for the purpose of having an influence on another is apparent. Legal legitimate power is present when, in order to have an impact on another firm, a firm calls for its judiciary right to do so, on the grounds of agreements accepted on a contractual (legal) basis. Reward power emerges in such a case when a firm is capable of making an offer of rewards with an intention to have an influence on the target firm. There is an evolution of the role and nature of power supply chains is evolving since firms have increasingly been embedded in complex supplier networks dispersed at a global level (Reimann & Ketchen, 2015). The power structure significantly influences the performance of the supply chain as well as the welfare of the consumer (Shi, Zhang & Ru, 2013). On the one hand, the power structure of the supply chain can be modelled by adhering to different timing rules related to the sequence in which various members of the supply chain carry out such actions (Choi, 1991, Moorthy & Fader, 1990). According to the stated framework, the firm which is the first in making a decision is, in general deemed to be more powerful than the supply chain's other member firms (Shi, Zhang & Ru, 2013). Another manner to have the power structure of the supply chain modelled is the "bargain" power. Different supply-chain members' interaction is also modelled non-cooperative bargaining process, and the supply-chain member's power through the "bargaining" power (Shi, Zhang & Ru, 2013). While, on the one hand, there really are relationships to a power balance between partners, relationships as a rule emerge in the power asymmetry context (Nyaga et al., 2013). The imbalance of power appears when there is no reciprocity in an organization's being dependent on another. On the contrary, joint dependence occurs in the case when both the buyer and the supplier rely on each other within their respective relationship. Generally speaking, power-dependency can be the subject matter of consideration taking the following two dimensions into account: 1. power imbalance or asymmetric interdependence; and 2. joint interdependence or symmetric interdependence (Hoejmose, Grosvold & Millington, 2013). An asymmetrical distribution of power among partners is surmised in the nature of power in the relationships within the supply-chain, this being due to their different expertise, the size, switching costs, dependence, the structure of their contracts and so on (Belaya, Gagalyuk & Hanf, 2009). It is not necessary that power asymmetry should foreshadow a conflict in relationships within the supply chain, but rather significant risks and challenges for the party considered as the weaker one are created (Nyaga et al., 2013). In channel relationships, according to the definition, dependence is a need expressed by one firm to cherish its relationship with another firm so as to come to the goal it desires to achieve (Frazier, 1983). For that reason, the dependence of the channel members has been considered to be a reverse power relationship, i.e. if there is high dependence on the part of one channel member on its partner in the channel, that leads to a situation in which such a partner in the channel has power over the channel member (Emerson, 1962; Frazier, 1983). Two fundamental propositions are advanced by resource-dependence theory: (1) organizations are primary social actors; and (2) it is possible to comprehend inter-organizational relations as a product of inter-organizational dependence and constraint. In resource-dependence theory, the survival of an organization is supposed to be depending to a great extent on the capability of such an organization to ensure critical resources from the external environment. In brief, it is suggested in resource-dependence theory that power structures are produced by the inter-organizational dependency pattern, which then, in turn, determines the behavior of the organization (Chaurasia, 2014; Pfeffer and Salancik, 1978).

### 3. THE ANTECEDENTS AND OUTCOMES OF THE POWER OF ACTORS IN THE SUSTAINABILITY-ORIENTED SUPPLY CHAIN

Searcy (2014) differentiates three groups of stakeholders for the sustainability of an enterprise:

- focal firm stakeholders – employees, unions, managers, owners/investors
- supply chain stakeholders – suppliers, distributors, consumers (individuals, groups or other firms), reclaimers (collectors, re-users, recyclers, remanufacturers or disposers)
- stakeholders beyond the supply chain – government, communities, competitors, NGOs, media.

Figure 1 represents the antecedents and outcomes of actors' power in the SO-SC. The outcomes of the power are accounted for from the two aspects: 1. for the key actors, 2. then, separately, from the aspect of the focal firm, since the focal firm is considered to be the main actor in the market and in public. End consumers purchase products produced by the focal firm and consider it to be the only one liable.

#### 3.1. End-Consumers' Power

According to the marketing concept, the buyer's requirements are the starting point for firms, because "the consumer is the king". Powerful end consumers can drive sustainability in the SC (Rakic & Rakic, 2015a, 2015b, 2017a, 2017b). Pieces of information, education, knowledge, purchasing power, the sustainable lifestyle of consumers, digital media and communications provide end consumers as individuals or groups with power. End consumers' power is the ability to prompt other actors (e.g. focal firms and other firms on the B2B market) to accept sustainability initiatives and sustainable behavior. This is compliant with the definition of power as the ability of one individual or group to prompt another unit to do what it would not have otherwise done. End consumers have power in the SC because, by purchasing products in the market they are direct "decision makers when firms' survival" in the market is concerned. Apart from buyer power, consumers are sources of information for firms. Consumers' SO lifestyle influences the purchase of sustainable products, sustainable consumption and sustainable behavior, more broadly perceived. End consumers as individual or in groups, i.e. communities can convey messages as if they were a "virus", engage themselves in word-of-mouth communications (offline and online), make pressures business operations and have an impact on the image of firms. Today, digital technologies and the media provide the customer with a power. Changes in consumer behavior are being exposed to an influence by the development of digital technologies. From firms' point of view, the key challenges that customer behavior has been exposed to in a digital environment are the following five core sources of customers' power, namely: abundance, possibilities to connect with other customers, greater awareness, mobility and influence on firms' operating. This results in the generation of a great potential of informed and connected digital consumers. First, a large number of digitalized consumers have already digitalized themselves. Second, digital technologies make it possible for the consumer to connect him- or herself with other consumers, primarily through social media (social networks, blogs etc.), as well as in other allowable ways, in order to exchange their respective pieces of information and their experiences and make an impact on firms, events, persons etc., irrespective of their geographic-physical locations. Third, consumers obtain pieces of information in a fast and easy manner, either by following up current events ("live stream"), comparing such pieces of information and making better decisions. Fourth, mobile consumers are created thanks to wireless and mobile devices, or, in other words, the consumer is given an opportunity to incessantly and in any single place be available, given the fact that the consumer deems his or her wish to make him- or herself available to be the most important thing of all. Fifth, the overall market power is what is generated as a result of enabling power in the fields of information, mobility and consumer interconnectivity.

Only when there is large number of consumers, when they are interconnected, informed, educated and with an interest in being influential, then is it possible for such consumers to assume a greater power than firms do. On the one hand, however, consumers are frequently unconscious of the power they have in their hands – the potential, and, on the other, there is a need for those who will be initiators– leaders initiating and encouraging consumers to carry out certain activities (Rakic and Rakic, 2015c).

*Figure 1: The Antecedents and Outcomes\* of the Power of Actors in the SO-SC (Rakic & Rakic, 2017b)*

Actors in SO-SC	Antecedents of power in SO-SC	The use of power of actors - Outcomes of the use of power of actors	Outcomes of the use of power of actors: from the aspect of the focal firm
<b>Consumers (End consumers)</b>	<ul style="list-style-type: none"> <li>• Buyer power <ul style="list-style-type: none"> <li>- The consumer as end “voters” in SC</li> </ul> </li> <li>• Information power <ul style="list-style-type: none"> <li>- Consumers as sources of information</li> <li>- Consumer demands</li> </ul> </li> <li>• Communication power</li> </ul>	<ul style="list-style-type: none"> <li>• SO lifestyle of customers</li> <li>• Sustainable consumption</li> <li>• Purchase of sustainable products</li> <li>• WOM communications (offline and online)</li> </ul>	<ul style="list-style-type: none"> <li>• A profit or a loss</li> <li>• The Company’s image</li> <li>• Consumer pressures</li> </ul>
<b>Focal firm (brand-name focal firm)</b>	<ul style="list-style-type: none"> <li>• Market: relationships with SO customers</li> <li>• Reputation</li> <li>• Information power</li> <li>• Buyer power</li> <li>• SO-SCM, SO-SCRM, SO-CRM, SO-PRM</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable production</li> <li>• Sustainable business</li> </ul>	<ul style="list-style-type: none"> <li>• Trust between SO customers, partners, stakeholders and focal firm</li> <li>• Sustainability</li> </ul>
<b>Employees in the focal firm</b>	Competencies and skills	Commitment to sustainable business	Social sustainability
<b>Suppliers</b>	<ul style="list-style-type: none"> <li>• Supplier competencies</li> <li>• Physical resources</li> </ul>	SO supplying	JIT SO-purchase
<b>Regulators and Governments</b>	<ul style="list-style-type: none"> <li>• Legal demands/ regulation</li> <li>• Support</li> </ul>	<ul style="list-style-type: none"> <li>• SO laws, standards and regulations</li> <li>• Management systems (e.g.: ISO 14001, SA 8000)</li> <li>• Monitoring, evaluation, reporting, sanctions</li> </ul>	<ul style="list-style-type: none"> <li>• Adhering to laws and regulations</li> <li>• The Company’s image</li> </ul>
<ul style="list-style-type: none"> <li>• <b>General public</b></li> <li>• <b>Environmental and social pressure groups</b></li> <li>• <b>NGOs</b></li> <li>• <b>Neighborhood Communities</b></li> <li>• <b>Media</b></li> </ul>	<ul style="list-style-type: none"> <li>• Information about sustainable behavior</li> <li>• Pressures for the purpose of sustainable behavior</li> </ul>	WOM communications (offline and online)	The Company’s image
<b>Schools and universities</b>	<ul style="list-style-type: none"> <li>• Knowledge of sustainability</li> <li>• Transfer of knowledge and impacts on pupils’, students’, teachers’ and public’s mindsets</li> <li>• Research</li> </ul>	<ul style="list-style-type: none"> <li>• Linking theory and practice</li> <li>• Research results presentation</li> <li>• SO individuals, firms and countries</li> </ul>	Influence on the SO of firms

*\*The outcomes of the power of actors are accounted for with respect to all the actors, in particular from the aspect of the focal firm, since the focal firm is considered as the main actor in the market and in the public.*

*Sustainability-oriented supply chain management (SO-SCM)*

*Sustainability-oriented supply relationship management (SO-SCRM)*

*Sustainability-oriented customer relationship management (SO-CRM)*

*Sustainability-oriented partner relationship management (SO-PRM)*

### 3.2. Focal (Buying) Firms' Power

Focal (buying) firms take the responsibility for their suppliers (Seuring & Muller, 2008) and all other partners because the end consumer is the one who buys products from the manufacturer (the focal firm). The end consumer does not know (nor must he/she know) which firms-partners the focal firm establishes and maintains relationships with. The focal firm (especially a brand name) has power in the SC in comparison with other firms since it has its market, i.e. end consumers, who are satisfied with its products. On the basis of the SO-SSCM, SO-SCRM, SO-CRM, SO-PRM, the focal firm establishes and maintains its relationships with other actors (Rakic & Rakic, 2017b). The focal firm has buyer power in comparison with suppliers. Outcomes of the use of power of the focal firm are: sustainable production, sustainable business, trust between other actors and the focal firm. Sustainability is the end result. It is possible for relative buyer power advantages to generate considerable benefits for the focal firm (Cox, 2004) since buyers can compel their suppliers to take a range of operational requirements they are making into consideration (Hoejmose, Grosvold & Millington, 2013). These cover measures for cutting costs, according to which, the supplier has to lower costs, the re-designing the production processes so that he or she could be more flexible to buyer needs and returning determinedly the responsibility for managing inventory to the supplier (Hoejmose, Grosvold & Millington, 2013). According to the power matrix (Cox, 2015, p. 720), buyer dominance is reflected in the following conditions:

- Few buyers/many suppliers
- Buyer has high % share of market for supplier
- Supplier is highly dependent on buyer for revenue with few alternatives
- Supplier's switching costs are high
- Buyer's switching costs are low
- Buyer's account is attractive to supplier
- Supplier's offering is standardised commodity
- Buyer's search costs are low
- Supplier has no information asymmetry advantages over buyer (Cox, 2015, p. 720).
- Power lies in information. Information is used by organizations as a power to build relationships with other organizations and bring forward interests of their own (Williams & Moore, 2007).

According to the 'Sustainability Oriented Theory of the Firm': "The firm is a profit generating entity in a state of constant evolution. This entity is a system comprised of resources and networks of relationships with stakeholders. The firm's employees are responsible to represent the firm, manage its resources, and empower its stakeholders so that the firm complies with laws, maintains its 'licence-to-operate', increases its competitive advantage, and better contributes to foster the evolution of more sustainable societies by holistically addressing the economic, environmental, social, and time dimensions" (Lozano, Carpenter & Huisinigh, 2014, p. 440). In the focal firm, employees have power if they have competencies and skills which are considered as needed for sustainable business.

### 3.3. Suppliers' Power

Suppliers have power in the SC because they have resources that are necessary for the focal firm. In their search for opportunities for sustainable growth, manufacturing firms have increasingly been embedding sustainability-related concerns into relationships they have established with partners in the supply chain partners (Grekova et al., 2016). According to the power matrix (Cox, 2015, p. 720), supplier dominance is reflected in the following conditions:

- Many buyers/few suppliers

- Buyer has low % share of market for supplier
- Supplier has no dependence on buyer for revenue and has many alternatives
- Supplier's switching costs are low
- Buyer's switching costs are high
- Buyer's account is not particularly attractive to supplier
- Supplier's offering is relatively unique
- Buyer's search costs are very high
- Supplier has substantial information asymmetry advantages over buyer (Cox, 2015, p. 720).

### **3.4. Other Actors' Power**

Power is the ability to motivate other people to engage themselves in such activities that they would not have engaged themselves otherwise; i.e. to call up change (Emerson, 1962). In accordance with the mentioned definition, regulators, governments, the general public, environmental and social pressure groups, NGOs, neighborhood communities, the media, schools and universities are able to motivate other people to take part in sustainability activities. Regulators and governments bring laws, standards and regulations that serve as "the patterns of behavior" for other actors. Regulators and governments are able to monitor, evaluate, report and sanction the behavior of other actors. These actors may use offline and online WOM communications and have an impact on the image of all other actors, in particular of focal firms. Knowledge and research are the key sources of the power of schools and universities. Lozano (et al., 2013) poses the following question of whether universities are leaders in developing sustainable development mental models and paradigms and in conveying the related sustainable development memes to their students or react to stimuli from society, conveying in that manner sustainable development memes to the universities from society? The answer is that, from a historical point of view, many roles have been played by universities in transforming societies, through the education of decision makers, leaders, entrepreneurs, and academics. However, education and research into sustainability at universities have only just been developing at many institutions. It is essential that the importance of multi-disciplinary and trans-disciplinary teaching, research, and community outreach should be properly academically recognized in order for societal transformations needed for sustainable societal development to be accelerated. Such a support, recognition and empowerment will help all to co-work for the purpose of catalyzing the integration of the SD meme in all decision-making processes in society (Lozano et al., 2013). All the actors in the SC are inter-connected with each other, and they interact by behaving in a certain way. There are multiple relationships and dependences. For example, the survival of consumers depends first of all on the mindset of consumers themselves. If consumers want and can live in accordance with a sustainable lifestyle, then they will be buying sustainable products and, more broadly perceived, they will be behaving in a sustainable manner. Consumers' demand for sustainable products influences the sustainable production and behavior of focal firms, suppliers and other firms on the business market. Apart from the family, friends, and schools, the consumer's sustainable mindset is also influenced by regulators and governments, the general public, environmental and social pressure groups, NGOs, neighborhood communities and the media. The survival of focal firms first of all depends on consumer behavior. The focal firm, however, also depends on its employees, suppliers, regulators and all other actors. A general support is needed for the purpose of achieving the SD goals.

## **4. CONCLUSION**

According to the marketing concept, end consumers' needs and wishes are the most important item for firms.

If end consumers behave sustainably, then other actors, particularly firms on the B2B market, have to “listen to” end consumers and behave sustainably. SO consumers can drive sustainability in the SC. Schools and universities, regulators and governments, the general public, environmental and social pressure groups, NGOs, neighborhood communities and the media can have an impact on the “sustainable mindset” and sustainable behavior of end consumers.

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## GLOBALIZATION AND CHALLENGES OF THE MODERN WORLD - CONSTRUCTIVE DISMISSAL

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### **ABSTRACT**

*There are two usual types of termination of employment relationship- the dismissal at the employer's initiative and the resignation at the employee's initiative. However, there is another type, the employee's resignation due to the unbearable working conditions at the employer's (most frequently due to mobbing). In the described situations, the employer issues a dismissal decision. The most frequent lawsuits are for the annulment of the dismissal decision at the employer's initiative. Little it is said and written about the annulment of the dismissal decision that the employer issued on the basis of employee's resignation statement. The paper before us is going to demonstrate to what extent the law and judicial practice recognize that type of termination of employment relationship and what is more, it is going to inform the employees that they are entitled to that legal remedy. In addition, the cases from judicial practice in which this type of termination of employment has been recognized and the employee has been protected will be analyzed. The most frequent employer's conduct that brings about this type of termination of employment will be described as well as the fact that the employee must prove that such behavior was the cause (motive) for their resignation.*

**Keywords:** *dismissal, constructive dismissal, mobbing, litigation, annulment of the dismissal decision*

### **1. INTRODUCTION**

The notice that an employee initiates due to unbearable working conditions caused by exposure to harassment at the workplace or sexual harassment is known in British and Irish law as "constructive dismissal". Mobbing, that can be exercised by an individual – a superior or an organized group- a group of employees that wants "to get rid of" a certain colleague, creates such undesired environment for him or her (psychological force) thus forcing him or her to resign. Such behavior can bring about severe consequences: health problems and often it may lead to suicide. Mobbing can be compared to the criminal offence of extortion and observed as a criminal offence against property. The employer has the intention of accumulation of material gain – he will not pay for that work position anymore. Their behavior forces the employee to terminate the employment contract i.e. to do something that will harm not only his personality but his property as well. Regardless of the similarities with those criminal offences, mobbing, that is harassment is prescribed as a criminal offence in article 137 of the Criminal Code according to which: whoever ill-treats another or treats such person in humiliating and degrading manner, shall be punished with imprisonment up to one year (paragraph 1). Whoever causes anguish to another with the aim to obtain from him or another information or confession or to intimidate him or a third party or to exert pressure on such persons, or if done from motives based on any form of discrimination, shall be punished with imprisonment from six months to five years (paragraph 2). If the offence specified in paragraphs 1 and 2 of this Article is committed by an official in discharge of duty, such person shall be punished for the offence in paragraph 1 by imprisonment from three months to three years, and for the offence specified in paragraph 2 of this article by imprisonment of one to eight years (paragraph 3). In practice, there are three documented cases in which employers were convicted of a criminal offence due to harassment of workers: Verdict of the Appellate Court in Kragujevac Kž1 – 2719/12 of 6 November 2012 stated that the employer was convicted to a conditional sentence of seven

months and a fine for harassment and torture of the employees. The Municipal Court in Jagodina made a final decision that the editor of a weekly magazine is convicted to four months of imprisonment and a conditional sentence of two years for a harassment of a journalist-section editor. Judgement of the Appellate Court in Kragujevac KŽ1 – 1439/13 of 28 March 2013 stated that the director of a company was convicted to a fine for extended criminal offence of harassment and torture from article 137 paragraph 1 of the Criminal Code. It was determined in the proceedings that he treated the aggrieved party in a way that threatens human dignity by inviting the aggrieved party in his office and demanding from her to have sexual intercourse with him. After she had refused, he said „that she was on the list of workers who would be fired on the ground of redundancy and that he would delete her name from the list if she agreed to have a sexual intercourse with him and that she would not have any problems if she agreed to meet him repeatedly in a secret place“. The aggrieved party refused that after what the accused from his cell phones sent her messages with threatening content as well as with love and vulgar content. It caused the aggrieved party to feel anxiety, insecurity, fear for her own life, as well as the fear of losing her job which led to her isolation and health problems due to which she was on a treatment in daily hospital of a psychiatric clinic. The dismissal is ascribed to the employer should the court find that it is a matter of harassment which gives to the employee who initiated the dismissal the right to dismissal annulment, return to work and compensation of damage<sup>1</sup>.

The examples from comparative practice speak of that:

1. Constructive dismissal is defined in the following way: ‘If the employer is guilty of conduct which represents a significant breach of the employment contract, or which shows that the employer no longer intends to be bound by one or more of the essential terms of the contract, then the employee is entitled to treat himself as discharged from any further performance. If that is the case then he terminates the contract by reason of the employer’s conduct’<sup>2</sup>.
2. In another case the court examined the conditions of reasonability and justification and gave the following instructions regarding questions that had to be asked in that case: what was the employer’s conduct like, whether the employer had a justified and reasonable reason for such conduct, and if yes, the employee could not successfully demand dismissal. However, if the employer did not have a justified and reasonable reason, then the employee had the right to dismissal while in that case it needed to be examined whether such conduct was aimed at mental destruction of the employee or cause of severe damage<sup>3</sup>.
3. In all the cases the court examined employee’s right to resign. In one case the court ruled whether the employer missed the chance to protect the employee from mobbing and overtime work which was “the final straw” which gave the right to the employee to resign and file a lawsuit<sup>4</sup>.
4. When the employer decides to make significant changes in the agreed working conditions, and the employee does not agree with that (transfer to another work position with drastic decrease in duties which leads to significantly lower salary and status; surprising, unprovoked and unjustified request for moving to another place of work) the court assessed<sup>5</sup> that the employee had the right to cancel employment contract.

<sup>1</sup> B. Lubarda: Labor Law, discussion on dignity at work and social dialogue, Faculty of Law, Belgrade University, 2012, p. 721

<sup>2</sup> Western Excavating (ECC) Ltd v. Sharp (1978) I.R.L.R. 27 (CA) available at <https://app.cronerico.uk>

<sup>3</sup> Abbey National Plc v. Fairbrother (2007) I.R.L.R. (320) available at [http://www.employmentappeals.gov.uk/Public/Upload/06\\_0084\\_ResfhAMRN.doc](http://www.employmentappeals.gov.uk/Public/Upload/06_0084_ResfhAMRN.doc)

<sup>4</sup> GAB Robins Ltd v. trigs (2007) UKEAT I.R.L.R. (857) available at [http://www.bailii.org/uk/cases/UKEAT/2007/0111\\_07\\_1306.html](http://www.bailii.org/uk/cases/UKEAT/2007/0111_07_1306.html)

<sup>5</sup> Farber v. Royal Trust Co., (1997) 1 S.C.R. 846 case number 24885, available at <https://scc.lexum.com/scc-csc/>

5. The court assessed: secret placement of a camera in employee's office without informing the employee and unauthorized video surveillance grants the employee the right to cancel the employment contract<sup>6</sup>.

Except in British and Irish law, such dismissal is known in French law as well under the name "la prise d'acte de la rupture" which was used by the Court of Cassation in June 2003. Apart from that, the expression „auto – licenciement“ is also used. Those terms are used in cases when an employee resigns and then files a lawsuit for the annulment of resignation as unlawful. Should he/she win the dispute, "la prise d'acte" produces consequences as wrongful dismissal" the employer will be obliged to compensate the damage<sup>7</sup>. If the court assesses that the established facts do not justify the dismissal (the plaintiff did not prove respondent's unlawful conduct, the existence of harassment, discrimination, etc.), "la prise d'acte" produces the effects of an ordinary resignation.

## 2. LEGAL SOLUTIONS IN SERBIAN LAW WITH THE EXAMPLES FROM JUDICIAL PRACTICE

The Law currently in force<sup>8</sup> does not contain a provision on constructive dismissal. The Law previously in force<sup>9</sup> such dismissal recognized in article 178, paragraph 3. which said: "Should termination of employment result from employer's violation of duties stipulated under the law, general document and labor contract, the employee shall be entitled to all rights resulting from the labor relationship, as in the case of wrongful dismissal." While from the comparative law one can conclude that the subject matter of constructive dismissal is related to major rights violation: "unreasonable employer's conduct aimed at mental destruction", "conduct that represents the final straw", Serbian law, as it seems, leaves (enables) a wide area of application of that institute, without the stress on severe rights violation that has as its consequence psychological suffering. Furthermore, from the quoted rule, it does not explicitly ensue that the worker has the right to a lawsuit (and other forms of protection) for annulment of willing notice, but rather that "flaw" of the law was eliminated by the creativity of judicial practice believing that the employee can in general preclusive time limit seek the annulment of their statement (notice). The main reasons for filing a lawsuit are psychological duress, more rarely physical duress and the employer's conduct that most frequently has all characteristics of mobbing. Thus, in practice the right of the employee from article 178 paragraph 3 is mostly connected with harassment, hazing, mental torture, and so that provision in a way represents "a forerunner" and the inspiration for the later enacted Law on prevention of harassment at the workplace. Such notice most resembles the employee's notice based on article 178 paragraph 1 of the Labor Law, but it still differs from it. According to article 178 provision of the Labor Law: Employee shall be entitled to terminate the labor contract and submit in writing notice on termination of the labor contract 15 days before the date stated in the notice as the date of termination of employment, at the latest (paragraphs 1 and 2). For that type of dismissal it is characteristic: the statement of will is valid if it is written, explicit, categorical, clear and unambiguous. Such statement can be given by an employee who is capable of comprehending its significance and managing his/her acts. The reasons for notice are not stated. The notice may be given at any time and for any reason. Motives of the notice are not relevant. It represents unilateral statement of will that produces legal effects from the moment it is delivered to the employer. From the moment when the written notice is delivered to the employer, until the termination of labor relation comes to ipso iure.

<sup>6</sup> Colwell v. Cornerstone Properties (2008) available at <https://canlii.ca/t/21wpm>

<sup>7</sup> Cour de cassation, chambre sociale, 20 Janvier 2010, n° 08-43471 available at <https://www.legifrance.gouv.fr>

<sup>8</sup> Law on Amendments to the Labour Law, Official Gazette of RS, number 75/14

<sup>9</sup> Labour Law, Official Gazette of RS, number 24/05

The decision on the termination of labor relation that the employer makes in such situation is declarative. It only states that the labor relation terminated at employee's will"<sup>10</sup>. As it has previously been stated, unlike the rule contained in paragraphs 1 and 2 of the "regular" termination of labor relation at the will of the employee, the law in paragraph 3 gives legal significance to the statement of will that is a consequence of a "bad" employer's action broadly understood as conduct contrary to the legal norms in respect to their (employer's) rights. Namely, the employer's obligations from the labor relation are prescribed not solely by the Labor Law but also by the Law on prevention of harassment at the workplace, the Law on prohibition of discrimination, the Law on personal data protection, the Law on safety and health at work, the Law on healthcare, the Law of Contracts and Torts, the Law on civil servants, the Constitution, international conventions (ILO conventions, the European convention on human rights). Of course, there are also GCA and SCA, various Rulebooks but the most precisely defined obligations stem from the employment contract (type and level of professional qualification, type and description of tasks that the employee is expected to perform, the place of work, manner of entering into employment, the duration of the fixed-term employment contract, the day of commencement of work, working hours, the duration of daily and weekly recess, monetary amount of the salary and payment deadlines). When an employee, due to employer's breach of afore listed obligations, is "compelled" or "forced" to resign, it is a case of constructive dismissal. In the case of constructive dismissal, it is obligatory to enlist the reasons. The statement that in such case cancels the employment contract is not considered to be a free-will statement, given without duress, force or threat. It is actually a coerced statement i.e. a notice statement that an employee gives because they cannot stand employer's conduct anymore. In such situation the employee who has cancelled the employment contract is entitled to an annulment of the decision made on the basis of that statement. That situation is equated with a wrongful dismissal by the employer and the employee is entitled to re-admission to work (at their request), compensation of damage in the amount of lost salary and other emoluments to which the employee is entitled pursuant to the law, general document and labor contract. The employer shall also pay all outstanding contributions for mandatory social insurance for that period (article 191 of the Labor Law). The task of the courts in that labor dispute is to find a causal link between the will i.e. employee's statement and employer's conduct. However, unlike "regular" notice on employer's initiative, in the case of "constructive dismissal" the burden of proving employer's "malicious acts" and motives is on the employee. As it has already been said, "constructive dismissal" most frequently represents a consequence of mobbing (harassment). Mobbing is defined by article 6 of the Law on prevention of harassment at the workplace: "Every active or passive behavior towards employee or group of employees at the employer that repeats, and which has for the aim or represents violation of the dignity, reputation, personal or professional integrity, health, employee's position and which causes fear or creates a hostile, humiliating or offensive environment, deteriorates working conditions or causes the isolation of employee or cause that the employee on its own initiative terminates labor relation, cancels the employment contract or other contract. Harassment is also any encouragement or inducement of others on explained behavior from paragraph 1 of that article". The employee who deems to be a subject of harassment by the employer who is a natural person or responsible person in legal entity may submit the petition against the employer before the competent court (article 29 paragraph 1). The right to file a petition against the employer for harassment at workplace or related to work has also the employee who is not satisfied with the result of the procedure of protection from harassment at the employer (paragraph 2). The petition from paragraphs 1 and 2 of that article cannot challenge the legality of special act enacted by the employer by which are regulated rights, obligations and responsibilities from

<sup>10</sup> Prof. PhD Zoran Ivošević, Milan Ivošević: "Labor Law Commentary", Official Gazzete, 2006, p. 356

the employment, against which employee has the right on protection in procedure prescribed by the separate law (paragraph 3). That provision directs the employee to the Labor Law and then the employee exercises protection in accordance with the provisions of article 178 of the Labor Law. The fact that judicial practice granted the employee the right to a petition for the annulment of their personal notice statement most frequently for the reasons of mobbing and discrimination stems from the following examples.

### **2.1. Example I**

An example of the annulment of the dismissal decision made on the basis of the employee's statement can be found in the decision of the Supreme Court of Cassation<sup>11</sup>. In that case the plaintiff had an employment relation of indefinite duration at the respondent. His labor relation had been terminated earlier on the ground of respondent's decision due to the lack of working results. A final court decision annulled that decision and ordered the respondent to return the plaintiff to work, and to entrust him with the performance of tasks on the job position that he had done before the decision was made or to entrust him with the performance of tasks on the job position which was in accordance with his level, and type of his professional qualification, his knowledge and capabilities. In the execution of that decision, the respondent offered the plaintiff an annex to the employment contract for a different position. The plaintiff responded to that offer in written form stating that he did not have the necessary professional qualification for the performance of that (new) work position and demanded a withdrawal of the offer as well as his transfer to a suitable work position. The respondent had not altered his offer which was why the plaintiff accepted the performance of tasks on that work position, while maintaining the possibility to ask for an assessment of the annex legality. However, he informed the respondent that he was cancelling his employment contract in order to avoid the hazing and humiliation by the management. Based on that statement, the respondent made a dismissal decision. With such established factual state, the first instance court assessed that the disputed annex to the employment contract was unlawful since the conditions from article 171 paragraph 1 point 1 of the Labor Law had not been met for its making, as well as that the dismissal decision was unlawful since the plaintiff gave his notice statement due to respondent's unlawful conduct. The second instance court decided that the statement with which the plaintiff terminated his employment contract represented an expression of free will, that it had not been extorted by force or threat or that had it been made in fallacy or due to a fraud. Since the respondent made a decision on the termination of the employment relation based on a statement made in the described manner, there were no conditions for the determination of its unlawfulness. The Supreme Court of Cassation established that both the disputed annex to the employment contract and the dismissal decision were unlawful. The court assessed: "the employment contract concluded between the parties to the dispute was terminated at respondent's will (the dismissal decision). Since the final court decision annulled that decision, the respondent was obliged to act in accordance with the decision order which lacked in that case. In the Annex and the proposal for its conclusion the plaintiff had been offered a work position which the respondent had known that the plaintiff did not meet the conditions for (he did not have the necessary professional qualification- he did not pass the specializing exam). The proposal for the conclusion of the annex did not contain an explanation since it solely quoted the provisions (article 172 of the Labor Law) without stating the essential reason for the change in plaintiff's work position, which is contrary to article 171 paragraph 1 point 1 of the Labor Law which clearly states that the transfer that is the change in agreed terms of the working conditions for the transfer to another corresponding job must be explained and concretized.

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<sup>11</sup> Judgement of the Supreme Court of Cassation Rev2 1020/2012 of 20 February 2013

Given that in this case a respondent's explanation lacked (the needs of the process and the organization of work had not been stated), nor was it a corresponding job (a position for whose performance the same type and level of professional qualification determined by the employment contract were necessary), that annex was unlawful. The respondent's treatment in the longer period of time: unlawful distancing the plaintiff from work, making a wrongful dismissal decision due to the lack of working results, the proposal for an unlawful annex to the employment contract, plaintiff's transfer to a work position for which the plaintiff did not have the necessary qualifications, represented an unlawful treatment respectively a breach in obligations prescribed by law. That was the main reason (motive) for plaintiff to resign his job. The motive of the resignation grants the plaintiff the right to ask for its annulment based on the quoted article 178 paragraph 1 in relation to paragraph 3 of the Labor Law since it was handed in due to respondent's unlawful conduct. In such situation the plaintiff had all the rights granted for wrongful dismissal. In that case, apart from the annulment of the dismissal decision, the plaintiff did not seek reintegration. However, he was entitled to the compensation of material damage in the sense of article 191 paragraph 4 of the Labor Law.

## **2.2. Example II**

We can find a similar example in the Supreme Court of Cassation's verdict<sup>12</sup> in which respondent's unlawful conduct was recognized as the main motive for employee's resignation. In that case the plaintiff was employed at the respondent as a salesperson in a certain shop and as a manager. The plaintiff, as well as the other employees in that shop, was instructed by the head manager and owner's brother how to treat a certain person, a Union organization representative, who was assigned to that shop. According to the instructions, they should have ignored that worker, ordered her to perform the dirtiest and physically most demanding tasks and represented her as a bad worker as well as to sign such written statements. The plaintiff refused to testify in the judicial proceedings which that person initiated against the respondent for the compensation of damage due to an injury at the workplace, since the plaintiff and the other workers from that shop had previously been asked to make a false statement in favor of the respondent. In addition, the plaintiff was offered a promotion, but she was also threatened that she could lose her job should she disobey the orders. The plaintiff handed in a request for a termination of the employment relation, and the respondent made a dismissal decision. The courts assessed that unfair treatment by the immediate manager as well as other persons in family or work relation with the respondent preceded the plaintiff's decision to cancel the employment contract. For such treatment (disorderly salary disbursement, the pressure to treat the certain employee with hazing as a manager and together with the other employees and to testify in favor of the respondent in the dispute initiated by that employee) the plaintiff "was forced" to cancel her employment contract. The dismissal decision was annulled.

## **2.3. Example III**

In the following case<sup>13</sup>, due to performed mobbing and discrimination (which was determined by a court verdict), which were mirrored in refusing the plaintiff to use her days off, and thus violating her right to a holiday, assigning her a higher number of patients, excluding her from additional work, disenabling the plaintiff to state her opinion during the morning meetings i.e. interrupting the plaintiff whilst speaking, loud addressing with threats, humiliations in front of her colleagues and patients as well as unacceptable nonverbal communication (coming too close to her face and waving arms and papers before the plaintiff's face) the plaintiff made a statement about her notice during the course of the lawsuit. The subject matter of the plaintiff's petition was solely the determination of mobbing and discrimination.

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<sup>12</sup> Judgement of the Supreme Court of Cassation Rev2 905/2012 of 22 March 2013

<sup>13</sup> Judgement of the Supreme Court of Cassation Rev2 687/12 of 27 December 2012

The rule from article 178 paragraph 3 of the Labor Law was applied to the counterclaim with which the respondent asked for the plaintiff to be obliged to compensate the expenses that the respondent had had for plaintiff's professional training. The Court assessed: "it has been established that the employer, here the respondent breached the obligations arising from the Law on prohibition of discrimination. That is why the plaintiff resigned and thus, based on the quoted legal provision, she is granted all the rights as in a case of wrongful dismissal. That means that in the case of annulment of the given notice the plaintiff would be returned to work. As the plaintiff's work at the employer was disabled by the respondent himself (through the determined discriminatory conduct) and for such respondent's conduct (breach of the employment contract by the employer) the plaintiff resigned. According to the correct conclusion of the second instance court the plaintiff should not be obliged to compensate the expenses that the plaintiff had for her professional training."

#### **2.4. Example IV**

Another case of the "constructive dismissal" is the case of the Appellate Court in Novi Sad<sup>14</sup>. It was determined that the respondent was responsible since he treated the plaintiff unlawfully by raising his voice and yelling at the plaintiff in front of other employees, which humiliated the plaintiff. In addition, he disconnected her Internet connection (even though the other employees had access), disabled the plaintiff to communicate with the head office, took away her computer with flat screen, demanded from the plaintiff (not the other employees) to hand in a weekly work report, transferred her to another location, another work position i.e. in an isolated work space where none of the other respondent's employees had been, excessively supervised plaintiff's work via surveillance system he had also placed in the plaintiff's office. With the afore described actions the respondent discriminated the plaintiff in regard to other employees and thus put her in a less favorable position. With such respondent's director conduct, the plaintiff was subjected to harassment at workplace which occurred frequently and in a longer period of time. Thus the plaintiff suffered from extended stress due to unbearable working environment, lower level of motivation, fatigue and exhaustion, health problems, violation of her personal reputation and professional integrity, which finally resulted in the termination of employment contract by the plaintiff. The respondent was obliged to compensate damage to the plaintiff. The subject matter of the petition had not been the annulment of the dismissal decision.

### **3. THE CONDUCT THAT CAUSES CONSTRUCTIVE DISMISSAL**

The description of the undesired employer's behavior which brings about that type of dismissal follows from the analysis of the cases from judicial practice. Such behavior may be:

- Unjustified change in working conditions
- Reduced salary
- A change in working hours/work position
- Allocation to an inferior job or referral to a position for which the employee does not have the necessary qualifications- professional qualification
- Subjecting the employee to sexual harassment and discrimination
- Unacceptable personal treatment by the other employees and/or superiors (systematic harassment, verbal harassment, disrespect) which the employer has not prevented or punished
- When there are serious omissions in the preservation of life and health at workplace about what the employee has informed the employer, but the employer has not undertaken adequate measures

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<sup>14</sup> Judgement of the Appellate Court in Novi Sad Gž1. 651/13 of 15 May 2013

- In the process of the execution of judicial decision on the employee's reintegration, making a decision which leaves the employee unallocated followed by a decision which cancels the employment contract due to redundancy.
- Returning the employee to work in the process of judicial decision execution without real and active inclusion in the labor relation.

The enumeration is not exhaustive, but rather represents the recorded conducts up until now.

#### **4. CONCLUSION**

From the above-described it stems that in the litigation for the annulment of the dismissal decision courts examine the connection between the employee's conduct in fulfillment of their obligations from the employment contract, employer's conduct who is obliged to provide healthy and safe working conditions as well as the conditions which prevent harassment, the employer's conduct towards other employees in relation to the employer's conduct towards "the harassed person", (non-)existence of justified reasons for such conduct and subjective feeling that such conduct evokes in the "victim". Apart from certain basic characteristics of mobbing, it is impossible to establish all manners in which a person may be mobbed. The existence of mobbing, even if it consists of a single action, is established in every situation by taking into account all the circumstances of the case, on the basis of which it is determined whether the employer's conduct breached a law-prescribed right of the employee in a way which may be characterized as harassment. Regardless of the amendments to the Labor Law which have deleted this provision, the employee is entitled to protection should the dismissal be a product of discrimination or harassment at workplace according to general rules of the Law of Contract and Torts which are applied for nullity and rescindable contracts (Articles 103 and 111 of the Law of Contract and Torts) and the rules from the Law on the Prevention of Harassment at the Workplace and the Law on Prohibition of Discrimination.

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## **MEDIA EDUCATION AS COUNTERPOINT TO THE DEVASTATION OF PUBLIC INFORMATION IN SERBIA**

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### **ABSTRACT**

*In modern information and IT society, creativity is elevated to a pedestal, as a condition for market success, but also survival. In other words, in post-industrial production, or the entire economy, and certainly media companies, which of course operate according to market principles and are based on information, creativity is the most wanted commodity. In the modern knowledge society, there has been a strong affirmation of the phenomenon of cultural, that is, creative industries that have great importance for the economic, social, political and general development of society. At the same time, changes in the economic, technological and cultural spheres have strongly influenced changes in the media, as an important creative, but nevertheless an industry. This means that media products (information, videos, pics) and the media are industry, not only because of the rating criteria which dictate the direction of business, but also because it is about mass production and consumers. Creativity is an important strategic resource for increasing competitiveness in a knowledge-based economy. However, media policy does not encourage systematic promotion of creativity. Consumerist entertainment industry suppresses and marginalizes authentic, creative cultural practices, replacing them with pseudo-cultural contests. The integration of theoretical knowledge and education into the Serbian media sphere is practically at the zero point with recurrences that seriously undermine the overall development, application of knowledge, modern technological achievements, and the affirmation of democracy and freedom as the basic precondition for the overall prosperity of society.*

**Keywords:** *Creativity, Competition, Media Education, Media Industry, Public Information*

### **1. INTRODUCTION**

In the modern informatical and information society, creativity has been raised to a pedestal. It has become a condition for market success, but also survival. In other words, in post-industrial production, that is, in the entire economy, and certainly in media companies, which of course operate according to market principles and are based on information, creativity is the most wanted commodity. In spite of this, the notion of creativity is not easy to define, because there are still doubts about what we mean by that term. In order to better understand creativity, perhaps we should embark on a chronological and etymological path, that is, we should put it into certain social, economic and political contexts, and thus we return a couple of decades back in time. In short, we should revise the differences between industrial and post-industrial societies (Castells, 2000, 2002 and 2003). In an industrial society, a relatively narrow circle of people "produced" ideas, new concepts, while most were in charge of realization process, making specific products out of these ideas. Then the design team of about ten people created the look of cars, buildings, machines, magazines, after which thousands of workers turned these conceptual solutions into mass-produced products. In post-industrial society, the picture is completely different. Because of the high automation production that technological progress has brought us, production lines have fewer workers than ever, while the number of employees

in non-productive activities has increased enormously. Millions of designers, artists, engineers create new products, and perfect old ones, which are then ferociously bought by the consumer society, of course "with the unselfish help" of selling and advertising marketing magicians. By transforming the industrial society into a post-industrial society, the majority of employees no longer create concrete, tangible products - but deals with different forms of information manipulation. (Jandric, 2015).

## **2. CREATIVITY AS HUMAN CAPITAL**

Etymologically the word is derived from the Latin word "creatus", which literally means "the one that grew". Creativity should be distinguished from innovation. The first term is usually used to create new ideas or approaches, while innovation is the process of creating and applying creative ideas. Innovation "starts with creative ideas," ... "creativity by an individual or group is the starting point for innovation" (Amabile et al., 1996). Although neither the ancient Greeks nor the Romans had words that would be adequate to today's term of creativity, we describe their creative work using the word creativity. In the Christian period, "creatio" is the word that describes God's "creation from nothingness." After the 18th century and the Age of Enlightenment, the concept of creativity appears increasingly in the theory of art, but it also connects with the concept of imagination (Milivojević, 2011). There are more than 60 different definitions of creativity in psychological literature. The most commonly mentioned is: creativity is the ability to produce artwork that is not only new (i.e. original, unexpected) but also useful (Baron, 1995). This definition has its own shortcomings (which we will not discuss on this occasion), nor shall we deal with problems like: how can one learn to be creative? Traditional pedagogy has instruments that can value knowledge, but not an answer to the question of how to evaluate and recognize the creativity of students. Since knowledge and creativity today are the most valuable and most sought-after goods in contemporary society, the concept of human capital has developed, which can be described as a set of different knowledge, skills and creative potentials of a person. Already the description itself leads us to individuality. Such creativity is aimed at gaining advantage over a colleague, making them compete with one another, focused on particularity. This in educational institutions implies excellent success, since today's schools face a large number of students with excellent success, the particularity is called into question. Post-industrial production based on information raises creativity on a pedestal - which defines an individual through human capital - which develops through upbringing and education - leading to strong individualism - which leads to Darwinism. We can call a person who defines himself through human capital with the Latin name *homo economicus*, because its whole existence is defined by the laws of supply and demand (Peters and Heraud, 2015).

## **3. EDUCATION FOR CREATIVITY**

In the digital world, however, knowledge production and creativity are linked to openness and sharing. Typical examples include social networks that rest on users who produce and share content - information, images, videos ... In the 1990s, the emergence of Web 2 has encouraged the creation of new forms of knowledge and new forms of creativity. In the context of knowledge creation, Howard Rheingold introduces the concept of the wisdom of the crowd, which delineates the intellectual efforts of a lonely creative individual with the co-operation of a large number of people (Rheingold, 1995; Rheingold and Jandrić, 2015). It recognizes that complex social problems require the collaboration of a large number of involved citizens, especially in times of crisis (Peters and Heraud, 2015). This also means a transformation in which education plays a major role primarily in encouraging individual talent and simultaneous preparation of an individual for acting in competitive environments. Modern science and industry are less reliant on a talented individual, and more on the work of large teams.

This trend is present more or less in all areas of human activity. Modern designers, developers, scientists and artists generally work in large teams, opportunity gained thanks to their previous individual knowledge, skills and successes. Great Britain was the first country to politically focus on creative industries (to use the term within the state cultural policy) and the establishment of the Creative Industry Task Force within the Department of Culture, Media and Sport, in 1997. It defines creative industries as those industries that originate from individual creativity, skills and talent, and have the potential to create wealth and jobs through the generation and exploitation of intellectual property. This definition is the most widespread and accepted definition of creative industries, especially in Europe, and includes advertising, architecture, art and antiques, crafts, design, fashion design, film, video, photography, computer games, music, performing and visual arts, publishing, television and radio. Creative industries are largely the privilege of developed countries, as they require a high degree of innovation, expertise and use of the latest technologies.

#### **4. CREATIVITY AND EDUCATION AS A STRATEGIC RESOURCE FOR INCREASING COMPETITIVENESS**

In the modern knowledge society, there has been a strong affirmation of the phenomenon of cultural, that is, creative industries that have great importance for the economic, social, political and general development of society. At the same time, changes in the economic, technological and cultural spheres have strongly influenced the changes in the media, as an important creative industry. This means that media products (information, videos, pics) and the media is industry, not only because of the rating criteria, which dictate the direction of business, but also because it is done like in every mass production consumer industry. Creativity is an important strategic resource for increasing competitiveness in a knowledge-based economy. However, media policy does not encourage systematic promotion of creativity. Consumer entertainment industry suppresses and marginalizes authentic, creative cultural practices, replacing them with pseudo-cultural content. Solving the complex problem can not start unless we clarify the significance and essence of the content of concepts, which are interpreted in theoretical and practical terms too freely and arbitrarily which in the result leads to terminological confusion and a complete misunderstanding of media education concept, media literacy and media education. The listed areas, mixed in rhetorical presentation and inadequate understanding of which scope falls under these set of concepts, lead to permanent confusion in Serbian discussion forums. This is resolved by insisting that media education, media literacy and education in media is implemented out of ignorance, rejected and placed behind the scenes and lodges of the creators of the media, and in general the whole cultural policy. Mirko and Nevena Miletić in "Communicative lexicon" define media education as "the use of media in the institutionalized educational process of the so – called "educational technologies, didactic tools and teaching aids or as the first conceiving didactic sense condition, a completely new educational process similar to creation of the informational society. " The same authors interpret media literacy as "a metaphorical name for a set of individual developmental abilities, critical reception and evaluation of media content, the skills of using and managing the media and their creative use in the work process in everyday life" (Miletić, Miletić, 2012). Media literacy is a precondition of the so-called functional literacy, without which it is not possible to satisfy the individual and group needs of people in contemporary society. Media literacy, according to Tomislav Šikić (Hrvatski obrazovni portal Zbornica), develops various skills: technical (ability to access media), critical (understanding, and ability to interpret and critically evaluate media content), and practical (ability to create media messages). This makes it possible, according to Šikić, that the media is understood and in a good way, without stereotypes, accepted in a society that they carefully and critically observe. Media education, knowledge, values or cultural patterns are acquired and adopted by people's exposure to mass media and the use of the Internet.

All this towards Mirko and Nevena Miletic represents the opposite of formal, i.e. classic preschool and primary, secondary and higher education. Education and knowledge, established as a key human resource of the modern age, implicitly require intellectual capital integration into practice as the most dominant driving force for a quality and comprehensive creation of a knowledge society.

## **5. MEDIA AND MEDIA PRACTICE IN SERBIA**

Integrating theoretical knowledge and education into the Serbian media sphere, regardless of whether it is printed, electronic or mass media is practically at the zero point with recurrences that seriously undermine the overall development, the application of knowledge, modern technological achievements, the affirmation of democracy and freedom as a basic precondition for the overall prosperity of the society. Media practice in Serbia is reflected in reintegration, retrograde and numerous side effects. These areas not only permanently devastated, but are placed on margins or below it. The powers of political elites, the direct and open synthesis of ignorance with many different interest groups, create unimaginable consequences in all social areas. The lack of principle elements recognition in media messages - mostly wrongly decoded - creates and shapes public opinion with incredible explosiveness and intensity, and the entire society portrays the degree of mediocrity and ubiquitous superficiality or to the level of mediocrity. The media system in Serbia is far from the first transition phase, starting from the essential changes in the economic model of business - the constant wandering between state interventionism and non-transparent, legally suspicious private ownership structures, leading to general confusion and open issues in terms of freedom from direct mixing of political structures into business and editorial policy downgraded to support of one, and complete elimination, and economic obstruction of all others opposed to the current government. Especially after the fall of Slobodan Milosevic's regime in 2000, there are constant debates about the drastic, dual process taking place - economic decline and collapse of credibility, integrity and autonomy of media outlets. It all comes down to the repeated diagnoses that Serbia within the European framework belongs to the group of countries with the lowest level of critical media consciousness. In fact, the whole concept of restructuring is more a formal adaptation to the legal provisions of EU members than the internal need to approach this issue in a way that would contribute significantly to the improvement of general media literacy, media education and education in media. In this context, it is important to analyze "whether we need media literacy" and why we have built models that reject a modern approach to media culture structured through the synthesis of two key aspects: media education and the way media education it is achieved. The Society as a whole directs the concept of media literacy to rhetorical actualization on freedom of media expression, polemics about media strategies, legal regulations, which treat the freedom of the press, but not the essential values that are manifested in the daily activities of media conglomerates. This directly affects, but also creates the life of each individual in the community. Wide range, the cohesion force, which would base the media scene on different, high-quality and theoretically applicable and generally accepted models, in these deeply polarized discussions almost does not exist. The value of the Declaration of Media Education (1982) has remained founded on the starting point and basic idea, well purified through practice - communication rights derived from basic human rights. Nevertheless, the Serbian media scene and reality is characterized by suppression from the focus of the public to issues of general understanding of the relationship between creators and producers of information and their users. In economic, sociological, cultural, moral, aesthetic, and principle terms, this unity of opposites - the media and users - form a whole that continuously represents a permanent paradox, blurring the basic media postulates, although at first glance it might be noted that this possibility is out of the question.

## **6. TWO MINOR CASE STUDIES**

An internal case study, conducted in 2010, emerged more as a rhetorical need for top managers in the newspaper company "Večernje Novosti" highly positioned on the Serbian press market, illustrates the level of education of journalists who daily addressed their potential users. The fact that in high-circulation daily newspapers (for Serbian circumstances, with 260 employees) only 20% of all employees in the system had a high professional education is frustrating and quite discouraging. When asked "how many journalists, editors and other members of the editorial team lack the theoretical knowledge and whether the practice alone can replace that gap", ninety percent of the respondents answered that knowledge of theoretical forms is not necessary for quality work in the media sphere. Another data from the survey says: the majority of the editorial staff started to work in media outlets by graduating from secondary schools, which qualified them as high school graduates with diplomas for car painters, electricians, machine locksmiths, technicians. Lastly, the Association of Journalists of Serbia announced a few years ago that more than half percent of employees in media organizations do not possess a diploma in higher education (UNS, 2014). In the synthesis of ignorance occurred the logical and natural devastation of messages emitted in enormous quantities. Without any profound selectivity and good expert judgment, which in the era of the neoliberal economic concept brought the area of media and business into a mere self-sustainability, and in many cases a complete collapse in the free market of goods and capital. A survey of Birodi (2013) conducted on a representative sample of 3,200 respondents on media literacy in Serbia, high school students, civic education professors, journalism students, journalists showed the following: There is a false impression of the level of media literacy among respondents. That is why education on the general media literacy of all actors is necessary, and education on new media and social networks is especially important. Raising awareness about the power of consumers is necessary - all researchers said that the media does not have quality, but also that they have no impression that they can do something about it. Media as content producers must be involved in media literacy education. The research has shown that high school students use the Internet and social networks more than any other media. Young people also say that they can recognize media manipulation and the media's influence on their environment, but they also state that they are themselves immune to such influences (which is why one task of the Media Literacy Campaign is to indicate them once again to consider the actual level their immunity). One of the worrying conclusions of the research is that students are not completely convinced that they should participate, or they do not want to participate in workshops on the role of the media at all. When it comes to professors of civic education, it was striking that they were not interested in participating in the research.

## **7. PROFIT AS A JUSTIFICATION FOR SENSATIONALISM**

If, however, we penetrate into the essence of media literacy - excluding for a moment the factor of exploitation of technologically available possibilities - we will notice that media literacy is not characterized by the engagement of those who are directly interested in its prosperity and affirmation. It sounds illogical, but recipients do not learn enough about the importance of knowing the legitimacy foundation on which the media stand and do business, although they have to do it on the basis of legal norms and moral principles, which are easily rejected. The whole process in this sense is reduced to the necessary extent, some kind of minimalism and sufficiency to operate functionally economically and logically at that level, make profit, regardless of the price too high precisely because of such business philosophy. Thus, a new paradigm has emerged that commercial effects and moral discourse almost never meet at one point: sensationalism is more desirable than objectivity, tabloidization and accurate information do not come from the same echelon of journalistic outlets, concentration of content is not in the foreground.

The form has taken on the primacy, strong enough, to support and strongly incite ignorance and the eclectic state of general illiteracy, vulgarity, pseudo-events, lies and manipulation. The lack of different social media strategies, isolationism and open ignoring practical experiences of the concept of media literacy - defined at the 1992 National Leadership Conference on Media Literacy as the ability to access, analyze, evaluate and send messages via the media - is just one set that makers of media policy in Serbia use as a labyrinth for manipulating and creating social realities according to their own interests and proclaimed goals. Pacification and complete restraint on the openness of two-way communication has reached a situation of general misunderstanding. Recipients confused by the quantity, scope and lack of accurate information, more precisely, the abundance of daily disinformation and total elimination of basic theoretical knowledge in the production of media products, are not in a desirable place. Message senders, selected by measure of ignorance, party membership, open corruption, nepotism, create a simulacrum, a false picture of everything that makes life meaningful. "Media literacy comprehended as functional, covers the broad field of human existence starting from mastering the elemental ability of recognizing and interpreting visual symbols, advertising messages, through the ability to read and fill diagrams and patterns to much higher levels, such as the use of a computer for obtaining information, understanding the relationship signs and meanings, intentions and messages, an emotional and cognitive response to the media announced" (Knežević, N., 2008:85). The claim that the media are neither harmful nor useful, and that they can be both, has long been left unquestioned in Serbian media practice. It is persistent because of the multi-century mantra claiming it untouchable, at the same time protected, by no means other than the uneducated profile that has long created media policy in proportion to the level of education that is frustrating to the extent of intolerance.

## **8. CONCLUSION**

Cultural imperialism, supported by media megasystems, primarily from the United States, imposes global culture in the market and commercial terms. Cultivating traditional values has proven to be a big and complex job, because (media) cultural policy does not encourage meaningful systemic promotion of creativity. Consumer entertainment industry (primarily) suppresses and marginalizes authentic, creative cultural practices, substituting them with pseudo-cultural content. Entertaining contents (reality programs, various music competitions and sterile infotainment) anesthetized audiences focus on consumerism, consumption culture. It seems that after all the evidence, the creators of the media scene in Serbia do not have too much need to educate the public and consumers, due to the optimization of technical conditions which in themselves pressure users to overcome them, accept, and eventually buy what is offered. Information as a commodity with value and usable value, in abundance and transmission speed, is a kind of a new doctrine. It offers abundantly everything that is served from certain centers of power, and not on the basis of the full application of theoretical knowledge that would, through the passage of time, literate the users, raise the critical level of consciousness. Understand the reality through pure optics, and not as an imposed model, concentration of power, ownership suspicious structures, interest spheres, or the neutralization of awareness and understanding of the phenomena and tendencies in which society has existed for years, blurring the entire Serbian media scene. The well-known fact that media literacy in a permanent and unbreakable symbiosis with an extremely high percentage of illiteracy or a very low percentage of functional literacy in society would require the mobilization of relevant state factors in order to eliminate the monstrosity of illiteracy and reduce it to a measure of tolerance.

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## **MEASURING ECONOMIC & COMPETITIVENESS INDICATORS OF EUROPEAN COUNTRIES AFTER ECONOMIC CRISIS OF 2008: THE CASE OF GREECE AND GERMANY**

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### **ABSTRACT**

*In the present paper we present and analyze on a time basis key data on the economy and competitiveness of two European countries, Greece and Germany, for the period 2008-2015. The purpose is to capture and assess the general situation in the two economies after the international economic crisis and the possible impact on them. Next, a comparative analysis of fiscal policy and competitiveness in the two economies is carried out to study policies to improve fiscal and competitiveness on a case-by-case basis. On the basis of the above, the work is completed with conclusions on the effectiveness of the adopted policies for improving the budget and enhancing competitiveness.*

**Keywords:** *economy, GDP, competitiveness, impact*

### **1. INTRODUCTION**

#### **1.1. Comparative economic analysis between Greece and Germany**

The growth rate of GDP shows the annual GDP change, ie the change in the quantities produced in one economy from one year to the next, and is an indicator for the productivity performance of an economy either over time or in comparison with another (Kyrikos, 2015). As can be seen from the chart below, the GDP of the two countries in 2009, following the outbreak of the 2008 international crisis, fell significantly, with Germany for Germany -5.6% and -4.3% for Greece. From 2010 onwards, Germany's GDP has been rising year on year, although different rates of change have been observed. Larger increases in GDP are observed over the two years 2010-2011 (+ 4.1% and + 3.7% respectively), while GDP growth is slower in the next four years. On the contrary, for Greece, the downward trend in GDP continued in the coming years, in particular until 2013. Specifically, in 2011 GDP decreased by -9.1% from the previous year and by -7.3% in 2012. A marginal increase is observed in 2014 + 0.7% while in 2015 there was a small decrease, -0.3%. Overall, since 2008, Greece's GDP has fallen significantly, while Germany has seen increases since 2009.

*Figure following on the next page*



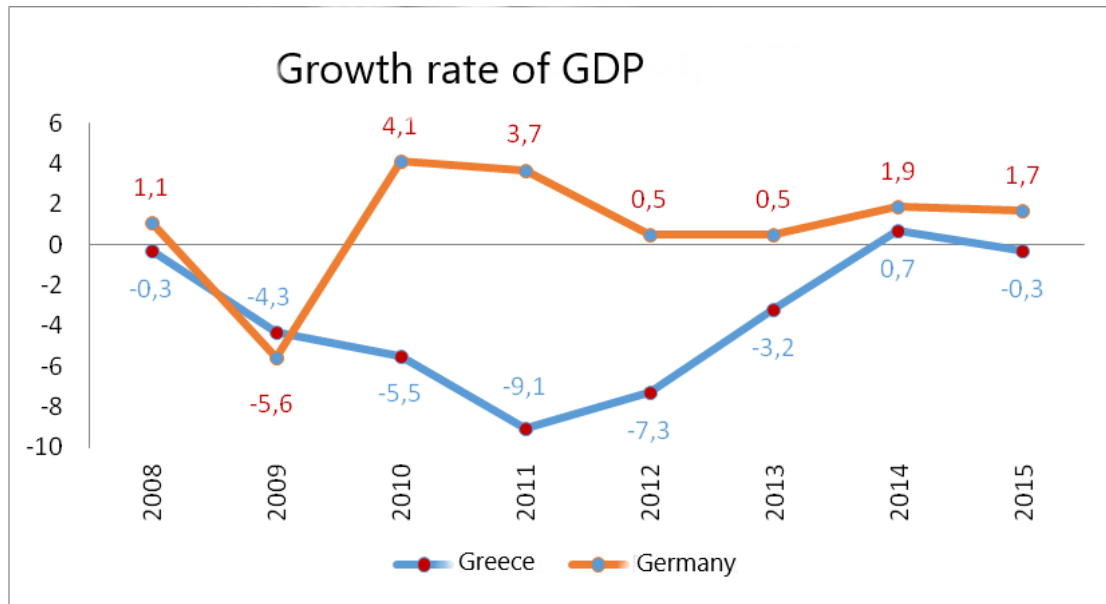


Figure 1: Growth rate of GDP

The importance of the course of the trade balance of a country is great, as it records the receipts and payments from exports and imports of goods in a country. Its long-term course can capture the capacity of a country to produce goods in relation to other economies. The existence of a deficit in the trade balance does not automatically cause unfavorable developments, as in cases where surplus imports are made in capital goods, they may lead to an increase in the production process. By contrast, long-term deficits signal low competitiveness, increased lending, etc. (Kosteletos, 2013). Germany's trade balance from 2008 to 2015 is surplus with exports of goods exceeding import, while increasing over time as a percentage of GDP. The surplus of exports in 2008 was 5.6% of GDP, while in 2015 it grew to 8.55%. On the contrary, in Greece, the trade balance is deficit in all the years under review, although gradually there is a clear reduction of the deficit since 2008. In 2008, the deficit was 15.11% of GDP, while in 2015 it was limited to -0.23%.

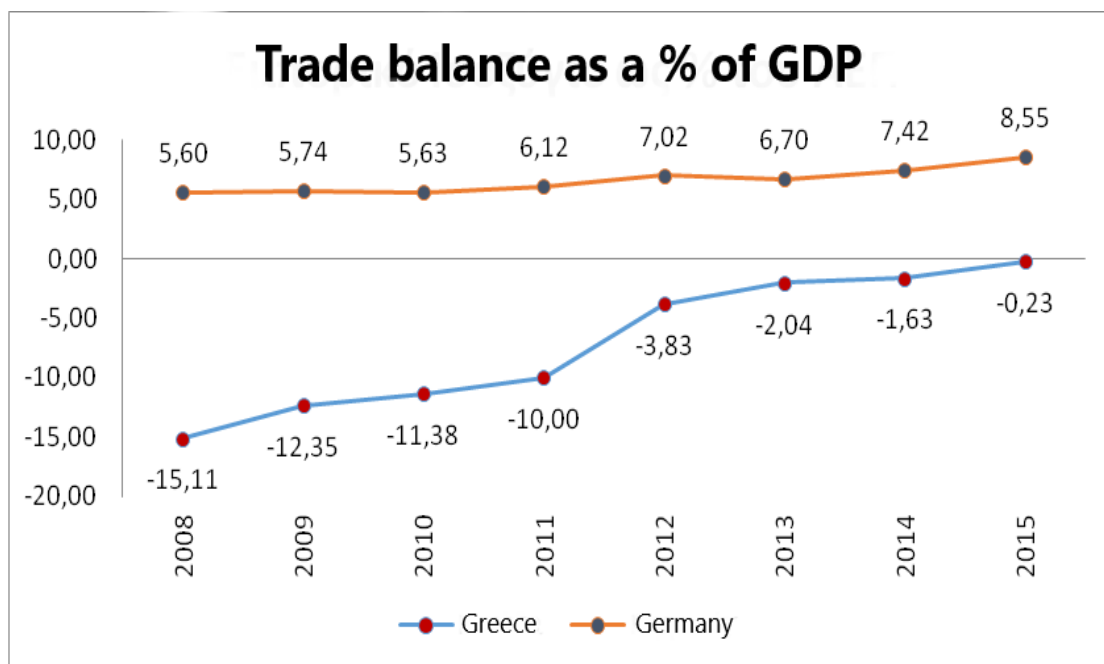


Figure 2: Trade balance as a % of GDP

The budget balance is the difference between the main revenue (mainly taxes) of a state and the budget expenditure (civil servant's fees, social benefits, borrowing interest, etc.). The difference between government revenue and budget expenditures is covered either by borrowing (in the case of a deficit) or borrowing (surplus) (Eurostat, 2018). The reasons for budget deficits are different, such as public investment financing, insufficient current income, etc. (Georgakopoulos, 1997). However, the existence of long-term fiscal deficits and the accumulation of public debt can lead to serious problems for an economy, restricting the fiscal policy and reducing the solvency of the government (Argetis, 2000). Germany's fiscal balance, with the exception of 2009-2010, is almost balanced, showing small GDP deficits, while budget surpluses for the 2014-2015 period. In contrast to the period under review, Greece's budget revenues have consistently been lower than budget expenditure and the deficit is fluctuating. Specifically, in 2009 and 2013 it was found to be relatively high in terms of GDP, with rates of -15.14% and -13.16%. While in 2014 it narrowed significantly to -3.59%, it was re-expanded in 2015 with -5.72% of GDP.

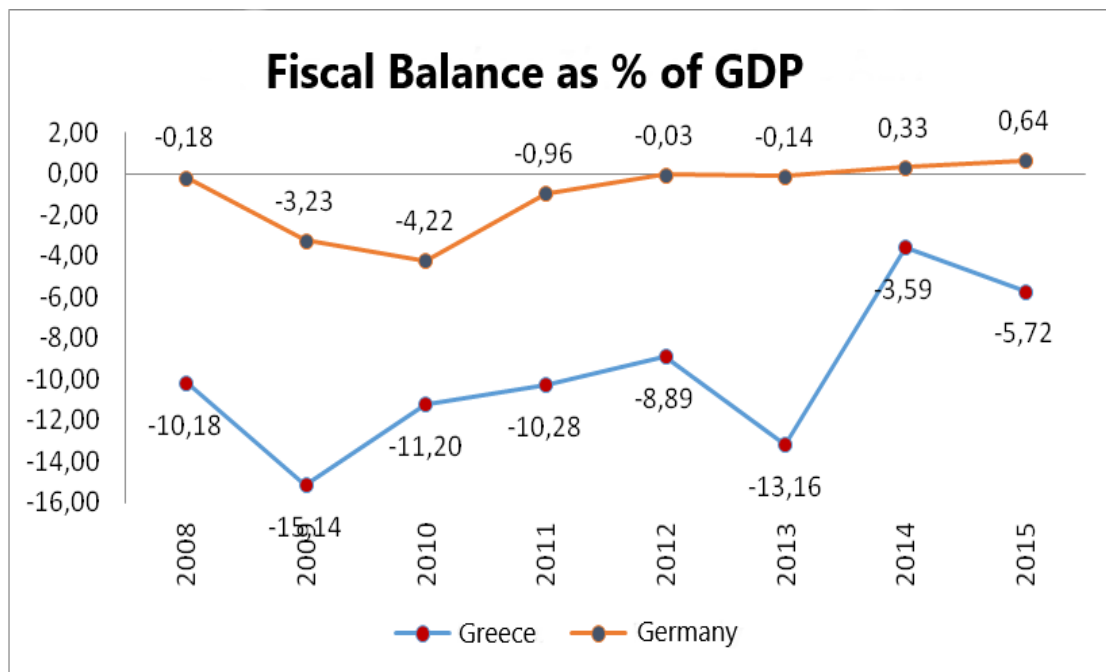


Figure 3: Fiscal balance as % of GDP

The phenomenon of unemployment is characteristic of modern economies, the level of which is constantly changing according to the prevailing economic conditions (recession-growth) (Lianos & Psiridou, 2015). The impact of long-term unemployment is serious and multidimensional, having adverse economic, social and individual consequences (Agrapidas, 2012). The reasons for unemployment are different, leading to different types of unemployment. Structural unemployment (from disproportionality in the supply and demand of various specialties) and unemployment to inadequate demand, stemming from the fall of economic activity in an economy, has a particularly negative effect on an economy. The loss of disposable income, in periods of increased unemployment, leads to reduced demand further exacerbating economic activity (Lianos, 2008). In 2008-2013, unemployment in Greece gradually increased to a high of 27.5% of the working population. Despite the fall in the next two years, the unemployment rate is still high, and in 2015 it was 24.9%. In Germany, on the other hand, with the exception of 2009, there is a gradual decrease in the unemployment rate and from 7.4% in 2008, in 2015 it was limited to 4.6% of the working population.

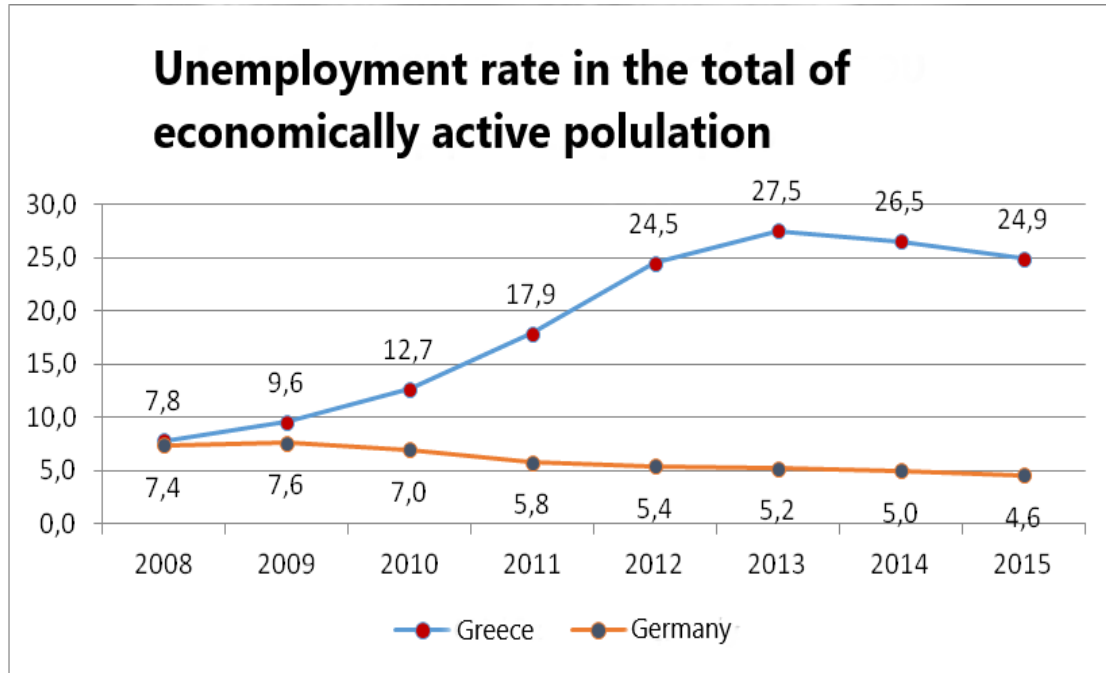


Figure 4: Unemployment rate in the total of economically active population

The graph below shows spending on research and development (private and public sector) in Greece and Germany, expressed as a percentage of GDP. Research and development spending is a key element in gaining competitive advantage in the science and technology of an economy and contributing decisively to its growth (World Bank, 2018). Over time in Germany, spending on research and development as a share of GDP is on the rise, while in 2008 it was 2.6% of GDP, in 2015 it rose to 2.88% of GDP. In Greece, this ratio is well below those in Germany and in the 2009-2010 period it was limited. Since then, there has been an upward trend in R & D expenditure and by 2015 their share of GDP was 0.96%.

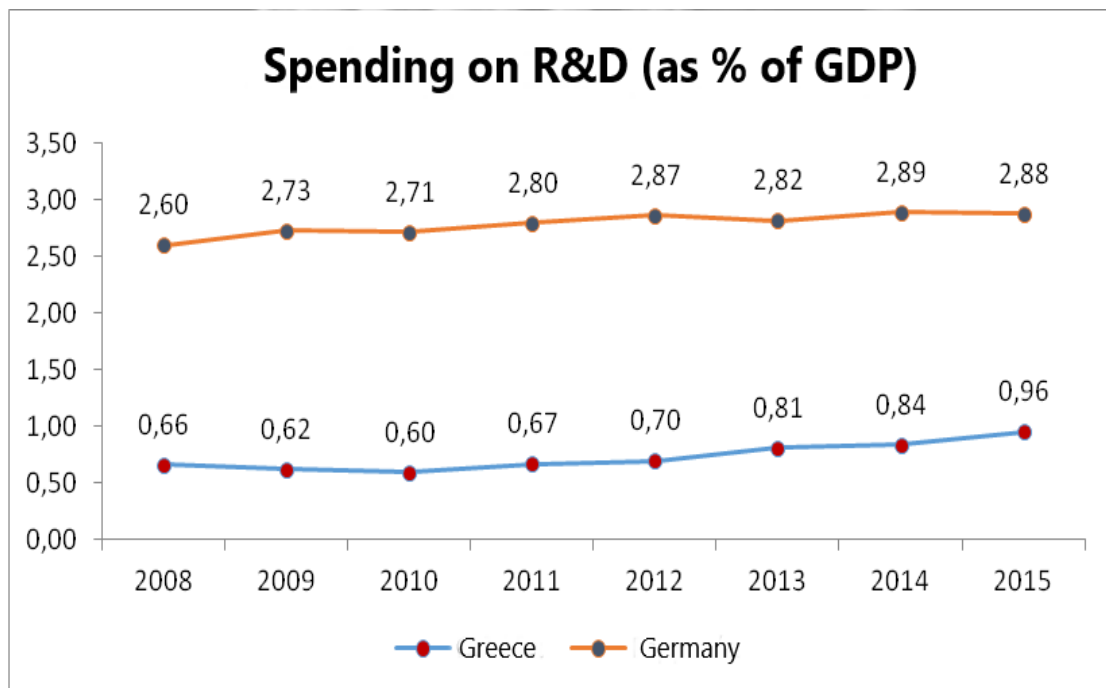


Figure 5: Spending on R&D (as % of GDP)

## **2. THE POLICIES IMPLEMENTED TO ACHIEVE FISCAL STABILITY AND PROMOTE COMPETITIVENESS**

### **2.1. Financial stability**

The sound budgetary policies to avoid excessive budget deficits is a key concern in the EU. The Stability and Growth Pact raised the limits of the budget deficit and public debt in recent years was reviewed fairly, taking new measures to prevent crises and to strengthen of stability (Bank of Greece, 2017). Greece's post-crisis economic adjustment programs aim at fiscal consolidation, reducing budget deficits and public debt (European Commission, 2010). At the same time, measures have been taken to improve tax returns and contributions (Bank of Greece, 2017). Final consumer spending since 2010 has steadily declining, and the budget deficit is gradually narrowing, with public spending cuts and tax cuts. Nevertheless, the country's sovereign debt declined from the year 2010-2011 to a significant increase from 2012 onwards, reaching 183.14% of GDP in 2015. On the other hand, in Germany, the government's final consumption expenditure has been boosted, albeit with a different intensity, and as mentioned above, the balance is almost balanced. Germany's public debt over the five-year period 2008-2012 rose by almost 20 percentage points to GDP, reaching 88.11%. From 2013 onwards public debt is limited.

### **3.2 Competitiveness**

Alongside fiscal consolidation measures by Member States seeking to enhance competitiveness as complementary action to restore and maintain financial stability and economic growth (Bank of Greece, 2017). For Greece, these measures aim at reducing unit labor costs and higher spending on research and development. Nevertheless, the unemployment rate has increased significantly and remains very high, and the growth rate of gross fixed capital formation has negative changes (although the decrease is limited over time). To strengthen the GDP and creating surplus trade balance, which will help increase private consumption (which gradually narrowed considerably), the emphasis seems to be given to the development of the tertiary sector of production that mainly composes GDP and the agricultural sector but still remains low in terms of its contribution to GDP. The growth of the primary sector is apparent as a reduction in the production of the agricultural sector and fixed capital consumption as a percentage of gross value added (Nicolaidis & Stassinopoulos, 2015) In Germany there is a relative stability in the added value of the industrial sector in GDP, while there is an improvement in the tertiary sector as opposed to the primary one. Despite the increase in unit labor costs, productivity is rising, as there is an improvement in real GDP per hour of work, a decrease in the unemployment rate and an increase in household final consumption expenditure and central government.

## **3. CONCLUSIONS**

Greece's economy appears to be trapped in the problem of twin deficits, the budget deficit and the trade deficit. Increasing tax and tax revenues, reducing budget spending has led to a reduction in the government budget deficit but not to a reduction in public debt. Austerity measures and unemployment have led to a reduction in disposable income, significantly affecting active demand by limiting GDP and investment that can help competitiveness (Bank of Greece, 2017). Although there is an increase in export value and a greater decline in import value by significantly improving commodities, their GDP / GDP ratio does not change significantly. The current account is improving mainly due to the surplus over time service flow (Konstantakopoulou, 2014). The reduction in unit labor costs has not helped to raise real GDP per hour of work or to produce both the secondary and the primary sector. Targeting cost reductions to improve competitiveness does not help to improve productivity and increase investment. Key factors for productivity growth are technological progress, higher spending on R & D, and growth in focused sectors with high

added value (Paitaridis, 2015). The reduced market liquidity, low consumption and low productive investment have led the economy to a standstill (GSEE Labor Institute, 2017).

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## RISKS AND GLOBALIZATION

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### **ABSTRACT**

*All decisions are more or less risky, containing a positive side (chance) and negative side (loss). Unfortunately, people generally have the tendency to underestimate the likelihood of a negative events due to misperceptions of the risk. Every possible change entails new risks. Future risks arise in the present and there is no future without risk. Risks are dynamic by their nature - they can and change over time, so do risk probabilities. We live in an integrated globalized world characterized by interdependence, convergence, and divergence. Global integration and new technologies mean rapid progress, but also new and higher risks. Globalization brings also global uncertainty, instability and fragility. In the age of globalization and complexity we need to move further from linear concept of risk to understand complex systemic risk. The permutation of two or more risks is often too much for the normal human mind to comprehend and to react properly. At a global level humanity is facing with a growing number of global risks, including fractions and failures affecting the social, economic, environmental, technological and industrial systems. These global risks are increasingly complex, systemic and cascading. Growing complexity of our world, in itself, is the risk. Growing complexity of global risks is also a profound and acute challenge for effective risk management process on local, national and international level. Globalization requires more cooperation in global risk management, because global risks are not isolated and it is important to assess their interconnections and multiplicity effects.*

**Keywords:** *Globalization, Global risks, Risk, Risk management, Risk society, Uncertainty*

### **1. INTRODUCTION**

Our future - according to all forecasts and prophecies - will play itself somewhere between heaven and hell. What it really becomes will depend on how successful we are in taking advantage of our opportunities and mastering the risks they entail (Swiss Re, 2004, p. 3). All decision making involves the future. Knowledge of past events may be a good pointer to the future, if we have all necessary and reliable information on the past, but in most cases it is not enough. There is only one thing certain about the future, which is that we cannot be sure what is going to happen. Outcome might prove to be better or worse than expected. Sometimes we may be able to predict with confidence that what actually occurs will be one of a limited range of possibilities. We may even be able to ascribe statistical probabilities to the likelihood of occurrence of each possible outcome, but we can never be completely certain of the future. Risk and uncertainty are therefore an important factors of all decision making, and it must be considered explicitly in all cases. In all aspects of life, and especially in business, risk and reward (return in any form) tend to be related, so it is necessary to find the appropriate balance between risk and reward.

### **2. RISK**

There is no single definition and concept of risk. Risk implies the possibility of loss. Since we can only "lose" what is of (some, certain) "value" to us, risks are a direct reflection of social, cultural, economical, political, religious and other perceptions of "value", and as such, the risk landscapes in various societies (communities) differs considerably, with value perceptions. Risk traditionally has been defined in terms of uncertainty (Rejda and McNamara, 2017, p. 20). Based on this concept, risk is defined as uncertainty, concerning the occurrence of loss.

Other definition is: risk is a condition in which there is a possibility of an adverse deviation from desired outcome that is expected or hoped (Vaughn and Vaughn, 2008, p. 2). The term risk is also defined as: (1) the chance of loss, (2) the possibility of loss; (3) uncertainty; (4) the dispersion of actual from expected results, or (5) the probability of any outcome different from the one expected. Because the term uncertainty is often used in connection with the term risk (sometimes even interchangeably) it is important to explain the relationship between the two terms. In the economic and finance literature, authors often make a distinction between risk and uncertainty. According to the American Association of Actuaries, the term risk is used in situations where probabilities of possible outcome are known or can be estimated with some degree of accuracy, whereas uncertainty is used in situations where such probability can not be estimated (Rejda and McNamara, 2017, p. 20). The most widely held meaning of uncertainty refers to a state of mind characterized by doubt based on the lack of knowledge about what will happen in the future. It is the opposite of certainty, which is a conviction or certitude about a particular situation. A risky decision is defined as a decision with a range of possible outcomes with known probability for the occurrence of each state (Zinn, 2004). In this sense decisions under risk can be seen as a specific case of decisions under uncertainty (where the probability of an event or the full range of outcomes is not known), with precisely known probabilities. When we say that an event is possible, we mean that it has a possibility between zero and one (it is neither impossible nor definite). There are no requirements for the possibility to be measurable- only that it must exist. We may or may not be able to measure the degree of risk, but the probability of the adverse outcome must be between zero and one (Vaughn and Vaughn, 2008, p. 2)

### 3. RISK CLASSIFICATION

Risks may be classified in many ways, and one of the basic classification (in economic) is (Vaughn and Vaughn, 2008, pp. 6-7):

1. Static and dynamic risks: static risks involve losses that would occur even there are no changes in the economy, and dynamic risks are those resulting from changes in economy.
2. Fundamental and particular risks: fundamental risks (war, inflation, earthquakes, floods...) are caused by conditions more or less beyond the control of the individuals who suffer the losses; particular risks involve losses (burning of the house, robbery) that arise out of individual events and are felt by individuals rather than by entire groups, so they are individual's own responsibility.
3. Speculative and pure risks: speculative risk describes a situation in which there is a possibility of loss, but also a possibility of gain (gambling is good example of a speculative risk); on the other hand, the term pure risk, is used to designate those situations that involve only the chances of loss (for example, loss of property) or no loss.

There are other classifications of risk types (in economics) (Olsson, 2002., p.34-35):

1. Business risk: the risk of failing to achieve business targets due to inappropriate strategies, inadequate resources or changes in the economic or competitive environment;
2. Credit risk: the risk that counterparty may not pay amounts owed when they fall due;
3. Sovereign risk: the credit risk associated with lending to the government itself or party guaranteed by the government;
4. Market risk: the risk due to changes in market prices (this includes: interest rate risk, foreign exchange risk, commodity price risk, share price risk...);
5. Liquidity risk: the risk that amounts due to payment cannot be paid due to a lack of available funds;
6. Operational risk: the risk of loss due to actions by people, processes, infrastructure or technology or similar which have an operational impact including fraudulent activities;

7. Accounting risk: the risk that financial records do not accurately reflect the financial position of an organization;
8. Country risk: the risk of non-payments due because of a lack of foreign currency or the government rationing what is available;
9. Political risk: the risk that there will be change in the political framework of the country;
- (10) Industry risk: the risk associated with particular industry;
10. Environmental risk: the risk that an organization may suffer loss as a result of environmental damage caused by themselves or others which impacts on their business;
11. Legal/regulatory risk: the risk of non-compliance with legal or regulatory requirements;
- (13) Reputational risk: the risk that the reputation of an organization will be adversely affected...

#### 4. COMPLEXITY AND SYSTEMIC RISK

For simple, linear systems, loss events can be predicted precisely if all cause- and- effect relationships are known and all relevant variables are measurable with sufficient accuracy (Swiss Re, 2004, p. 24). For complex systems, however, accurate predictions are extremely difficult and the real difficulty of risk assessment does not lie in complexity per se, but in accelerating change of the complex systems. The faster the risk landscape changes, the more risks remain entirely unidentified for time being or become incalculable. Complex systems consist of many interdependently operating and interconnected (net-working) sub- systems, what creates a large number of simultaneous processes which mutually influence one another and occasionally provide feedback. Complex systems sometimes react extremely sensitive to minimal, hardly measurable and recognizable changes of individual variables whose effects are not foreseeable, especially when there is system's sensitive dependence on initial conditions (so - called 'the butterfly effect')\*. Systemic risk is the risk that small event will produce unexpected consequences in local, regional or global systems not obviously connected with the source of the disturbance (Olsson, 2002, p. 35). Systemic risk may also arise from the evolution of system nodes and networks in which certain nodes become dominant in the integrated system. The terms systematic and systemic risk are sometimes confused, but their distinction is critical for both measurements and interpretation (Hansen, 2004, pp. 15-30). "Systematic risks" are macroeconomic or aggregate risks that cannot be avoided through diversification. "Systemic risk" is the risk of breakdown or major disfunction of the system. \*Butterfly effect: the phenomenon that a small alternation in a state of dynamical system will cause subsequent states to differ greatly from the state that would have followed without the alternation (Lorenz, 2001, p. 206). Systemic risk refers to the risk or probability of breakdown of entire system, as opposed to breakdown in individual parts or components, and is evidenced by comovements (correlation) among most or all the parts (Kaufman and Scott, 2003). Because information either on the cause or on the magnitude of initial shock or on the risk exposure of each unit potentially at risk are not generally available or accurate, it requires time and resources to calculate the system risk exposure and magnitude of potential loss. Systemic risks are characterized by: (1) modest tipping point combining indirectly to produce large failures; (2) risk-sharing or contagion, as one loss triggers a chain of others; (3) "hysteresis", or systems being unable to recover equilibrium after a shock (WEF, Global Risks, 2014, p. 12). Nowadays globalised world is dynamic, nonlinear complex adaptive system (CAS) with multiple equilibriums and disequilibria, evolving and self-organizing in time and space, characterized by historical (path) dependencies and complex dynamics (Stacey, 1995). Systemic risk is inherent to globalization. In the age of globalization it is necessary to move from linear concepts of risk and to understand systemic risk; this means seeing the big picture, when all elements of a system are placed side by side (Goldin and Kutarna, 2017). The old linear risks have not gone away, but it is the systemic risk that arises from the growing entanglement of firms, economies, and systems that



are escalating more rapidly. The most pressing world's systemic risks (that have cascading effects) as climate change, antibiotic resistance and cybercrime, increasingly surpass national borders, making them exceptionally difficult to address effectively on just a local or national level (Goldin. and Mariathasen, 2014, p. 32). There is the widening gap between the new systemic risks generated by globalization and their effective management (so - called "the butterfly defect").

## 5. GLOBALIZATION AND GLOBAL RISKS

We live in an integrated globalized world characterized by convergence, interdependence and divergence. If one (national) state is complex (social, economic, political...) system, then the globalization or the integration of such complex (adaptive) systems (CAS) leads to risks with often unintended and unknown consequences. Global economy today is characterized by various kinds of international imbalances, any of which could cause future crisis. For example, international monetary system today is really not a system because it has no rules (as it was under the Bretton Woods system) and it lacks an automatic international adjustment mechanism for current account imbalances (White, 2015). It allows massive spillover, including gross capital flows, from larger countries (especially United States) to smaller ones, with potentially damaging implications. In theory, one of the main benefits of financial globalization is that it should allow for more efficient international risk sharing, but only industrial countries have attained better risk sharing outcomes during the recent period of globalization and developing countries, have by and large, been shut out of these benefits (Kase, et. al. 2007). Globalization poses a severe challenge for (world) risk management and requires cooperation between states and relevant international organizations, which is often hard (or even impossible) to achieve. Also, globalization requires to move from linear concepts of risk to understand systemic risk evolution (i.e. evolution of system nodes and networks) and this means seeing the big picture, when all elements of a system are placed side by side. Question is: who and how can do that? A 'Global risk' is defined as an uncertain event or condition that, if occurs, can cause significant negative impact for several countries or industries within the next 10 years (WEF, GRR 2018, p. 63). By their nature, global risks do not respect national borders. And we now know that extreme weather events exacerbated by climate change will not limit their effects to countries that are major greenhouse gas emitters; false information posted on social networks can spread like wildfire to the other side of the globe in a matter of milliseconds; and genes that make bacteria resistant to our strongest antibiotics can hitch a ride with patients on intercontinental flight (WEF, GR 2013, p. 8). Global risks are increasingly complex, systemic and cascading. The global risk landscape is constantly evolving. Dramatic events can have complex effects on risk landscape - they can trigger new risks or deteriorate existing ones. Global risks have their trends i.e. long-term patterns that are currently evolving and could contribute to amplifying global risks and/or altering relationship between them (WEF, GRR 2018, p. 63). Global risks are not isolated and it is important to assess their interconnections, but also trends that are driving them (i.e. risk-trend combination), where we have a very strong links and weak ones (formally, the intensity of interconnection between risks A and B, or between trend A and risk B, denotes interconnection AB). For example, WEF has identified 435 possible pairs of major global risks, and 377 possible trend-risk combinations (WEF, GRR 2018, p. 65). According to WEF top 10 global risks in terms of likelihood in 2018 are: (1) Extreme weather events, (2) Natural disasters, (3) Cyber attacks, (4) Data fraud or theft, (5) Failure of climate-change mitigation and adaptation, (6) Large-scale involuntary migration, (7) Man-made environmental disasters, (8) Terrorist attacks, (9) Illicit trade, (10) Asset bubbles in major economy (WEF, GRR 2018, p. ii). On the other hand, top 10 global risks in terms of their potential impact are: (1) Weapons of mass destruction, (2) Extreme weather events, (3) Natural disasters, (4) Failure of climate- change mitigation and adaptation, (5) Water crises, (6) Cyber

attacks, (7) Food crisis, (8) Biodiversity loss and ecosystem collapse, (9) Large-scale involuntary migration, (10) Spread of infectious diseases (WEF, GRR 2018, p. ii). Humanity has become remarkably adept at understanding how to mitigate conventional risks that can be relatively easily isolated and managed by standard risk-management approaches. But we are much less competent when it comes to dealing with complex risks in systems characterized by feedback loops, tipping points, and opaque cause-and-effect relationships that can make intervention problematic (WEF, GRR 2018, p.15)

## **6. RISK SOCIETY AND WORLD RISK SOCIETY**

German philosopher and sociologist Ulrich Beck developed the theory of the risk society (Risikogesellschaft), according to which a "risk society" is a society where we increasingly live on a high technological frontier which absolutely no one completely understands and which generates a diversity of possible (risky) futures (Beck, 2001, p. 14 - 41 ). The last two hundred years were dominated by what we might call external risk. External risk is the risk of events that may strike individuals and entities unexpectedly (from the outside) but that happens regularly enough and often enough to be broadly predictable, and so insurable (privately or collectively). External risk can be fairly well calculated on actuarial basis. Society is now increasingly facing with so called "manufactured" risk (and manufactured uncertainty) - the risk created by the very progress of human development, especially by the progress of science and technology, affecting our personal and social life. Manufactured risk refers to new risk environments for which we have very little previous experience, and we often don't really know what the risks are, how to calculate them accurately in terms of probability, and to insure against them. Next stage is, as manufactured risk expands, the "world risk society" (Weltrisikogesellschaft) which exhibits the new historical reality that no nation can master its problems alone (Beck, 2009, p. 79-80). This is closely connected with the globalization of risks and their complexity, but also with globalization itself, which is producing new risks. Globalization challenges the territoriality and sovereignty of the nation-state, reduces the authority and possibility of the state and its citizens to act unilaterally or independently. The transition from external to manufactured risk has brought a crisis of responsibility, because the connections between risk, responsibility (i.e., it can neither easily be attributed nor assumed) and decisions alter, so we are facing with collective "irresponsibility", like in the case of ecological risks or the crash of global financial markets (Giddens, 1999).

## **7. RISKS AND RATIONALITY**

Economic man (in theory) he has three basic properties: (1) he/she is completely informed-he/she knows not only what all the courses of action are open to him/her, but also what the outcome of any action will be (2) he/she is infinitely sensitive - it is assumed that the alternatives available to an individual are continuous, infinitely divisible functions. (3) he/she is rational-he/she always chooses the best alternative from among those open to him/her, as he/she sees it (expected utility maximization) (Edwards, 1954). The type of rationality assumed in economics is perfect, logical, deductive rationality, which is extremely useful in generating solutions to theoretical problems, but it demands too much of human behaviour, much more in fact than it can usually deliver (Arthur, 1994).. There are two reasons for perfect (or deductive) rationality to break down under complication: (1) beyond a certain level of complexity human logical capacity ceases to cope i. e. human rationality is bounded; (2) in interactive situations of complication, economic agents cannot rely upon the other economic agents they are dealing with to behave under perfect rationality, and so they are forced to guess their behaviour. This leads them in a world of subjective beliefs, and objective, well-defined, shared assumptions then cease to apply, so that rational, deductive reasoning itself cannot apply, and, at the end, the problem becomes ill-defined.

No one ever seriously believed that all people have rational beliefs and make rational decisions all the time (Kahneman, 2003). The assumption of rationality is generally understood to be an approximation, which is made in belief (or hope) that departures from rationality are rare when the stakes are significant, or that they will disappear under the discipline of the market. The standard of rationality in economic was, and remains, the maximization of subjective expected utility- combination of John von Neumann and Oskar Morgenstern preferences and a Bayesian belief structure (expected utility theory-EUT), which states that when making decisions under risk people chose the option with the highest utility, which is dependent on the potential outcome, the utility of each outcome, and the probability of occurrence of each outcome. But, many research work and experiments demonstrated preferences that violate EUT, and, among others, the concept of satisficing bounded rationality was introduced, which can be interpreted as defining a realistic normative standard for humans with a finite mind (Simone, 1959). In economic literature often is cited Frank Knight's distinction between risk and uncertainty, according to which "measurable uncertainty" is "risk", and is not, in effect, an uncertainty at all, and "unmeasurable uncertainty", which is "true" uncertainty, and not risk (Knight, 2006, pp. 19-20). But, there has always been a good deal of skepticism about the behavioral significance of this distinction between "measurable uncertainty" or "risk", which may be represented by numerical probabilities, and "unmeasurable uncertainty" which cannot, because for a "rational" man all uncertainties can be reduced to "risks" (Ellsberg, 1961).

## 8. RISKS AND PROSPECT THEORY

Prospect theory (PT) has become one of the most influential behavioral theories of choice in wider social sciences, particular psychology and economics (Sewell, 2009). From the field of economics, expected utility theory (EUT) is a normative model of decision making under risk and, in contrast, from the field of psychology, PT is a descriptive model of decision under risk. EUT states that when making decisions under risk people chose the option with the highest utility, which is dependent on the potential outcome, the utility of each outcome, and the probability of occurrence of each outcome. But, EUT is built on an unrealistic assumption of the rational - agent model that agents make their choices in a comprehensively inclusive context, which incorporates all the relevant details of the present situation, as well as expectations about all future opportunities and risks (Kahneman, 2003). People often make decisions based on guesses, emotion, intuition, and rules of thumb, rather than on cost-benefit analyses, they are influenced by herding behavior and group thinking and individual choices can frequently be affected by how prospective decisions are framed (Clift, 2009). Human judgment often may take intuitive shortcuts that systematically depart from basic principles of probability, because people rely on a limited number of heuristic principles which reduce the complex tasks of assessing probabilities and predicting values to simpler judgement operations. PT (Kahneman and Tversky, 1979, 1992) was offered as a descriptive model of risky choice in which the carriers of utility are not states of wealth, but gains and losses relative to neutral reference point. The most distinctive predictions of the theory arise from a property of preferences called loss-aversion - the response to losses is consistently much more intense than the response to corresponding gains. Kahneman (he was awarded the Noble Prize in Economics in 2002) and Tversky found (1979) empirically that people underweight outcomes that are merely probable in comparison with outcomes that are obtained with certainty and, also, that people generally discard components that are shared by all prospects under consideration. Tversky and Kahneman developed also cumulative prospect theory (CPT), which employs cumulative rather than separable decision weights, applies to uncertain as well as to risky prospects with any number of outcomes and it allows different weighting functions for gains and losses (Sewell, 2009).

The theory- which they confirmed by experiments - predicts a distinctive fourfold pattern of risk attitudes: risk aversion for gains and risk seeking for losses of high probability; risk seeking for gains and risk aversion for losses of low probability, etc. Tversky and Kahneman also have proved that people (often) rely on a limited number of heuristics/heuristic principles (or rules of thumb), which make decision-making easier, and reduce the complex tasks of assessing probabilities and predicting values to simpler judgement operations, but, they sometimes lead to biases, especially when things change. Some of major biases are (Ritter, 2003):

1. "Overconfidence": people are generally overconfident about their abilities;
2. "Framing effect": a change of preferences between options through variation of the formulation of the problem (for example, a problem can be presented as a gain or as a loss);
3. (3) "Money illusion": refers to a tendency to think in terms of nominal rather than real monetary values;
4. "Confirmation bias": a bias in human decision-making to seek confirmation, rather than disconfirmation, for hypothesis;
5. "Optimism bias": people's tendency to believe that they are better than average, and that misfortunes are more likely to happen other people than themselves;
6. "Illusion of control": refers to individuals' tendency to overestimate the control they have over outcomes;
7. "Mental accounting": people sometimes separate decisions that should, in principle, be combined;
8. "Representativeness bias": people underweight long-term averages and they tend to put too much weight to recent experiences (this is sometimes known as the "law of small numbers");
9. "Conservatism bias": when things change, people tend to be slow to pick up on the changes.; in other words, they anchor on the ways things have normally been (anchoring bias);
10. "Disposition effect": refers to the pattern people avoid realizing paper losses and seek to realize paper gains.

We must be aware that the nature of risks is constantly changing and with new information, the perceptions and realities of risk change and especially when there is the permutation of risks (two, three, four or more risks), which is usually too much for the ordinary human mind to comprehend.

## 9. CONCLUSION

In the complex system it is very difficult to think about linear relationships of cause-effect. Sensitivity to initial conditions destroys identifiable links between individual actions and global outcomes (Stacey, 1995). The state of a system the result of every detail of its history, and what it will become can only be known if one knows every detail of its future development, and the only way one can do that is to let the development occur. The future of such a system is open and hence unknowable until it occurs. Thus no one can be in control. Individuals, groups or organizations can choose, plan, and control their next intervention but they cannot choose, plan, or control the long-term outcome of that intervention, instead, long-term outcomes emerge from a process which is basically self-organizing. Any country in the world can be seen as a complex adaptive system (CAS) made up of a number of interconnected elements and dimensions (levels, hierarchies), from individuals (citizens), communities, organizations, villages, cities, administrative entities, all the way to the state and its organization, with their human, social, cultural, psychological, behavioral, physical, technical, technological, economical, political and other dimensions, and all these elements and dimensions, with different degrees of connectivity and interdependence, have an impact on a country as CAS.

On the other hand, the globalized world as a system is also CAS, made of countries as subsystems, with an extremely high degree of connectivity between its subsystems. The world is now at a critical point, because everything depends on everything else and is posted in a challenging position between the order and the chaos. Growing complexity of the world poses a severe challenge for efficient risk management. The more complicated our interactions become, the harder is for us to see relationships of cause and effect (Goldin and Kutarna, 2017). We developed cognitive blind spot in our vision of the events around us. How can we make good decisions when we can't foresee the consequences? For simple, linear systems, loss events can be predicted precisely if all cause- and- effect relationships are known and all relevant variables are measurable with sufficient accuracy (Swiss Re, 2004, pp. 24-25). For complex systems, however, accurate predictions are extremely difficult and the real difficulty of risk assessment does not lie in complexity per se, but in accelerating change of the complex systems and that complex systems sometimes react extremely sensitive to minimal, hardly measurable and recognizable changes of individual variables whose effects are hard to predict. The faster the risk landscape changes, the more risks remain entirely unidentified for time being or become incalculable. That is the reason for problems we have with risk modeling as, for example, the recent world financial crisis showed the weaknesses of probabilistic models such as Value at Risk (VaR) in underestimating the probability of rear events (Swiss Re, 2017, p. 25). Problem is also, for example, how to model cyber risks which are complex to understand and calibrate, especially given the significant potential of correlated exposures and cyber-threats which are evolving rapidly due to the growing digital transformation of society. Decisions are being made every day, in every part of the world, will affect the physical, economic, and social conditions of the world system for decades to come. These decisions cannot wait for perfect models and total understanding. The human brain, remarkable as it is, can only keep track of a limited number of the complicated, simultaneous interactions that determine the nature of the real world. (Meadows, H.D. et. al., 1972, p. 20)

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## THE ROLE OF THE INTERNET IN HIRING EMPLOYEES IN A MODERN BUSINESS ENVIRONMENT

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### ABSTRACT

*Employment seeking has always been one of the most vital jobs. This fact can be seen in two ways: as an individual looking for a job and as a company looking for workers. Characteristic in both cases is that communication is one of the basic prerequisites for the employer and employee to find, establish contact and arrange cooperation. The modern business environment has brought significant changes in the way and methods for finding potential candidates for employment, as well as vice versa new methods for finding suitable employment. The emergence of the Internet and associated technologies has enabled, for the first time, full, two-way communication between the employer and the job seeker. Individuals looking for a job do not have to go around the company and ask themselves enough to go to the site and to review job offers, they can leave their CV to the company and wait for an answer or to offer their services to interested ones via social networks. On the other hand, companies are able to advertise on their site the need for human resources, to view through the social networks the labor supply or to send their link to work on specialized agency sites. Companies can hire workers located at the other end of the country (or the world) and through Internet can recruit them. In this working paper were analyzed different variants of the use of modern communication technologies in the recruitment and operation of companies from the point of employment of personnel. The topic of "freelance" employment has been especially addressed because this is the opportunity for mass engagement of cadres via the Internet. In this paper was proposed a model of an organization's online job search order system suitable for developing countries.*

**Keywords:** Communications, Employment, Freelancing, Internet

### 1. INTRODUCTION

Historically looking for work has always been one of the most vital jobs. This can be seen in two ways: as an individual looking for a job and as a company looking for workers. What is characteristic in both cases is that communication is one of the basic prerequisites for the employer and employee to find, establish contact and arrange cooperation. In earlier times, companies formed bulletin boards, so job seekers were forced to visit places where the information was advertised. Later, employment agencies (private and state) were formed, which combined the offer of a larger number of employers, so that workers now had fewer locations that they had to go to get information about the existing job offers. What was still a problem was communication. Job seekers now work instead of visiting individual companies going to the agency waiting in line to get information about job offers. The improvement of communication has been made by daily newspapers in which the advertising of vacancies started. This type of one-way communication significantly improved communications, but the issue of buying daily newspapers by the job seeker remained open. This problem of media availability has remained to this day. Appearance and omission of communication channels such as telephone (fixed) and radio starts and their application in finding a job. Radio devices become places for information, but they still have a disadvantage of being a one-way medium. The advertiser transmits information without any control to which it will arrive. The response of those who are looking for a job depends on whether they had a radio station, whether they were present and heard at the moment of broadcasting, and whether the information was properly interpreted in the perception of the user.

It still remains that the job seeker must appear at the location indicated and schedule an interview. The appearance of the phone greatly accelerated the process of finding jobs, especially the massive use of public payphones has improved the communication between the employer and the job seeker. This technology for the first time enabled the preliminary interview to be conducted at a distance and that the employer performs the pre-selection of the job seeker without the need for them to come to his premises. The problem of vacancy announcements remains open, and daily newspapers and radio advertising continue to be used for these jobs (Holtgrewe, 2014, pp, 9-24). On the other hand, job seekers received a communication channel through which they could simply call the employment agency to get information about vacancies and get information on where and how to apply. The phone as a communication channel has remained in use today for finding a job, and the technology has been significantly improved. The appearance of television in the first days of existence did not improve in job search. It is a medium that addresses the widespread population and until twenty years ago did not deal with the advertising of vacant jobs because it was a gathering for such jobs. With the empowerment and emergence of local TV stations, this media becomes available for placement of information on vacancies. TV advertising is, as a rule, followed by information on which phone interested can appear. The modern business environment has brought about significant changes in the way and methods for finding potential candidates for employment, as well as vice versa new methods for finding suitable employment. Communication channels have been significantly improved. The emergence of the Internet and associated technologies has enabled, for the first time, full, two-way communication between the employer and the job seeker. The limitation brought about by the new technology has created a "digital gap" because one important segment of the population can not be used to use new technologies. Mobile devices (telephones) have significantly contributed to overcoming this problem because they have enabled access to a large part of the population by cheap technologies and relatively simple application solutions. From the point of view of employers and agencies for employment mediation, mobile devices have become a standard communication channel. New technologies have brought a whole range of jobs that were not so massive in the previous period. The emergence of virtual organizations, where employees work in remote locations and are communicatively linked to their employers, is a novelty that was not known in earlier periods. For the needs of such organized companies, staff with specific knowledge is needed, and appropriate headhunting agencies have appeared that have the task of finding the necessary staff and linking them to employers. Internet and companion technologies have also made it possible to create a whole range of new jobs. Changes that have emerged under the influence of new technologies are so crucial that the role of information to that extent is emphasized that the entire period after the introduction of the Internet into all the pores of society and business is called the "post-industrial period" and is further called the "information society". In order to understand the rooting of these changes it should be emphasized that this term is accepted in sciences such as law, economics, sociology and others. Mass acceptance of information and communication technologies has a significant impact on all aspects of business, such as production flows, marketing strategies, organizational structure, and above all, the population of people and their cognition. When it comes to employees, this highly technological society has led to the rationalization of the business processes of introducing automated production lines, which resulted in the possibility of employing only highly educated personnel with specific knowledge. Such trends have created an additional problem that is referred to in the literature as "digital divide" and refers to the difference based on the knowledge, skills and abilities of individuals to engage in a modern business environment. Fast and cheap communications have led to job creation internationally. This phenomenon has especially come to light in the field of information technology, where it has become usual for developer teams to be formed from different countries of the world.



The most commonly engaged individuals who can do jobs from their own country and engage in the project. This type of business engagement is called "freelancing". Apart from the engagement of individuals, all business processes are delivered to countries where labor is cheaper. This type of business is called "Outsourcing" and is widely used today in many industries. This form of global business has brought significant savings to companies that have moved their business to developing countries and have made a significant improvement in employment, but have brought problems to countries from which these jobs were taken away. This is a segment that has caused significant political and economic tensions. When analyzing online business, it must be emphasized that in this segment there are many problems of fraud and criminal actions. The Internet is a glossy network and any business that is taking place is also global. Legislation generally operates within the borders of individual countries, and employment sometimes falls within the laws of the country in which it is concerned. There are often frequent abuses of job offers when offering goods or money transfers from one address to another from a commission. There are many things like these on the Internet, but they are mostly fraudulent actions to hide the trail of criminal records. Analyzing the possibilities of employment in a modern environment, it is necessary to notice at what speed new technical and technological solutions are being developed. Rapid changes require employees to keep up with new challenges and regularly improve their knowledge. In some countries, the Internet is a privilege of wealth, while most of the population has no opportunity to access it. Somewhere approach is politically limited and censored. However, it is possible to define elements of a model that is acceptable to most developing countries. It is primarily meant for technologies that go beyond digital divisions such as infotainment technologies and mobile services in finding work.

## **2. CHANGES IN RELATIONSHIPS CAUSED BY THE USE OF MODERN COMMUNICATIONS**

The massive use of information and communication technologies has led to significant changes in all areas of human activity. Sometimes the space represented a limiting factor in the establishment of a business relationship. The first phone, and later the Internet and mobile communications, made the communicating whole world easily accessible and it is possible to get in touch with anyone in the world who has the appropriate technical assistance. Under such conditions, job search or search for potential candidates expands the list of options for both parties, the employer and the job seeker. Certainly this is a relationship, at the same time, the expansion of the market and thus of competition. The massive digitization of the society led to a significant improvement in the labor market, but only in certain branches of industry, in high technology, since it enabled highly educated personnel to remotely employ. Classical jobs remained only in the domain of local supply and demand. Nevertheless, in the area of classic jobs, globalization of business has brought developing countries new jobs in the form of moving individual companies or parts of them into countries where labor is cheaper. The observed globalization has led to decentralization of production to the opening of local jobs in less developed countries. Another significant change that it brought about relates to significant changes in operations that have come under the influence of modern communications. There used to be a whole layer of intermediaries between producers and consumers. This could be presented in the following way: the local store was procuring goods from a local wholesaler and this from a regional trader. The entire intermediary chain of distribution of goods is today circumvented via the Internet. Today, a local trader acquires goods directly from the manufacturer, thereby circumventing the intermediaries. This further means that mass jobs are lost in brokering because the business is transferred directly from the manufacturer to the user. The next problem in employment relates to increasingly sophisticated equipment with which employees are working today.

Mass computerization of production and all forms of business requires that the personnel working with this equipment be educated in accordance with the technique they handle. Sometimes simple jobs, for example, watering gardens today are automated and under the control of computers and irrigate plants "as per stroke" and the employee who handles this equipment must know the basic elements of computer handling.

### **3. PROBLEMS OF DIGITAL DIVIDE**

The next thing that brought about a change in communication is the need to digitize all jobs. This means that non-IT staff are not (or have reduced) the opportunity to get a job. On the other hand, the volume of work in the domain of digitization and production of information is significantly increased. If it is known that only a small part of humanity has the capabilities, knowledge and opportunities to use new information technologies then this leads to the next significant problem in employment in a modern environment, which is a problem referred to in the literature as "digital divide" Through history, mankind has never produced so much material wealth, nor has there been a precondition for such a rationalization of the economy and society. All this is due to the mass production of cheap computer-based products that further enabled the communication of all participants in business and life in general. Handling this technology requires specific knowledge, ability to understand and learn, and require and have a device for work. Changes that took place in this segment were extremely fast and in less than thirty years (shorter than the average worker's average workforce) there was a transition from an industrial to an information society. Requests in the knowledge that new technology expected from the employees have changed drastically. There was a strong need for personnel who were educated in the field of IT. Most of the other employers expect them to be able to use information and communication technologies. In this context, it turned out that new jobs were reserved only for people with knowledge. Classic jobs are becoming less demanding. If you know that only one smaller segment possesses the knowledge of the abilities and opportunities to engage in a modern business environment using new technological solutions then we come up with the digital divide problem. Digital division is a word that indicates that modern information technologies and the Internet are not all available and that some parts of the world do not have the same communication capabilities with the rest of the world. This division exists between educated and less educated individuals, between different economic classes and between developed and underdeveloped countries and between urban and rural areas.

### **4. CHANGES IN THE TECHNOLOGY OF FINDING AND SELECTING PERSONNEL BY EMPLOYERS**

Finding and selecting employees is a significant business because the success of the business depends on the choice. Technological changes are reflected in the ways in which these jobs were once performed and how they are being performed today. It used to be customary for the company to contact the employment service and to get a recommendation from them and several candidates who applied for a job. This reduced choice, as a rule, leads to poor selection because all those who appear on this competition are not informed about the existence of job offers. The second variant was to publish vacancies in daily newspapers and to be expected within a time limit that potential candidates send their applications to the competition. This method provided much better information to all potential candidates, but daily newspapers had limited circulation and if some candidate failed to obtain them, it was not informed about potential opportunities. Formation of databases of potential candidates was a common procedure, but for each job, a call was launched specifically and selected candidates. From the point of view of job candidates, there was no consistent practice to apply for a job without the call being announced because the search and finding of the documentation was a problem. The communication between the company and potential candidates was relatively modest.

Significant organizational changes come with the introduction of computers into the processes of registering and selecting personnel. This relates primarily to large companies that have a need for a continuous job search candidate. For smaller companies, this is not the case, and generally for each job vacancy the candidates are selected as needed. Registration and data entry into the computer system and subsequent easy search enabled one registered potential candidate to remain registered in the database and is available for later calls in how much he is still interested in the work. This ability of the candidate to be in the database has widened the potential and allowed the candidates to leave information about themselves and their biographies for a later contest when the need for certain knowledge and skills emerged. The emergence of the Internet and its massive application also bring different application technologies for the job. Company sites become places where users and interested parties can leave their data and contacts and where communication of a company with potential candidates is established. The basic characteristic of the new way of communication is that the company now has the opportunity to describe in detail the qualifications and expectations of future employees, to conduct a preliminary interview and perform a pre-selection without the need for the candidate to come to the company. Certainly, such choices are directly dependent on the level of education, knowledge and abilities of potential candidates. One of the important advantages is that through the elaborate selection process, candidates may be asked to make something or display some of their work that they have accomplished in the previous job. Large companies, government administrations and similar systems are organizing an internal and external web site for registering those interested in the job. The internal Web site has replaced the former role of a notice board for finding employees who want to change jobs or advance in the service. This is a good method for finding interested candidates and allows employees to be able to remain loyal to the company while at the same time satisfying their ambitions in business. The external Web site becomes the central place where interested people leave their data, which are automatically transferred to the databases by automated methods, and the data of interested candidates and their data can be listed on request. Significant changes in finding jobs have brought social networks (social networks). The role of social networks such as Facebook, LinkedIn and Twitter looking for work today has become an indispensable part of methods for finding potential candidates. Social networks have become one of the most important tools for analyzing the mutual communications and the links between the employees in the company itself. Through the communication of the employees, the employees are able to communicate with each other through the use of the information and theoretical knowledge. It can also be revealed to what extent the formal organizational structure differs from the informal communication structure of the employees, whether there are and what are hidden leaders in the network of employees, and what bottlenecks are in the flow of information in carrying out everyday tasks.

## **5. CHANGES IN THE TECHNOLOGY OF FINDING EMPLOYMENT FOR INDIVIDUALS**

Changes in the labor market require the company to make employees innovative and creative in the selection of job candidates as well as team formation. Employment Sites offer companies the opportunity to set up their ad for the job and thus reach a potentially larger number of candidates. One of the most massive sites for employment and in the database has about 64 million data on candidates. This site provides a complete solution for the company when recruiting candidates. The company, insofar as it decides to hire candidates through this internet portal, leaves the whole process of recruitment and selection to experts in this field, from publishing job advertisements to employee involvement in the company. There is the ability to conduct video interviews with potential candidates, which reduces time and makes it easier for candidates to be able to get a job interview from home.

This internet portal uses efficient tools to filter candidates, making it the best choice, so the whole job is much easier. Jobvite offers its customers besides advertising on the site and the ability to share ads through social networks or by sending an e-mail to potential candidates. Monster is another popular site for finding a job. It is an internet site that is used to publish on-line ads and has about 3 million biographies of potential candidates in its database that makes it easy to search and find suitable candidates. Setting up an ad for a job on this site provides an opportunity for companies to reach qualified candidates in the short term. In addition to publishing ads, they also offer consulting services for all categories of employers. In addition to advertising on the site when setting up on the site, the employer can choose whether he wants his ad to appear elsewhere, such as newspaper sites (which are in the paper edition). Sites as a monster network allows sending mail to potential candidates or posting jobs through a twitter account. They also provide the possibility of a recruitment strategy for facilitating the process of recruitment and participation in seeking candidates.

## **6. SELF-EMPLOYMENT IN A MODERN ENVIRONMENT**

Crowdsourcing is a coin generated by "crowd" meaning mass, crowd of individuals or groups of people, and words "outsourcing" which means engaging external associates who need to do some work. In the Merriam-Webster Dictionary, Crowdsourcing is defined as "a practice for getting new ideas for services or content by seeking contributions from a wider circle of individuals, groups of people and, in particular, on-line communities, not in a traditional manner from a job or contract." In essence, it is a call for engagement of external collaborators in order to share with other interested parties in the development of some idea, show their creativity, or give their contribution to the elaboration of an idea. The best example of crowdsourcing job development is the <https://www.wikipedia.org> site where a large number of participants enter data and explanations. Companies on this date come up with new ideas and solutions to the problem. On the other hand, individuals have the opportunity to try out some kind of business, place their own ideas. Thus Howe (Howe, 2008, pp. 5-10) shows in his works that the best results are achieved in the fields of marketing, design, and open-type IT projects. There are significant limitations in this business. Specialized jobs can not be left to individuals who are not formally educated in the given branches (medicine, construction, etc.). The business model is very simple: It is necessary to provide tools with which the interested parties will work. There are a number of tools available on the internet on the Internet. Thus, "InnoCentive" offers the opportunity if the company has no idea how to say a problem or look for good ideas simply through this tool allows users to make suggestions. Next, "Poptent" allows you to place good advertising ideas. "CrowdSpring" allows you to place ideas on the company logo, place ideas in graphic design, and the like. It should be emphasized that there is no universal software for crowdsourcing or it is possible to organize for all areas. What can be said in this context is that the information and instructions for these software exist and are detailed. Crowdsourcing provides individuals who are talented to show themselves in a job, make a product that is specific, or place an idea that can help them in further business engagement. All those who exhibit in this way in a business are easily further engaged in business engagements or switch to the category of "freelance". The term freelance is not new, but with the advent of the Internet it has gained mass and significance, and indicates a person who offers his professional services to one or more employers. This form of engagement of specialists is extremely popular in the West. Companies often choose to hire a skilled workforce in this way, especially for jobs that do not appear often. Usually these are jobs that are not in the business focus of the company and for these jobs they do not have the appropriate personnel. Such hired external associates are less costly, they offer a better service and do not oblige the company that when the job ends what is with the employee. Types of freelance are: Self-employed, Freelance as an additional job, Temporary jobs, Owners of a freelance firm.

This kind of work activity is usually decided by people who do not have a permanent job, and through these jobs they become self-employed. In some cases, this is an additional form of business. Given that job offers are most often from the west, the money offered for a job is much higher than regular work in developing countries, thus earning higher income in this way. The most common jobs in the domain: IT programming, Design, Writing and giving, Administrative and technical support, Sales and marketing, Analysis, Legal businesses, Engineering and production. The good sides of freelance jobs are what the employee determines when and how much he or she does. Engagement in jobs depends on the needs and possibilities that the employee creates. The basic disadvantage is isolation from the environment and independent work, although there is a possibility of establishing a freelance company where a group of employees takes over and works. Crowdfunding is a new way of fundraising for project development. This is about alternative financing of projects usually in the early stages of entrepreneurial venture. The idea is similar to crowdsourcing, as it is expected that a large number of small amounts (up to \$ 50) will be paid interactively via the Internet, in most cases investors will also be the initial base of clients and promoters of the business they invest in. It is mostly applied to artistic and non-conventional business ideas that banks do not want to fund. The definition of crowdfunding in the "Oxford Dictionary" is: "The practice of financing a project or venture by investing a large amount of small amounts of money by just a large number of people commonly through the Internet." Crowdfunding appears in the following forms: As donation-based when participants and donors do not expect any kind of earnings, they want the project to be realized. The other form is based on reward-based. Early payment funders who have invested money do not expect to recapture money in cash, either in the form of a thank-you note or as a subscription for a future product or service. The third form of this kind of financing is the condition that funds are returned to the investor (lending-based). The fourth model is based on investing in the form of a founding capital with a deal on profits divide in how much a project succeeds on the market (equity-based). (Crowdsourcing LLC Report, 2012) The first system developed for the purposes of this business is ArtistShare (2003). Over the past few years, since it has taken the power of such an alternative public microfinance, more than 500 such platforms have been created. Platforms for crowdfunding, such as the most famous Kickstarter, IndieGoGo and RocketHub, and the like are used by those who have almost developed their project or product, but they do not want or can not borrow at the bank to complete it.

## **7. THE ROLE OF SOCIAL NETWORKS IN FINDING JOBS**

The rapid development of the Internet and its massive application have completely changed the ways of communication between individuals, but communication between the individual and the company has also been shifted in the context of job search. The classic way of recruiting workers involves a large number of commercials, paper flyers reading and writing and reading CVs and other materials as well as a mandatory contact person who is reserved for phone communication. Written materials while traveling by mail spend considerable time, so waiting for an answer is long on the side of the company and on the candidate side (Strehlke, 2010, pp. 38-48). Companies have also changed the way they choose and find job candidates. In this context, it is worth mentioning that the circumstances of candidate selection have changed drastically as technology changes every day. Using the Internet in job recruitment jobs is increasingly confusing the classical way of choosing because it has more advantages. The time needed to make the selection is significantly shorter, a greater number of candidates can be processed and selected. Communication is much faster and with lower costs. Publication, selection and selection are with significantly lower costs. The Internet allows reducing the number of those who come to the interview because it is pre-screening via communication channels. Overall, the process of selection is accelerating and speeding up.

What is the main advantage of e-recruitment is the engagement of staff at the local and global level (Leader-Chivee, Hamilton, Cowan, 2008, pp. 40-46). One of the main advantages is to quickly and easily inform potential job candidates, enabling them to be informed about all the important details during the election process and finally to obtain information on the results of the election. Social (social) networks have become a global phenomenon over the past ten years. Communication linking individuals and setting up personal data has enabled companies to search and find the right personnel to fill their jobs. Social networks have great potential to improve and increase the visibility of candidates on the Internet. On the other hand, employers use this visibility to find candidates for completing their vacancies. From the point of view of the social network employer, they are useful in seeking candidates, but on the other hand they are a problem because the candidates who are employed with them are visible to other companies that can offer a better offer to successful workers. Organizations using social networks have a great advantage over the competition because they can quickly reach potential candidates and fill their positions at no cost because the use of social networks is completely free. The use of the Internet for employment has become an inevitable factor, and social networks have made this process even more challenging for human resource managers.

## **8. "INFOKIOSK" TECHNOLOGY TO OVERCOME THE DIGITAL DIVIDE PROBLEM**

One of the main problems in developing countries is that a relatively small number of people have the resources to find a job using modern solutions. Resources include a mobile device, a computer, an access point, and the ability to communicate via electronic media. This problem is further complicated by the fact that a small number of citizens who know how to serve the accountants. Finding a job for a segment of a population that does not have access to new communication channels is considerably more difficult and the bigger the problem is that it is localized. Countries have an obligation to provide equal treatment to all their citizens, which means that those who do not have access to the Internet and new technologies must also receive a communication channel that will ensure them to find the right job. One of the solutions that overcomes this problem is to set up an "infokiosk" (interactive information point, which belongs to the group of self-service electronic devices) at places where people looking for a spit can access and realize contact with the companies that offer the job. Info kiosk provides self-service "self service" access to unemployed and employees, which is of particular benefit in cases where they do not have direct access to a personal word. It is also used to allow access to users who do not have the ability to access electronic services for the recruitment of new candidates. "Infokiosk" technology is suitable and easy to implement. advertisement that is placed on the screen, and communication is also possible via wireless communication. Sign-in via the touch screen is intended for all those who do not share mobile devices. The newsstand, as a rule, has an added printer, so the answer that comes from this device is displayed on the screen and it is possible to print the ad information (company dares, phone barcode for identification). Mobile users can receive this information via bluetooth or NFC connection. An organized distributed distribution system allows job seekers to find suitable in the entire territory of a country. The requirement for new employees of companies is placed through national employment agencies, which is immediately visible throughout the country. This promotes the distribution of labor and prevents the lack of information in one region to have excess of certain staff, while in the second it is a disadvantage.

## **9. CONCLUSION**

Changes that were created under the influence of modern communication technologies drastically changed the company's business models. Establishing communication between candidates looking for work with employers has been completely changed and almost the whole

process has been transferred to the Internet and related technologies. Market competition has forced the companies to adapt to the demands of the environment and to include in their business all communication channels where their potential candidates search for vacancies and submit applications for them. Information on vacancies in the company is increasingly being advertised through print media, as the internet has become a central place for information. All companies have their own web sites (sites) that become central places for communication and advertising of vacancies. Candidates can easily find out about job opportunities by simply searching for company sites and keep their data in order to be able to contact an interested party in the event of a need for admission of new candidates. Communication and the Internet have contributed to the emergence of a range of business opportunities that were not possible in previous periods. Companies can hire workers located at the other end of the country and through communications to recruit and recruit them. In the doctoral dissertation, all variants of the use of modern communication technologies in the recruitment and operation of companies from the point of view of recruitment of personnel were analyzed. The topic of "freelance" (job-to-home) employment has been especially addressed because this is the opportunity for mass engagement of cadres via the Internet. A good side of this kind of employment is that it is not necessary for them to leave developing countries, but to stay in them, but to have the opportunity to self-employment and successfully achieve their careers. The dissertation explored the possibility that such self-employed staff can self-finance their projects and find investors through the Internet. Employment on the Internet has its own negative side. The Internet is a global computer network and there is a whole range of dangers in streamlining the jobs that are in the doctoral dissertation of the command.

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## THE EXCHANGE RATE POLICY IN AZERBAIJAN DURING THE GLOBAL FINANCIAL CRISIS

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### ABSTRACT

*The goal of this paper is analyze of the impact of exchange rate policy on the national currency of Azerbaijan during the recent global financial crisis. Azerbaijan is an oil exporting country which is on the coastal of Caspian Sea. That's why literature review will based on the oil exporting countries monetary policy which is very important for these countries especially during the low oil prices. The 2008 global financial crisis influence to the oil price, as well. In the result of that crisis, the oil prices decreased sharply from 147 USD\$ to 52USD\$. This process was challengeable for the oil exporting countries' economies in the field of the national currency as well as for Azerbaijan. Due to intervention costs by central bank could manage the balance of value of national currency against the foreign currencies. It was acceptable for the short-term period but when it comes to the long-term period it had negative impact on the foreign exchange reserves especially in the low oil price period in 2015.*

**Keywords:** exchange rate policy, global financial crisis, manat, oil exporting country, oil price

### 1. INTRODUCTION

Most oil-producing economies have a strong dependence on oil revenues for their economic performance and stability. The economic forces inherent in resource rich economies represent particular challenges for stabilization policy. Commodity prices, which are volatile time series processes, influence both exchange rates and the terms of trade of commodity exporters. Monetary policy is the most necessary process which is managing the financial situation of the country with doing by different ways. Supply of money, keeping the inflation rate, interest rate and exchange rate include to monetary policy. For oil exporting countries, the impact of monetary policy is much more important than other industrial countries because of oil and its price. While decreasing the oil price, the revenue from oil is going down which is starting to influence to country economic situation as well as in the oil exporting countries. Azerbaijan is also one of the major oil exporting countries of Caspian Basin area. During the period of global financial crisis, the intervention costs of Central Bank of Azerbaijan have been increased in order to keeping the value of manat<sup>1</sup> against the foreign currency. The global financial crisis impacted on the world oil price. According to the Mahmoud and Amy (2009) who are the mention in theirs book that, the very high crude oil prices which is depend on demand and supply cause recessions and also recessions reduce crude oil prices. This idea show the global financial crisis cause to low oil prices which was challengeable for oil exporting countries. The main aim of this paper is to show the impact of exchange rate policy on the national currency during the global financial crisis in the oil exporting country. To reach the goal of the research the paper divided of four chapters. The first chapter of the paper will investigate the causes and consequences of global financial crisis and its impact on the oil price. Second chapter will analyze and synthesize the previous studies of the influence of monetary policy in the oil

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<sup>1</sup> The national currency of Azerbaijan <http://en.cbar.az/pages/national-currency/history-of-the-national-currency/>



exporting countries. Third chapter comes up with the methodology for the investigation of the exchange rate policy in Azerbaijan during the financial crisis. The research method applied to dynamic analysis using the graph, figures and tables.

## **2. THE CAUSES AND CONSEQUENCES OF GLOBAL FINANCIAL CRISIS**

The Global Financial Crisis (Subprime Mortgage Crisis, Late-2000s Financial Crisis, Financial Crisis 2007-present, etc.), described by the majority as the strongest crisis after the Great Depression, originated in the U.S. real estate market. The crisis has step by step infiltrated from the mortgage markets to stock and bond markets, the stock exchange market and eventually on the real sector and standard of living. Moreover, globalization has led to large transfers of capital between countries, multinational companies and financial institutions, thus supporting the spread of the crisis on the rest of the world. The financial crisis has had a domino effect, first reported in countries that have a similar mechanism of mortgage lending (Great Britain and some Asian countries), and soon after, it spread to the world stock exchange markets and led to a drop in the value of indexes and liquidity of securities all over the world. The stock exchange has substitute the banking shock, with withdrawals of deposits and rapid growth of interest rates. There are some causes of the global financial crisis as the following.

### **2.1. Low Global Interest Rate**

The structural background in the period 2000-07 was one of low global interest rates, arising in turn from high levels of global liquidity as countries such as China built up current account surpluses and foreign exchange reserves maintaining artificially low exchange rates and a positive saving investment balance. As a result of such pressure, global real interest rates fell after 2001 and long-term real rates were probably 100 or more basis points below their level of the previous decade. This in turn contributed to rapid credit expansion and rising asset prices which preceded the crisis. Another contributor to the asset bubbles and the crisis was low short-term real interest rates arising from the monetary stance in countries such as the U.S. These low rates in turn prompted a hunt for yield on the part of banks and institutional investors. Financial innovations sought to provide higher returns to serve this desire, but the consequence was higher risk and/or increased opacity via higher credit risk in structured products and sub-prime loans.

### **2.2. Loose Monetary Policies of Central Banks**

The loose monetary policy of the Federal Reserve Bank beginning in late 2001 that was intended to pull the U.S. economy out of recession contributed to the continued boom in the housing market. With super low interest rates, builders built and buyers bought like there was no tomorrow. House prices escalated and values became detached from the underlying rental values (Papadimitriou, Chilcote, and Zezza, 2006). Professor John Taylor of Stanford blames the Fed for loose monetary policy between 2002 and 2004 (Wagner, 2007). When it comes to the consequences of the recent global financial crisis, in this scientific paper analyzed growth rate and credit markets which is the main part of the financial system.

### **2.3. Growth rate**

Economic growth of the world economies has fallen sharply due to the financial crisis. However, a more serious indirect threat through declines in stock market prices and housing prices. These reduce the capital of banks, which in particular causes problems where they do not hold sufficient levels of their capital in cash. In such cases it is likely that banks will reduce lending in order to shore up their capital. In a worst case scenario banks may face solvency problems and may require their governments to recapitalize them. As, government revenue depends on growth, this will translate into less government revenue, and consequently less means for governments to fight poverty.

From this figure 1 is clearly seen that, the world real GDP was starting declining from 2007 and the declining process was continuing in 2008 which already reached its peak in 2009. Real GDP indicators of the all parts of the world had declined its peak in 2009 in the result of global financial crisis.

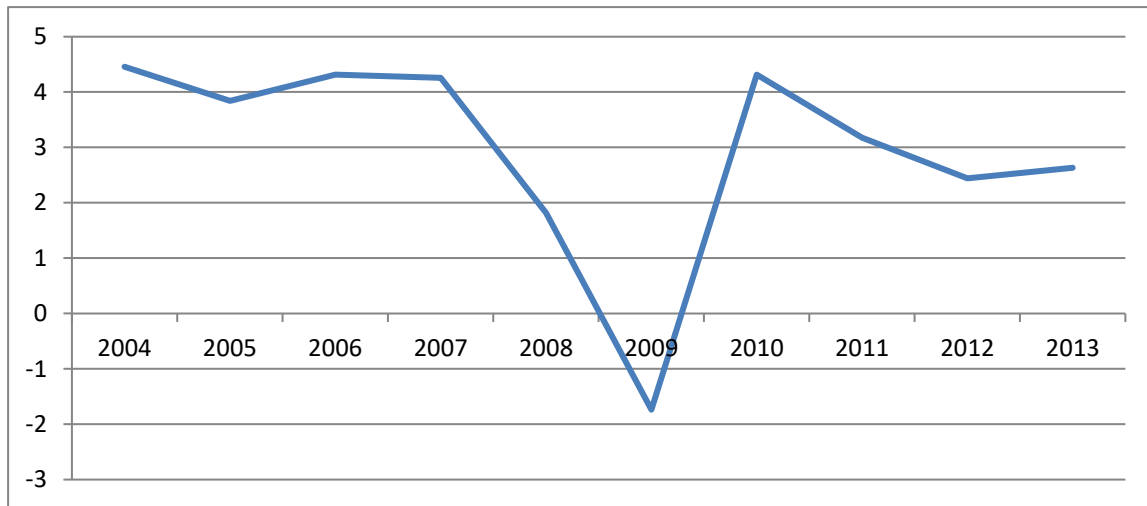


Figure 1: Growth of the world economy, 2004-2013 (percentage change %) (Compiled by authors based on the data from World Bank Data)<sup>2</sup>

According to this figure, it is clearly seen the growth of the world economy from 2004. End of the 2007 we see the process of increasing while the financial crisis started to grow. However in 2009, the percentage of world economy dropped suddenly to -1. which were very unfavorable time for world economy. During that time, the financial crisis also impacted on crude oil price which is including this paper.

#### 2.4. Credit Markets and the Shadow Banking System

During September and early October of 2008 have taken place large losses in financial markets worldwide. The three major banks of Iceland are nationalized, possibly portending a national bankruptcy. U.S. and European governments create allowances of government investment in banks, new lending guarantees, and guarantees of personal savings. During September 2008, the crisis gets in its most critical stage. There was the equivalent of a bank function on the money market mutual funds, which often invest in commercial paper issued by corporations to fund their operations and payrolls. During one week withdrawals from money markets amounted \$144.5 billion, and the week before were \$7.1billion. This disrupts the ability of corporations to change their short-term debt. The U.S. government acted by extending insurance for money market accounts analogous to bank deposit insurance via an impermanent guarantee and with Federal Reserve programs for getting commercial paper (Logojan, 2009). One of the most important consequences of the recent global financial crisis is the oil price which is declined sharply. During the process of high demand of oil the price was also going up. However, oil importing by US dollar. That's why the other reason is US dollar. Some claim decline in the US dollar against other significant currencies from 2007 to 2008 was the main part of oil increasing process till 147 USD\$. The dollar lost approximately 14% of its value against the Euro from May 2007 to May 2008 and due to dollar value the crude oil price rose 96% in the same period. Another factor in crude oil price is the cost of extracting crude. In order to understand the world crude oil price progress, yearly data used in the research presented in figure 2 below.

<sup>2</sup> The World Bank Data- <https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?end=2013&start=2004>

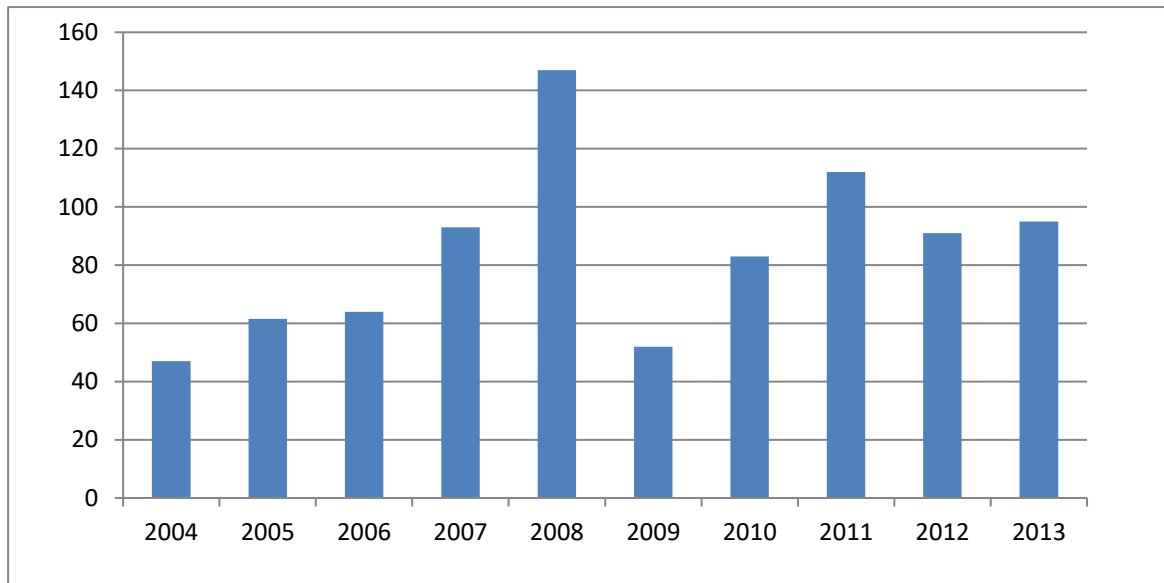


Figure 2: World crude oil price (in U.S. dollars per barrel) 2004-2013 (Compiled by authors based on data from U.S. Energy Information Administration<sup>3</sup>)

The price of oil is more manageable price by different things. The war, geopolitical instability, exchange rates of dollar and demand and supply impact on the crude oil price. However in the 2008 during the global financial crisis the cause of the low crude oil price was the impact of the crisis. In the context of global financial crisis, the demand started to decrease and in the result of demand the crude oil price started to drop. Also, the economic situation all the world oil importer countries and overall GDP was decrease which also impact on the crude oil price. Finally from the figure 2, it is possible to understand to see that how global financial crisis impacted on the crude oil price. The price was 147 USD\$ in 2008 and after that we see the sharply drop in the price of oil which decreased to 52 USD\$. It

### 3. THE LITERATURE OVERVIEW ON THE MONETARY POLICY OF THE OIL EXPORTING COUNTRY

Multiple researches worked on the topic of the monetary policy for oil exporting countries. Villafuerte and Lopez-Murphy (2010) found evidence that fiscal policy has been procyclical and has hence exacerbated the fluctuations in economic activity. In addition, paper estimated that a small reduction in oil prices could lead to very large financing needs in the near future. The results suggest that most oil producing countries recorded deterioration in their sustainability position between 2003 and 2009, mainly because of a larger expansion in their NOPD relative to the increases in government net wealth. The results are expressed through a summary indicator called “fiscal sustainability ratio”, which was computed as the ratio of the implied sustainable. The Maliszewski W. (2009) presents numerical simulations of various fiscal rules for oil-producing countries. The distribution of non-oil wealth is important for countries with relatively low oil reserves. Corrections for adjustment costs and uncertainty with respect to oil prices should be applied carefully. While avoiding sharp changes in the fiscal policy stance may be appealing, it is not necessarily optimal if the initial position is unsustainable. Numerical comparisons indicate that the distribution of non-oil wealth is important for countries with relatively low oil reserves. Elements of the traditional debt sustainability analysis should be an important input to the process of devising fiscal rules for these countries.<sup>16</sup> Well-run economies with a proven growth potential may consider somewhat higher government spending financed by transfers from future generations.

<sup>3</sup> U.S. Energy Information Administration - <https://www.eia.gov/petroleum/data.php#prices>

Medas P. and Daria Z. (2009) propose an integrated approach to fiscal policy analysis in oil producing countries (OPCs) geared towards addressing their unique and complex policy challenges. Firstly, in order to accurately assess the fiscal stance in these countries, conventional fiscal indicators, such as the overall and primary. The fiscal balance should be complemented by non-oil indicators. Second, to reduce the macro fiscal costs associated with revenue volatility, the evolution of government expenditure should be de-linked from the short-term developments in oil revenue, as much as possible. Third, a long-term perspective for fiscal policy, including applying sustainability benchmarks, is important to develop sustainable and sound policies. And finally, medium-term fiscal frameworks and risk assessment can help understand the longer-term consequences of current policies and managing the uncertainty associated with oil revenue. The paper examined (Suseeva N. 2010) whether the real exchange rate of Russia and the real price of oil move together over time. Using International Monetary Fund and OECD data, we constructed monthly and quarterly the real bilateral exchange rates of Russia against US dollar and Euro and productivity differentials over 1995-2010. It is possible to find a positive long-run relationship between the real oil prices and the real bilateral exchange rate against Euro. Moreover, this relationship becomes more positive after the change of the monetary policy has been implemented. This finding holds for both cases when the real exchange rate is assumed to be stationary and non-stationary. Romero E.R's (2008) paper is to study monetary policy in oil-producing economies that are characterized by having a significant dependence on oil revenues for their economic performance. Specially, the model presented contributes to the New Keynesian literature by analyzing the effect of oil price shocks in a framework that explicitly models an oil sector. In addition to the standard contractionary and cost push effects, this New Keynesian general equilibrium model considers a new transmission channel for oil price shocks that can be described as an income effect that is generated by oil revenues. The model presented in this paper emphasizes an application to oil, it can, in principle, be employed to study monetary policy in economies that are dependent on natural resources.

#### **4. EXCHANGE RATE POLICY OF CENTRAL BANK OF AZERBAIJAN DURING THE GLOBAL FINANCIAL CRISIS**

Oil exporting countries largely depend on their primary commodity exports. Fluctuations in the primary commodity price coerce changes in trade and account surpluses. Azerbaijan, Russia and also Kazakhstan is an oil-exporting country, is highly affected by the changes of crude oil prices. In the result of the global financial crisis the currency exchange rates in these countries changed. While the oil price increasing the national currencies of these countries appreciated but when the oil price starting to decrease then the depreciation process is going to its peak. From this issue, we can understand also these selected countries domestic currency is heavily depended on the crude oil price because the almost the main part of the export is oil products. The exchange rate of national currency is indirectly related also to dollar exchange rate. Because of dollar exchange rate, the crude oil price is increasing. Also, in this region the central banks' intervention costs getting higher while crude oil price decreasing because of the keeping the balance of the national currency. In this subchapter paper also examine monetary policy impact especially on the exchange rates of national currency. In Azerbaijan, the supervision to the monetary policy and exchange rate doing by central bank. As we mentioned, despite the reducing cash inflows to the country it could be that Manat depreciate but due to intervention cost national currency of Azerbaijan was stable and starting from 2007 manat gained value against to the foreign currency as well as dollar. So, according to the figure 3 we can see that from 2007 the intervention costs of Central bank of Azerbaijan have been increased. In 2008 central bank has been spent more than 2 billion USD dollar for the intervention cost due to keeping the balance of national currency in the country.

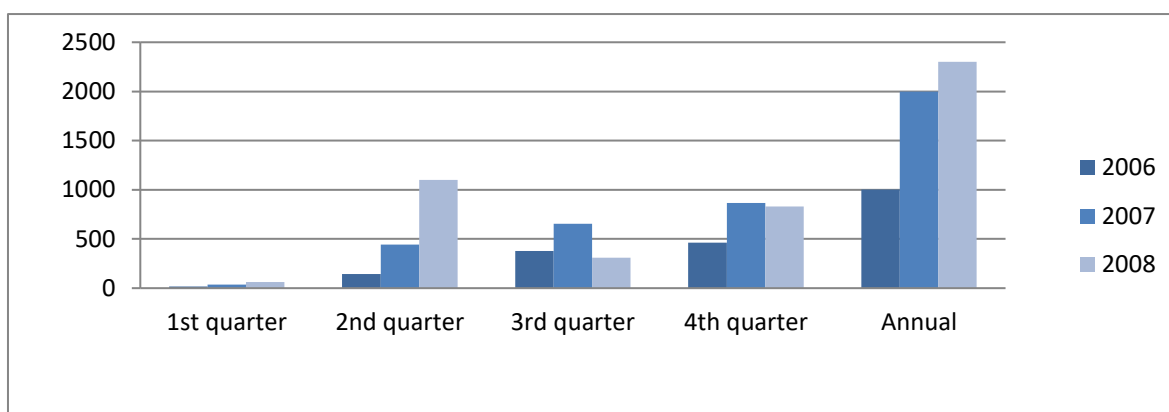


Figure 3: Central Bank's currency market intervention, USD mln (created by authors based on data from Central Bank of Azerbaijan)

Year by year, intervention costs were increasing due to crude oil price. In 2008 annual intervention cost was more than 2 billion dollar. Despite of the reducing cash inflows to the country the central bank has been spent much more money due to keep the power of the domestic currency.

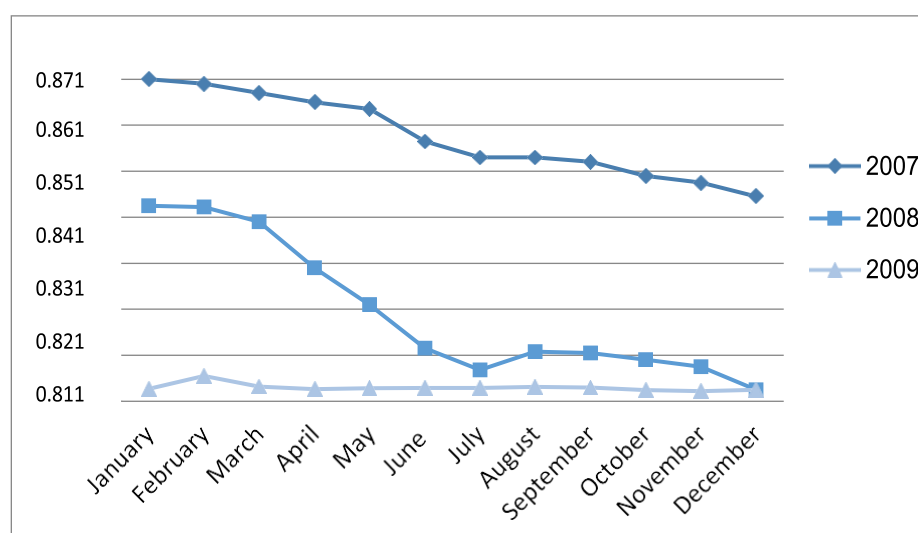


Figure 4: Change path of USD/AZN official exchange rates (2007-2009) (created by authors based on data from Central Bank of Azerbaijan<sup>4</sup>)

According to the figure 4, it is easily to see that, the manat exchange rate was stable against foreign currency. Also, it will be crucial to mentioned that in 2009 the central bank's total intervention cost was 1260 mln USD. In Azerbaijan, The burden of the monetary policy fell on the exchange rate policy in the 1<sup>st</sup> quarter of 2009. Despite of the reducing cash inflows into the country and the psychological effect brought about by the devaluation wave surging in the neighbor states the manat managed to retain a stable exchange rate. The Central Bank made timely arrangements to balance the demand and supply on the currency market thus preventing the manat's exchange rate from depreciating drastically. The stable manat exchange rate precluded the imports and foreign-origin commodities used in domestic production from rising in value dramatically as well as did not let individual deposits depreciate, foreign exchange denominated debt increase, public confidence in the manat diminish and the economy get excessively dollarized.

<sup>4</sup> Central Bank of Azerbaijan - <https://www.cbar.az/>

The low inflation rate and stable exchange rate allow for securing the nation's social welfare. Besides, the low inflation rate and the favorable standing of the multilateral exchange rate helped maintain the country's competitive position; the manat's multilateral real exchange rate depreciated by 3.5% during the year. So, according to this analysis it is possible to mention that during the crisis the manat exchange rate was stable even in 2008 and 2009 manat gain the value against to the foreign currencies. However, due to oil prices the central bank intervention costs have been increased in order to keeping the balance. For the short-term period this kind of policy was good when it comes to the long-term period it has negative impact on the foreign exchange reserves of the central bank.

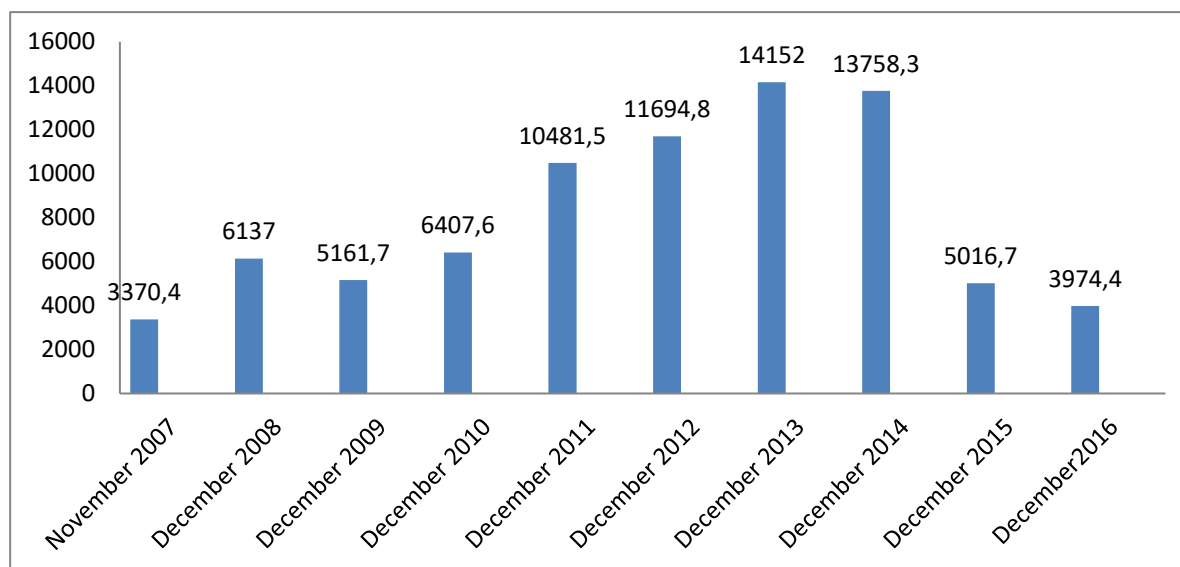


Figure 5: Official FX reserves of Central Bank of Azerbaijan mln. USD (11.2007-12.2016) (created by authors based on data from Central Bank of Azerbaijan)

During the crude oil prices boom 2014-2015 from the figure 5, it is clearly seen how the official reserves of the Central Bank of Azerbaijan have been declined in terms of managed balance of national currency against of the foreign currencies with the intervention transactions. Between the 2014 and 2016 years Central Bank of Azerbaijan lost more than 9 billion dollars due to high demand for foreign currency and high intervention in the currency market. In the result of the CBA decision on 21<sup>st</sup> of February 2015, manat devaluated more the 33.86%. Manat's rate dropped to 1.05 from 0.78 against to US dollar. Thereby, Central Bank of Azerbaijan decided to adopt floating exchange rate regime from 21 December 2015 (manat rate dropped to 1.55 from 1.05 against to US dollar) in an endeavor to improve the balance of payments, maintain an adequate level of strategic reserves and improve international competitiveness of the national economy.

## 5. CONCLUSION

The oil exporting countries economy mostly based on oil industry. The major part of their revenue is coming from the oil and oil-related products. That's why the power of the exchange rate policy is also related to the oil. According to the dynamic analysis of the paper, it is clear that the exchange rate policy of Central Bank of Azerbaijan could keep the balance of the national currency that manat gain the value against the foreign currency in 2008. From the 2007 the manat was starting to gain the value against the foreign currency and this process continued until 2009. However the process stopped in 2009 but the manat was strongest currency in the region during the global financial crisis. Also it is important to mention that, this happened because of income from oil.

Unfortunately the 2015 scenario shows the reality of the power of manat. It is the reality that, some of oil exporting countries starts to feel the pressure when the oil prices going down. Oil dependency is the common disease for those countries. During the global financial crisis the exchange rates of national currency are changing due to low crude oil price. Especially in the countries of Caspian Basin Countries especially Azerbaijan, Russian Federation and Kazakhstan's national currency lose the value against the foreign currency. While the crude oil price going down, the revenue from oil also starting to decrease. In this case, the economies which based on the oil, starts to spend much more money in order to keep balance of its national currency. Using the dynamic analysis and some figures, the paper shows that in recent global financial crisis period the manat was stable and in 2008 gained the value against the foreign currencies. The topicality of this research is very wide. The future researches can use this paper because it is impossible to find any research work about the Caspian Basin Countries banking sector. The topic mainly related to the financial crisis and its impact to the banking sector through the low crude oil price which was happened in 2014 also. Future expanding of this research can be covered more than years with more data due to making long period analysis. Additionally, in order to expanding the research, can be added exchange rates of national currency from the 2014 Russian Federation and Azerbaijan 2015 scenario which national currencies were devaluated in the result of the decreasing of the world crude oil prices.

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# **WORKING CAPITAL MANAGEMENT AND FIRM FINANCIAL PERFORMANCE - EMPIRICAL STUDY ON AMMAN STOCK EXCHANGE LISTED COMPANIES FOR THE PERIOD OF 2010-2014**

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## **ABSTRACT**

*This paper discussed about working capital management which is studied on Amman stock exchange. Now days Working capital organization is fundamental in business in perspective of its impact on an affiliation's productivity and possibility, and thusly its regard (Sonia and Pedro, 2010). Capable organization of working capital is crucial to the advancement and survival of company's Working capital organization needs to do with using the store that is required to run the ordinary operations of an affiliation gainfully remembering the true objective to finish the focuses and goals of the affiliation (Nwankwo and Osho, 2010). The dispute that working capital organization impacts firm regard seems to acknowledge wide affirmation. Regardless, there are diverse elucidations for the inspiring strengths of firm to hold positive working capital. In addition, this study sought to determine the effect on profitability of manufacturing firms in Jordan. This study employed panel data methodology. The data for the study was derived mainly from secondary data sources including Capital Markets Authority Library and Amman Securities Exchange Library. The results from regression analysis indicated that only 26% of variations on financial performance of manufacturing firms could be attributed to working capital management and the remaining portion being influenced by other factors. This study further revealed that working capital variables accounts collection period, average liabilities period and inventory conversion period were inversely related to financial performance, as measured by Return on Assets.*

**Keywords:** *Capital management, Financial performance, Stock exchange*

## **1. INTRODUCTION**

Working capital administration is vital in business as a result of its effect on a company's productivity and hazard, and thusly its esteem (Sonia and Pedro, 2010). Productive administration of performing capital is essential for evolvement as well as continuation of companies Working capital administration needs to do with utilizing the store that is expected to run the everyday operations of an association proficiently so as to accomplish the points and targets of the association (Nwankwo and Osho, 2010). The contention that working capital administration influences firm esteem appears to appreciate wide acknowledgment. In any case, there are different clarifications for the motivating forces of firm's to hold positive. Working capital. Right off the bat, a higher interest in working capital administration parts (stock, exchange credit, creditor liabilities) may increment corporate execution for a few reasons. As indicated by Blinder as well as Maccini (1991), larger listing can reduce stock outgoings as well as worth variations with restrain obtrusion into in production process as well as dissipation of corporation due to shortage of items. They additionally permit firm's better administration for their clients and maintain a strategic distance from high creation costs emerging from high fluctuations underway (Schiff & Lieber, 1974). Permitting exchange credit, then again, may likewise build a firm's deals, since it can fill in as a compelling value wound (1988 Zechner, , Maksimovic as well as Brennan; Rajan and Petersen, 1997); that suggests customer for procure



items now and again of low request (Emery, 1987); it reinforces long haul provider client connections (Ng, Smith, and Smith, 1999; Wilner, 2000); it permits buyers to confirm item and administrations quality before installment (Lee and Stowe, 1993; Smith, 1987). Subsequently, it decreases the lopsided data amongst purchaser and dealer. To be sure, Deloof and Jegers (1996) as well as Davis as well as Shipley (1991) mention that interchange approval is a vital provider choice measure when it is difficult to separate items. Emery (1984) recommends that exchange credit is a more compactness here and now speculation than attractive securities. Besides, from the perspective of records receivable, Wilner (2000) as well as Ng et al. (1999) same as display that a company may require vital refund for previous payment if it minimizes its supplier capitalizing. Be that as it may, there are likewise conceivable unfavorable impacts of interest in performing capital that can produce a -ve impact on corporation esteem. Right off the bat, keeping stock accessible assumes costs; for example, distribution center lease, protection and security costs, that incline to arise as step of supply extents (Kim and Chung, 1990). Beyond, considering a more important performing capital step displays a demand for extra capital, that corporations should economic; that involves capitalizing expenditures as well as chances values. From single point of view, representations which grip a excessive performing capital step in addition of challenge more intrigue costs accordingly (Kieschnick et al., 2011) as well as hence, more approval opportunity. As performing capital extends, that is much possible that companies will confront economical distress as well as face the uncertainty of chapter 11. That offers companies in the company of large attentiveness in performing capital Inspiring intensity to minimize performing capital stages as well as restrict hazard of economical problem as well as expensive insolvency. Then again, possessing high performing capital stages implicit that money is safe up performing capital (Deloof, 2003), so large attentiveness in performing capital may same as container the potential of companies to take up another esteem upgrading ventures. Proficient working capital administration includes arranging and controlling current resources and current liabilities in a way that takes out the danger of powerlessness to meet here and now commitments on one hand and keeps away from unnecessary interest in these benefits then again (Eljelly, 2004). Working capital administration is a standout amongst the most vital monetary choices in corporate. The ideal administration of working capital will build the corporate esteem, Working capital administration is critical to the firm since it includes time, speculation and also development prospects of the firm. There are innumerable number of research and studies led in this specific circumstance, be that as it may, this scientist likes to refer to unmistakable cases from Jordanian organizations keeping in mind the end goal to reveal insight into WCM in order to be seen better, and to demonstrate the critical significance of organizations survival and growth, especially, and to the best of my insight, no examinations at any point directed about them: The Arab Bank, and the Arab Potash Company. In view of above examination, global outcomes are blended in this regard no doubt because of the issues in measuring the working capital administration in various nations. In this manner, additional proof on this zone is required. Also, there is absence of observational confirmation on performing capital management as well as its impact on corporation. Performance in the event of concentrate on Amman Stock Exchange recorded organizations. In this manner, the present examination concentrated on assessing the effect of working capital administration and the execution, as far as gainfulness, of Amman firms recorded at Stock Exchange and to distinguish vital factors that are affecting working capital administration productivity. The 2008 financial crisis and the recessions that took place throughout the world have brought more focus to the investment that firms make in short-term assets, and the resources used with maturities of under one year which represent the main share of items on a firm's balance sheet. This inflamed the importance of short-term working capital management at companies all over the world and stimulates researchers 'attention. Where one group of practitioners and researchers believed that efficient management of working capital is essential

for companies during the booming economic periods (Lo, 2005) and can be managed strategically to improve competitive position and profitability, others emphasized on that improving working capital management is reasonably important for companies to withstand the impacts of economic turbulence (Raheman, 2010). Liquidity or profitability and the balance between both are challenging decisions while conducting a firm day to day operation. Liquidity is a precondition to ensure that firms are able to meet their short-term obligations and their continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. Given the pressure due to lower credit limits and rising interest rates, a rapid decrease in demand and turnover on firms' products and services occurred. This led to a steep build-up of stocks and the capital tied up in these stocks. Thus, in the medium term, many firms switch their focus from growth to internal efficiency and cash management. An asset-liability mismatch may occur which may increase firm's profitability in the short run but at a risk of its insolvency. On the other hand, too much focus on liquidity will be at the expense of profitability. Thus, the manager of a business entity is in a dilemma of achieving desired tradeoff between liquidity and profitability in order to maximize the value of a firm (Padachi, 2006).

## **2. RESERCH METHODOLOGY**

### **2.1. Introduction**

This chapter discusses the approach by which the study utilizes in order to achieve the objectives of the study. First, the participated Companies listed in Amman's Stock Exchange are determined, as it is shown below. Second, relevant financial data of these companies is collected. Such data is just for the period of 2010 to 2014 or five years duration. Data collected is analyzed accordingly. In addition, the chapter discusses other relevant issues, such as research design and so forth.

### **2.2. Research design**

The explanatory type of study with a quantitative approach is employed to analyses the collected data. The research design, used in this study is a pooled panel data analysis of cross-sectional and time series data. Pooled panel data analysis, also called the constant coefficients model is one where both intercepts and slopes are constant, where the cross section firm data and time series data are pooled together in a single column assuming that there is no significant cross section or temporal effects (Gujarati, 2003). In addition Statistical Package for Social Science (SPSS) (version 20.00) is applying to get results.

### **2.3. Population of the study**

The study of the population consists of all industrial companies listed in Amman's stock exchange, 50 companies by the end of 2016. According to Amman's stock exchange the industrial sector in Jordan has been identified as the industrial companies are the main sectors listed in Amman's stock exchange, it is expanded rapidly, as a result of the increase in credit granted and the risk resulting from. The failure that happened in the industrial companies was lesser when compared to the other sectors.

*Table following on the next page*

*Table1: the population of the study*

<b>Industrial</b>
<b>Pharmaceutical and Medical Industries</b>
DAR AL DAWA DEVELOPMENT & INVESTMENT
THE JORDANIAN PHARMACEUTICAL MANUFACTURING
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PHILADELPHIA PHARMACEUTICALS
<b>Chemical Industries</b>
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PREMIER BUSINESS AND PROJECTS CO.LTD
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COMPREHENSIVE MULTIPLE PROJECT COMPANY
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GENERAL INVESTMENT
UNIVERSAL MODERN INDUSTRIES
NATIONAL POULTRY
THE ARAB INTERNATIONAL FOOD FACTORIES
NUTRI DAR
JORDAN VEGETABLE OIL INDUSTRIES
SINIORA FOOD INDUSTRIES PLC
<b>Tobacco and Cigarettes</b>
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<b>Mining and Extraction Industries</b>
GENERAL MINING COMPANY PLC
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NATIONAL STEEL INDUSTRY
JORDAN PHOSPHATE MINES
THE JORDAN CEMENT FACTORIES
THE ARAB POTASH
JORDAN STEEL
NATIONAL ALUMINIUM INDUSTRIAL
TRAVERTINE COMPANY LTD
UNITED IRON & STEEL MANUFACTURING CO. P.L.C
NORTHERN CEMENT CO.
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JORDAN WOOD INDUSTRIES / JWICO
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ARABIAN STEEL PIPES MANUFACTURING
AL-QUDS READY MIX
ASSAS FOR CONCRETE PRODUCTS CO. LTD
SHEBA METAL CASTING
<b>Electrical Industries</b>
NATIONAL CABLE & WIRE MANUFACTURING
ARAB ELECTRICAL INDUSTRIES
UNITED CABLE INDUSTRIES
<b>Textiles, Leathers and Clothing</b>
CENTURY INVESTMENT GROUP
THE JORDAN WORSTED MILLS
AKARY FOR INDUSTRIES AND REAL ESTATE INVESTMENTS
EL-ZAY READY WEAR MANUFACTURING
ARAB WEAVERS UNION COMPANY P.L.C

### **3. RELATED WORK**

In this section study on recent nine methods of facial emotions/expression recognition using videos is introducing. The methods studied are from 2014, 2015 and 2016.

#### **3.1. Wobshet Mengesha et.al (2014)**

In [1], this examination examined impact of performing capital management on corporations' performance via utilizing evaluated money related explanations of an example of 11 metal gathering personal restrained representations in Addis Ababa, Ethiopia for duration of 2008-2012. Performance was counted as far as productivity by return on assets up to resources, and rate of profitability capital as reliant monetary execution (gainfulness) factors. Performing capital was handled via Money change duration, Accounts chargeable duration; supply transference duration as well as register receivable duration is used as openly performing capital components. Besides, usual computes, recent section are used as fluidity markers, corporation magnitude as computed via logarithm of offers, corporation involvement rate as computed via modification in annually deals as well as commercially utilize as manage factors.

#### **3.2. Diogo Filipe Nascimento Gomes et.al (2013)**

In [2], the reason for this examination is to break down the connection between working capital administration (WCM) and company's productivity in Portugal. Scientist utilizes a database, joining firm-level money related information with coordinated business representative information, for the period from 2004 to 2009, acquiring a specimen of 106,961 perceptions comparing to 41,536 firms. Like past investigations, they inspect the presence of a non-straight connection amongst WCM and company's productivity. Be that as it may, not at all like different investigations, Researcher assesses how indirect association ship is affected via CEO's data as well as informative standards as well as corporations characteristics, e.g. age, measure, industry segment as well as region.

#### **3.3. Vedavinayagam Ganesan et.al (2007)**

In [3], this examination went for looking at connection between days' working capital and association's productivity. To accomplish targets of the examination analyst investigations performing capital management attentiveness of corporations from media transference gear trade. Relation within performing capital management efficiency as well as profit is analyzed utilizing relationship and relapse investigations. ANOVA investigation is done to ponder the effect of working capital administration on benefit. Utilizing an example of 443 yearly budgetary proclamations of 349 media transmission gear organizations covering the period 2001-2007, this examination discovered proof that despite the actual that "day's performing capital" is resentfully recognized in the company of gainfulness, it is not essentially affecting the benefit of firms in telecom hardware industry.

#### **3.4. Mehmet SEN et.al (2009)**

In [4], our examination we expected to decide the connection between effectiveness stage of corporations become interchanged Istanbul Stock Exchange (ISE) in performing capital management as well as their advent on add up to resources. Specialists attempted to clarify the connection between various markers identifying with proficiency in working capital administration and their arrival on add up to resources through two models. As per the outcomes as far as both every one of the organizations engaged with the investigation and parts there is significance -ve relation within cash transference cycle, net performing capital stage, recent proportion, records of sales period, stock period and profit for add up to resources.

### **3.5. Amarjit Gill et.al (2010)**

In [5], this investigation looks to expand Lazard's and Try fondest' discoveries with respect to the connection within performing capital management as well as advantageous. Sample of 88 American corporations registered on New York Stock Exchange for duration of 3 years 2005-2007 has chosen. Results uncovered the nearness of measurably noteworthy connection between the money change cycle and benefit, measured through gross working benefit. Besides, comes about uncovered that directors can make benefits for their organizations by taking care of effectively the money transformation cycle as well as through possessing accounts chargeable at an optimal stage. Research includes for writing on relation within performing capital management as well as the company's benefit.

### **3.6. Mohammad Ali Pour et.al (2011)**

In [6], the principle target of that investigation is supposing relation within performing capital management as well as efficiency. Cash transference cycle is one of the vital calculating instruments to discover efficiency of performing capital management. Duration content of investigation was 2001-2006 as well as examined operations have been ones according to Tehran supply trade. By and large, out of 2628 organizations; the organization has been chosen as a best organization for 1063. At that point different relapse as well as Pearson's connections was used to examination supposition. After-impacts of countable appeal of thesis display that there is a negative huge connection within no. of days tally asserts as well as profit, -ve high relation within Inventory income in days as well as advantageous, a straight notable relation within no. of day's registers obligatory as well as efficiency with there is -ve crucial relation within cash turn cycle as well as productivity.

### **3.7. Zahra Mousavi et.al (2012)**

In [7], the essential objective of this exploration is assessing connection between working capital administration and corporate execution. Scientists utilized factors, for example, return on add up to resources, return on proprietor's value and market an incentive to book esteem proportion for assessing corporate execution and exclusive fluidity manage as pattern for evaluating of performing capital manage. For examining examination theories, money related articulations' information of 56 companies acknowledged in Tehran Supply Interchange has been used as well as for researching with examining suppositions, one degenerate replica as well as association ship strategy is utilized.

### **3.8. Asif Iqbal et.al (2014)**

In [8], the point of this examination is to inspect the connection between Working Capital Management as well as its effect on fluidity as well as in extension on beneficial of a corporation. In this research professionals have been run down impact of performing capital management on corporation performance from Pakistani representations which are registered on Karachi supply trade. Distinctive factors, for example, Average Collection Period (ACP), Cash Conversion Cycle (CCC), Sales, Inventory Turnover in days (ITID), Average Payment Period (APP), as well as responsibilities are used to examine the effect of performing capital management. Examinations of 253 non-money associated corporations were run down for duration of 6 years 2008-2013 for observation of several components of performing capital management's. Exclusive performance profitability is used as a necessary changeable for approximation of performing capital management in this investigation.

### **3.9. Ben Ukaegbu et.al (2014)**

In [9], the reason for this examination is to inspect the connection within performing capital usefulness as well as business efficiency as well as particularly, to determine their essentialness

crosswise over nations with differential mechanical levels. The examination embraces a quantitative approach utilizing adjusted board information of assembling corporations in South Africa, Egypt, Kenya and Nigeria. Specialist got to money related articulations of assembling firms from Orbis database for duration 2005–2009. Database is state to be reliable as well as had widespread adequacy.

### **3.10. Sonia Banos-Caballero et.al (2013)**

N [10], this examination goes for analyzing connection within performing capital management as well as collective performance for sample of non-financial UK organizations. Rather than past investigations, the discoveries give solid help to a modified U-melded connection between interest in performing capital as well as corporation performance that deduce existence of an optimal stage of attentiveness in performing capital which manages expenditures as well as profits with amplifies an association's esteem.

## **4. COMPARATIVE STUDY**

In this section we are presenting the tabular form analysis of methods studied in above section of this paper with their advantages and disadvantages. After tabular (table 1) analysis, the graph of accuracy is presented.

*Table following on the next page*

*Table2: Comparative analysis*

<b>Paper Title</b>	<b>Methodology</b>	<b>Advantages</b>	<b>Disadvantages</b>
Impact of performing capital applications on prospect management: evidence.	Performing Capital applications, Advantage, Market Rate of reoccur,	+ve performing capital demand, else conventional performing capital policy, designate a requirement for in addition of capital that corporate can economics inwardly, deducing open money flow, else evidently, commonly through financial paper else lines of acknowledgement.	The crucial part in managing working capital is maintaining liquidity in day-to-day.
Performing capital management and firms' performance in appearing markets: instance of Jordan	Profit, Cash Management, Market Value, Emerging markets, working capital management.	Methodological performing capital administration develops corporations accounting profitableness as well as corporation's cost.	Utilizing strong approximation strategies this study establishes that profitableness is influenced positively in the company of money transformation cycle.
The relationship between working capital management and profitability for industrial companies listed in Amman stock exchange.	Cash conversion cycle, financial characteristics, industrial sector.	Outcomes of this research designate there is analytically important as well as +ve association ship within money transformation cycle as well as individual volatile, e.g.: tally, market, efficiency, fluidity as well as potion measure at several important stage 1% as well as 5%, with magnitude measure is feeble association ship in the company of important stage at 10% as well as there is no importance association ship in the company of profitableness measure as well as money transformation cycle.	Cash management decision.
Effect of performing capital administration on corporation's production: instance of chosen metal manufacturing companies in Addis Ababa, Ethiopia.	Quick asset Ratio.	The managers of food complex business can maximize profitableness of their corporations via compressing the money transformation cycle, catalogue transformation duration as well as expected group duration.	For analyze the effect of quick asset ratio on Food Complex Manufacturing Companies profitability position.
Working capital management and corporate profitability: evidence from Iran.	Working Capital Management Profitability Cash Conversion Cycle.	Effective working capital management cycle. The different parts of working capital are payable consists of utilizing techniques that discard the uncertainty accounts expectable account as well as catalogue which con as well as shortage of capability in paying small term commitments in arrange that segments in several patterns to increase benefit one side as well as intercept across speculation in these benefits in else to maximize corporations price In Iranian corporations, the another side by planning as well as managing recent benefits the proportion of payable accounts was 8% as contrast in the company of as well as responsibilities	If the working capital management is not correct the sale and consequently the profit of the company might decrease.

## 5. CONCLUSION

Literature reviewed showed that the studies about effect of WCM on companies' performance and profitability in Jordan are scarce. This suggests that WCM field in Jordan is under studied. From this the importance of this study becomes visible through its contribution to the existing relevant literature. Most of the above listed previous studies are restricted to one topic: WCM relation with firm's performance and profitability while there are many relevant issues that can be examined. The same can be said about analyses approaches and results, whereas they are conducted via routine approaches. Although literature review has showed the influence of WCM on firms' performance and profitability, however, the studies by Jordanian authors did not clarify the impact of external and internal influences on WCM in Jordan, for example, the closure of borders with Syria and Iraq and the closure of the Libyan market in front of the Jordanian exports affected greatly the profitability of many Jordanian companies. Internally, the flux of Iraqi and Syrian refugees has left a grave impact on the Jordanian economy.

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## **IMPLEMENTATION OF CORPORATE SOCIAL RESPONSIBILITY AND MARKETING OF UNIQA IN THE REPUBLIC OF SERBIA**

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### **ABSTRACT**

*The concept of corporate social responsibility is becoming popular at the beginning of the new millennium, during economic crises which have shown that there is a need to change the way business company. This concept emerged as a potential solution to the problems faced by companies as it seeks to reconcile the needs of the business world with the needs of the community. Corporate social responsibility is a voluntary decision of the company to contribute to the quality of life of society and the preservation of the environment, and it is a logical step for companies seeking the right to participate in the functioning of the local community. Due to the extremely rapid and constant development of technology, a socially responsible company operations directed at the broader social interests, which concern not only to make profit. Marketing, on the other hand, represents a very important part of this way of doing business, because it also changes and progresses, and expands its area in line with new technologies. Thus arises the concept of socially responsible marketing that involves harmonizing priorities of the company with the needs and desires of consumers. Therefore, in this paper focus will be on marketing activities that promote socially responsible business Uniqua company, and therefore its participation in the social environment.*

**Keywords:** *business, marketing, corporate social responsibility, socially responsible marketing, Uniqua*

### **1. INTRODUCTION**

In the era of globalization, planet Earth became a place where the quality of life drastically dropped- every day we can be convinced of this statement considering climate change, the construction of large production plants, and the ever – increasing loss of communication between people. However, thanks to the awareness-raising of the population, it began to look differently on the company's business policy. Realizing the need of a man for a healthy lifestyle and a healthy environment, companies have begun to adapt their business to the „social environment“. In this way, a healthy environment is created, companies succeed in replacing pollution through actions that protect the environment and society. In this way, a positive impression is gained about the company's operations and improves their position on the market. The paper presents the socially responsible business of Uniqua in the territory of the Republic of Serbia. Uniqua is one of the largest insurance companies in Central Eastern Europe. By being in direct contact with consumers, the company has opted for a CSR strategy. In this way, consumers identify themselves with the company and consider themselves to contribute to such a way of doing business. However, there are still companies that do not apply this kind of a business, considering it to be an unnecessary waste of funds. The aim of this paper is to raise awareness of the whole society about the care for the future of the planet earth and society.

## **2. DEFINING THE CONCEPT OF CORPORATE SOCIAL RESPONSIBILITY**

The issue of corporate social responsibility began to arise due to the global expansion of the industrialization process. At the very beginning of the industrialization process, the focus was on increasing the productivity and efficiency of companies operations. The development of the process took place very quickly, the companies recorded an extremely high growth and development rate, which brought large cash inflows to the owners. However, nobody asked the question of what is sacrificed for the growth and development of large global giants. Mullerat & Brennan (2011) point out that corporate social responsibility is the concept by which organizations choose to respect and protect the interests of a wide range of stakeholders by maintaining a clean environment and a better society through interaction with all these elements. From this definition it is clearly seen that the companies have to start to apply „healthier business“ due to the acquisition of big capital and the focus of the natural environment. According to Ionescu & Udrea (2007) corporate social responsibility aims to integrate voluntarily the social and ecological problems of companies into their business activities in interaction with different relevant business groups. Awareness that companies should integrate into their daily business activities and sociological problems moves the flow of big corporations to the preservation of the social needs of man. The European Commission (2011) also addressed this issue defining social responsibility as concept applied to companies in order to integrate social and environmental problems voluntarily into their activities with stakeholders. Following these definitions, one could say that corporate social responsibility includes all types and sizes of companies that pays attention to the entire community that is related to their business. Corporate social responsibility is a process that companies apply in interaction with society and involves the development of community inclusion strategies and partnership with social groups (Constantin, 2009, p.68). The goal of socially responsible business is, above all, in the long-term preservation of the society and the social environment. Namely, the focus is not only on the benefits for employees and shareholders, but also for the entire environment in which the company operates. The goal of companies that support CSR is to improve their image on the one hand and, on the other hand, promote joint values management within the organization (Gănescu, 2011, p. 23). Socially responsible business is based on sustainability, which should represent economic development accompanied by improvement of the quality of life of the community. Practice has shown that companies that implement CSR gain significant advantages that are most often expressed through: improving brand image and reputation, increasing sales, productivity and quality, and improving employee relationships. Some authors call corporate social responsibility a corporate social initiative as an activity performed by organizations to support social causes and fulfill corporate social responsibility obligations. (Kotler and Lee, 2005, p.3) These activities of the company aim to increase awareness of the environment through the education of the population.

## **3. SOCIALLY RESPONSIBLE MARKETING**

Marketing has evolved rapidly and adapted to changes over the years, and in the last decade of the 20th century, it is evident that some innovations are introduced into the field of marketing, especially through the application of new technologies. On the other hand, marketing innovations are also linked to social changes (social networks, for example). In order for marketing to achieve its goals, it is necessary to adapt to such changes, and these innovations are related to the level of micro marketing. At the macro level, innovations are reflected in the development of ways and means to analyze the impact of marketing on society as a whole. When it comes to level of macromarketing, innovation is mostly reflected in changing marketing thoughts, because, as it is thought, the original marketing concept was not in line with long-term sustainable development, and the gradual solution of the economic, social and

ecological consequences of a system based on a continuous economic growth and consumption. (Stankovic et al, 2012, p.182) Therefore, the concept of responsible marketing is emerging. „The concept of social marketing includes the definition and implementation of a marketing strategy, as well as plans and programs that derive from it in order to achieve the goals of business, consumers and other partners in line with ethical, legal, environmental, social and other principled fair business.“ (Stankovic et al, 2012, p.182) In the last few years, in the literature, it is possible to find sustainable marketing, which according to its content and coverage corresponds to the term socially responsible marketing. Given that the understanding of the limitations of economic progress leads to the development of marketing approaches that are focused on environmental protection, the emergence of ecological, environmental and green marketing was inevitable. It is clear that the starting point of these three approaches is nature, that is, the natural environment, occurring in the 1970s, when their focus was on the environment, and the main problem highlighted was the irrational consumption of non-renewable or slow-moving natural resources, and disturbance environment and its pollution by the manufacturing and process industries. „When defining green marketing, the topics related to the natural environment were considered more than social and economic, and insisted that 'there is no economy if there is no planet'.“ (Stankovic et al, 2012, p.183). Due to this way of thinking and respecting these goals, many authors emphasize the need to develop eco-marketing. This marketing orientation is defined as „the response to the increased pressure from the international community with the tendency to fulfill more fully the long-term requirements of social responsibility in relation to all aspects of society, including the global ecosystem.“ (Miles M. & Munilla I, 1995, p.23-37) Therefore, not only does green marketing need to be backbone of business ethics, but it is also necessary for companies to develop initiatives for their marketing plans that are in line with environmental principles. Such initiatives can be seen in a range of environmental, product development, consumer behavior research, retailer and local community support programs, marketing communication that focus on responsible production and consumption, etc. Some authors consider that there are three types of environmental marketing: green marketing, demarketing, and societal issues marketing. (Mackoy R. D et al, 1995, p.34-38). „They explain that environmental marketing has emerged as a tendency to 'console' the concepts of mass consumption and environmental protection, and that this kind of marketing also encourages consumer spending and ecological behavior.“ (Stankovic et al, 2012, p.183) Although the concept of green marketing was initially viewed as the promotion of product that do not damage the environment, it soon became clear that such an understanding is quite narrow, and that green marketing, in addition to this, included all marketing mix instruments. The term green marketing was used extensively in the 80s and 90s of the 20th century, and Polonsky defined it: „it consists of all activities designed to create and facilitate exchanges designed to meet the needs and desires of people, so that this satisfaction occurs with minimal negative impact on the environment.“ (Polonsky M. J, 1995, p.199-225) Sustainable marketing is an approach to marketing that promotes sustainable development and the protection of ecosystems. (Shet J. & Pravatiyar A, 1995, p.8-12) Sustainable marketing is through to require a complete customization of the marketing mix – from the physical product and its features to communication with consumers, and each marketing manager should consider the impact on the life environment from all aspects, from the production process, through distribution to the disposal of the used product. „All environmental impact assessments, it is necessary to identify positive reactions of environmentally conscious consumers, marketing channels, various groups and organizations involved in this field, the media and other stakeholders“ (Stankovic et al, 2012, p.184). The emergence and development of these marketing concepts, as well as the sustainable marketing, represent changes of great importance in the marketing approach, and transformation from traditional to holistic marketing.

Marketing managers must take decisions about various areas, whereby these decisions need to be harmonized and not necessarily introduce an integral perspective. In response to these challenges, the approach of holistic marketing is defined. This approach implies „the creation and implementation of marketing, processes and programs in a way that reflects the breadth and interdependence of their effects.“ (Keller K, & Kotler P, 2006, p.300-301). Consequently, the holistic marketing concept includes integrated, internal, relational and socially responsible marketing (Stankovic et al, 2012, p.184). As a component of holistic marketing, socially responsible marketing incorporates economic, ethical, environmental and legal principles into the company's business. It implies consideration of marketing programs and activities, taking into accounts that the cause and consequences of marketing are spreading to society as a whole (Kotler&Keller, 2006, p.22). Under social responsibility, it is also understood that employees in the marketing sector consider their role in improving social well-being. The goal of the company in this regard would be to determine the interests, needs and desires of the target groups, and to satisfy them in a more efficient way in relation to competition, while honoring and improving the welfare of consumers and society as a whole. Thus, the challenges of socially responsible marketing relate to the alignment of often conflicting goals – making profits and meeting the interest of community while preserving and improving the environment (Stankovic et al, 2012, p.184). Due to the growing vulnerability and exploitation of natural resources, but also the demands of consumers, socially responsible behavior of companies becomes a necessity, and consequently marketing strategies must be aligned with it. Looking at trends in the environment, companies will increasingly be forced to adapt the strategies they use to socially responsible business. Today, socially responsible marketing is happening in almost all major companies, and for its success it is of great importance for managers to understand the importance of socially responsible business, because it is moral activity both, for companies and for employees in it.

#### **4. INSURANCE COMPANIES IN THE REPUBLIC OF SERBIA**

After major political changes in early 2000, there were changes in the economy in Serbia, that is, transition from a politically dictated economy to a classical market economy. Serbia's entry to transition was marked by major institutional reforms imposed by international financial organizations. Changes have already diminished in the beginning due to the activity of strong political populism, as well as due to the fact that the reforms are causing the system invariants, who were carefully nurtured by the previous political authorities before the beginning of the transitional process and practically were not modernized (Ostojić, 2004, p. 77-98). The banking and the finance sector in the big depression in which Serbia was located was especially sluggish, and the need for reforms was extremely high. The beginning of the reform process was related to the introduction of reforms in monetary and fiscal system, which was followed by the economic stabilization of the country. However, the reforms did not include all the activities, because the reform was avoided by the insurance sector that began with the changes by the adoption of the Insurance Act in 2004. It should not be surprising, since the experience of other transition countries shows that the least in the reform process has moved into the regulation and control of the banking and financial system (Zakon o osiguranju, Službeni glasnik RS, br. 55/04). This statement shows the practice of reforms in Serbia, which envisaged that reforms in these sectors would be completed in early 2003 when privatization of banks would be carried out. However, the forecasts were postponed after the privatization of banks and the entire financial sector, including the reform of insurance companies, failed. In these periods, insurance companies in the territory of Serbia did not function as independent financial institutions, but rather served as an instrument of political leadership for collecting household savings in order to achieve short-term political interests. Consequently, the trust of the clients in insurance companies is lost, primarily „due to the impossibility of collecting insurance fees, as well as due

to the experience in the process of collecting insurance benefits, when they are driven by perennial financially exhausting for the insured and ultimately uncertain legal disputes, but also due to accumulated losses in the capitalized insurance companies that have been revoked the license for which the losses are recovered from the liquidation mess and from the funds of the Guarantee Fund which exceeded 4 billion dinars at the end of 2003“ (Cerović, p. 188-203). Pressure driven business has brought great losses to state-owned and socially-owned insurance companies while newly founded companies have made great profits for owners, founders and affiliates. The problems faced by insurance companies in Serbia considering the situation at that time, clearly indicated that:

- They can not adequately protect the insured in cases when they conclude an insurance contract;
- They do not pay the insurance fees
- Increase mistrust as non-deposit financial institutions for citizens and business;
- Poorly manage insurance risks
- Have a poorly diversified insurance structure, neglected private life, health and pension insurance (Ostojić, 2004, p. 77-98).

## **5. CORPORATE POLICY OF UNIQA**

UNIQA is Austrian insurance company operating in accordance with European Union standards. As the main advantages of its business, the company points out the tradition, knowledge and experience acquired during the 200 years of operation in Austria and throughout Europe, constantly improving and working with the future vision (Corporate policy of UNIQA). The market is viewed from the perspective of consumers and satisfaction their needs and demands. The development of the business process is moving towards the development of new trends, with a special focus on innovation in product and services. In the territory of the Republic of Serbia, the company has been operating since 2008, where it has become a significant market participant in the insurance sector. Quality in carrying out insurance activities contributed to the positioning of the company at the very top in the fields of life and non-life insurance and the conquest of a large number of consumers, more than half a million. Customer focus and maintaining high connectivity with them was an extremely important factor in market conquest. The company emphasized among the main factors of market success: customer relationship, service and established standards as a guarantee of individual support, technical expertise as a basis for managing individual risks, communication and social skills, creativity in responding to individual needs and requirements, continuous support to employees and their professional development (corporate policy of UNIQA). Linking with clients is a very important item that most companies often omit. Some companies place their product on the market in order to achieve good business results, while not paying attention to consumer satisfaction. However, each large company will pay special attention to each consumer, by continuously communicating and maintaining an inextricable link. The difference between the first and second examples of companies tells us about business success. The first type of company on the market has a short-term effects, that is, its consumers do not maintain loyalty, while the second type of company the sales and the products develop in harmony with the needs of consumers who become loyal. It is precisely the other way of doing business that UNIQA has maintained at a high market share, which is constantly increasing. UNIQA's goal is to continuously increase its market activity in Central and Eastern Europe and become a leader in insurance business. The company's strategy for Central and Eastern Europe is:

- Strengthening the position on the market through further internationalization;
- Continuation of competitiveness through privileged partnerships with Raiffeisen Bank Group in Eastern and Southeastern Europe;
- Financial security for clients through efficient and economical business;

- Strengthening the brand through a unique presence in the European market (Unified Brand Strategy);
- Respecting clients as equal partners
- Optimal cooperation with sales partners through the establishment of support services that focus on services. (Corporate policy of UNIQA)

In the continuation of corporate policy for the Republic of Serbia, UNIQA points out that it is a very important part of the business along with the market and responsibility towards society. Responsibility is viewed through a series of positive values in society, with a special emphasis on future generations. With this, the company clearly points out that it wants to leave a very positive trace in society and to inform the public of the importance of preserving a healthy social environment. This puts a long-term strategy, as it will precisely in long-term period of the future generation will be the bearers of the growth and development of the company. Among other things, a large part of socially responsible business is implemented through „environmental care and development and application of clean technologies in business.“ (Corporate policy of UNIQA)

## **6. SOCIAL RESPONSIBLE BUSINESS OPERATIONS OF UNIQA**

Insurance companies in the focus of its operations put consumers and wishes and needs of man for the realization of quality life. Consequently, the business of such companies should be oriented towards social responsibility. UNIQA's business strategy focused on the Central and Eastern Europe, which in time became the leading insurance group. The company's philosophy of business was directed by satisfying the needs of society, i.e. application of society responsible business. Since the beginning of its business in the Republic of Serbia (2006.) UNIQA has been carrying out activities that enabled it to be recognized as a socially responsible company and as a new generation of insurance (Lideri društvene odgovornosti, 2010, p. 108-112). The socially responsible activities of the observed company are the most visible through the sponsorship contracts in sports and culture, but the company puts its employees and their opportunities for learning, working and developing the family in the forefront. In addition, UNIQA also supported the project of the European Movement through which more than 300 best students from the Republic of Serbia had the opportunity to visit European countries and get acquainted with different cultures. A tour of Europe was also provided to young people without parental care through the project „Europe for all“ of the Ministry of Economic Relations with Foreign Countries. When it officially opened a new office building in Belgrade (Novi Beograd), UNIQA company has redecorated all the surrounding area, where there are playgrounds and residential buildings, thus creating a better environment for society. Also, the promotion of UNIQA insurance in the Republic of Serbia includes Aleksandar Djordjevic, who is particularly active in socially responsible activities. With its actions, the company shows society a concern for future generations and the preservation of environment. The projects do not go only in the direction of education, as well as the action of renewal of sports fields in the municipality of Novi Beograd and promotion of healthy lifestyle and sports. All sportsmen in the territory of Novi Beograd municipality have been given the opportunity to engage in sports activities on renovated terrains. That the company takes care of all social situations is also saying actions that help children without parental care and young who arrive to the shelter as victims of abandonment, violence, neglect trafficking or abuse (Lideri društvene odgovornosti, 2010, p. 108-112). However, this problem is insufficiently covered because the company has set aside a smaller the number of resources than needed. Namely, the capacity of the institution that UNIQA has built has 16 beds, which is insufficient to accommodate all those in need. In order for the action to help everyone in need, it is necessary for other companies to be involved and through their contribution they increase the number of those who are being treated.

## 7. CONCLUSION

The fact is that modern world is facing numerous challenges, and that one of the biggest is sustainable development. We are witnessing continuous pollution, climate change, extinction of species. For this reason, socially responsible business and socially responsible marketing have great significance for sustainability. UNIQA company is very dedicated to accessing socially responsible business. This commitment is reflected in a number of projects that have been implemented, not only in terms of the environment, but also about education and sports – social needs. It is a company whose activity is insurance, socially responsible business is a highly desirable move, and it can be said that UNIQA is a true representative of this type of a business. The company's socially responsible operations contribute to the community and the environment, employees are directed to broaden their thinking and act in accordance with the principles of sustainability. The essence of sustainable development is not only in preserving the environment, but also leaving Planet in the best possible condition for future generations. Thus, sustainable development is a reflection of the present, but also of the future and the development of awareness of not only a number of ecological problems, but also about challenges that society today faces inevitably.

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## VARIETY ANALYSIS OF INTERCULTURAL COMMUNICATION IN INTERNATIONAL NEGOTIATION

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### ABSTRACT

*Negotiation is always present in our lives, and according to some it is one of the skills necessary for survival in the business world. Today's managers spend half of their working time communicating with others. This paper analyzes the international negotiations and its importance in the development of international relations with other companies, managers, and customers. The work is dedicated to intercultural communication in multinational companies. The paper starts from the influence of culture on intercultural communication (importance values, the impact of needs, attitudes and norms, as well as differences in the cultures of East and West, cultures of high and low context). Cultural differences and subculture which have crucial importance to intercultural communication are analyzed in particular. Then we look at the importance, process and obstacles of intercultural communication in the example case studies which show up in this area of work. In this section, we approach of verbal and nonverbal communication and intercultural competence necessary for this type of communication. Barriers in intercultural communication exist in multinational companies and are possible causes of why there are difficulties in intercultural communication or inability to achieve the same. This work can help to develop the mentioned area by showing intercultural communication in multinational companies through theory and practice. In addition, there are presented the ideas that can improve this form of communication. Multinational companies are present in our country, so this work does not deal with future trends, but real working conditions. It can be an important resource for all interested in this field. This indicates that this area has the potential to progress and that this work can be the basis for future studies of intercultural communication.*

**Keywords:** *international negotiation, intercultural communication, multinational companies, the impact of culture*

### 1. INTRODUCTION

Negotiation is a process in which two or more persons discuss common or conflicting interests with a view to reach an agreement from which both sides will benefit.<sup>1</sup> The goal of any negotiation is to find a solution of the conflict. This solution can be good for all negotiating parties, but often this is not the case, in most cases one party gets more than the other. Negotiation is the process by which the negotiator finds a way to get what he wants from somebody else negotiator who also wants something from him. More recently, negotiation is considered a universal process and as such is applicable in a variety of different living conditions.<sup>2</sup> Actually, negotiating is the everyday phenomenon that people perform without knowing that they are doing just that. Various arrangements with parents, bargain at the market, agreement with the friends about going to the cinema, and a host of similar situations can be

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<sup>1</sup> Harris R., Moran R., Moran S., Managing Cultural Differences: Global leadership strategies for the 21st century (2004).

<sup>2</sup> Tomašević Lišanin, M., Negotiation - A business process that adds value. Zagreb: Faculty of Economics. (2004).

classified into negotiation. The final result of the negotiation is never predetermined and often well-prepared and experienced negotiator can overcome his opponent by using his weapon in achieving his own goals. The result of the negotiations is usually in our own hands and depends on the effort that we invest in the knowledge and preparation of the process itself and in our own growth and development in this area. Key factors that would influence the success of negotiating with difficult negotiators are:

- Clear, achievable goals;
- Preparation and organization of negotiations;
- Process management, people, content and situation;
- Power and authority;
- Culture, personality traits, beliefs;
- Proper use of negotiation techniques;
- Strategies and techniques for establishing relationships with difficult people.<sup>3</sup>

Power is a very important component of the negotiations, because it gives one side an advantage over the other side. Various tactics used by negotiators are either aimed at increasing their power or reducing the power of the opposing party. In game theory, one of the tactics for gaining advantage is strategic moves. The negotiator does not have to possess the power completely, but it should look like he has it and can use it whenever he wants. In any occasion the most power will be the one that receives the most or at least loses at the ending of the process. If we observe many sales definitions, we can draw the conclusion that the sale is an essential process of recognizing needs or desire for purchase with a potential customer. Another perceptive view of sales and negotiation is that "selling is persuasion of potential buyers to buy a product / service, while negotiating is an agreement about the terms under which the sale will take place" (Hazeldine, 2008). Customers will make a purchase decision even if it is not financially appropriate from their perspective, if they get some other benefits in return. These intangible benefits to the customer can be provided in an adequate manner through negotiations.

## **2. INTERCULTURAL COMMUNICATION**

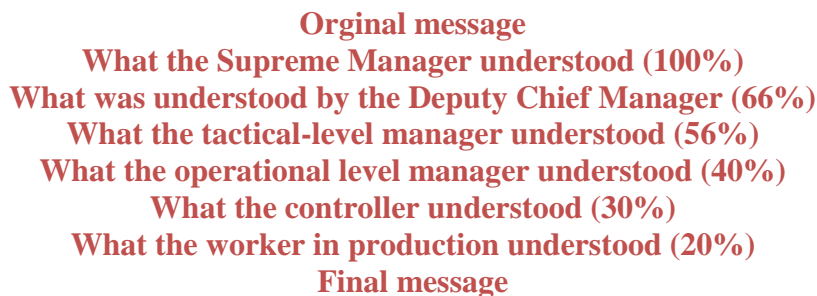
Without communication, it would be difficult - if not impossible - to lead any business. Thanks to globalization and the usage of new technologies, business boundaries are being erased. Contact is made up of people of different backgrounds: geographical, cultural, historical. People from different cultures think differently about the same things. This is especially true in the business world and in the work environment. Someone's ability to speak different languages does not mean that he can look at things in the way that people who belong to other cultures do.<sup>4</sup> By having significant differences in knowledge, even the same message can be interpreted differently by different individuals. This can cause problems in any situation when there is a contact between them. This is unsuccessful communication. One of the possible conditions of unsuccessful intercultural communication is the fact that 80% of the top manager's message is lost due to the departure from top to bottom of the communication hierarchy.

*Figure following on the next page*

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<sup>3</sup> Šarenac, R, Negotiation and Negotiating Skills ., Podgorica: Studio Mouse, (2006).

<sup>4</sup> Dobrijević, G., Business Communication in a Global Environment, Belgrade, Singidunum University, (2009).



*Figure 1. Levels of understanding in the transmission of information through the organization  
 According to: (Kostic-Stankovic, 2011.)*

## **2.1. Intercultural communication in multinational companies**

Based on interviews with employees in multinational companies Nokia Siemens Network, Microsoft Serbia and Bank BNP PARIBAS, this paper shows how many multinational companies in the real working environment attach importance to intercultural communications.

### *2.1.1. Nokia Siemens Network*

Duška Gajić works for the multinational company Nokia Siemens Network as a financial controller of the project. According to her, it is possible to work in a team where are people of different backgrounds and when communicating they are using the English language. E-mail, telephone and teleconferencing are just some of the communication channels that employees in this company use. She thinks that there are no crucial cultural differences because her colleagues are from Europe. From her experience, there are fewer problems in cooperation with colleagues, but they are more likely to result from the personality of colleagues, and less related to ethnic affiliation, although, in her words, it would certainly have been easier for some people to cooperate with people from Serbia in some situations. Also, she thinks it's interesting to work with people from other countries, seeing their ways of thinking, looking at things both professionally and privately. Nokia Siemens Network promotes its intercultural values and insists on it, and an example that this is really happening is significant fluctuation of people within a project-based company in foreign countries.<sup>5</sup>

### *2.1.2. Microsoft Serbia*

Milica Pejović works in multinational company Microsoft, in the position of marketing specialists. She believes that this company uses intercultural communications every day because it employs people of different cultural background who are able to cooperate in the implementation of large, global projects. She says there is no difference in cooperation with people of different backgrounds compared to people from Serbia. The common language used in intercultural communication is English. E-mail, communicator, messenger and phone are some of the communication channels that are used when you are working in a multinational team. The only disadvantage in working with people of different backgrounds is a different time zone, so online meetings are difficult to schedule. Microsoft Serbia believes that usage of intercultural communication is its advantage.

### *2.1.3. BNP PARIBAS Bank, Branch Office BP2S (BNP PARIBAS Security Services)*

Jelena Zrnić works at the BNP PARIBAS bank that operates globally. As a software developer in this company, he is able to work daily with people of different backgrounds. This company uses English and French. Phone, e-mail, Intranet, live communication are just some of the ways how employees communicate. The biggest obstacle in communicating with people of different backgrounds, according to her words, is the different perceptions among people and

<sup>5</sup> Dobrijević, G., Business Communication in a Global Environment, Belgrade, Singidunum University, 2009.

understanding the same thing in different ways. Also, the language can be an obstacle, it is difficult to understand the different accents of a language, if people are not used to listening them, especially communication by phone is difficult because we can not see callers and their facial expressions, mimics, can not be "read from the lips". The time difference can be an obstacle, also holidays and non-working days in one country, while in other countries these days are working.

### **3. DETERMINATION OF DIFFERENT CULTURES IN THE CONTEXT OF SUCCESSFUL INTERCULTURAL COMMUNICATION**

Successful intercultural understanding is based on recognizing the way in which two cultures resemble each other, as well as the way in which they differ. Comparison of the two cultures will provide a basis for a better understanding of people from other cultural backgrounds. The Chinese have a rather complex structure of names that depends on the situation and relationship. They have school names, intimate and family names, names for babies, each of is used only with people with whom a person has a certain relationship. The American practice that children calling their parents by name would be unpleasant for most Chinese. It would be considered very unkind in China. Chinese names always consist of two words. Names that consist of one word are used only between lovers or between husband and wife. In Western countries, children often take the names of their parents or grandparents, while in China it is forbidden. In the West, women should change their family surnames in the family name of their husbands after marrying, such as Mrs. Brown, which means a woman married to Mr. Brown. While "Miss Brown" is a woman whose family name is Brown. "Mrs. Brown" and "Miss Brown" are definitely different, so a mistake in relation to the surname will be considered like unkindness. This mistake is especially evident in business communication when individuals tell "mrs", instead "miss". In China today, married women retain their surnames. Necessity of knowing the opponents' culture, behavior, emotions' expression, ways of thinking, are just one of the basic characteristics that the negotiator needs to identify as the starting point for starting negotiations at the international level. Intercultural competence is the ability:

- Establishment of satisfactory interaction and communication with people of another culture.
- Using intercultural attitudes, knowledge and skills in order to better understand and respect different cultures.
- Education of effective behavior in other cultures - intercultural sensitivity.<sup>6</sup>

Differences between negotiator cultures can interfere with negotiations in many ways. First, they lead to misunderstanding in communication. For example, in Japan, "hai" means "yes", but in the sense of listening and understanding the interlocutors, but not agreeing with it. When the Japanese refuse to say clearly yes or no, they mostly mean that they want to say no, because open rejection is offensive for them. During negotiation they use silence, touch and stare at the opponent most. This is non-verbal signs.<sup>7</sup> Negotiators use different tactics. Also, they sometimes try to deliberately confuse "opponents", for example, giving wrong or incomplete information, or by bringing the other side into stressful situations - too warm or too cold room, too much light, rude intrusions, etc. There are great differences in understanding the suitability of a business conversation. For example, while for some cultures it is usual to make deals during a golf tournament or during lunch, Brazilian and Mexican managers consider that for serious business conversation there is not a place on a table. Then, for some culture, the silence at the meeting is unacceptable and requires immediate response to the asked question, while in Japan, silence is usual and they use it to think carefully.

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<sup>6</sup> Byram, M., International Negotiation, 1th Edition, Mason, Ohio, (1997)

<sup>7</sup> Graham, J. L., "The Influence of Culture on the Process of Business Negotiations: An Exploratory Study", Journal of International Business Studies, Spring85, Vol. 16, Issue 1, (1985)

Because of that, it happens that, for example, the Americans try to fill silence by repeating or explaining, while the Japanese feel as if they are bombarding with questions. On the other hand, Latin American cultures respond to the question as soon as they understand what's the matter, although the other side has not yet finished its presentation. Culture also affects on the form and content of the work you are trying to make. For example, when Mc Donald's began to do business in Asia, he thought he was not only selling hamburgers, but the "American experience". That's why they did not want to change their usual menu. After a persistent insistence of a Thai McDonald's restaurant, they agreed to include traditional noodles as well. As a result, sales in Thailand have increased.<sup>8</sup> Personal style refers to the way a negotiator talks to others, uses knowledge, speaks, and behaves towards other people. For Americans or Spaniards, naming by name is a sign of friendship and, therefore, is positive in the negotiations, while for the Japanese and the Egyptians this is a sign of disrespect. We have already mentioned earlier that cultures differ according to the perception of time. The Germans are always correct, Latino Americans are usually late, the Japanese negotiate slowly, and Americans quickly doing business. Some cultures (eg Brazilians, Chinese, Mexicans) give preference to organizing negotiating teams with a leader who has the authority to decide on all issues, while others, especially the Japanese, emphasize team negotiations and decision-making through consent. These teams usually need more time to negotiate a job. There are significant differences about acceptance risk between cultures. While the French and the British are disposed to accept the risk, the Japanese, with the need for a large amount of information and with the complicated way of making a group decision, do not like to risk negotiation.

#### **4. COMPARATIVE OVERVIEW OF BUSINESS CULTURES, PARTICIPATION OF INTERCULTURAL COMPETENCE AND CHARACTERISTICS OF NEGOTIATING STYLES**

It is necessary to define and emphasize what are the main features of business bonton and negotiating style in some countries of Europe and the world, as well as from our immediate environment. These characteristics and comparisons should be viewed exclusively as general guidelines rather than as business directions.

##### **4.1. Europe**

In the case of negotiating with the British in a negotiating team, it is also good to appoint an experienced member, because senior negotiators are better accepted in Britain. Humor is expected at all levels and in all occasions. However, we should emphasize that British humor is specific and often incomprehensible to other cultures. They should be referred as "the British" rather than "the English", and they must be addressed with titles. Shortly after the start of the negotiations, they remove their jackets, fold their sleeves and switch to naming the name. The British rarely show an open disagreement with the proposals of the opposite side. Pay attention to the hidden signs of disagreement, e.g. "Well, we really like this, but ...", indefinite answers, humor or a mild disagreement like, for example, "It could be a little awkward." In this way, they delay, confuse the opponent or postpone the decision. They always have a "plan B" that they hide as long as possible and usually think that strangers want to outsmart them. Germans for example are very accurate and precise and plan ahead for all the activities. They are formal in mutual relations and are mostly named Mrs / Mr and by surname. Their education and work skills are important to them. Meetings are scheduled with predefined topics. The delay of 5 to 10 minutes is considered to be very non-cultural in Germany, while 15 minutes has already been offended by the host. In communication, the Germans are honest, open, direct and often loud. The truth comes before diplomacy. Many strangers are surprised by German honesty and directness, and mostly do not have a taboo theme.

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<sup>8</sup> Salakjuz, J., World Negotiator, FEFA Belgrade, (2006)

The arguments they make are logical and well thought out. Carefully listen to the interlocutors and want to get as much information as possible. At least three meetings are necessary for an agreement with the Greeks, for example. At the first meeting, it is important getting to know all the information about potential business partners, on the other meeting, trust and mutual relations are developing, and on the third begins the job. It is very important to develop good relationships with business partners. Greeks prefer to go to meetings personally instead of communicating by telephone or in writing. They pay attention to the years and the hierarchical position of the people in the company, so the meeting will be dominated by top officials, as well as in other Mediterranean countries. The decision is made by the top company. They are serious negotiators and do not give much concessions. Meetings in Italy are often without solid structure and informal. In most cases, the decision will not be made immediately during the meeting, but will be announced after thinking and calculations, which sometimes takes several months. Italian negotiators are friendly, talkative and quite flexible. They like to talk about family, vacation, hopes, expectations, preferences, etc. In some instances they can become too emotional.

#### **4.2. USA (United States of America)**

According to American authors, their business philosophy is simple. Their goal is to earn as much money as possible, with the help of hard work, good opportunities and their own power, as well as the power of money they have. Their business decisions are usually not affected by emotions. They have a good feeling for the time and are accurate when comes to the appointment. They express their position more clearly. They take a firm stand at the start of the negotiations, they know when to make compromises and refuse to make concessions in advance. Respect the rival. Americans take risks, but they always have in mind the definitive financial plan they are holding. The countries of South America are quite similar in their cultural heritage. Spanish and Portuguese are close enough that people could interact with each other on the continent. The deadlines are flexible, and "mañana" except "tomorrow" can mean "not today, later". In Colombia, there is even a word (which can not be translated into Serbian) "ahorita", a shortcut from a word that means "now" and is used when you want to tell someone that you do not need to hurry and have time to do something later. Latinoamericans are group-oriented towards family and friends, but when it comes to work, then they are individualists. It is common to ask about business partners health and about their families. Mexicans are kind and listen to interlocutors, always ready to learn something new from people of other nationalities. Mexicans don't stick to the agenda of the meeting and feel they can talk about individual issues at their earliest moments. They are more interested in long-term business relationships than the current profits. At the meeting with the Argentinians, a lot of introductory non-compulsory talks are expected. The initial bids that they offer often do not have much to do with the realistic solutions that come later, and part of the process is a prolonged hacking. They are often very convincing.

#### **4.3. Middle East and Arab countries**

The Arabs are highly valued by relationships among people, by honoring and preserving their faces. Setting deadlines is considered non-cultural, and jobs will be done once "when it is Allah's will". The Arabs pay great attention to hospitality, they are very polite with business partners and they are trying to show themselves as good hosts. The Arab mediator protects the honor, self-respect and dignity of all sides, avoids direct confrontation of attitudes and resists any pressure. He keeps the secrets of those in whom he has been negotiating and controls temper and emotion. In order to engage in a job, the Turks, for example, must have a clear picture of future co-operation. The process of making important decisions is quite slow. In negotiations they often give extreme demands to check negotiator status and its level of decision-making

authority. It is unacceptable to use pressure and set deadlines, otherwise they will be stopped by terminating negotiations and canceling the job. Touches, kisses and hugs are very common in communication among the Israelis, at all social levels. Although they consider themselves to be very accurate, the times are much more flexible than e.g. Americans. However, meetings must be scheduled in advance, and people are not late. The Israelis talk a lot, they are direct in speech and they like to say their opinion. Because of their impatience they are not the best listener. They do not like to waste time on theories, but they deal with practical issues. They are persistent when negotiating about pricing and other conditions, but avoid making them unreasonable.

#### **4.4. Asia**

China is the country with the fastest economic growth in the world, and it's no wonder that the entire shelves of major bookshops in the West are covered with a lot of books about how to do business in China and how to negotiate with the Chinese. Business with the Chinese requires long-term commitment. Companies that hope for quick profits will be disappointed. Personal connections are important. Companies that want to be successful must get to know the right people and convince them about helping in business. The basis of all Chinese companies are "guanxi-links" - a network of relationships that the Chinese cherish through long-standing friendships. They are based on reciprocal services and gifts that ensure the performance of any business. In Japanese culture, there are differences between people. Gender roles in society are clearly divided, men are rough and oriented towards acquiring material wealth while women are modest, gentle and oriented towards a better quality of life. In communication, the Japanese do not like touching and immediately apologize to someone if they accidentally touch him in a crowd. They are very accurate and often come to meetings 15-20 minutes earlier. For the Japanese negotiator, the most important thing is keeping the honor and maintaining civility. They reject to say "no" directly. They will never openly reject any offer, but if they do not want to enter into a deal with a foreign partner, the person who contacted the company will simply become inaccessible (sick, on vacation, funeral, etc.). Governance in India is often autocratic, based on formal authority and charisma. The position is more important than expertise, and nepotism (employment of relatives and close friends) is common, both at the lowest and the highest level. They do not accept violence, do not insult, they are modest and believe in a rival. They are willing to change their minds, although this could be interpreted as a weakness. In the negotiations, they want solutions that will suit everyone.

#### **4.5. Australia and New Zealand**

Australia is a relatively classless society and generally there are no strict rules nor in mutual communication. In their society, everybody are treated equally, regardless of wealth, education or the place they come from. They do not like bragging, and especially not unraveling with academic titles. It's more important for a person to show what he or she can do. On the other hand, New Zealanders are more conservative and more reserved. While Australians are more oriented toward the price, New Zealanders are interested in quality.

#### **4.6. Africa**

African peoples have a unique understanding of their personal space. They often touching, and handle all the time while they are talking. In communication, they use eyes and facial expressions quite a lot. Their love of rhythm and music can be seen in rich non-verbal communication. They don't have a good sense of time or accuracy. They do not adhere to the agenda, but they discuss issues related to their importance. Important issues are discussed quite a lot, with frequent repetition, until older people choose to switch to another question. The offer must be given to the buyer, so that the seller does not become embarrassed.

South Africa is a multicultural combination of British, Dutch and Indian immigrants and indigenous black populations. They use seven different languages. Hacking and pricing is a common part of the negotiations. They come well prepared at the meetings and usually have some "ankle in the sleeve". They know of other African cultures and accept that bribes are the usual way to achieve the goal.

## **5. CONSULTATION OF INTERCULTURAL TRAINING**

Many subcultures often exist in many countries. Every culture consists of smaller subcultures, which provide their members specific identification and socialization. Subcultures refer to nationality, religion, racial groups and geographical regions.<sup>9</sup> If a manager interacts with members of a subculture, he will have to accept their differences. Immigrants of Islamic religion in Canada still maintain their cultural heritage and believe in the importance of wearing turbans. The Canadian royal horsemen - the Canadian famous Mounties – has noted that it was necessary to accept this cultural custom in order to integrate this cultural community into their organization. Indigenous Malaysians and Chinese in Malaysia are described as absolute contradictions, which have different values and it can lead to conflict at work. This is partly due to conflicting religious customs - the Malaysians, mostly Muslims, while the Chinese are Confucianistic and Buddhist, and partly because of attitudes toward work - Malays are known as carefree and labor in the arts of life, and the Chinese are described as worried people who are engaged in advancement and work is the central part of their life. In multinational companies where Chinese and Malays are working together, this is of crucial importance. If a manager working in such a company would not know the peculiarities of these two cultures, he could not manage workers from these two countries. Also, he could not create a team where the Chinese and Malay would work together.

### **5.1. Case study: Segmentation of the market for individual cultures**

Hispanic Americans are the fastest growing minority; it is expected to represent a quarter of the US population by 2050, and will soon become the nation's largest minority. It is already now equal to the population of Canada. The purchasing power of Hispanic Americans in 2002 amounted to \$ 646 billion (the total consumption of white Americans was \$ 3 trillion). "Hispanic Americans" include a variety of nationalities, including Cubans, Mexicans, Puerto Ricans, Dominicans, and other groups from Central and South America. "Nickelodeon" has achieved great success by creating a "Pan Latina" figure - Dora the explorer who likes the growing number of pre-school children from all of these groups. The character is bilingual and has the attributes of different hepatocultural cultures. Dora's authors contacted a team of consultants originating in Latin America. Because of this, children can see Dora at the Andes with a pet or frog that is significant in the folklore of Puerto Rico. The research paid off; this is the most watched show on commercial television intended for preschool children, not just among Hispanic Americans but amongst its children. Americans of Asian origin tend to prefer more than other minority groups to the brand, but are least loyal to specific brands. Compared with other minority groups, they also take more account of the opinions of others (for example, will their neighbors agree with the choice). All of these examples indicate the importance of adapting to changed business conditions.

## **6. CONCLUSION**

Negotiation is a everyday phenomenon and good negotiators know how to create an advantage in negotiating, or how to increase negotiating power for themselves. When negotiating, it is most important to prepare well for the negotiation process itself. It is important to examine your opponent well and find ways to negotiate the negotiator's best response, and this can be achieved

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<sup>9</sup> Kotler, P., Keller, K., Marketing Management: International Edition, Pearson Education, Limited, 2008.



by applying strategic moves. Managing intercultural communication in multinational companies can contribute to the achievement of comparative advantages and the realization of the global goals of a multinational company, if managers are applied interculturally, competent and trained. The advantage that employees have on working in multinational companies to properly manage intercultural communication is sharing experiences gained from previous projects in other countries, pointing to a different perspective, sharing information, advice and suggestions. Preparing for negotiations does not mean only an adequate choice of strategy and tactics, but the negotiator must also have all the necessary information from the area under negotiation. For example, if negotiating with the Italian pharmaceutical company, although not professionally dealing with this area, the negotiator must be informed of all the details of the deal being negotiated as it must have a lot of information about the business culture in Italy in the field of pharmacy in Italy. He must also know all the legal processes that will arise in the course of a joint venture. The importance of negotiating today is obvious, not only in the field of business, but also in other spheres of life. Without negotiations there is no merger and merger of companies, cooperation between producers, suppliers and sellers, there is no good collective agreement and cooperation between employees and management, etc.

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## THE INVISIBLE AND UNDERESTIMATED CONTRIBUTIONS TO CREATIVE ACHIEVEMENTS

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### ABSTRACT

*Creativity is a highly estimated value and an increasingly present topic in contemporary educational, economic, political and media discourses. It is not only considered as a valuable individual quality, but as an important companies and states competitive asset too. Nowadays, special attention is accorded to creative industries, as they boost national economies. In short, we are surrounded by references to creativity. However, emphasizing and promoting creativity and praising creative talents may conceal from us all the “non-creative” human, material and immaterial factors and resources which support and make possible creative accomplishments. In others words, behind each individual or group creative achievement there are those who provide logistic, organizational, financial, research, social, psychological and other kinds of support. Individuals or teams would not be able to develop and realize their innovative ideas and projects without some or more collaborators whose various talents, skills, competencies and work are embedded in the creative processes and results. The purpose of this paper is not to diminish the outstanding importance of creativeness as an inner special quality, but to present a more comprehensive approach to its manifestation, realization and outcomes. We want to bring to light and acknowledge the invisible and underestimated contributions to creative activities. Although it is good to encourage and promote creativity with all available means, we should avoid turning it into a new imperative, a pressure on each and everyone to demonstrate their creative aptitudes, especially in the educational field. This attitude could provoke feelings of frustration, deficiency and self-depreciation in persons who are not particularly creative, but possess other valuable and useful qualities and skills, such as analytical, logical, practical, organizational, administrative, managerial, and others. Creative achievements as results of highly collaborative processes will be illustrated with the example of creative industries.*

**Keywords:** *Creativity, Collaborative Process, Diverse Contributions, Education, Creative industries*

### 1. INTRODUCTION

Creativity is a highly estimated value and an increasingly present topic in contemporary educational, economic, political and media discourses. It is not only considered as a valuable individual quality, but as an important companies and states competitive asset too. However, emphasizing and promoting creativity and praising creative talents may conceal from us all the “non-creative” human, material and immaterial factors and resources which support and make possible creative accomplishments. In other words, behind each creative individual there are people who provide him/her logistic, organizational, financial, research, social, psychological and other kinds of support. The same applies to teams, larger groups and countries which are recognized for their innovations, creative products and services. The same as talented theatre directors and actors could not realize a play without the help of all the collaborators who operate behind the stage, single subjects or groups would not be able to elaborate and realize their

creative ideas and projects without all the contributors who are not qualified as creative. Talents, skills and competencies of people who contribute to creative processes and results are numerous and various. Affirmative discourses on creativity are certainly needed, especially in the education field, but they could impact negatively on students who do not have a rich imagination and original ideas, but whose other abilities and skills could help others to select, develop and realize their creative ideas. Overemphasizing the value of creativity at the expense of other abilities is not helpful, as it is a quite unbalanced and reductionist view of the whole phenomenon. The aim of this paper is not to diminish the importance of creativity as an individual inner talent, but to show that creative work is a complex collaborative and context dependent process. On an individual level, creative work requires some thinking and personal characteristics other than those which are commonly labelled “creative”; and on a group level, it requires the help of all the associates who do not belong to the category of the so-called “creatives”. Although we are aware of the irreplaceable role of creative talents, we believe that it is equally important to give due recognition to all the contributors who operate in the shadow and whose different skills, knowledge, dedication and work are embedded in the creative processes and achievements.

## **2. MULTILEVELED APPROACH TO CREATIVITY**

The phenomenon of creativity demands a multileveled approach. It can be observed by studying: creative products, creative processes, creative personality, the environment which encourages and supports creativity and the possibilities to educate creativity (Milivojevic, 2011: 29). Accordingly, the American psychologist Yamamoto (1964) divided all definitions of creativity into four categories: 1. Personal features, 2. Creative processes, 3. Interaction between people and their environment and 4. Creative products as materialization of ideas. (Kvascev, 76: 4). The complex, multidimensional phenomenon of creativity includes an inextricable combination of personal cognitive, emotional and conative traits, environmental factors and a dynamic interaction of internal and external components. Shortly, creativity is conditioned by a high development of certain internal capabilities and favorable external stimulation and support. Therefore, if we want to achieve a better understanding of creativity, the interest for creative individuals will not suffice. Although priceless, their contribution is only a part of the chain, one phase of the entire creative process. Their accomplishments are inconceivable without the accumulation of previous knowledge, without the intellectual and social environment which stimulated their thought and without the social mechanisms which recognized and spread their innovations. (Cikzentmihajli, 2006: 14). Nowadays, in the context of the prevailing economic paradigm, the emphasis shifts from individual to organizational and team creativity. “Modern theories of creativity often deal with processes and systems rather than with gifted individuals, which can be considered as a consequence of abandoning the ‘heroic’ or individual models of human behaviour in theories of psychology and management...Within the post-fordist economy, the focus has shifted from individual abilities to social and organizational frames in which individuals work: from ‘know-how’ to ‘know-who’”. (Bilton, 2010: 58).

## **3. BROAD AND NARROW UNDERSTANDING OF CREATIVITY**

One of the most interesting debates regarding creativity derives from two different approaches to the meaning and scope of this term: the broad and narrow one. We’ll begin with the broad understanding of creativity. When you type the words “creativity” and “education” into Google, you’ll come across variations on titles such as: „Study Shows We Are Born Creative Geniuses But The ‘Education’ System Dumbs Us Down“ (Nascimento, 2017) or „Everyone is born creative, but it is educated out of us at school“ (Meng, T.K., 2016). The prevalence and high ranking of such titles in search engines indicate that the belief that creativity is an innate potential of each human being is currently widespread.

But the theories of some famous psychologists show us that we are not dealing with appealing popular opinions only. For example: Guilford (1967) maintained that there is no essential difference in kind between creative imagination and the creation of a tangible product. Winnicott argued in favor of the broadest possible definition of creativity, according to which a house, painting, haircut, symphony or cooking were equal in kind as they all include creativity. He criticized elitism from the standpoint of creativity defined as a universal force, which he identified with Freud's life instinct - eros. (Winnicott, 2005). Abraham Maslow asserted that creativity is a natural potential present in all human beings. According to him, the "The key question isn't 'What fosters creativity?' but 'why in God's name isn't everyone creative?' Where was the human potential lost? How was it crippled? I think therefore a good question might not be why do people create? But why do people not create or innovate? We have got to abandon that sense of amazement in the face of creativity, as if it were a miracle that anybody created anything." (Maslov, 2004:39). Likewise Winnicott, Maslow considered that the healthy or optimal human condition is creativity in all its forms and all domains of life and creation – in perception, behavior, experiencing, communication, teaching and work. (Maslov, 2001: 108). In a sense, there is a quite obvious argument in favor of a broad understanding of creativity: the human intelligence, which is characterized by plasticity, flexibility, capacity to adapt to change, but also to create changes, new products, processes and situations. In other words human intelligence is creative in itself thanks to the structural and functional plasticity of the human brain. However, when we move from the general anthropological perspective down to the individual level, differences become apparent. Regardless of many texts stating that creativity can be taught, there is ample evidence for the influence of genetic factors in certain domains of creativity (Roeling, Willemsen, Boomsma, 2017). Although giftedness does not entail necessarily creativity, creators are talented for the area in which they achieve high results. „Creativity has commonly been thought of either as a set of domain- general skills that can be applied broadly like a special kind of intelligence or as a general personality trait that colors a person's approach to any kind of task or problem, but these ways of thinking about creativity are misleading.“ (Baer, 2016). Beside genetic heritage, there are many other factors whose combination and complex interaction affect creativity and creative results. Having this in mind, the supporters of the narrow approach adopt the definition of creativity as „the ability to realize a product that is both new and adapted to the context...“ (Lubart, 2009:117). As Eysenck thought that "we had to understand that originality was a necessary, but not sufficient condition for creative work." (Ryckman, 2014: 249). These authors consider that creativity involves the ability to realize a product, and this depends on specific conditions within and outside of a person. "Carl Rogers (1954) maintained that 'there must be something observable, some product of creation' in order for us to talk usefully of a creative process having taken place." (Hicks, 1991: 34). Mac Kinnon (1963, 1969) claimed that beside the originality, creativity includes the power of elaboration, adequate evaluation and realization of the idea (Kvascev, 1976: 5-6). Nicholls (1972) stated that general creativity, such as was advocated by Winnicott, is nothing more than "pseudo-creativity" (Lubart, 2009:119). The previous short review of the broad and narrow definitions of creativity is relevant to our main topic insofar as it draws a distinction between creative potentials and creative achievements. Therefore, the focus is on the traits, abilities, factors and resources which contribute to transform the game of imagination into reality, creative concepts into valuable and useful products. The integration of antithetical traits<sup>1</sup> in one person, which is needed for creative production, is not a common occurrence.

<sup>1</sup> Csikszentmihalyi named the conjunction of antithetical traits often present in creative people the „paradoxes of creative personality.“ They contain contradictory extremes; instead of being an ‚individual‘, each of them is a ‚multitude‘. As white color contains all the colors of the color spectrum, they combine in themselves a whole range of human possibilities. (2006: 79). He identified and described 10 such paradoxes (Idem., 82-103).

This fact points out to the importance of collaborative (formal or/and informal) processes.

#### **4. EDUCATION AND CREATIVITY**

Giftedness, talent and creativity represent the highly valued properties of a modern man, which makes them highly desirable international and national educational goals. (Maksić, 2015: 12). Current debates about creativity place emphasis on right brain functions, such as holistic perception, imagination, fantasy (divergent thinking), intuition, artistic sensibility, etc. to the detriment of left brain functions, like analytical and logical reasoning (convergent thinking), computational skills, rationality, etc. This is understandable given that modern Western societies and their educational policies have advocated for too long the rational left brain functions. However, the necessary right brain attributes of creativity, such as originality, vivid imagination, unusual associations, biosociative<sup>2</sup> capacity, intuitive synthesis, etc., are not enough to erect the creative product. Although divergent thinking is the key constituent for creativity, creative production also requires the ability of convergent thinking. First, there are many different ideas (divergences), and then this line is narrowed down through selection, the thought is focused and specified through a convergent process. "Divergent thinking must necessarily be accompanied by the ability to distinguish a good from a bad idea - which implies convergent thinking" (Csikszentmihalyi, 2006: 84). Contrary to the widespread belief that artists are "divergent" and scientists "convergent", both of these components are necessary for creative breakthroughs in the respective fields. The psychologist Peterson states: "If you are open to new information, new ideas, you better be able to intelligently and carefully edit and choose. If you have 50 ideas, only two or three are likely to be good. You have to be able to discriminate or you'll get swamped.". (Peterson, 2003). Education for creativity should therefore retain something from the traditional system and include the areas of learning and training that develop convergent, analytical, critical, rational, logical and practical abilities. On the basis of these abilities selection, successful realization and application of ideas are made. Expertise is necessary for creative production in any kind of field, but while not all experts are creative, creators are experts in their field. Expertise that enables creative changes in the appropriate field is achieved through long-term disciplined learning, adoption of rules, attainment and knowledge, and exercising skills from the appropriate field. When studying and teaching creativity, we must not succumb to the tendency of "enriching one side of the creative process, enthusiastic, great insight, illumination ... and underestimate ... the years of hard work and sweat that follow and are necessary to create something useful out of a great idea." (Maslov, 2001: 112). In the essay *Tradition and Individual Talent* T.S. Eliot warns that originality can exist only as a modification and extension of tradition, and not as a voluntary, individual notion (caprice). Attaining tradition comes through great effort. "In the first place it encompasses a sense of history that undoubtedly is necessary for anyone who wants to be a poet after their twenty-fifth year" (Eliot, 2015). This means that education for creativity must resist the trends of superficiality, floating attention, fragmentation, and speed coming from new digital media. Honoring the above intrapersonal features and abilities that are not characterized as creative *stricto sensu*, but are necessary for creative production, is also important on the interpersonal level, in order to appreciate the contribution of students in whom they predominate over the creative mental qualities (divergence, originality, flexibility, etc.). If creativity is set as superior value in absolute terms, reflected in affirmation and promotion through all social mechanisms, it may happen that we begin to perceive it as a social imperative, a pressure on each and everyone to demonstrate their creative aptitudes. This attitude could provoke feelings of frustration, deficiency and self-depreciation in persons who are not particularly creative, but

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<sup>2</sup> Biosociation of bi- + association is a term coined by Hungarian-British author Arthur Koestler in his 1964 book *The Act of Creation*. It signifies a blending of elements drawn from two previously unrelated patterns of thought into a new pattern.  
<https://en.wiktionary.org/wiki/bisociation>

possess other valuable and useful qualities and skills, such as analytical, logical, practical, technical, organizational, administrative, managerial, and others. Creators need these individuals, because creativity is a "multi-dimensional process, combining different styles of thinking and accepting contradictions and paradoxes ... It is very unlikely that the desired combination of abilities will be found in one individual." (Bilton, 2010: 57). Different talents gain special significance in creative teams. "Behind the scene teamwork or partnership is the key to analyzing and understanding creative processes and products." (Bilton, 2010: 51). The aforementioned findings and arguments warn us that we should not be foolishly enthusiastic about the belief that creativity can be taught. Under the aforementioned article, „Everyone is born creative, but it is educated out of us at school“ (Meng, T.K., 2016) we came across an interesting and grounded remark by a commentator, worth quoting almost entirely: „There are actually some quite valid points scattered through this article's self-serving platitudes; creativity is indeed innate; it can indeed be either encouraged or discouraged--inside and outside of school or workplace; schools do indeed often emphasize regimentation instead of creativity. But that's about it. No, 'creativity' per se cannot be 'taught.' The author is probably confusing 'teaching creativity' with 'encouraging individuality' -- but these aren't synonymous. You can't teach people to be more 'themselves' since that entails keeping their individualities from becoming tainted by conformity to norms. It's a negative thing rather than a positive. And, unfortunately (or not!), no: not only is it true that we can't all be Mozart, but contrary to the claim, not everyone can sing (at all well), either. Do we really need a greater percentage of 'creative people'? Whether the answer is yes or no, we can't just create them--but we can help find and identify them.“<sup>3</sup> So, let's say that some people do not stand out with creative ideation, but they have talent and skills to recognize, encourage and support creative people and their activities. "In ancient Greece, the water carrier was a symbol of creativity - not because of what he did, but because he encouraged and enabled others to express their creativity ... Extraordinary individuals, such as Eric Cantona, are only as good the team they play in. Television cameras show only spectacular blows and lightning breaks, but they would not be possible without the action and passing happening on the rest of the field... But players and fans in the stadium see what the television audience does not, and for them water carriers are true stars of the team." (Bilton, 2010: 50). From determining creativity as an individual process, a more comprehensive approach "leads us to a collective model in which creation is the result of cooperation of talented individuals affiliated with a creative team." (Bilton, 2010: 57).

## 5. COMPLEMENTARY DIVERSITY IN CREATIVE TEAMS

Challenges facing contemporary society require creativity in all aspects of human activity, so recent theories are less concerned with studying individual creativity, and more with creating conditions for encouraging the process itself and creating teams that can recognize the idea, adapt it, and achieve it. Creative teams thus become the bridge between individual and collective creativity, and a high degree of cooperation and interaction within the team is a condition for the realization of ideas. Previous beliefs that success of the team is dependent on representatives of different sectors within the organization (production, marketing, sales, legal services), are now replaced with focus on importance of personal attributes combinations of team members. In such teams, the creativity of an individual is no longer a key factor of success, but precisely the choice of members that enables the combination of different abilities, thinking styles and mental processes. Starting from the fact that creativity requires both divergent and convergent thinking, Michael Kirton (1984) developed the Complementarity Theory according to which it is necessary to combine these obviously different styles of thinking for the success of the team.

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<sup>3</sup> The first comment under the pseudonym Proximity1.

Researching the teamwork of engineers, he concluded that members of most teams can be described as "innovators" who are devising new concepts and, "adapters" whose task is to develop and transform ideas into practical applications (Bilton, 2010: 59). The research showed that both are necessary for the success of the team. Although homogeneous teams have easily reached agreement, it turned out that their compliance had a negative impact on creativity - teams that were composed exclusively of "innovators" were often unable to implement the idea, while the teams composed of the "adapters" lacked initiative. Recent theories emphasize the various types of people necessary for the success of the team. Rei Inamoto, the chief creative officer for AKQA, believes that the successful team, especially in the field of startup projects that require a high level of creativity, needs 3 types of people: Hipster, Hacker, and a Hustler. The Hipster is the one that makes the product cool and fashionable. The term hipster - today generally signifies the affiliation to the subculture, but it is used here to denote a person of independent thinking and attitude, develops imagination and intuition, with a sense of art and beyond the mainstreams that are dominant in society. The Hacker is the one who knows how to actually build the product. This is a person who understands the environment, procedures and technology better than others and is able to materialize a creative idea. The Hustler is the one who finds a way to sell the product to the world. Herein sale does not necessarily mean the realization on the market, but creation of something that is worth and necessary, and could be adopted. Hustler is the one who recognizes the value. (St. Louis I., Lane J. 2016: 13). In his book, Nathan Furr talks about "Freaks", "Experts" and "Connectors" as compulsory members of a successful team (Furr, N., Dyer, J. 2014). The "Freaks" are able to "recognize the invisible", to think outside the box; "Experts", on the basis of expertise and skills, recognize the idea at the beginning, and turn it into value; "Connectors" manage relationships within a group, choose members, create relationships and structures in which they will display the best qualities of all team members. Regardless of whether we are talking about "divergent" and "convergent" or creative and non-creative members, the emphasis is not on the individual, but on the composition and relationships within the team. The success of the team depends on the selection of members, the perpetuation of the balance between different approaches and ways of thinking, and is conditioned by the nature of the task to be solved. Respecting diversity, exchange, linking to one's achievements and ideas is a fundamental part of the creative process, while focusing on individuality and independence suffocates and suppresses other possibilities.

## **6. CREATIVITY IN CREATIVE INDUSTRIES**

Twenty years ago emerged the idea that creativity could be the main driver of economic development. Creativity is not necessarily an economic activity, but it can be if it produces an idea with economic implications or a product that can be traded (Howkins, 2001). Ubiquitous activities based on the creativity and talent of an individual, besides resulting in artistic activities and culturally enriching society, can contribute to its economic well-being<sup>4</sup>. Creativity understood in the broadest sense is thus treated as a factor of production. Creativity is seen as a driver of economic growth and a key strategic resource for increasing competitiveness, an important economic and developmental asset of companies and states. Materialized in works that have aesthetic and symbolic value, in patents and innovations, design and style, creativity not only creates products and services, but also represents the potential for new creativity. According to the definition published in the 1998 Government's Creative Industries Mapping Document, creative industries comprise all those activities that use individual creativity, skills and talent as an essential resource, and which have the potential to create jobs through

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<sup>4</sup> One of the themes of the jubilee meeting of economists, Kopaonik business forum, in March 2018 were creative industries, several conferences on this topic were held in Belgrade, and Ana Brnabić, the President of the Government of Serbia, founded the Creative Industries Council.

generation and exploitation of the intellectual property (Jovičić, S. Mikić, H., 2006: 20). The narrow approach defines them as the activities that are involved in the conception of "creative products", while the wider approach includes activities that deal with their mass reproduction, distribution and export. The importance of this sector from the economic and social point of view is remarkable. Creative industries create more than 7% of gross domestic product in the world, with a growth of 10% per year. In developed countries, which are the leading industries with the highest annual growth, ranging from 5 to 20%. The contribution of industries based on copyright and related rights is significant for Serbia and their share in GDP is 3.1% (in comparison this contribution is approximate to the contribution of the financial services sector (3.2%), education (3.9%) and production of electricity (3.3%). (Radulović, Popović, Aleksić, 2014: 15). Creative industries offer great opportunities for employment of mostly young and educated people, primarily through self-employment. It is unorthodox to consider creative industry a sector (it is comprised of organizations varied by number of employees, economic strength, ownership structure), but there are certain common elements in these activities. First of all, innovation and creativity are a basic resource. However, it is precisely in the field of creative industries that it is most evident that the creativity of the individual, innovative ideas and inventions are only a small part of the complex production process (Bilton, 2010: 52). Although based on the individual's abilities, creative processes in these industries are essentially collective. Closing credits at the end of the film, the gratitude of the author at the beginning of the book, only confirm the amount of various specialties that contributed to the birth of a "creative product". These teams, usually gathered around a concrete project, are a network of specialists. However, besides those whose work is undoubtedly creative, there is a network of people whose work is necessary: they provide transport, logistics and support, and legal and financial services. According to the system theory of creativity, a network of critics, sellers, agents, publishers, broadcasters, talent hunters, is as important as those from which the product originated (Bilton, 2010: 99). Most of them are specific type of employees - serial monogamists - they work together, very intensely and under great pressure, and then split up after the project ends in order to re-assemble in a new team. This magnificent example shows us see how important the ability to adapt to new people and the environment actually is. (Bilton, 2010: 63). We emphasized several times that creative processes are formed through a combination of different elements, and that the birth of creative products is the result of teamwork. The contribution of the participants is different and difficult to measure, but the economic effects of the participants in devising a "creative product" are comparable. In developed countries creativity protection area is precisely regulated through lawful protection of copyright. The specificity of this right is that it becomes worth to the owner only if it is alienated. Unfortunately, the analysis showed that in this transaction the owners of the right are in an unfavorable position. When we compare the financial means realized by selling a creative product, we will see that a small part of the cake belongs to the creator. Creation of intellectual property is less profitable than the exploitation of this right. Authors (artists, writers, performers) on the basis of creativity acquire assets that are smaller than funds acquired by mediators that reproduce, distribute and sell their property.

## 7. CONCLUSION

The purpose of this paper is certainly not to diminish the outstanding importance of individual creativity, because "although the contribution of an individual is not as determinative as it is usually thought, it would equally be wrong to claim that without it there could be innovation and that everyone is equally capable of creating something new." (Csikszentmihalyi, 2006: 67). The purpose is to present a more comprehensive approach to what is needed to come to creative achievements. Wouldn't it be ironical that the decades-long scientific process of demystification (but not banalization) of creativity, traditionally understood as the sublime gift of



a few exceptional individuals, ends in a new mystification of creativeness as an incomparable, self-sufficient virtue, superior to all others? Emphasizing and promoting creativity and praising creative talents may conceal from us all the apparently “non-creative” human, material and immaterial factors and resources which support and make possible creative accomplishments. In other words, behind each individual or group creative achievement there are those who provide logistic, organizational, financial, research, social, psychological and other kinds of support. Individuals or teams would not be able to develop and realize their innovative ideas and projects without some or more collaborators whose various talents, skills, competencies and work are embedded in the creative processes and results. The most successful companies are those who develop a pervasive talent mindset and treatment of employees in a differentiated way according to their talents. Talent management is not limited to “high flyers” but to anyone whose abilities represent an added value for the organization (Benoist, Daviaud, Rainsard-Demazeau, Torres, 2012: 39), especially regarding its creativity and innovation. The same should be applied in education. Teachers should be sensitive to the diversity of talents and affinities, that is, to appreciate and encourage students who do not stand out with their creative imagination, but who with their specific abilities and skills can significantly contribute to creative production.

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# **LIDL'S MODERN BUSINESS OPERATIONS IN THE DOMESTIC AND INTERNATIONAL MARKETS**

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## **ABSTRACT**

*Modern companies are increasingly adapting their business to the trends of the global market. The operations of large corporations, that lead to the maximization of the market value, are their top priority. To come to the maximization of the market value, it is necessary to continually adjust global trends and standards, with special emphasis on meeting the needs of consumers and employees in the organization. For this reason, the company attempts to achieve harmony within all business processes. In a free market, where companies are struggling for their position, it is very difficult to win the position of the most desirable employer. Special attention will be paid to business behavior within large organizations, as well as the formation of strategies in the global and regional market. The paper will analyze the operations of Lidl, both in the global market and in the territory of the Republic of Serbia. Lidl company is in the global market known as an employer who specially treats their employees. The company's performance on the global market will be analyzed, as well as comparison between the market of the Republic of Serbia and countries in the region (Croatia, Greece, Bulgaria). Also of great importance will be the treatment of employees within the territory of the Republic of Serbia, as well as what are the similarities (differences) in relation to the operations in other countries.*

**Keywords:** *economics, modern business, management, Lidl, Republic of Serbia*

## **1. INTRODUCTION**

In the first part of the paper it will be defined the concept of company operations and their domestic activities as well as their international activities. The process of the market independence, which implies that country quits its market interventions, allowed to companies to rely on working of demand and supply on their own. In order to maximize their market share, it was necessary to form a strategy of operations and development of the organization. The organizations which had success in the mentioned strategy formation today are economic giants, which are more powerful than many countries. That organizations make their strategy global with little differences and corrections on specific markets. That is why there is a phrase "Think globally, act locally". That sentence describes well how today giant organizations operate. By achieving desirable market positions and market share, the organizations made huge advantage and started to adjust some markets to their own needs. In the second part of the paper it will be analyzed Lidl company and its modern approach in operations and perception of the market. Lidl company can be observed as European giant retailer. The main technique which helps Lidl to successfully conquer new markets is careful planning of investments. The Republic of Serbia is a good example to notice mentioned technique. Lidl had very carefully considered the beginning of operations and market performance in Republic of Serbia since 2014. After four years of considering and market observing, Lidl had finally announced a market entering in the Republic of Serbia. In this paper it will be showed a business politics and Lidl's organizational culture in different countries as well as a comparison between the Republic of Serbia and other countries.

Also of great importance will be a current competition situation in the Republic of Serbia and other countries in the region.

## **2. DEFINING AND DEVELOPMENT OF SUCCESSFUL BUSINESS**

Business is an economic activity which includes a motive, method and an objective. The motive of business is financial benefit, the methods are buying and selling and the objective is a wealth accumulation (Thorstein Veblen, 1999, p. 7). In the 21. century economic changes and events happen very fast and it can be said that private sector is a main driver of economic success, while the public sector suffered huge reducing of importance and influence. Modern challenges and new opportunities give a huge range of economic development in field of businesses. In the changed business environment, private sector wants to achieve articulation of pragmatic vision, to implement an effective leadership and to develop competent business strategy (Constantine Passaris, 2006). In order to make competitive advantage better, business processes should integrate globalization, liberalization, trade, Information Technology and communication evolution. The business strategy based on flexibility and quick reaction on economic opportunities is the key of the successful business. Global economics led to economic integration which succeeded to link long time ago separated sectors up: marketing and production. In order to maintain the competitive advantage successful companies constantly make their skills better and better and implement new necessary tools. So, they get an immunity and become stronger and easier response on market changes. They use more economical production, constant perfecting the quality of a product and maintaining price competitiveness simultaneously. Modern companies possess a very open-minded perception, because they want to fit in desirable global strategy. If company achieves desirable global perspective by implementing global strategy, success path and better market share are inevitable. That leads the company to a place where it will think less and less locally and products will be more adjusted to a global trend. By observing domestic and international markets and businesses, it becomes clear that international market demands much more than satisfaction of domestic consumers' needs. International markets need mechanism of formation equal quality and standard products world wide. They also need a special care for details (for example packaging) and adjusting details to the cultural differences. If company wants to succeed on international market, it is necessary to constantly learn about cultural differences in countries, in which it operates. Business policy of every successful company is based on implementation progressive multicultural approach in terms of employees and products (Constantine Passaris, 2006). The company learns about different countries by considering cultural, social and economic differences, which are fundamental for consumers to make a decision. Learning about other cultures can also manifest through employing people from different territorial and cultural areas. In that way, the strategy can be formed by viewing culture within organization, getting information directly from their employees. If company does not notice the cultural differences, it can lead to the wrong market approach and wrong strategic decisions. It is very important for organization that their employees have globally equal treatment. That means that all of the employees should have equal opportunities and chances for personal and professional growth. That is the path of creating a synergy, which is an effect that leads to place where outcome is much more bigger than input, which is possible, because of strategic coordination of multicultural and pluralistic employees (Constantine Passaris, 2006). Another important factor of successful business is integration of innovations. Modern companies should continually implement innovative changes and constantly make their processes and products better. It means that the company must always tend to achieve economics of scale. Multinational companies have that privilege that all of the innovations are placed on the global market to a huge number of consumers. That leads to increasing of domestic potentials and scale of their innovative initiatives through Research and Development,

development of new products, increasing of quality and decreasing of costs of existing products (Constantine Passaris, 2006). However, in order to create successful global market niche, it is necessary to strategically place products and services and to be sensitive to all local markets needs as well as consumers' wishes. In order for organization to successfully implement all of the suggested processes, it is imperative to make constant coordination possible as well as the transfer of efficiently used knowledge.

### 3. ANALYSIS OF BUSINESS OPERATIONS OF LIDL

Lidl company is a part of Shwarz group, which started to operate in 1930s, in interwar period. The first shop was opened in Germany. In almost 90 years long path, Lidl have become one of the largest European retailers with their 600 shops in the Great Britain and a thousands of shops in other parts of Europe (Butler, S., 2014). More interesting fact about Lidl is about their launching their production outside Germany in the middle 1990s (Lidl, 2015). Market share of the company is significantly increased and after their expansion to other markets, Lidl has become the most dominant competitor of the European territory. In order to most precisely show the market share and power of the Lidl company, it will be showed SWOT analysis. SWOT analysis notes the strengths, the weaknesses, the opportunities and the threats company faces with. The fact that these elements can be identified helps company to form and develop strategies, that can be based on strengths, that can deny weaknesses, fully take advantage of opportunities and respond to threats (Dyson, R. G., 2004, p. 631-640). Simon (2010), Kumar & Steenkamp (2007) abstract the following strengths of company:

- powerful business structure which helps them to sell their products for unbelievable cheap prices
- wide range of private labels which give them exclusivity and safety
- the company has a larger amount of shops in Great Britain and Europe, which provides them with great exposition
- online presence which shows available products.

Lidl's weaknesses showed by Financial Times (2015) and Siro (2008):

- failure in expanding their operations on all of the European areas
- consumer opinions that products are low quality because of the low price.

Felsted (2014) identifies following opportunities:

- potential for expanding their territory in Great Britain as well as gaining bigger market share on food market in Great Britain
- success in expansion to countries they still don't operate in

Poulter (2014) identifies following threats:

- if there is a war between Lidl and other large retailers, they can force decrease of competitive prices
- international expansion of other global brands would cause growth of competition

SWOT analysis provides the company with strategy choice. Based on showed SWOT analysis, Lidl company should pay special attention to their weaknesses. They should make their expansion of operations better in all of European areas. Good example of continuous working on minimizing their weaknesses is their entering on Serbian market. Strategy of careful entering on market of Republic of Serbia and long-term market analysis show that Lidl wants to expand their market share. However, SWOT analysis is not sufficient indicator of company's operations, so it will be showed Porter generic strategy, too. Porter described four generic strategies: differentiation, cost leadership, focused differentiation and focused cost leadership

(Porter, M. E., 1980). If all of Lidl's operations are considered, it is clear that the most used strategy of Lidl company is strategy of cost leadership with unbelievable efficiency (Morschett, D., Swoboda, B. & Schramm-Klein, H., 2006, p. 275-287.). In order to maintain competitiveness and market position, Lidl company should diversify their current strategies. Schwarz group, which started with operations in 1930s as a wholesaler in Germany, today is one of the largest and most growing businesses in the world, led by Dieter Schwarz, who is one of the richest people in the world, whose property has estimated value of 21 billion of dollars.

#### **4. WORK ENVIRONMENT IN LIDL COMPANY**

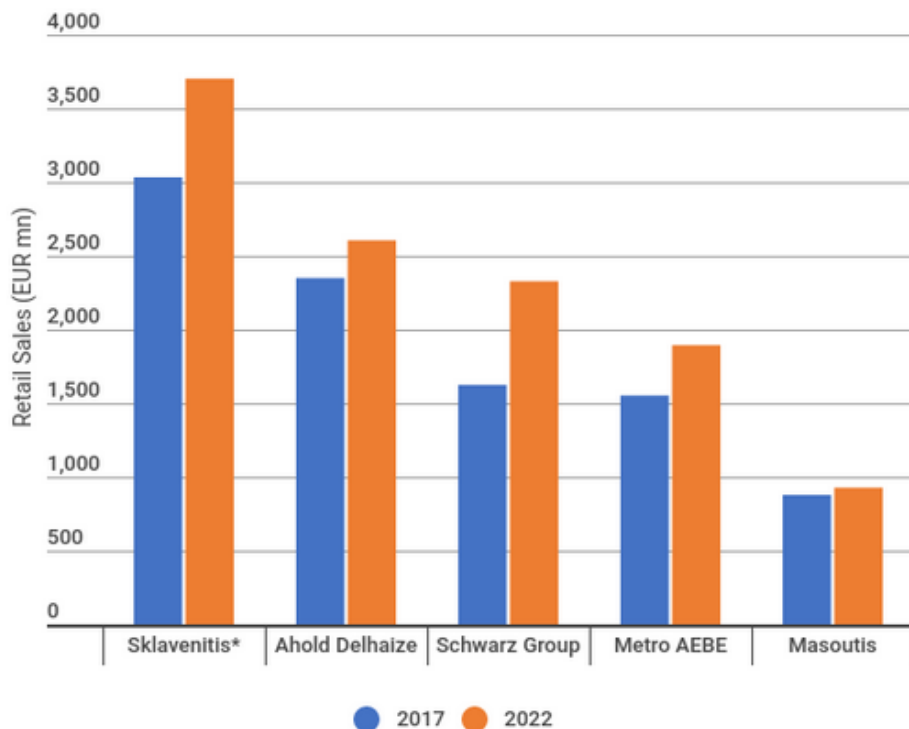
Lidl as a great retailer has a large number of visitors on a daily basis. Employees in the company are preoccupied by work, which can have negative effect on their health. The company often uses term "work-life balance", which should make employment in Lidl the privilege. However, famous site Glassdoor claims that Lidl's worldwide employees are dissatisfied by their work (<https://www.thesun.co.uk/money/3805045/whats-it-like-to-work-at-lidl/>). However, tough work should go with the better salaries. Former employees whose opinions are shared on Glassdoor site claim that salary in Lidl is extremely good, but with the great salary goes great responsibility. The responsibility can have different effects on the employees. It depends on employee's personality how he or she will react to it. An employee can think that the great responsibility is good for his further professional progress, but in the other hand increasing of responsibility can scare employee and disable him to make a right decision. Opinions of workers are different in the company. Some of them think that is very easy to make a progress in the company if a worker has a "right attitude". The company's HR policy is based on good working conditions and the fact that every employee gets high level of inner support. Research about satisfaction of the employees implies that they have an open communication with their superiors and devoted consultants for employee protection in order to improve working life in the company (<https://www.thesun.co.uk/money/3805045/whats-it-like-to-work-at-lidl/>). Conscience of company for development of healthy work environment is encouraged by forming healthy work and life conditions through flexible working time and increased vacation time. Lidl company is trying to engage and hire the highest quality employees, which is the basis of company success and their leading principle. Development of each employee is constantly tracked and showed. So, showing the direction of individual development helps employees to find out where they want to be.

#### **5. DEVELOPMENT OF LIDL COMPANY IN THE AREA OF EASTERN EUROPE AND THE BALKAN**

The goal of each company should be the development of business in new markets. Companies owned by the Schwarz Group are controlled by one of the richest families in Germany and received loans from the World Bank and the European Bank for Reconstruction and Development (<https://www.theguardian.com/business/2015/jul/02/lidl-1bn-public-development-funding-supermarket-world-bank-eastern-europe>). The mentioned public institutions are financed by taxpayer governments. The programs through which the loans came to Lidl and Kaufland are focused on expanding business through Central and Eastern Europe, with the aim of increasing employment and delivering quality and affordable food to poor consumers. However, this kind of financing has caused great public controversy, with the explanation that these companies receive a financial injection aimed at winning a larger market share. Schwarz Group companies have successfully expanded their business to the markets of developing countries. In these markets, the appearance of Schwarz Group companies resulted in employee dissatisfaction, due to unfavorable business conditions. A good example of this is the protest in Poland, where the protest of workers who were dissatisfied with the conditions, Overloading with work.

Through their dissatisfaction with their work, people expressed their fear of their existence. The reports of the state labor inspectorate in Poland, kept by the Guardian, show violations of national law on employment in Lidl, including violation of working time provisions requiring employers to give workers a break at least 11 hours each day (<https://www.theguardian.com/business/2015/jul/02/lidl-1bn-public-development-funding-supermarket-world-bank-eastern-europe>). When considering other countries of eastern and southeastern Europe, the development of Lidl in Greece is particularly interesting. Lidl's position in Greece is specific in many ways. The change in the retailers' market in the country has been dramatic in the last four years, as shown by LZ Retailytics data. According to the data Lidl in 2014 on the Greek market occupied fourth place, while in front of him are: Delhaize Group, Carrefour Marinopoulos and Sklavenitis (<http://www.lebensmittelzeitung.net/european-view/Schwarz-Group-Lidl-Goes-Urban-in-Greece-133281>). However, in 2017 a change of position on the market after the integration of Carrefour Marinopoulos franchise and Sklavenitis and company Lidl is now ranked third market position, as shown in the graph.

*Chart 1: Top Retailers in Greece: Retail Sales (EUR mn), 2017-2022*  
(<http://www.lebensmittelzeitung.net/european-view/Schwarz-Group-Lidl-Goes-Urban-in-Greece-133281>)



The company Lidl has announced that it has plans to enter the urban centers in Greece. Greek Self Service magazine, announced that shops owned by the Shwarz Group will open the first stores in the city center of Athens in 2018 (<http://www.lebensmittelzeitung.net/european-view/Schwarz-Group-Lidl-Goes-Urban-in-Greece-133281>). It is planned to open the first facility of Lidl on two floors in the mentioned location. A large retail chain announced a significant investment in the amount of 8 to 100 million in the company in Greece through the project of the new generation. The project would include opening and reconstructing stores, as well as significant investments in the distribution network. By entering the city core, Lidl could increase its productivity and thus increase market share. Looking at the other Balkan countries, Lidl's appearance on the Croatian market is especially interesting.

With over 90 stores across the country and an annual turnover of approximately 500 million euros, it is the market leader in Croatia. Business statistics recently published by the Financial Agency shows that Lidl is the fastest growing company on the Croatian market (<https://www.total-croatia-news.com/business/21359-lidl-heading-towards-top-of-croatia-s-retail-sector>). Sales have grown between 10 and 20 percent a year over the last 5 years, which has allowed doubling the revenue from 2010. The main competitor on the Croatian market is Konzum. However, projections and figures indicate that Lidl will succeed in taking the position of leader by Konzum, whose business is in a downward trend. How big is the business giant Lidl, the fact that the company's operating income is twice higher than the annual gross domestic product of Croatia. When entering the Croatian market, projections were that Lidl would take about 5 percent of the market, while the Croatian Competition Agency this year pointed out that the current market share of Lidl is between 10 and 20 percent. Future projections point to the continued growth of Lidl on the territory of Croatia. The development of Lidl is noticeable in all markets, which is also indicated by the fact of investing in the new high-tech IT center Lidl Digital in Bulgaria. High-tech information center will be used for key IT projects of international retail chain. The headquarters of the center is located in Sofia, where 25 highly-qualified IT experts work (<https://www.euscoop.com/en/2018/4/3/lidl-opens-it-office>). The purpose of establishing the center is to develop specific platforms and system for online commerce and marketing. Similar technical centers are open in Germany, Spain and Romania. With the establishment of this center, Lidl's goal is to increase the confidence in online shopping in Bulgaria. In 2016, it was recorded that only 11% of Bulgarians are ordering via the Internet (<https://www.euscoop.com/en/2018/4/3/lidl-opens-it-office>). After analyzing the development of Lidl's operations in the territory of the countries of the Balkans, the paper also shows how Lidl is entering the Serbian market.

## **6. BUSINESS OF LIDL IN REPUBLIC OF SERBIA**

Trade giant from German Schwarz group had powerful development expansion of their business in the Republic of Serbia. In 2018 it is expected opening and installing all of their stores in the Republic of Serbia. Lidl's arrival to Serbia was mentioned in 2012 in the media. However, Lidl places their first investments in this territory in 2015, when Lidl built its first store in Smederevo. Their other plans of building in first phase were made in 2016. They planned building objects in Novi Sad, Smederevo, Niš, Kruševac and Subotica. Second phase would include building of ten more stores, because the company planned to open all of the twenty stores in 2018. (<http://www.worldservicesgroup.com/publications.asp?action=article&artid=7598>). Building of distributive center is finished in Nova Pazova, near Belgrade. Considering long-term plans, it was clear in 2016 that Lidl has a strategy of massive employment when it comes to opening their stores. Headmost authorities of the Republic of Serbia identified Lidl's entry as an opportunity to maintain good terms of trade with Germany. Beside mentioned employment, Lidl plans to cooperate with producers and farmers in the Republic of Serbia, which would get an extremely good business partner. Lidl company currently has stores in 26 European countries, including region countries, so producers and farmers can have a chance to expand to mentioned markets together with Lidl.

## **7. CONCLUSION**

The development of large corporations depend on their competitiveness in the market. If the organization on the market establishes more competitiveness in terms of prices, costs and profits, in so far as it will itself have a higher market share. The goal of every big company is to acquire most of the market in order to maximize profit. However, the process that leads to the achievement of a competitive position is very long and it is necessary to implement the appropriate company strategy. People are a very important factor in the functioning of each



organization, because it is exactly they that influence the development of business. The paper presents the business operations of Lidl and their way of conquering the market. The company has managed to capture a huge market share in Europe and is the largest competitor in the field of trade. The authors gave special importance to the market of the Republic of Serbia and the surrounding countries in which Lidl operates. It is very important to understand the history of the company's business Lidl in the countries that are approximate economic strength as the Republic of Serbia, for it is based on the practice of these countries can be designed way of doing business. In 2018, Lidl announced a big entry into the Serbian market, announcing a competition for 1000 employees. Based on the experience of countries in which the company operates Lidl, the paper clearly shows the company's approach towards employees. Expectations are that the same strategy towards employees will be established in Serbia. Lidl could help the Republic of Serbia greatly in economic development if it invests its resources for technological development. Such a scenario was also in Bulgaria, and further assumptions are that such a trend will continue towards other Balkan countries, which, unlike Western European countries, are characterized by cheaper labor. A large number of factors can influence the further development of the company's operations in the Serbian market, as well as the development of infrastructure in the Republic of Serbia.

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## MICROORGANISMS, PATHOGENS OF INFECTIOUS DISEASES, AS A FORM OF ENDANGERING GLOBAL SECURITY

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### ABSTRACT

*Despite development of both the medicine and the pharmaceutical industry, it is not a rare case that news occur in the media about some infectious disease that has reached the level of an epidemic or even a pandemic. Historically, outbreaks of communicable diseases have taken millions of lives on nearly all continents on the Earth. Microorganisms, in combination with the climate or the way of life of the affected population groups, are causing the occurrence and the spread of infectious diseases. Some of the thus caused communicable diseases, have almost been eradicated with the development of medicine and by finding the appropriate medications, however many are still present. With the continuous progress and development of science in the field of microbiology, genetics and other sciences, conditions were created for the development and breeding microorganisms in laboratory conditions. At the same time, this has also created conditions for the spread of infectious diseases in some areas, either intentionally or unintentionally, by the misuse of scientific achievements and research results. As the examples of using microorganisms as biological weapons in the attacks on people are known, and bearing in mind the possibility of easy spreading disease and causing an epidemic, it can be concluded that microorganisms as a biological weapon, can become a very serious factor in compromising security in any country in the world and even on a global scale.*

**Keywords:** security, terrorism, viruses, bacteria, microorganisms, biological weapons

### 1. INTRODUCTION

On almost daily basis, can be heard in the media or read the news about infectious diseases that threaten human health and/or health of animals, often resulting in death. Such diseases occur suddenly in an area and often can very quickly reach the scale of an epidemic or even a pandemic. The sudden development of civilizational achievements and therefore the biological science, has led to a rise in the interest in and studying of microorganisms that can very easily be used as a biological weapon in a particular time and in a selected area. Although the use of biological weapons was prohibited under the Geneva Protocol of the League of Nations back in 1925, and the United Nations' Convention on the prohibition of the development, production, stockpiling and use of biological weapons and toxins, from 1979, some states have continued to study these areas, primarily for the purposes of science, but it is very easy to use their scientific achievements against countries that are considered adversaries. Therefore, the misuses of this scientific knowledge are, simply, possible or even certain. The rise in terrorist activities throughout the world, by itself constitutes a reason for concern about the security situation in the world, and if we assume that terrorist groups or individuals could get hold of biological weapons, the consequences could be catastrophic. Especially as the use of such weapons does not require any special or complex training for those who want to use or spread it. Production and improvement of biological weapons is significantly cheaper than the development and production of any other, conventional weapons. And that's one of the reasons why microorganisms, pathogens of infectious diseases, can very easily be used as a biological weapon and lead to significant threats to global security.

## **2. MICROORGANISMS, PATHOGENS OF INFECTIOUS DISEASES**

Microorganisms are very small living beings, which are not visible to the naked eye, and therefore a microscope or electron microscope with magnification that can exceed 200,000x, must be used for their observation and study. The study of microorganisms is microbiology, although other sciences also have an interest in that area of study, such as medicine, veterinary medicine, agriculture, food industry and so on. Microorganisms, or microbes, include: viruses, bacteria, fungi and parasites. As the causes of infectious diseases in humans or animals, we shall consider viruses and bacteria.

### **2.1. Viruses as the causes of infectious diseases**

By its structure, viruses are the smallest and the simplest microorganisms (Ljubiša Krstić, *Medicinska virusologija* [Medical virology], Belgrade, 2005, page 9). Their size ranges from a few dozen to several hundred millimicrons, and are visible only by using an electron microscope with magnification exceeding 100,000x. These are small, infectious agents, which can be replicated only inside living cells and other organisms. They can infect all types of life forms, from plants, animals, people, all the way to bacteria and archaea (archaebacteria). Viruses consist of only two components - the nucleus and the envelope. The nucleus consists of one of the nucleic acids, DNA or RNA, while another component consists of a symmetric protein envelope. It is not entirely clear whether the viruses are living organisms or are they just a part of non-living matter at the transition into living matter. Since they contain genetic, hereditary material, viruses are commonly referred to as living organisms. They can be grown and bred only inside living cells, and they are not able to grow or to synthesize their proteins or to perform metabolic processes. There are many kinds of viruses that differ in size, structure and other characteristics. They cause many infectious diseases, and therefore they pose a constant threat to the health of humans, animals and plants. Viruses spread in a number of ways: viruses in plants are usually spread by insects that feed on plant juice (such as aphids). In animals and humans, this can be caused by blood-sucking insects. Some can be transferred by coughing or sneezing while some are transferred by contact or they enter the body with food and water. In an organism, viruses can remain localized at the site of the entry, or they can spread and cause generalized (system) infections and infections of remote organs (Ljubiša Krstić, *Medicinska virusologija* [Medical virology], Belgrade, 2005, page 28). Some viruses that spread over skin cause localized skin-manifestations. They can also get into the organism via mucous membranes, or via respiratory tract. They can spread through the organism of the host via blood and some can get into lymph vessels and lymph glands. So, almost every organ can be attacked by some kind of virus. Among the most significant infections of distant organs are testicular infections and infections of other sexual organs, due to virus excretion via sperm and the potential spread of infection through sexual contact (Ljubiša Krstić, *Medicinska virusologija* [Medical virology], Belgrade, 2005, page 29). HIV is one of the few viruses that are transmitted via sexual contact or by exposure to the infected blood. As for the resistance of viruses, it can be said that they are very resistant. They are particularly resistant to low temperatures and they therefore can be kept, in laboratory conditions, at a temperature of -70 degrees Celsius. Most viruses are well-tolerant to multiple freezing and unfreezing. Thirty minutes at the temperature of 56 degrees destroys the infectiousness of the most viruses, while some require both higher temperatures and longer exposure for their inactivation (Hepatitis A is inactivated after 1 hour at the temperature of 60 degrees, while hepatitis B requires 10 hours at the same temperature). Therefore, the sensitivity of virus depends on the temperature and the period of exposure to this temperature. They are sensitive to drying, with rare exceptions that retain their infectiousness even after several months of exposure to arid environment. Drying at a given temperature and pressure, in a high vacuum, is used for long-term preservation of viruses (Ljubiša Krstić, *Medicinska virusologija* [Medical virology], Belgrade, 2005, page 13).

They are sensitive to ultrasound, ionization and x-ray radiation and ultraviolet rays. Viruses cause many diseases: flu, rabies, common cold, rubella, mononucleosis (a kissing disease - due to the manner of its transmission), infantile paralysis, smallpox, yellow fever, mumps etc.

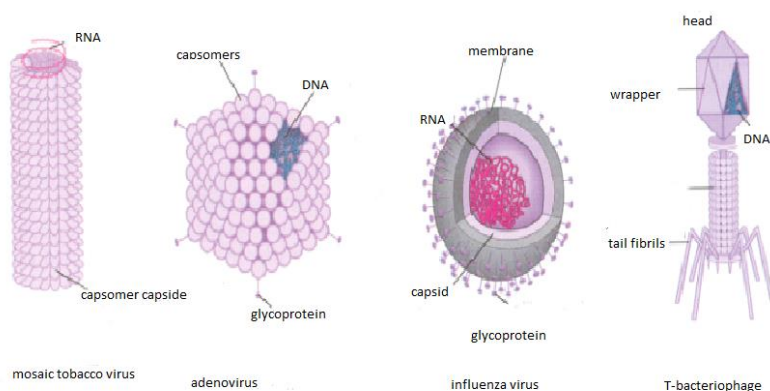


Figure No. 1 Viruses (Source: <http://www.genetika.biol.pmf.unizg.hr/pogl13.html> (date of access 22.02.2018.))

## 2.2. Bacteria, pathogens of infectious diseases

Bacteria are small, single-cell, microorganisms, which can be seen only through a microscope and whose cellular structure is somewhat simpler than that of other cells, with the exception of the cell wall, composition of which is somewhat more complex in bacteria. They developed the ability of producing and spending energy, feeding and reproduction. They have developed a variety of resistances towards external environment, where they can survive from several hours to several months, and they are present in all types of habitats, in soil, in food, in water, but are also present in a human organism. They are very important in biological evolution and they form the basis of every food-chain in the nature. They represent the oldest and the most numerous organisms on our planet. Most of bacteria are not harmful to humans, and even so that some are necessary in the processes that are useful to humans (fermentation, digestion, decomposition, etc.)

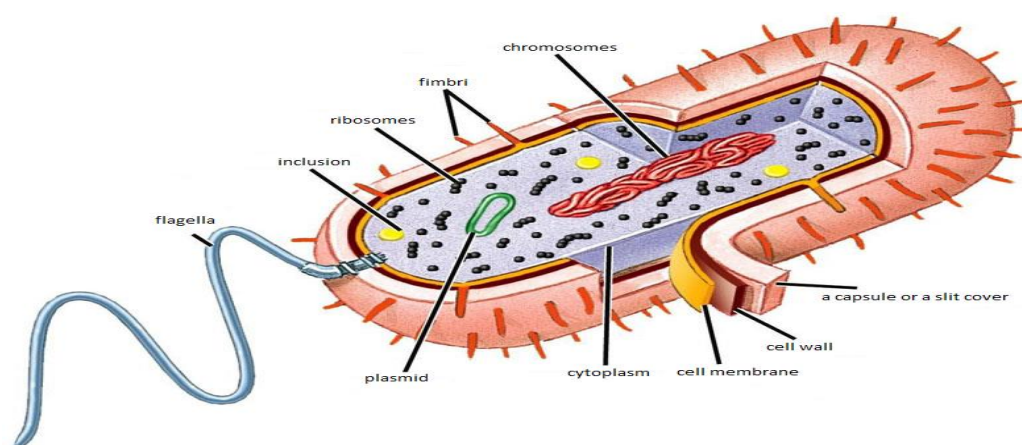


Figure No. 2. Bacterial cell culture (Source: <http://svet-biologije.com/biologija/biologija-celije/celularni-oblici-zivota/grad-bakterijske-celije/> (date of access: 22.02.2018.))

Bacteria also belongs to physiological flora of humans and animals because they reside on skin, in mouth and nasal mucous membranes, intestines, etc.

Since many bacteria perform useful and desirable processes, they are being used in various food-related activities. From around 1500 described species of bacteria, only about a hundred species are harmful to humans, human pathogens. Morphological characteristics of bacteria, their breeding characteristics, growth, metabolism and genetics, are studied by the part of microbiology called bacteriology. The field of bacteriology, medical bacteriology, examines Rickettsia, Chlamydia and pathogenic bacteria that are damaging human organism by the products of their metabolism, toxins. Bacteria proliferate in a number of ways:

- by binary fission,
- by budding,
- by exospores (external spores),
- by fragmentation (division into several parts),
- by a special mode of sexual reproduction (by the exchange of genetic material between bacteria).

In the world of bacteria, there is a large number of species that differ in many characteristics, including different requirements concerning the environment in which they reside and grow. Yet, for all of them, there is one common minimum of conditions required for their growth and reproduction: food, temperature, concentration of hydrogen ions (pH), carbon dioxide, oxygen, humidity, oxidation-reduction potential, osmotic pressure, surface tension and inhibitory substances (Marina Otašević, *Fiziologija bakterija, Medicinska bakteriologija* [Bacterial Physiology, Medical Bacteriology], Belgrade, 2005, pages 35-36).

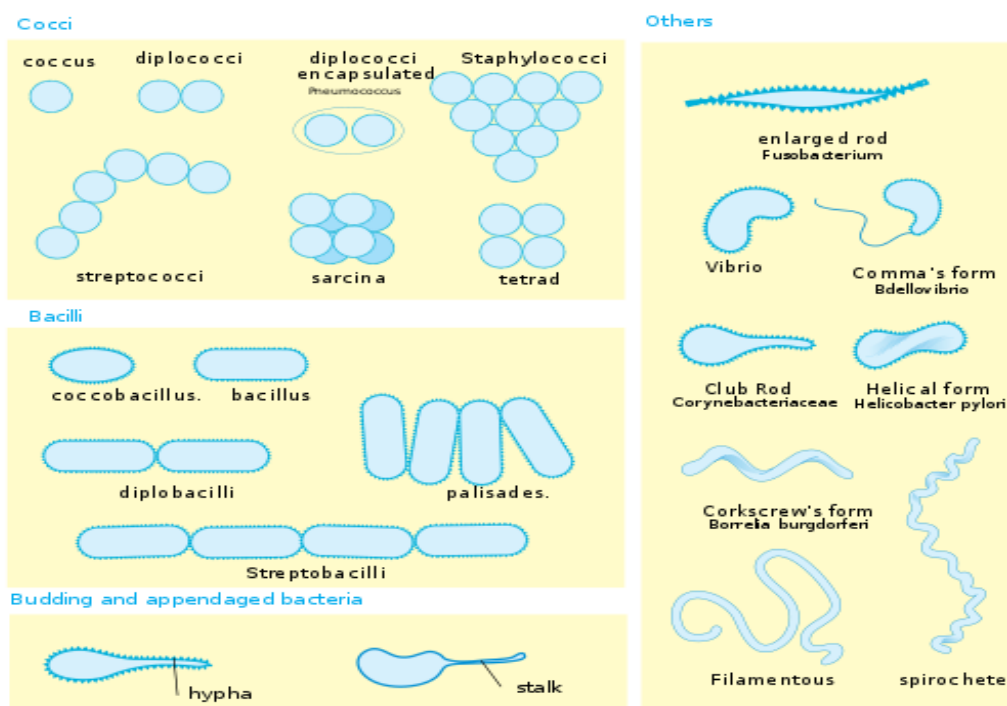


Figure no. 3: Most common forms of bacteria

(Source: [https://commons.wikimedia.org/wiki/File:Bacterial\\_morphology\\_diagram\\_sr.svg](https://commons.wikimedia.org/wiki/File:Bacterial_morphology_diagram_sr.svg)  
(date of access: 22.02.2018.))

As previously stated, a large number of bacterial species is not detrimental to human health, some are even useful and necessary, but the focus here will be on some types of harmful bacteria (pathogens) and the diseases they can cause, like diarrhea, tetanus, cholera, diphtheria, botulism, scarlet fever, tuberculosis, Lyme disease, syphilis and many others.

### 3. INFECTIOUS DISEASES CAUSED BY MICROORGANISMS

There is a very wide range of diseases in humans and animals that are caused by the activity of microorganisms. The following are just some of the diseases, a very dangerous for human lives, and their causes:

- Ebola (Ebola is named after the Ebola River in Congo, where the Ebola-virus was first registered), a lethal disease that is caused by the Ebola-virus, with high fatality rate. It is considered an endemic disease of African countries because epidemics of this severe disease have been recorded there, however there were people who contracted the disease in other areas also. It is easily transmitted from human to human and it is also transmissible by a sexual contact.
- The plague or the Black Death is an infectious disease caused by the bacteria *Yersinia pestis*. It is a severe infection in a bubonic form (bubonic plague - attacks lymph nodes) or in the form of pneumonia (lung plague - attacks lungs and respiratory system). The plague is transmitted to humans from rodents (mice and rats) which are the main carriers, by a bite of an infected flea (*Siphonaptera*). According to the available data, the mortality of untreated patients suffering from bubonic plague is around 60%, and the most of the deaths occur due to sepsis within 3-5 days. Most of the untreated patients of pneumonic (lung) plague die within about 48 hours from the onset of the disease. An epidemic of plague, which broke out in the area of Mediterranean and Eastern Asia in the year 541 transmitted by the rats that came to ports on ships, had taken - according to some data, around 25 million human lives, which had accounted for 13% of the total world population at the time. The epidemic that broke out in 1348 halved European population and had killed a huge number of people in China and India. The information presented data is enough to illustrate what kind of disease it is and how dangerous it is.
- HIV (Human Immunodeficiency Virus) is the virus that is the cause of the decline in the immune system in humans and is the cause of the disease known as the AIDS. It is considered that its origin is in Africa, and it occurred in the 1980s. It is transmitted via body fluids, sexual contact, blood transfusion, using the same needles by drug addicts, but it can be transmitted from mother to fetus through placenta. The disease is an epidemic of global proportions. According to existing data, by the end of 2004, around 40 million people have contracted HIV and that number of sick people is constantly increasing.
- Smallpox (*Variola vera*) is the disease that has been known for thousands of years. The cause of this severe disease is the *Variola major* virus that is transmitted to humans through bodily excretions, by air or via clothing. This disease causes death of 20-40% of those who contract the disease and leaves permanent consequences to survivors, in the form of blindness or disfiguration. There are several subspecies of smallpox that differ according to severity of the disease and according to fatality percentage. It is assumed that between 300 and 500 million people have died due to this disease in the 20th century. Prior to the development of vaccines and contemporary medicines, smallpox were even more lethal.

As previously mentioned, there is a large number of diseases that pose a threat to the health and the lives of people. Apart from the diseases listed in the above, it is also necessary to mention some more:

- dengue fever (Dengue virus). According to some data, 50-100 million people contract this disease annually.
- cholera (*Vibrio cholerae*). According to some estimates annually 3-5 million people develop the disease, around the world.
- bird flu (H5N1), the disease contracted by a large number of people in Asia, almost half of which resulted in death.

- brucellosis (Brucellosis), the disease that affects domestic animals and is transmitted to humans, either by contact with an infected animal or by eating products that came from infected animals.
- Q-fever (Coxiella burnetii), the disease of domestic and bred animals. It is being transferred to people either by contact with an infected animal or by eating products that came from infected animals.
- anthrax (Bacillus anthracis), a very dangerous infectious disease that is often fatal both for humans and for animals.

So, there is a very wide range of infectious diseases that are caused by microorganisms.

#### **4. USE OF MICROORGANISMS AS BIOLOGICAL WEAPONS**

As epidemics of infectious diseases have ravaged the world, throughout the history, people have started to use infectious diseases and the consequences of activities of microorganisms for war-related purposes. Some epidemics have been deliberately caused in order to take or conquer some territory or to destroy inhabitants of that territory. Cases are known of inserting infected soldiers in enemy lines, as well as polluting food and water sources with corpses of people or animals which had succumbed to some infection. Such cases are known from the wars that had occurred before the Christian era. In the war between Sparta and Athens (the Peloponnesian War, 430 B.C), Spartans have inserted people suffering from the plague among the Athenians, which had resulted in the death of tens of thousands of Athenians (Athenian plague). During the war campaigns of Tartars and Mongols, led by Genghis Khan, in 1346 plague pandemic killed around 25 million Asians and the same number of Europeans. This has contributed to the withdrawal of the decimated army of Tartars and Mongols from Europe. In his campaign to conquer Canada, in 1763, the New Scotia Governor, Jeffery Amherst, via his commander-in-chief, Colonel Henry Bouquet, has distributed blankets to the Indian chiefs for their people to persevere the coming winter. The blankets were infected with the lymph of the people suffering from smallpox, which resulted in death of around 3 million men, women and children, and was also the end of Indian resistance to the occupation of their land (Pontiac's War). It is considered that this was the first bio-terrorist act in the history of terrorism with elements of genocide. There are also examples in more recent history, of the use of microorganisms as biological weapons, particularly the anthrax, which proved to be easy to transport and to deliver to a potential target, and efficient in attacking the victim. The dangers that micro-organisms carry with them are best illustrated by the information of the World Health Organization from 1980, where it is stated that half a billion people have died in spontaneous epidemics of smallpox in the world.

#### **5. CONCLUDING CONSIDERATIONS**

Except for the epidemics of infectious diseases that have occurred spontaneously and that, according to the available data, have taken hundreds of millions of human lives around the world, causing epidemics of infectious diseases is also possible in an artificial way, i.e. by malicious activity of either individuals or organized groups or even deliberate action of a state which, by the use of microorganisms, wants to cause an epidemic of infectious diseases in the selected area with the aim of achieving some set objective of theirs. That objective could be selling drugs for preventing the spread of infectious diseases they had caused, or it can be gaining an advantage in a military conflict or releasing some territory from local people in order to make it easier to take and to conquer. In favor of this is the constant development of microbiology, chemistry and other related sciences, and the possibility of developing and growing microorganisms in laboratory conditions. If a terrorist organization would get hold of the research results in the field of microbiology or would itself begin to perform the research



and development of microorganisms and their use as biological weapons, the consequences could be catastrophic. Production of such biological weapons is many times cheaper than production of any conventional weapons. The use and spreading does not require any special or expensive training, and transferring and delivery to selected areas is very simple with the current development of the means of transportation and communication, and it is very difficult to detect. The economic and security system of any state in the world can easily be compromised by the use of microorganisms as biological weapons and it can also easily lead to endangering security on a global scale. The proliferation of biological agents leads to greater and easier possibilities for their abuse. With the constant rise in terrorist activities and increasing number of terrorist groups around the world, the possibility of the use of microorganisms as biological weapons can well be expected. So, microorganisms as biological weapons, could become the main weapon in terrorist activities in the future. One of the pioneers and the authors of the Microbial Theory, Louis Pasteur, who had saved many lives with his discoveries, said that microorganisms were the first but would also be the last living beings on the planet Earth.

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## **SOME SOCIAL AND CULTURAL PROBLEMS OF VIRTUAL COMMUNITIES AND THEIR RELATIONSHIP TO THE ARCHITECTURE OF SOCIAL NETWORKING SERVICES**

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### **ABSTRACT**

*The paper discusses some issues of social network service building. A number of social network services' fundamental problems contradicting the declared mission has been identified and described; besides, it is shown that these problems are unavoidable under the traditional ways of building such services. Possible ways to organize the systems and environments implementing similar functionality, but free from these problems, are considered. A fundamentally new scheme for building social network services is proposed based on the intelligent agents' interaction. It is demonstrated that this approach can be used to solve a number of other tasks including, for example, knowledge management system organization.*

**Keywords:** *multi-agent systems, social networking services and solutions, virtual communities*

### **1. INTRODUCTION**

Today, social network services have billions of active accounts. The most popular ones - Facebook, Instagram, Twitter - are known to almost every Internet user. Recently, attention is more and more often paid to the problems related to this phenomenon [6]. It turns out that people who often use Facebook experience negative emotions [7]. A common opinion is the insecurity of information, for example, its use by "special services". Finally, "social networks" are regarded as a powerful tool of social engineering [1]. Due to the above, the following questions arise: how deep these problems are, whether they are inevitable or it is possible to organize the social network services better and make them freer from shortcomings. Another problem is the social network services' applicability for solving real problems faced by people in the process of their interaction within real social networks: personal, professional, etc. Let us note that social network services are strongly associated in people's minds with the concept of "social network" being a completely different area. The term social network has emerged and has become widespread in sociology and social psychology denoting special social structures, which generally have no relation to the computer world and the Internet. In their original meaning, the social networks are defined as a union of social actors and connections between them [4]. The emergence of this term, which has become very widespread in various areas of humanitarian knowledge, dates back to the mid-fifties of the 20th century. For a wide range of Internet users, the social network concept became known due to a series of experiments confirming the theory of six handshakes by S. Milgram, which was popular in the 1960s [9]. In our opinion, such an association results in the danger of a priori believing that the social network services are services intended for communication in the social networks. Unfortunately, being taken for granted, this thesis is not as obvious as it seems to be at first glance.

Indeed, there is active informal interaction between some users of the social network services. However, it is not entirely clear why the fact of using a particular communication service is important for singling out the social network from the global social space: we do not even think of considering e-mail users or mobile operator subscribers as a social network. Therefore, speaking about the users of social network services, experts prefer to use the term virtual community. For example, the corresponding Wikipedia article is headed as "List of virtual communities with more than 100 million active users"[8]. Separation of the social network service and social network concepts allows setting another question: to what extent modern services are suitable for supporting communication between the subjects of the real social networks.

## **2. PROBLEMS OF VIRTUAL COMMUNITIES COMMUNICATION REGARDING MODERN SOCIAL NETWORK SERVICES**

We believe that there are several deep contradictions between the communicative opportunities needed by the social network subjects for complete transferring of their social interactions into the virtual space and the opportunities provided by existing social Internet-services. We can conclude that the following requirements must be fulfilled in order to speak about the service's applicability to support the communication in the real social networks:

1. the subjects should be able to communicate conveniently with all subjects to whom they are connected in the real social network;
2. system's communication capacity must meet the users' needs;
3. necessary communication privacy must be respected.

These requirements are quite obvious being caused by the very concept of social networks. However, we believe that the effectiveness of modern social services for supporting the social networks can be questioned and criticized in each of these requirements.

1. One can notice that the subject using the social Internet-service is essentially limited in the communication possibilities. While real social networks connect all people into a single social space through the "handshake chains", the social Internet-services are focused only on the communication with other users of this service. The "handshake chains" are torn stumbling upon the virtual community boundary. We can say that modern social network services decompose the social space and separate all subjects of the global social network into isolated groups of various social services' users. The reverse side of this problem is the splitting of social subjects in the virtual space. Trying to connect their social networks torn in the virtual world by the services, the subjects are compelled to participate in an increasing number of virtual communities and create more and more service profiles. It can be illustrated by the fact that the total number of active participants exceeds 7 billion within only large (more than 100,000 members) virtual communities, while the number of active Internet users is estimated at less than 2.4 billion people. Thus, each Internet user has two-three actively used profiles in the social network services on average. The inability to create a single connected (global) social space in the virtual world and the need for the profile duplication are essential problems of the modern social network services.
2. It is obvious that the user of any social network service experiences limitations in the functionality provided by the service. From the users' point of view, the social network services have predetermined and limited data models and methods of work, which limit the interaction types implemented in each of the services by schemes predetermined by the developers. Can these capabilities satisfy the needs of all service users, the number of which can reach several hundred million? Obviously, they cannot. At the same time, the missing

functionality is often implemented in some other specialized services, such as Instagram, Twitter, LinkedIn, etc. However, these features work only within the virtual communities of these systems. It entails new inconveniences: the users needing the functionality of several services have to create several profiles. In the case of the required functionality's absence in the modern social services, it has no solution even if the need is experienced by large groups of users. Thus, the social network services cannot fully satisfy the needs of their virtual communities. The other side of this issue is the principle of the implemented functionality selection. The view, according to which the system's capabilities are formed regarding most users' needs, is not entirely correct. It can be assumed that the service owners' interest is very significant; in the simplest variant, the interest is commercial. Since the user's activity in the social service is usually monetized, the owners are first of all interested in implementing the functionality, which provokes certain types of users' activities. Thus, the choice of functionality implemented in the social network services is determined not only by the users' interests, but by the owners' ones as well.

3. In the social network services, the users' right to private space is limited very much. Of course, authorization, identification, information access policies create a certain illusion of information security from an unauthorized intrusion. However, uncontrolled use of private information is always possible for those who support and manage the service. In this regard, we cannot avoid recalling the classical work by O'Reilly, in which he directly points at the special value of large information volumes collected by such systems from their users [11]. Indeed, particular use of users' information circulating in the public Internet-services is often a financial basis for their existence. In 2013, users of a popular mailing system found out that their letters are massively perused in order to obtain commercial benefits. The service owners confirmed this fact justifying it by robotized analysis of the email content read [5]. This dependence on the confidential information use makes it possible to assume that such violations are common for the mass services. Today, by exchanging information through the social Internet-service sites, the subject explicitly or implicitly agrees to the perusal of all correspondence by the service owners. Analysis of its content for the contextual advertisement selection is the most innocuous, but not the only way to use it (information). Moreover, by placing data in the profile, the subject loses the ability to control it to a large extent: it can be closed or deleted for any reasons by the service support. In our opinion, the society has agreed to a certain extent today that the subject is not the owner of the information placed in the personal profile of the social Internet-service since the claims (for example, regarding the content's incompatibility with the laws) are addressed primarily to the services instead of the users. Thus, the private space of the social network subjects interacting through the social network services is not protected. It destroys the very nature of the social networks, the basis of which is private, personal relationships.

Using these observations, we can formulate a hypothesis that the modern social network services do not support the real social networks, but cultivate a new type of social behavior. In particular, this hypothesis is supported by the fact that despite the traditional characterization of the social networks' impact on the society as a "soft power", in recent years the virtual communities are increasingly used as means of large masses organizing during different social cataclysms. If this hypothesis is true at least to some extent, the association of the modern social network services or virtual communities with the social networks is not only incorrect, but can also result in the harm to correct understanding of social, psychological and cultural processes in the modern society.

### 3. ALTERNATIVE WAYS TO ORGANIZE VIRTUAL COMMUNITIES

Thus, the modern social network services have a number of serious shortcomings of the real social network members' communication support. Apparently, these shortcomings are inherent in all social network services. In this regard, it is logical to raise a number of questions. Why are the modern social network services organized in such a way that they have problems of supporting the real social networks? Is it possible to make the social network services free from these shortcomings? What properties and functionality should the social network services have to maximally meet the needs of the real social networks? We consider it possible to assume that all these problems are due to the practiced way to organize the social network services as centralized, closed, proprietary systems. We believe that all the listed shortcomings are fundamental for the modern social network services since they are unavoidable within the architecture used for building these services today. The organization of the service as a centralized system built around a single database means the service users' isolation from the rest of the social space and its (space's) decomposition accordingly. Closeness of the system means that there is a particular standard set of functions equal for all its users, and the set is not changeable and not expandable by the user's will. Ultimately, the interaction strategies within this service are determined not by its users, but by unified capabilities reflecting the views and interests of the service's creators and owners. Finally, the proprietary implies the desire to obtain the commercial benefits; since the main commercial value of such systems is the unified information resource consisting of the service users' private information, it starts being used for purposes different from the interests of the persons creating it. In turn, this way of building the social Internet-services is due to considerations popular in the experts' environment about the "right" way of building the modern web space around centralized services and databases based on well-known works by O'Reilly and J. Calacanis [2; 11]. However, there are other opinions on the applicability and effectiveness of this method for the web space organization. For example, E. Moglen emphasizes that such a way of the system organization cannot provide the user's interest protection [10]. Does it mean that all these "antisocial" properties of the social network services cannot be overcome? It may seem to be an insoluble task since the way of modern social network services' organization seems to be obvious and universally recognized. At the same time, it does not seem to be obvious for us that this principle of the modern social network services' organization is the only possible one. In this regard, it is important to consider the possibility of their organization on the basis of other approaches and architectures allowing to form a single global social space, providing effective implementation of social interactions in accordance with the social network subjects' roles and allowing the subjects to keep the necessary privacy without detriment to communicative opportunities. Let us imagine whether the solution to this task is possible and what basic technical solutions should be realized in this case. It is possible to imagine a number of significantly different approaches to building the social network services. However, in our opinion, the task of eliminating the shortcomings described above tends towards the following solutions. Firstly, the service is built as a distributed system of interacting nodes. The system is expanded through a simple organization of new nodes with autonomous owners and management. Connections created by the new node with the rest of the nodes complete and reinforce the system. This construction principle allows building systems having no single owner. Accordingly, the information management and information exchange with other nodes are no longer controlled by the single commercially interested center. Secondly, the system is built with the use of open standards and protocols. It allows the users to create nodes with different functionality or to increase the existing nodes' functionality. This principle eliminates the social network subject's predetermined patterns of behavior within the service: the choice of software means the choice of ways to participate in the network interaction. It should be noted that several attempts to build the social network services on other grounds were made. In 2010, a non-commercial project of the Diaspora social

network service was launched trying to overcome these limitations by implementing a distributed system of social services [3]. The main Diaspora's feature is a user group's opportunity to install, maintain and monitor one of the distributed system nodes; it provides better data protection from the unauthorized use.

#### **4. SOCIAL NETWORK SUPPORT BASED ON MULTI-AGENT SYSTEMS**

It seems to us that one of the most promising ways to organize the social network support is to use the multi-agent systems for it. These systems can be constructed in a way when each agent of the system represents a social network subject. If the subject is a person, the agent can be called personal assistant. Each such agent can freely establish connections with other agents projecting real connections of their owners, the social network subjects, into the virtual space. Let us note that such a multi-agent system is free from the problems seen in the systems discussed above. There is no decomposition - the personal agent can communicate with any other agent in the Internet to the extent they are able to interact. Accordingly, in contrast to the establishment of many profiles in the social services, establishment of several agents is completely pointless. Ideally, the graph where the nodes are agents and the edges are established contacts is simply isomorphic to the real social network graph. Moreover, an intellectually "developed" agent is able to establish and maintain "owner's" profiles in the "social networks" of his interest, upload the information to them, collect and filter the data on the owner-related activities, etc. As for the narrowness of behavior patterns, the multi-agent approach provides fundamentally different results. If the system is built with open specifications, the user can choose the agent that suits his needs best from a number of them. Some of the agent implementations can have the open source code as it provides additional tools for constructing the agents with new functionality. Finally, we can assume the existence of agents able to extend their functionality, for example, by downloading the ontologies from special libraries. All of this can form an almost inexhaustible number of agent options and their capabilities for any needs and tastes. Finally, the subject's private space is protected in such systems by the fact that he controls his agent completely and directly. Accordingly, all information (absolutely all including the very fact of the agent's existence) entrusted to the agent by the social network subject is accessible only for those to whom it is entrusted. There is no dependence of the subject on any other persons in the network: the system owners simply do not exist, and problems with the provider can be solved, for example, by changing it. All of this, of course, provides a much better protection of the human right to the personal space. Let us note that this list of the multi-agent system's advantages is incomplete. Such system is actually out of scaling problems when the number of users increases. The multi-agent system is potentially more stable: losses of individual agents do not affect the operability of the system as a whole, and the risks associated with the legal entity, which is the service's owner, disappear completely. On the other hand, preliminary consideration of the issue shows that all the basic capabilities of the modern social Internet-services can be fully realized in the corresponding multi-agent system. Of course, searching for information in the distributed system can take more time in some cases than in the single database. However, in our opinion, such inquiries should not be too critical for the real social networks where the basic information exchange occurs between pairs of interacting subjects. In our opinion, building fundamentally new tools for the social network support on the basis of the multi-agent systems is an actual practical task of the web space development.

#### **5. CONCLUSION**

It seems to us that the following conclusions can be made based on the above:

1. Modern social network services (often mentioned as social networks) have a number of shortcomings and limitations regarding the communication support between the subjects of

real social networks; they are unavoidable within the framework of the currently used approach to the organization of such systems' software part.

2. It is relevant to search for new approaches and methods of building the social network services, which are more appropriate to the logic of communication in the real social networks.
3. Multi-agent systems, the agents of which are universal personal assistants of the social network subjects, can avoid many shortcomings due to the way of the system's organization being a promising task for the web space development.

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# THE CUSTOMER CHOICE MODEL (LOGIT) AND ITS APPLICATION ON SELECTED SLOVAK AUTOMOTIVE INDUSTRY COMPANIES

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## ABSTRACT

*The automotive industry represents a key sector of the Slovak economy. With more than 400 companies operating in this sector, it is a significant contributor to Slovak GDP. This industry is not only about producers and suppliers, but important role play also resellers of cars. All these automotive companies account for almost one third of total Slovak industry production. This suggestion underlines the importance of automotive industry for Slovak economy. In this paper, we will focus on car brands which are part of Slovak market. We will process the analysis of customer perception in the car market, which will result in the determination of the elasticity of car brand preferences depending on the assessed level of perceived attributes. For this purpose, we will use the Customer Choice Model (Logit) that evaluates the dependence between preferences and perceived attributes and then quantifies their elasticity. The Customer Choice Model (Logit) is an individual-level response model that helps analyze and explain the choices individual customers make in a market. The customer choice model helps to understand the extent to which factors such as the price of a brand or its ease of installation influence a customer's choice. A brand's purchase probability at the individual level can be aggregated to determine the brand's market share at the market level. There is also the possibility to use customer choice analysis in order to develop marketing programs tailored to specific market segments, or even to individual customers.*

**Keywords:** *automotive industry, car brands, customer choice model, customer perception*

## 1. INTRODUCTION

Customer buying and usage of any product or service largely depends on their perception about it. The creation of perception is based on the efficiency of whole marketing process. Nowadays, companies try to do their best in order to get customer attention and make positive impression in their eyes. The aim of this paper is to examine, how customer perception of selected attributes affects their final preferences of subjects operating in Slovak automotive industry – car brands.

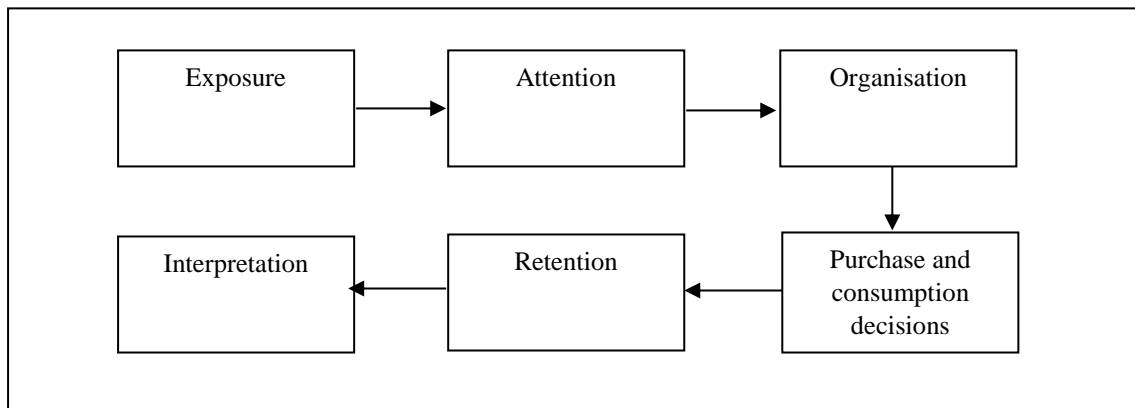
## 2. CUSTOMER PERCEPTION

Customer perception has numerous definitions but the one used by Walters et al (1989) explains the topic very clearly. According to this definition, customer perception is the process by which an individual becomes aware of the environment and interprets it in the way it will fit into his frame of reference. Van der Walt (1991) says, that perception occurs as a combination of stimuli of senses and person's frame of reference, which consists of previous experiences, beliefs, likes, prejudices, feelings and other psychological reactions. The perception process and its complicated structure is thus a significant barrier to effective communication. That is because correct understanding of marketing information is related with how the customer perceive the content of communication message (Van der Walt, 1991). Companies and retailers which try to increase sales and improve financial results also want to understand what factors influence the customers when they do a purchase decision. In other words, they search for the determinants of consumer behavior. Theory of customer perception explains what are motivations for buying or not buying the product or service.



Customer perception applies the concept of sensory perception to marketing and advertising. Generally, customer perception captures how individuals form opinions about companies based on their experience with its products, services or merchandise. Perception theory is a useful tool for retailers because it helps them to understand how they are perceived by their customers. It may also be utilized by companies when defining marketing and advertising strategy. Customer perception theory is linked with three aspects: self perception, price perception and a benefit perception (perception of benefit to quality of life).

*Figure 1: Customer Perception Process (Mostert, 1996)*



### 3. SLOVAK AUTOMOTIVE INDUSTRY AND CAR BRANDS

Automotive industry is a pillar of Slovak economy and it gradually became the biggest driver of the Slovak GDP. The first newcomers automotive company was Volkswagen, which came in the mid-nineties. Then, Kia Motors established their factory in Žilina (2006) and PSA Slovakia did the same nearby Trnava. Additional investments helped to build the supply chain and the number of companies producing parts for automakers expanded. Automotive sector subsequently became the "backbone" of the Slovak economy and that is the reason why it is important for competitiveness and financial stability of the whole industry. Both of them, competitiveness and also financial stability are closely related to financial results of automotive companies and that all has an effect on the performance of whole Slovak economy.

#### 3.1. Structure of industry

Considering the automotive industry, this sector is not only about manufacturers producing cars for the final consumers. Supply companies that are indirectly involved in the production process also have an enormous impact on the operation of the sector. Third category of companies which are connected with automotive industry are resellers of cars. Despite they are not involved in cars production and officially they operate in retail sector, their importance for automotive sector is considerable. Automotive in Slovakia is thus formed by manufacturers (in Slovakia, there are three – Volkswagen, KIA, PSA Slovakia) and suppliers, but the influence of resellers on industry operation can not be neglected. Total number of Slovak companies operating in the automotive industry reached up over 400, according to financial website finstat.sk in mid-November 2016. Among the largest suppliers in the automotive industry in Slovakia we can include Mobis Slovakia, Johnson Controls International, YURA Corporation, SAS Automotive and from eastern Slovakia companies as Magneti Marelli Slovakia or Getrag Ford Transmissions (database of automotive companies published on website Finstat.sk). According to the report published by SARIO agency in September 2015, up to 200,000 jobs are created directly and indirectly by the automotive industry. Moreover, the share of automotive industry on the total industrial revenues climbed nearly to the level of 33% in year 2015

(SARIO, 2016). Slovak automotive sector also accounted for more than a third of total exports, reaching totally 35 percent (Statistical Office of the Slovak Republic, 2015).

### 3.2. Slovak car market and car brands

As mentioned above, except of manufacturers and suppliers there are also car resellers. These companies do not make their production process in Slovakia, they only sell the product to the final consumer. Nevertheless, these companies can be considered as part of automotive industry. The following table is a summary of car brands results from previous years. According to data, it is obvious that Škoda remains a strongest player with a big gap over the Volkswagen, which holds second position.

*Table 1: Slovak car market and sales (Trend Top 2017, 2017)*

Position	Brand	Cars sold			Market share (%)	
		2016	2015	2014	2016	2015
1	Škoda	17 571	16 570	15 030	19,9	21,3
2	Volkswagen	8 086	7 616	7 476	9,2	9,8
3	Hyundai	6 724	6 302	5 319	7,6	8,1
4	Kia	6 393	5 603	5 803	7,3	7,2
5	Opel	4 925	4 220	3 816	5,6	5,4
6	Peugeot	4 761	4 472	4 181	5,4	5,7
7	Renault	4 031	3 008	2 805	4,6	3,9
8	Suzuki	3 987	2 638	2 611	4,5	3,4
9	Dacia	3 938	3 313	3 070	4,5	4,2
10	Mercedes	3 210	2 507	2 353	3,6	3,2
11	Toyota/Lexus	3 171	2 533	2 217	3,6	3,2
12	BMW	3 149	2 395	2 036	3,6	3,2
13	Citroen	2 830	2 674	2 868	3,2	3,4
14	Ford	2 505	2 585	2 089	2,8	3,3
15	Mazda	1 925	1 545	1 325	2,2	2,0
16	Nissan	1 666	1 946	1 336	1,9	2,5
17	Audi	1 595	1 545	1 683	1,8	2,0
18	Fiat	1 365	1 133	910	1,5	1,5
19	Seat	1 328	1 190	1 513	1,5	1,5
20	Honda	1 268	1 009	1 051	1,4	1,6
21	Mitsubishi	1 256	1 213	878	1,4	1,6
	Others	2 479	1 951	1 879	2,8	2,5
	<b>Total</b>	<b>88 163</b>	<b>77 968</b>	<b>72 249</b>	<b>100</b>	<b>100</b>

## 4. METHODOLOGY AND RESULTS

For purposes of this study, the questionnaire was composed and then distributed to students of University of Economics in Bratislava. Respondents (n=64) were questioned about their preferences of selected car brands of Slovak market and all of them were 19-23 years old. They also provided information about their past purchases. Finally, they evaluated their perception of selected attributes of the brands (price, quality, design, reliability, ecology, safety and innovation) on the scale 1-5 (5 points was maximum, 1 point minimum). For the analysis of collected data, the Customer Choice Model (Logit) as a tool of Marketing Engineering for Excel program was used. With the help of this program it was possible to identify the significant attributes which influence market decisions of customers and also find out which factors do not have such a strong impact on customer choice.

The following tables (Table 2 and Table 3) resume observed answers of respondents. Table 2 informs about choices and past purchases of brands while Table 3 is a summary of average values of independent variables for each alternative.

*Table 2: Summary of observed answers of respondents: choices and past purchases (Own elaboration)*

	Choices	Past purchases
<b>Škoda</b>	7	23
<b>Volkswagen</b>	21	16
<b>Hyundai</b>	6	5
<b>Kia</b>	9	6
<b>Opel</b>	0	4
<b>Peugeot</b>	2	22
<b>Renault</b>	0	7
<b>Suzuki</b>	2	4
<b>Dacia</b>	0	0
<b>Toyota</b>	6	3
<b>Ford</b>	10	14

*Table 3: Averages of independent variables for each car brand (Own elaboration)*

	Past purchases	Price	Quality	Design	Reliability	Ecology	Safety	Innovation
<b>Škoda</b>	0,359	3,641	3,500	3,406	3,625	2,922	3,391	3,375
<b>Volkswagen</b>	0,250	3,297	3,953	3,984	3,938	3,031	3,859	3,609
<b>Hyundai</b>	0,078	3,281	3,344	3,391	3,391	2,906	3,234	3,297
<b>Kia</b>	0,094	3,313	3,219	3,438	3,391	2,938	3,203	3,313
<b>Opel</b>	0,063	3,203	2,906	2,922	2,922	2,719	3,078	2,859
<b>Peugeot</b>	0,344	3,266	3,094	3,000	3,016	2,703	2,969	2,891
<b>Renault</b>	0,109	3,156	2,719	2,781	2,828	2,828	2,859	2,750
<b>Suzuki</b>	0,069	3,063	2,797	2,828	2,875	2,625	2,969	2,891
<b>Dacia</b>	0,000	3,063	2,156	2,219	2,500	2,500	2,547	2,266
<b>Toyota</b>	0,047	3,156	3,344	3,109	3,250	3,031	3,281	3,156
<b>Ford</b>	0,219	3,469	3,609	3,516	3,406	2,906	3,500	3,391

From the data listed in Table 3, we can see the results of respondent's evaluation of selected attributes. Volkswagen placed in the first position in all attributes except of the price, where Škoda was the highest ranked car brand. On the contrary, Dacia recorded the worst results from all brands as it was ranked in last place in all of evaluated factors. The following table shows the rankings of the car brands based on the respondent ratings of all attributes.

*Table 4: Ranking of car brands for each of the attributes (Own elaboration)*

	Price	Quality	Design	Reliability	Ecology	Safety	Innovation
<b>Škoda</b>	1	3	4	2	4	3	3
<b>Volkswagen</b>	4	1	1	1	1	1	1
<b>Hyundai</b>	5	4	5	4	5	5	5
<b>Kia</b>	3	6	3	4	3	6	4
<b>Opel</b>	7	8	8	8	8	7	9
<b>Peugeot</b>	6	7	7	7	9	8	7
<b>Renault</b>	8	10	10	10	7	10	10
<b>Suzuki</b>	10	9	9	9	10	8	7
<b>Dacia</b>	10	11	11	11	11	11	11
<b>Toyota</b>	8	4	6	6	1	4	6
<b>Ford</b>	2	2	2	3	5	2	2

Table 5 was constructed with the use of the Customer Choice Model (Logit) in program Marketing Engineering. Coefficients that are significantly different from 0 are written in bold and they may be positive when approaching to 1 (positive influence on the probability of choice) or negative when approaching to -1 (negative influence on the likelihood of choice). The table informs about the significance of each attribute on the customer choice. In case of this study, to the group of statistically significant attributes we can include past purchases, quality and design. These three factors have the strongest impact on customer's purchase decisions.

*Table 5: Coefficient estimates of the Customer Choice Model (Logit) (Own elaboration)*

Variables / Coefficient estimates	Coefficient estimates	Standard deviation	t-statistic
<b>Past purchases</b>	<b>0,78064175</b>	0,321859006	2,425415274
<b>Price</b>	0,049267345	0,279611757	0,176199118
<b>Quality</b>	<b>0,805952845</b>	0,33843851	2,38138634
<b>Design</b>	<b>0,640156013</b>	0,259219782	2,469549228
<b>Reliability</b>	0,260263072	0,286311056	0,909022082
<b>Ecology</b>	0,120576786	0,248700684	0,484826916
<b>Safety</b>	0,492171187	0,304426543	1,616715751
<b>Innovation</b>	0,359671644	0,296818985	1,211754176

After statistical analysis of attributes and their significance which was done with Customer Choice Model (Logit), it was possible to find out the estimation of predicted choices of each brand and compare it to data observed in questionnaires. This step of the study was also executed with help of Customer Choice Model (Logit). Estimated number of predicted choices depends on customer perception of all attributes and also statistical significance of these attributes. After collecting all data needed, the algorithm of Customer Choice Model (Logit) enabled the calculation of predicted choices. Table 6 compares observed choices as a summary of respondents answers with predicted choices as a result of statistical analysis.

*Table 6: Observed Choices compared to Predicted Choices (Own elaboration)*

	<b>Observed Choices</b>	<b>Predicted Choices</b>
<b>Škoda</b>	7	<b>7</b>
<b>Volkswagen</b>	21	<b>27</b>
<b>Hyundai</b>	6	<b>4</b>
<b>Kia</b>	9	<b>9</b>
<b>Opel</b>	0	<b>0</b>
<b>Peugeot</b>	2	<b>2</b>
<b>Renault</b>	0	<b>0</b>
<b>Suzuki</b>	2	<b>1</b>
<b>Dacia</b>	0	<b>0</b>
<b>Toyota</b>	6	<b>5</b>
<b>Ford</b>	10	<b>8</b>

The results in Table 6 show the differences between observed and predicted choices. For companies, the information about predicted choices is more valuable than observed choice. It means that the initial observed choice may be different from predicted choice, which is influenced by customer perception of attributes and significance of attributes, too.

## 5. CONCLUSION

Based on the analysis of collected data, car brands should be interested in improving customer perception. More specifically, three attributes of customer perception are keys for increasing of the purchase probability – past purchases, quality and design. Other factors, for example price, ecology or reliability perception also have a certain influence, but in comparison with the three attributes mentioned above, their impact on boosting the possibility of purchase is almost negligible. This study also offers interesting data about customer preferences and also provides brands useful information about how customers look at them from the outside. Predictably, Skoda which is the obvious leader according to the market share placed very high in all attributes. What may seem a little bit surprising is a customer perception of Volkswagen, which came out from this study as a best rated car brand. Ford recorded very good results as well. On the other hand, brands like Dacia, Suzuki, Renault or Opel recorded poor ratings and these companies should take steps which would lead to improvement of customer perception.

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## LANDMARKS OF EFFECTIVE MANAGEMENT DECISIONS IN THE RUSSIAN RAW MATERIAL SECTOR

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### ABSTRACT

*To make effective managerial decisions, business needs development guidelines. It is shown, on the example of the Russian raw material sector, that traditional approaches to performance indicators have shortcomings. Part of the proposed models does not reach the set goals in practice. The issues of evolving management on the basis of the criterion of development and the validity of investors' choice remain unresolved. Business needs a system that allows obtaining objective data (both resultant and advanced) about the object as a whole and the risks for individual sites. The specifics of doing business in the raw material sector require correction of valuation methods. Based on the practice of using the cost concept by Russian raw materials companies, the author gives recommendations for developing an effective business management system, building a decision making system with the respect to the company's corporate strategy and strategies for competing business units. Analysis of the experience of raw materials companies allows us to state that the success of the activity can be achieved not only by the use of effective technology and new technologies, but also by the adoption of managerial decisions:*

- *the company's strategy is decomposed into a system of long-term and short-term target standards;*
- *the main criterion is detailed, responsibility for achieving its components is distributed;*
- *the strategy is translated into the language of concrete measures through plans and budgets;*
- *target indicators as a means of expressing the intentions of the company are based on key factors and correspond to the level of management, short-term target standards are tied to long-term ones.*

*The importance of taking into account the specific features of doing business in the raw materials sector (the company's security in proven reserves, etc.) is demonstrated. Analysis of independent rating agencies, which reduces information asymmetry, is needed while assessing the attractiveness of an asset. The investment attractiveness of the raw material assets is largely determined by the fundamental factors of growth (the level of reserves, volumes of extraction and transportation, operating efficiency, the amount of capital expenditure). Their significance varies over time, but the role as a foundation remains.*

**Keywords:** *Strategy, development guidelines, information asymmetry, features of raw materials business*

### 1. INTRODUCTION

The Russian economy lives mainly due to revenues from the export of raw materials. The share of raw materials in export revenue prevails over the incomes from processed products. More than a quarter of the gross domestic product, almost 30% of the country's budget, is formed in the Russian fuel and energy sector. Estimates of the raw materials business are carried out in accordance with the development criteria. Reliability and sufficiency are characteristics of effective development criteria.

However, approaches to the formation of criteria differ even for companies in the same economic sector. Moreover, recommendations are developed on the basis of different ideas about the goals of economic policy, and a set of indicators may not satisfy the restrictions of national economy [1, 2]. This is significant under the construction of guidelines for Russia's Energy strategy for the period up to 2035, some provisions of which are contradictory. Thus, if liberalization in the hydrocarbon market leads to the consolidation of assets, the concentration of competition policy on limiting horizontal integration - to the strengthening of vertical integration, and the transition to clean energy sources, proclaimed in the draft of the strategy, creates a prerequisite for more active involvement of the state in the economy. Market assessments and public policy guidelines may not have common ground and lead to multidirectional actions, which ultimately hinders the achievement of the strategy aims and increases the risk of deviation from the declared directions. Due to the difficulty of justification of the guidelines and complexity of the preparation process there are not so many strategic national programs, but Russia's Energy strategy is one of the few documents of its kind. The strategy is developed as a multi-vector document declaring the interconnection of the energy sector with various areas and spheres of activity: state regulation, competition, monopolization, pricing, social and environmental responsibility, innovative development, energy efficiency, export, etc. The prospects of energy development are considered not only in the sectors of the fuel and energy complex, but also taking into account regional and cross-sectoral aspects. The national energy strategy considers the introduction of modern technologies for oil and gas extraction and processing, high-performance equipment with a high efficiency, low energy consumption, and the restoration of the resource base. The document reflects the increased competition in the world energy markets, the slowdown in the growth of the Russian economy in the context of the deterioration of the geopolitical situation, the introduction of restrictions on access to the key technologies, equipment and international capital. The difference between the topics of this program document and the thesis description of industry directions leads to a certain declarativity and erosion of its integrity. The strategy cannot be used to make specific management decisions without additional clarification. The resulting indicators are mainly used as guidelines for the strategy, while the so-called leading (proactive) indicators that show risks of failure are more important for making effective management decisions. Therefore, such management technologies as the concept of key performance indicators (Key Performance Indicators, KPI), balanced scorecard (Balanced Scorecard, BSC) have not lost relevance and should be used in the formation of the Russian energy strategy. National companies are focused on integrating external conditions and requirements of state policy into their corporate programs. Although the most important indicators do not always become guidelines for developing strategies and making effective decisions. For example, there was a fairly high demand for renewable energy sources (RES). In the world business practice, RES is considered as one of the factors of competition for leadership and energy companies increase the "green" assets. Despite the positive assessment of RES, Russian companies show little interest in renewable energy. The current system of drawing up national programs and assessing of their implementation does not provide stimulating conditions for reaching the required criteria. Also, in conditions of resource availability and energy security, energy production continues to be carried out in the same ways, which does not require the involvement of innovations, creativity of management decisions. At the same time, the goals of the programs are not achieved and initially evaluated by analysts as wishes [3]. The new edition of the Energy strategy of Russia for the period up to 2035 plans to increase RES by 2035 more than 20 times, but the realization is illusory because of the small validity, as Russian companies invest sparingly in the development of green energy. In the future, this may mean the displacement of Russian companies from the positions of energy market leaders and the risk of losing their share in the world market, as well as the threat of taking their place by those who actively invest in the



development of RES. At the same time, Russian companies' adapting to changing conditions can trigger factors that distort them from the goals of the mentioned national Programme. There are several reasons for consideration of guidelines and estimations on the example of the commodity sector: first of all, due to its role in the Russian economy; secondly, because of the necessity to find investors and the need to take into account their specific interests; thirdly, the size of raw materials assets (only one transaction for the acquisition of "Bashneft" assets by "Rosneft" energy company is estimated at almost 330 billion rubles); finally, due to unresolved methodological issues of creating a management system based on strategic indicators.

## **2. MAIN BODY**

Approaches to development guidelines are constantly being adjusted. Previously, companies were more focused on gross performance, later there were attempts to shift the emphasis on quality, at a certain stage indicators of profit, profitability and costs prevailed. Financial indicators became dominant in estimates at the first stages of formation of the modern Russian economy [4] that led to:

- reflection of the effectiveness of only past activity;
- orientation to the internal environment of a company and ignoring of external processes;
- lack of measurable risk of income generation;
- incompatibility of results of companies in comparative analysis;
- the possibility to use different accounting methods for data manipulation;
- underestimation of the importance of intellectual capital.

In crisis conditions the emphasis was shifted to current activities, so growth was limited by the production factors and concentration on operational tasks meant a deferred interest to long-term issues. Approaches, based on profit indicators and in "advanced" national companies on economic added value, began to come to the fore. Recommendations over the attractiveness of assets were sparingly supplemented by information of a non-financial nature (quality of management, etc.), and managerial technologies, tested in Western companies, began to spread [5, 6, 7]. The idea of presenting the final financial indicators in the form of a tree of interrelated indicators that affect the result, which are detailed to the factors of lower levels, was in demand (Gazprom, LUKOIL, Norilsk Nickel, Russian aluminium, Severstal). However, in practice, the preference for financial criteria without taking into account industry specifics gave incorrect guidelines, for example, many companies underestimated the rapid development of shale hydrocarbon production technologies. Modern approaches to the formation of criteria for development allow obtaining resulting information about an object and advanced data about risks that can occur. Such methodological approaches provide a link between financial and non-financial indicators, strategic and operational levels (such as a balanced scorecard). The experience of Russian companies in the raw materials sector shows that if the system of criteria is not built as a tribute to trends, then the most important benchmark is the growth of capitalization of the company [8], which should be supplemented by industry data. High capital intensity for traditional fields (in shale oil production the situation is different: the share of investments is lower and is about 40%), as well as long period of return on invested capital (due to exploration, commissioning of fields) are considered to be distinctive features of the raw materials business. In commodity business assessments, the financial criteria for a strategic investor are supplemented with key information on the timing of the development license - 20 years (excluding exploration) and 25 years (including exploration). Also, the conditions of subsoil use, the tax system (including the rental component) are significant for investors. In addition, the most important feature of the valuation of the commodity business is the methods of inventory accounting. The majority of foreign investors put forward a demand for in-depth data on reserves.

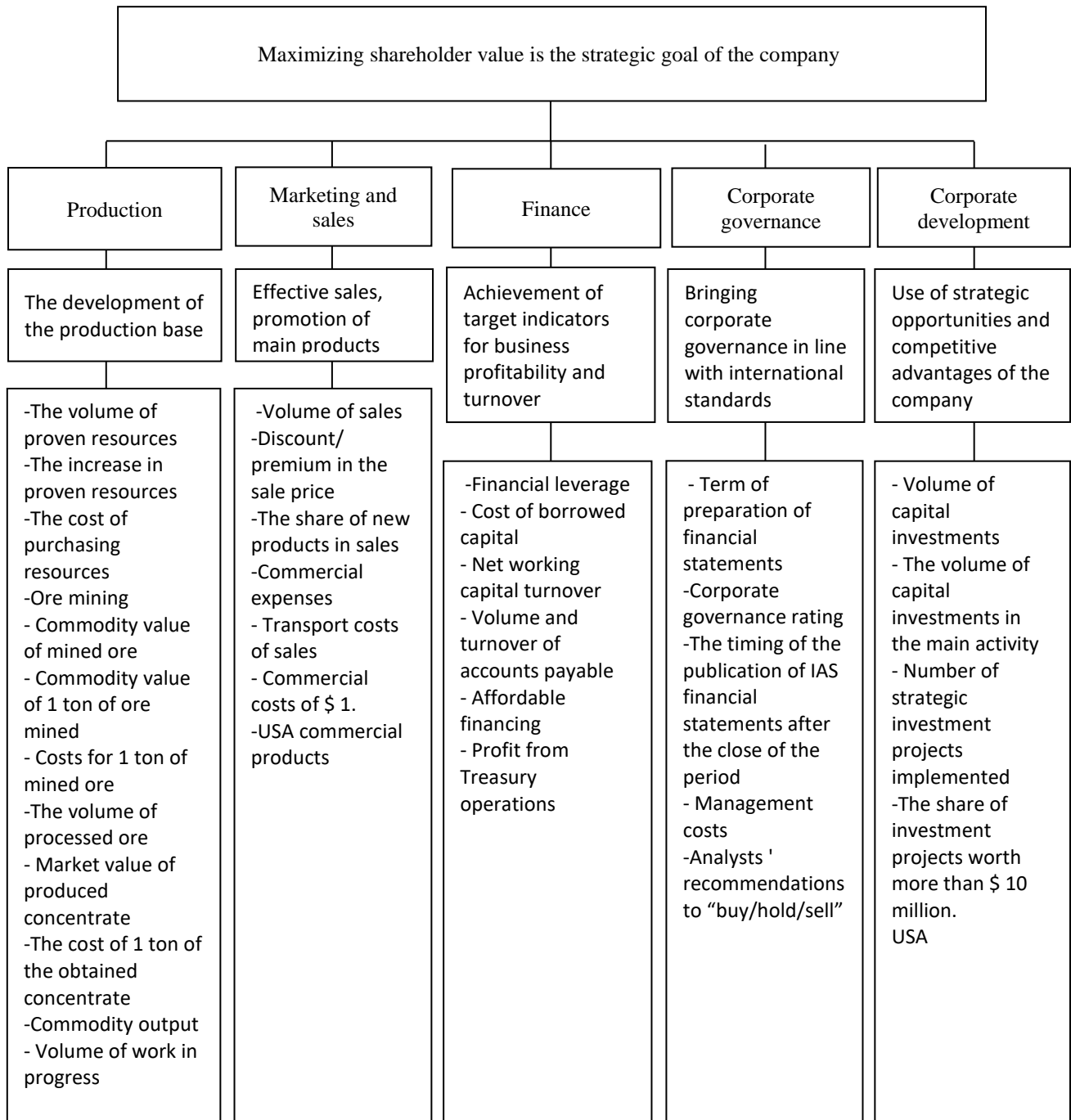
Despite the recognized qualification of Russian specialists, foreign investors want confirm the results and hire consultants of foreign companies. For example, Micon conducted the audit of ore reserves and mineral resources of Talnakh, Oktyabr and Zhdanov fields by the JORC standard (Australasian code evaluation of mineral resources and ore) for "Norilsk Nickel". Audit of reserves of LUKOIL was carried out by the Miller and Lents, Ltd company. Explored reserves, productivity, recovery factor, the volume of oil, gas, coal, etc. - these are the main factors on which the cash flows of the commodity company are formed, such a kind of proof of reality in the future. Their significance varies over time, but the role of the foundation of the raw materials business remains, therefore for companies in this sector such information is fundamental. When comparing oil giants, it is clear that in terms of resource base, geological exploration, production - Russian companies are world's leaders, they outperform competitors in production indicators and would have to provide an appropriate level of capitalization and attractiveness, but their multipliers (capitalization / reserves and capitalization / extraction ) much lower. Normative values for multipliers do not exist, but in developed markets for investors, the benchmark level of the P / E ratio (the ratio of the stock price to the net profit per share) is from 20 to 30. On the example of the unaccepted draft of the national energy strategy 2035, there is a lack of correlation between the national strategy and the strategies of individual energy companies, even in companies where a significant share of assets belongs to the state. The experience of large companies (Gazprom, Norilsk Nickel, LUKOIL) shows that it is important to implement a unified strategy for the state and companies, as it will help to take into account the peculiarities of exploration, production, processing, transportation:

- focus on long-term indicators, taking into account the indicators of exploration, high capital intensity, ore production, oil, gas, etc.;
- focus of the corporate center and structural divisions of the company on achieving strategic goals with the respect to the location of deposits;
- elaboration of corporate strategy and competition strategies for business units, as well as functional strategies considering the company's structure.

Building a management system based on the value concept allows accomplishing tasks to achieve the goals, distributing functions and powers among units, giving managers the rights and responsibility for fulfilling the goals. Decomposition of the development strategy into its components, planning and measuring the result using key performance indicators (Figure 1) creates the company model [10], which ensures the growth of efficiency through the management of cost factors. Informing business community is the most important area of application of evaluation guidelines. The information should be prepared with the respect to the policy of potential investor, as it will help to bring to an effective decision quickly. The financial speculator does not need a long-term development of the acquired assets, he needs profit in the near future. Pension funds "all other things being equal" lay in the calculation of purchased assets a higher price they can get in a few years. The guidelines of institutional portfolio investors (financial investors interested in portfolio diversification, but they do not interfere in management issues) differ from the criteria of strategic investors from industries and especially from small individual investors. This circumstance was demonstrated in the context of the Ministry of Economic Development of the Russian Federation (2016) for the purchase of Bashneft - participation in the tender of only strategic investors. Private equity funds (investors claiming the role of strategic partners in the medium-term period of 3-5 years) are ready to participate in the resolution of operational issues, acquire blocking packages. Effective decision-making is increasingly influenced by information openness: expanding the boundaries of transparency reduces information asymmetry [11, 12]. The incompleteness of the information forces companies to move towards greater openness and encourages investors to search for additional data.

For commodity companies increasing of information openness is associated with vulnerability and certain market problems, as competitors can use open data to their advantages. In practice, such companies as Gazprom, LUKOIL and Norilsk Nickel sign confidential agreements that require the disclosure of additional information to the investor. In addition, investors get information from open recourses. The analysis shows that despite the differences in approaches to the development of programs and strategies, commodity companies are largely similar in their elaborations. If BP pursues exclusively commercial goals, Gazprom Neft's programs reflect the interests of the state and properly reflect the provisions of the concept for the development of the Russian energy sector. The strategic program of Gazprom Neft distinguishes the production structure by type of activity: production, refining and sales, regardless of costs, also there is an attachment to a particular region of Russia and a certain static – maintaining a constant ratio of reserves to production, but no mention of the financial component.

*Figure following on the next page*



*Figure 1. Practice of raw material companies in decomposition of strategic goal: functional strategies and key performance indicators*

The direction of expansion of the resource base is determined by the shelf, the production of which is significantly more expensive, i.e. the basis for future development is to maintain and increase the volume despite the increase in costs. And BP admit reduction of oil production and implements only projects with the cost of oil extraction below the current one. Gazprom Neft is trying to take a place in the high-margin markets of motor oils and other highly profitable products, where there is already a great competition in the world market and it is more realistic to take better place in the national market. BP is committed to remaining a sustainable company in a changing environment, creating new products and developing new segments. An example is its cooperation with automakers, which will allow the company to more subtly feel the new trends in the functioning of the main consumers of BP products.

At the same time, Gazprom Neft sets goals until 2025. BP annually reviews the strategy for 5 years. Unlike Gazprom Neft's strategy, BP's program pays more attention to potential threats and possible responses to them. Gazprom Neft's strategy can be described as balanced and filled with quantitative indicators for each area of activity, but at the same time static and not taking risks into account. Achieving the goals could lead to good financial performance of Gazprom Neft, but with the recent development of negative trends, financial well-being is being questioned. Hence: obtaining a high financial result for the period does not lead to a similar situation in the future. World practice shows that for the adoption of an effective management decision, information is required not only from the owner of the asset, but also from information intermediaries. Investors are interested in evaluations of independent experts of rating agencies [13]. The assessments of leading international agencies (Fitch Ratings, Moody's, Standard & Poor's) are in demand. The most significant features for calculating of ratings for commodity companies are the conditions of the subsoil use regime, the tax system (including the rental component). The ratings allow formulating forecasts, providing information about risks and thus influencing the choice of the investor [14]. In the midst of the geopolitical conflict, the ratings of a number of Russian companies were withdrawn. The assessments affected the issues of technological cooperation. For example, Exxon Mobil, which for many years cooperated with Russian companies, turned exploration drilling in the Kara Sea. The downgrade of Russia's sovereign ratings by leading international rating agencies (Standard & Poor's, Fitch Ratings and Moody's) affected the outflow of investments and increased the cost of borrowing. Given the volatility of the market, decision-making in the raw material sector of the Russian economy is only permissible in the short term. To make an effective management decision, it is necessary to know and take into account the specifics of doing business in Russia, and this causes the emergence of national rating agencies. Assignment of a credit rating on the Russian scale provides some advantages to participants of the domestic rating system: obtaining a competent risk assessment of investment / lending in relation to other Russian borrowers; improving the conditions for attracting resources, increasing liquidity of ruble debt obligations; strengthening of positions in the competitive struggle for credit resources on the Russian market. The creation of a national rating system is a chance to create market institutions in Russia, although at first the return will be low. The diversity of approaches to the construction of ratings will lead to less bias and increase the objectivity of the results. Now companies and potential investors have a need not for speculative risk assessment, but for an assessment without a political component. The problem of quantitative determination of the impact of irrational behavior of the investor, information asymmetry, the limited nature of the information disclosed by the company remains unresolved. It is difficult to calculate the measure of influence, but the name of such processes did not arise difficulties: it is the management of investor sentiment, regulated by the policy of revenue management and disclosure policy.

### **3. CONCLUSION**

The criteria for making an effective decision have been tested by world practice, but they need to be laborious enough to apply in the raw material sector. "Price" and the objectivity of the development guidelines vary, but for a full-fledged picture, one can not rule out any part. The need for objectivity of benchmarks is steadily increasing, they are laid in forecasts and are the basis of management decisions. Market participants smooth out information asymmetries by analyzing open data and entering into additional disclosure agreements. Leading international agencies assign low ratings to Russian assets despite objectively unattainable for many Western companies performance indicators (e.g. one of the world's leaders in the mining and metallurgical sector- Norilsk Nickel). External factors in the assessment of the Russian economy continue to dominate the fundamental ones.

This situation is especially unfavorable for the commodity business, as it requires long-term investments in the arrangement of deposits, construction of mines, oil and gas pipelines, etc. The experience of Russian companies shows that the reality of future cash flows should become an indicator of success. National development programs and strategies do not fully comply with modern principles of running, so far they have not become the basis for the development of corporate strategies, the guidelines of the Russian economy are not tied to the development of individual companies, even for ones where the state's share is significant. The criteria of the national strategy are not decomposed, as well as the presence of both cost and production indicators are insufficient. Effective decision-making requires not only an objective assessment of the potential of Russian companies in the commodity sector, but also the disclosure of estimates on individual parameters. In conditions of instability of the macroeconomic situation, uncertainty of the geopolitical situation, the importance of production indicators is increasing: provision of reserves, exploration of subsoil, extraction factor, depletion of deposits, coal production volume, oil and gas processing volume, well productivity, etc. The experience of Russian commodity companies shows that the value of estimates can be adjusted by using international approaches. The attractiveness of Russian assets increases when assessing reserves and resources according to recognized international standards. To make decisions analysts, in addition to calculating the effectiveness of investments, need information on risks from independent experts and rating agencies, which increases transparency, reduces information asymmetry and contributes to the fair valuation of business.

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## **INTERNAL MARKETING CONCEPT - THE CHALLENGE OF MANAGEMENT IN THE NEW MILLENIUM**

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*“Success does not depend on time, place or circumstances. It depends on man himself.” Charles Raus*

### **ABSTRACT**

*Successful management was and remains the goal of every company. What changed over time are the ways in which it was accomplished. Technology was once a key, former mode of operation, but today it is the skill and management ability to attract employees for their own idea, vision, strategy. Processes of modernization of business and management, abandoning traditional, obsolete and introducing new, modern management styles – are transition processes as well. Many people are forgetting them, but without them any other transformation can hardly be successful. Therefore, the transformation and training of a company for a high-quality market entry must incorporate management transformation (change in the understanding of the role of management) and introduction of a modern management concept. It is necessary to enter new knowledge in this area into companies and extend them all the way to the operational levels. This paper seeks to emphasize the importance of a good internal marketing and communication in the company and to point out that employees who perform their business are the most valuable assets of each enterprise, that the strength of the enterprise is in the capacity of all employees, and that employees are those who make the enterprise what it is. They are the ones that give life to the enterprise and enable it to function. The purpose of the application is to apply the modern techniques and knowledge of internal marketing and advance the business performance of the company.*

**Keywords:** *internal marketing, communication, motivation, integration, collaboration, teamwork*

### **1. INTRODUCTION**

One of the most important tasks of management is to create an environment and a climate that motivates employees. Survival and success increasingly depend on the day-to-day mobilization of the intelligence of all employees, and the task of management to continually create the conditions for expressing and using their potentials is expected to be increasingly important in the future. The modern enterprise places a high quality organizational climate and culture in the center of attention, and the key precondition for the creation of such a culture and climate are satisfied and loyal employees. Employees are not an address for sending appeals to work better, to be disciplined, to engage more, or to threaten what will happen if they do not. Management has to lead employees and find ways to motivate them to give their maximum.



The success of any organization represents the first internal integration, and then comes the external integration with the environment. These external integrations do not exist if the interior is "rotten". It is very difficult to influence people, they are not driven by reason alone. Their motives are much more diverse and complicated, they seek rest, prestige, reputation, security, respect ... that is why it is not easy to motivate and mobilize them. Hence this business can not be done amateurly. The manager must be able to penetrate the consciousness of people and find out what they are looking for, what they really want. Traditional mental models of understanding the role of managers, by which management means deciding what and how to work and how they will be controlled (Planning - Organizing - Controlling) are becoming a past, because this is no longer their primary (main) role. Instead, employees should be provided with the right "drive energy", empower them, support them in what they do and let them work (Manage - Enable - Follow - Support). Internal organizational boundaries in companies become increasingly vague, organizing and co-ordinating activities through detailed planning has less and less importance, and more importantly, management develops "softer" skill (wisdom) to get the best for the organization from each and every individual. A "latticed", non-hierarchical organization is created, which provides an uninterrupted flow of information, encourages the takeover of responsibility and interaction between "equal", informal communication and leadership independently of the hierarchical level. Today, companies dedicate most of their time to planning marketing activities to customers of their products on the external market. Many of them, however, do not recognize that similar activities can be tailored to the internal market (within the enterprise) and the application to their employees.<sup>1</sup> Although people are almost always the highlight of our greatest wealth, so far, a little has been done to explore their needs, motives, conflicts and frustrations, group research, culture, communication. Many of our companies still work on the Taylor model, with a management whose task is to think about the workers who are there to do and do not ask much. What is more, many are deeply confident that this is the right way to run the business. Time has come for this understanding to change and it will change, with all those who want to succeed in the most demanding market.

## 2. INTERNAL MARKETING AND HUMAN RESOURCE MANAGEMENT

In the modern management concept, people occupy a central place. After all, it is often defined as an effect on the behavior of employees in order to achieve the goals of the organization. The orientation towards people, as a dynamic element of the organization and human resources management, becomes the dominant task of management and strategic orientation of modern business. They become a key element (resource) that can mean the difference between success and failure. Encouraged by increased competition, rapid technological change, globalization and other factors, businesses have tried to understand how to use human resources for competitive advantage and to achieve organizational superior performance.<sup>2</sup> Over twenty-five years ago, Leonard Berry first used the term internal marketing, defining it as the application of marketing theory and practice in serving external customers in a way that implies: recruiting and retaining the best employees and their willingness to do their best work.<sup>3</sup> Paliaga, Strunje and Pezo believe that internal marketing should precede external marketing activities because services and customer relationship are the basis for creating satisfied customers.<sup>4</sup>

<sup>1</sup> <https://www.posao.hr/clanci/karijera/na-radnom-mjestu/interni-marketing-konkurentska-prednost-poduzeca/218/> (date of access: 11.4.2018.)

<sup>2</sup> Davoudi, S. M. M., Kaur, R., *The link between internal marketing and human resource management*, Arth Prabhand: A Journal of Economics and Management, 2012., p. 59.

<sup>3</sup> Little, E., Marandi, E., *Relationship Marketing management*, Thomson Learning, London, 2003., p. 114.

<sup>4</sup> Paliaga, M., Strunje, Ž., Pezo, H., *Application of internal marketing in enterprises of the Republic of Croatia*, Economic thought and practice, 19, 2010., p. 212.

Internal marketing is a concept whose basic goals are to motivate, attract and retain quality and professional employees who are primarily oriented towards the quality of the business portfolio offered to customers, all in the function of improving the profitability of the company.<sup>5</sup> It includes all those managerial actions that help employees understand, accept and fulfill their roles and tasks in order to achieve the goals of the company as a whole. Therefore, the primary goal of these activities is to create a positive work atmosphere and satisfied and loyal employees. The application of the philosophy of internal marketing should in fact provide greater motivation for employees. Internal marketing can also be seen as a process of exchange between management and employees: management has the task of providing optimum working conditions and meeting the needs of employees, while in return, employees are optimally at work, achieving and maximizing performance. A common goal both of both others is profit. Kotler believes that internal marketing should have priority over external marketing, because internal marketing begins with the organization of recruitment of suitable people who are willing to perform customer satisfaction by doing their job.<sup>6</sup> If adopted and applied in an enterprise, internal marketing leads to long-term growth and success, regardless of the activity of the company. Internal marketing has significant touch points in the field of human resources, and the analysis of the concept of internal marketing and its basic dimensions in the function of improving human resources is a significant factor in creating a competitive advantage in today's dynamic business environment. Thus, Frank Bradley integrates internal marketing closely with human resources management and the way in which the organization develops its business culture.<sup>7</sup> There is no internal marketing without the business decision-making of strategic management, which has the basic task of motivating team members to work together to achieve the business mission and goals of the company, in the short and long term.<sup>8</sup> Summarizing the definitions of internal marketing encountered in literature, they can be classified into four groups, according to a dominant perspective that is displayed:<sup>9</sup>

- Internal marketing is a prerequisite for meeting external consumers;
- Internal marketing is a source of competitive advantage;
- Internal marketing is a synonymous with Human resource anagement
- Internal marketing is used to use marketing techniques in the internal market.

The first step towards creating satisfied and loyal employees is a mission statement that integrates, directs and motivates employees. First of all, it should emphasize the need for recognizable identity, feeling of belonging, belief in all employees to identify with the goals of the company, to instruct all employees on the way to go and the goals to strive for. It should first acquire all employees, and then clients, suppliers and the general public. Without it, there is very little chance of being filled, no matter what owners and managers are trying to do. Employee satisfaction implies their emotional orientation and attachment to work, while loyalty implies a sense of belonging to employees of a company from the point of view of their activities and interests. Between satisfaction and loyalty there is a cause-and-effect relationship that does not always have to be linear.

<sup>5</sup> Domazet, I., *The role of internal marketing in improving the quality of human resources*, U: J. Zubović (ed.), *Active labor market measures and employment issues* (p. 260–280). Belgrade: Institute of Economic Sciences, 2011. (p. 260.).

<sup>6</sup> Kotler, P., *Marketing Management* (11th ed.). Englewood Cliffs: Prentice Hall, 2000.

<sup>7</sup> Bradley, F., *Strategic Marketing in the Customer driven organization*, John Wiley & Sons Inc. Chichester, 2005., p. 7.

<sup>8</sup> <http://savjetnik.ba/wp-content/uploads/2013/04/interni%20marketing%20kao%20integracijska%20funkcija%20menadzmenta.pdf> (date of access: 12.4.2018.)

<sup>9</sup> Davoudi, S. M. M., Kaur, R., *The link between internal marketing and human resource management*, Arth Prabhand: A Journal of Economics and Management, 2012., p. 60.

Certainly, the goal of the management is to have satisfied and loyal employees, because only then they achieve the best results and only then can one expect a success. If there are no satisfied employees, there will be neither satisfied customers nor satisfied owners, and the activities of internal marketing are often of crucial importance. People are born with the need to have relationships and connections with other people. Management must have sufficient knowledge and skills to make a "relationship" with employees, and the way to do this is much. Some of the most common are: more social programs for employees and their families, more information for employees, internal publications, audiovisual media (internal radio, television...), intranet and e-mail, organizing discussions on certain issues, internal events that encourage the socialization of employees (sports competitions, festivities, various sections...), training and specialization programs through seminars, lectures, creative workshops, professional excursions and study visits, organization of humanitarian actions, meeting of pensioners, literary evenings, joint excursions and trips, top management visits to production facilities, honors and awards for years of work and loyalty to the company. If management, as Mary Parker Follett emphasized, is the ability to do things through people, then for superior business, human resources have a multi-dimensional role, and successful management of them becomes the key to the success of each enterprise. The content of the concept of internal marketing and human resources management, above all, implies:<sup>10</sup>

- Employee competence, high level of their working ability, skills, knowledge;
- Accepting the obligation of employees to fulfill their tasks, loyalty to the organization and high motivation;
- Matching opinions, wishes, sharing the vision, planning goals of management and employees at all levels of the organization.

Developing internal marketing strategies involves a three-phase approach:<sup>11</sup>

- Creating a business environment that enhances employee safety;
- Designing the organizational structure and communication lines without functional barriers;
- A clear vision of the internal organization by the top management.

Internal marketing should be a continuous process within the company, because by treating employees as consumers, the motivation of employees and their focus on external consumers increases. The role of internal marketing is to build the image, help in the processes of improving individual and business performance, develop employee and consumer loyalty, improve the motivation of employees and help in the process of creating and using new individual and organizational knowledge.<sup>12</sup> Internal marketing enables easier movement of information between employees and managers, facilitating the acceptance of market orientation,<sup>13</sup> improves the adoption of corporate values by employees at different levels within the enterprise (Wieseke, J., Ahearne, M., Lam, K. S., Dick, V. R., 2009, page 126)<sup>14</sup>. Internal marketing shows its results externally. The company can have brilliant ideas, but if it fails to realize them, they lose each sense in themselves. Time, effort and money invested in product promotion are wasted if no employee knows and is not informed about the product itself and

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<sup>10</sup> Ristić, Z.: *Internal relations - from loss to profit*, collection of papers: „Social work and social politics“, Faculty of Political Sciences, Belgrade, 2002. (p. 87).

<sup>11</sup> Egan, J., *Relationship Marketing*, Prentice Hall, Harlow, 2004., p. 164.

<sup>12</sup> Gounaris, P., S., *Internal market orientation and its measurement*, Journal of Business research, Vol. 59, 2006., p. 435.

<sup>13</sup> Lings, N. I., Greenley, E. G., *The impact of internal and external market orientations on firm performance*, Journal of Strategic Marketing, Vol. 17, No. 1, 2009., p. 45.

<sup>14</sup> Wieseke, J., Ahearne, M., Lam, K. S., Dick, V. R., *The role of leaders in internal marketing*, Journal of Marketing, Vol. 73, No. 2, p. 126.

its value. The essence of internal marketing is that employees treat their colleagues who come in the business process after them as users and that marketing principles are applied within the organization. If everyone in the company accepts marketing principles, then each of the employees tries to facilitate the work to others. The essence of internal marketing is that the key to satisfactory business results lies in creating satisfied, motivated and outsourced clients of highly-oriented employees. The company operates many factors from an external environment, to which it can not influence and can not be changed, but must constantly monitor them and have a good knowledge of them in order to adapt their goals and achieve the planned results. Unlike the external environment, in the internal environment it is necessary to provide the necessary conditions for the realization of the business goals, the best possible combination of the following elements:<sup>15</sup>

- people with their knowledge and skills;
- technologies and
- labor organization.

### **3. EFFICIENT INTERNAL COMMUNICATIONS - THE PREMISE OF SUCCESSFUL INTERNAL MARKETING**

In an endeavor to establish and develop good relationships among employees, the role of internal communications is very significant. An adequate system of internal communication contributes to such interpersonal relationships that will create the conditions for each individual to show a sense of respect, strengthen and positively motivate motives, encourage creative enthusiasm and the will to do more and better. The awarding of awards for company loyalty, various parties, birthday parties, the presence of colleagues, joint lunches, visits to sports and cultural events are just some of the ways to encourage the exchange of information, ideas and mutual cooperation between employees. No one in the company should have a monopoly on information. However, since information means power, often individuals hide the most important information in order to preserve their status or protect themselves and offer hundreds of others confusing. This creates an apparent paradox that there is a "flood" of information, and employees are still insufficiently informed, just like when floods occur, people are splashed with water from all sides, yet they are thirsty because they can not drink this water. Good managers are trying to accumulate the knowledge that is available to all employees and build the strength of the company on this. Every individual is expected to establish relationships of mutual trust and communication with as many people as possible in the enterprise itself. Through the daily working activity of individuals in such an atmosphere, a "network of trust" is created, mostly unconscious, but motivated by the thoughtful management policy. Emphasizing the importance of internal communication Cy Charney suggests management what to do to get more employees, expand its aspects and gain tighter ground under your feet:<sup>16</sup>

- Include people in the changes you make, ask them for an opinion - so they feel more valued and more open to take on obligations
- Listen to what they want to say to you, try to understand their thoughts and feelings (interests, goals, concerns);
- Take care that communication is open and objective, to prevent possible doubts and reprisals;
- You are dealing with issues that are not easy to "talk," otherwise the problem will become more serious;

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<sup>15</sup> Zubović, J., *Development of the economy based on investments in human resources and foreign investments*, Institute of Economic Sciences, Belgrade, 2010. (p. 40.).

<sup>16</sup> Customized to: Charney Cy, *Efficient manager*, Grmeč – Economic review, Belgrade, 2006, (p. 40, 41 and 50).

- Listen, you must have hearing rumors in order to identify the problem in time before it is taken away;
- Encourage people to communicate with you, make it easy for them to reach you, manage walking, let them see you;
- Encourage the associates' ideas by accepting good suggestions; thank them for suggestions, even if you always disagree with them.

A good example of management based on the concept of internal marketing, widely-established communications and collaboration is the Japanese *ringi system* (consensus management), which provides employees with the opportunity to discuss and respond to top management proposals, focusing on group operations, harmony, open communications and voluntary participation. Management does not make decisions on its own, it is collectively discussed, proposed and decided. All employees are involved in decision making, planning and execution of tasks. Employee satisfaction means individual status and maximum engagement, and effective communication contributes to a better understanding of organizational goals, with consideration and satisfaction of personal contribution, because then everyone is clear where the company is going and what it is trying to do. In this case, internal communication is not just a set of tools and tools, but also the way in which the company communicates with its employees in accordance with its values. Its role is to transmit information in a responsible manner in the company, through different levels and functions, and to assist other services in their communication, and ultimately, by establishing a feedback mechanism, it also has the role of monitoring. Of course, planned and organized. For, as Bernard Shaw once said, the biggest problem in communication is the illusion that communication is ultimately realized, which is its ultimate goal. In essence, internal communication should identify what employees are doing, think and want, and align the needs and expectations of the company and its employees, to be the key to gaining support for company goals and employee satisfaction. It is estimated that as much as 60% of the management problem comes from weak, i.e. poor communication.<sup>17</sup> Research shows that 9% of customers are lost due to competition, and even 68% due to lack of interest.<sup>18</sup>

#### **4. INTERNAL MARKETING, COMMUNICATION AND ALIGNMENT OF PERSONAL AND ORGANIZATIONAL GOALS**

Communication is crucial for successful internal marketing. It allows employees to understand and accept business mission, strategy and tactics. The company must provide adequate communication to enable each individual to see themselves as part of the whole. For what is best for the organization as a whole does not mean at the same time expressing the interests of all those people from whom the organization consists and whose co-operation is necessary to ensure the efficiency of business. An organization becomes effective only when its members align their individual interests and goals with common interests and goals.

Managers must have 3 goals towards employees:

- To enable them to fully understand and accept what the top management proposes;
- To indicate that employees are behaving in a manner that he requires;
- To achieve that employees are more closely identified with the company, its achievements and goals.

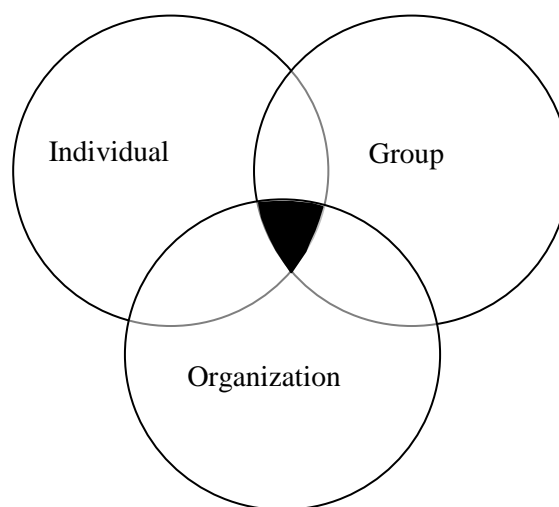
Adequate business relationships should reflect the harmony between employees and proclaimed business philosophy.

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<sup>17</sup> <http://pr.org.rs/interne-komunikacije/> (date of access: 12.4.2018.)

<sup>18</sup> <http://www.drustvolobistasrbije.org/files/pdf/interna-komunikacija.pdf> (date of access: 12.4.2018.)

The basis of such relationships is the constant commitment of management to employees. Often, despite the undeniable intelligence and dedication, the manager does not achieve success, because he does not realize that his efforts are a reflection of the efforts of the people he works with and because he does not devote enough time to talking to them, listening to their problems, motives, desires, interests. It will miss management if it thinks that good and regular salaries are sufficient compensation for employees. They want a challenging job, a job that gives them satisfaction. Deming E. identifies an example of a well-run enterprise with an orchestra, in which each musician provides support to others. Every musician must learn to play as a soloist, but also by always remembering that he is a necessary element of the team. The integration of employees into the collective aims at its greater homogenization and the establishment of closer relations between employees, it should promote harmony and create a spirit of community, develop the feeling of each member that it is needed for the company, but also that the company needs it, which is not a bit simple task.<sup>19</sup> The job of managers is to mobilize and activate the energy of all employees and direct individual efforts towards a common goal, to create an environment that supports ethical healthy behavior and inspires a sense of shared responsibility, to create a conviction with employees to work in a successful, affirmative, significant and good company. This can only be done by encouraging direct, direct and open communication, demolishing the walls between the services and creating a better understanding of each other's activities, creating conditions for informal conversations between employees regardless of their status and position, continuous learning, progression, effective training programs, and motivation, encouraging participation, developing self-control and self-awareness among employees. The organization functions with the collective action of groups, it is made up of people who accomplish common tasks and between which there is a direct interaction and organizational coherence of their activities. The people and organizations they create, make their relationships based on reciprocal interests and needs. Bringing individual goals together with the objectives of the company as a whole is the key task of modern personnel management. This is not an easy task, since the individual's actions are motivated by individual reasons and can, sometimes, be contrary to the interests of the company. That is why individual goals and tasks must be maximally incorporated into the company's collective goals and strategy. Individual interests should not be above the general interests of the company, but even the goals of the company should not jeopardize the interests of the individual.



*Figure 1: Place of common interest*

<sup>19</sup> Ristić, Z.: *How to create apostles?*, Business politics, Belgrade, November 2002. (p. 63.)

The dimmed surface represents a place of common interest. The basic questions that are raised are: How to increase the space of common interests and how to act within it<sup>20</sup>? Like a sports coach, a good manager searches for and finds the best in every person, encourages employees to work together in a team, take responsibility and participate in decision making, is ready to raise morale, always has an "open door", visits employees at their workplaces, wants to know their problems, does not close in the "fortress" of his office, he is a good listener, he is ready to hear everyone's opinion, honest and open to everyone, is persistent, but tolerant, he does not force his own opinion and he is ready to tolerate others disagreeing with their attitudes, knowing the names of their associates and trusting in them, is not arrogant, open to communication and does not block information, is honest and principled, never works behind the back and does not hurt associates, possible conflicts are resolved "face to face" And not through papers, reports, commissions or third parties, does not manipulate people and do not just tell them what they want to hear. Such a manager is characterized by the following characteristics: intelligence, inspiration, sincerity, honesty, courage, imagination, flexibility, willingness to cooperate and ability, ability to create and lead an effective team, energetic, innovativeness, ability to create a vision, charisma, democracy, education, creativity, competitive spirit, self-confidence, self-control, cold-bloodedness, calmness, serenity, optimism... Consistent relationships between managers and employees are in the interests of both of them. Cooperation, respect and trust, should be the backbone of such relationships. This enables teamwork, creativity and innovative behavior of employees. Today, there are those who think that their position allows them to be solemn and to command, those who do not notice their associates or notice only a few of their closest associates. Nevertheless, the commandment may have resembled the tribal leaders, but not the business managers, and the days when it was believed that the dignity was the same as the firmness are behind us. Managers are not a privileged class; they are members of teams rather than bosses of subordinates, they increasingly take on the role of adviser, instead of threats and punishments they should promote initiative, encourage, learn and inspire, not discourage them, they sound negative and criticize; The manager should create, not to ruin, without impatience, without shouting, without hysteria. Stimulating employees on more engaged work is done by economic and non-economic stimulants. Economic stimulants are more effective in conditions of underdeveloped living standards, but their importance gradually decreases with raising the standard of living standards and they give way to non-economic stimuli (workplace atmosphere, advancement, social status ...). There is no unique way to motivate people, different people start different things, everyone has their own way of thinking and doing things. Motivation is not something that can be provided by a simple "swinging of carrots in front of a rabbit". There are many reasons why people are working, and in seeking the answer to this question, the biggest mistake that can be made is to assume that all people want the same. Motivated employees are primarily created:

- By respecting the basic wishes and individual reactions of employees, by giving a greater degree of personal responsibility,
- By participating in the formulation of objectives and their realization; Providing incentives in the form of prizes, travel, status;
- By establishing clear and acceptable objectives, which provide a framework for a common sense of intent;
- By providing an adequate training program for administration and employees.

## 5. FINAL CONSIDERATIONS

For many years, success has been based on efficient management, and the focus on the so-called. hard organization dimensions, such as technology, organizational structure, strategy.

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<sup>20</sup> Gruban, B., Verčič, D., Zavrl, F., *Approach to Public Relations*, Pristop, Ljubljana, 2007. (p. 9.).

This approach to management gave good results until the 1980s when it was necessary to create conditions that would satisfy the new generation of employees and their ways of looking at work, values and beliefs, incentives and expectations. That is why, in the organization and management of successful companies, the focus is from the hard to the soft governance dimensions, such as culture, climate, satisfaction, leadership, motivation, rewarding system, communication. Employees are ready to take the initiative and identify their goals with the goals of the company if there is a concern for the company about employees who are educated, progressing and motivating in continuity. The ability of the company to take care of employees depends on recognizing the importance of the concept of internal marketing, but at the same time the degree of development of the emotional intelligence of managers. Specifically, internal marketing influences the development of organizational competencies and the improvement of business performance through the application of marketing as a philosophy directed to both the external business environment and human resources that are the most important instrument for implementing the strategy and achieving the goals of the company. This concept implies a well-built and implemented system of education, motivation and stimulation of employees as a basis of their loyalty, without which the management of the company can not expect optimal results after the implementation of the concept of internal marketing. The premise of successful implementation of the concept of internal marketing is its putting into the core of the activities of strategic marketing management, as well as the visible support of senior management. It is considered that internal marketing is a prerequisite for successful external marketing. Integration of internal and external marketing into a single system assumes the effectiveness of marketing as an organizational unit (business function) in an enterprise. Internal marketing is an important segment of organizational development and change, so its non-implementation can be faced by the management of human resources companies that are resistant to process changes and adaptation. Internal marketing strives to connect and co-operate the employees of different functional areas, accept the marketing approach by all employees, motivate them and satisfy them so that the quality of the provided services and the delivered product is as good as possible. The application of internal marketing in our companies is still not systematically explored, and occasional data collection on the level of its application shows that there are many activities that in their nature correspond to the activities of internal marketing (e.g. employee training, selection and rewarding of the best, prize incentive travel etc.). These activities are mostly planned and implemented without the existence of a formal internal marketing plan and most often form part of the human resources management practice in the company. Perhaps, in the wake of unfavorable circumstances, in this region, it is forgotten how important these all really are. The economic situation, obsolete system of values and attitudes, slow penetration of modern managerial knowledge, the quality of the existing education program, poor interaction between science and the economy are just some of the reasons why this is how it is. The future requires the provision of a whole set of prerequisites for successful business, among which one of the central points is certainly the question: How do employees agree to work with their heart? How to act on their perceptions, awareness, expectations, aspirations...? How do they consent to identify with the company, all its successes and failures? There are too many examples in our territories that talk that gossiping, harassment and plotting, are used as a powerful weapons, that the workers gathered in a hall with a boss or other authority become very uncertain, nervous, dumb and distrustful, that internal communications are brought to determining what an employee needs to say in order to accomplish his tasks, to put people in responsible and highly managerial positions according to criteria that cannot be considered professional. It is time to change the current perceptions and change, whether they like it to someone or not. Those who understand and accept this will be in a huge advantage. We need to think more about the future, to learn from those who are ahead of us, to rid ourselves of political criteria and non-professionalism in governance.



Instead of authoritarianism, intolerance, reliance on social connections, our managers need to adorn contemporary practical knowledge and skills, good organization and business behavior - that's what we need.

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## **AN ANALYSIS OF THE IMPACT OF STRATEGIC NETWORKS ON MAKING DECISIONS IN SMALL AND MEDIUM HOSPITALITY ENTERPRISES**

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### **ABSTRACT**

*The purpose of this paper is to study how form of strategic networks impact on making decision in Croatian small and medium hospitality enterprises. The paper presents the results of the impact on making decision on management of human resources, operational affairs and sale of accommodation capacities. The special focus is given to impact of strategic networking on autonomy of managers in decision-making. The methodology of research includes a literature search of strategic networks in hospitality enterprises, collection of data directly from managers of SMHEs, analysis managerial attitudes about the forms of strategic networks and their impact on decision-making. The research takes a longitudinal approach, examining opinion of 107 managers in SMHEs that are networking in period of March till October 2016. The research has shown that the form of strategic networking is significant for sale of accommodation capacities and management of human resources and not significant for operational affairs. The originality of this research is based on the fact that it refers to an area that has not been explored enough in the Republic of Croatia.*

**Keywords:** *small and medium hospitality enterprises, strategic networking, decision-making*

### **1. INTRODUCTION**

The pressure of globalisation is having a major impact on the small and medium hospitality enterprises (SMHEs). The coexistence of a variety of different SMEs specialised in particular services in a destination is a fundamental characteristic of the tourism industry (Wanhill, 1996; 2000). SMEs are life blood of the travel and tourism industry world-wide and they strongly influence the development of a local areas as destination. Because hospitality enterprises are exposed to strategic risks related to increased uncertainty in their economic, technological, political, competitive, and market environments (Olsen, West and Tse, 1998), organisational survival becomes an ever more pressing issue. SMHE have used strategic networks to address this issue have realised that entering into strategic networking with competitors, suppliers and enterprises in other industries such as agriculture and transport and cultural institutions, is an opportunity to build strenghts. It is important for hospitality managers to investigate the concept underlying networks theory in order to assess the potential of this business strategy to be a source of competitive advantage that can improve and sustain SMHEs growth and competitiveness. Strategic networking must become an imperative in the hospitality industry, as is the case with other industries. Such networking should allow managers to exchange resources, ideas, conclusions and other activities which would yield better business results. In hospitality industry strategic networking was used to achieve the following various functions of a hotel enterprise: marketing strategy; cooperation among hotel enterprise in destination; obtaining resources, information and advice; and networking of activities between hotel enterprises and other entities within the network. Hospitality industry managers have realized that strategic networking is important to facilitate entering new markets, sharing mutual

resources, and sustaining enterprise and industry growth and competitiveness. Managers creating strategic networks must have a vision of the benefits to be gained in cooperative ventures and help their enterprises overcome inhibitions about risk taking and resource sharing. Since hotel enterprises do not have the capacity to provide an independent financing of innovative and development projects, they opt for strategic networking so as to deliver innovative products and services, obtain the necessary capital investment, accomplish credibility in tourism market, etc. Strategic networking in the business development stage of hospitality enterprises reduces the risk of failure and offers numerous advantages otherwise hardly achievable. So, hospitality enterprises team up so as to obtain the necessary resources and implement certain activities required to meet the growing demand of a customer, where it should be noted that networking is not static, but dynamic, which means that the development of hospitality enterprises leads to the development of strategic networking (Krželj-Čolović, Vrdoljak Raguž and Milić Beran, 2016). This paper is structured as follows: Section 2 examines the literature review on the importance of strategic networking in SMHEs and impact on managers decision making. The method applied in the study are described in Section 3 and research findings are presented in Section 4. Section 5 presents concluding comments.

## 2. LITERATURE REVIEW

Entrepreneurial activities are increasingly regarded as important to a firm, but in today's complex global economy, entrepreneurship has become even more crucial in obtaining a sustainable competitive advantage (Wiklund, Shepherd, 2003). Due to globalisation, small and medium sized enterprises (SMEs) face increasing pressure from competition from across the world. When compounded with the changing sophistication of customers worldwide it becomes apparent that SMEs face increasing difficulty in maintaining and improving business performance in time, unless they can actively manage these pressures. SMEs are encouraged to implement an entrepreneurial mindset to recognise the threats and opportunities in the environment of the firm in order to make sure that the firm will continue to exist in the future (Krueger, 2000). In periods of economic and environmental turbulence, it becomes even more apparent that firms face particularly high levels of market instability and complex business uncertainty that obliges them to act upon such change (Grewal, Tansuhaj, 2001; Lin, Carley, 2001). A firm level response is therefore needed (Chattopadhyay, Glick, Huber, 2001). Tourism is a highly fragmented industry, characterised by the co-existence of a variety of SMEs that compete in the same environment, providing complementary products to deliver a comprehensive tourism experience (Maggioni, Maroz, Mauri, 2014). Although their formal independency, a key feature of tourism organizations operating within a destination is their interdependence (Palmer, Bejou, 1995). The tourism product is complex and includes both tangible and intangible dimensions. It can be considered as a bundle of different goods and services, such as transport, accommodation, sport facilities, cultural and artistic attractions, each of them managed and offered to tourists by independent organisations (Fesenmaier, Xiang, 2016). Tourists derive utility from each of the different elements that compose the tourism product, but their satisfaction is related to the quality and to the perception of value of the product considered as a whole. Strategic networking must become an imperative for all industries, including the hospitality. It seems that around the world more attention has long been attributed to the importance of strategic networking in tourism and hospitality (Augustin, Knowles, 2000; Chathoth, Olsen, 2003; Copp, Ivy, 2001; Lynch, 2000; Morrison, 2002; Pavlovich, 2003; Telfer, 2001). For Augustin and Knowles (2000), the cooperation between hotel enterprises and other businesses and organisation in tourism is closely connected to the destination development strategy. In his research on the level of cooperation between the wine industry and tourism in the Niagara Region, Telfer concluded that formal and informal cooperation and vertical and horizontal links exist between all sectors including agriculture,

transport, etc. In most of the literature and researches, authors believe that entrepreneurs aim at strategic networking activities to ensure competitive advantage which that networking offers a number of business advantages. When speaking about the strategic networking of small and medium enterprises the literature provides various forms of cooperation between small and medium enterprises. The research that Frey (2002) conducted in 2002 showed that 63,9% of small and medium hotel enterprises in Switzerland formed strategic networks with other companies; 21,7% were not a part of any network, but were ready to join, while only 14,3% were not affiliated nor wanted to be in foreseeable future. In the hospitality industry, partnerships are commonly developed to meet increasingly complex consumer needs, to satisfy the more and more demanding customers, and to provide to tourists a memorable holiday experience. According to Kandampully (2006) hospitality firms and other tourism operators work together in order to provide service bundles to customers that can enhance the image and the perceived value of the services offered. Specifically, decisions are often made by individuals after consulting with, and being influenced by, others. It is to model such decision-making structures that research began to be conducted on advice-giving and advice-taking during decisions. Decision-makers seek out and attend to advice in order to share accountability for the outcome of the decision and to improve the probability that their decisions will be accurate or optimal (Harvey, Fischer, 1997; Yaniv, 2004a, 2004b). For instance, interacting with others prior to making a decision forces decisionmakers to think of the decision problem in new ways (Schotter, 2003) and provides decision-makers with new information or alternatives not previously considered (Heath, Gonzalez, 1995). Managerial processes will help find the origins of competitive advantage (Cockburn, Henderson, Stern, 2000) and enhance our understanding of 'how' and 'why' some firms perform better than others. Measuring managerial capabilities at more microlevels within a firm is a promising way to provide the firm with guidelines on where and how to improve its capabilities (Ethiraj et al., 2005; Thomke, Kuemmerle, 2002).

### **3. METHODOLOGY: RESEARCH DESIGN AND RESEARCH OBJECTIVES**

Research on the impact of strategic networks on making decisions in SMHE's based on 107 samples collected in the period of March to October 2016. Data were collected by means of mail survey questionnaire completed by owners or their general managers of small and medium- hotel enterprises located across Croatia. The target population for relevant research is defined as a set of small and medium hotel enterprises registered in the Republic of Croatia.. For the selection of the sample used is a list of hotels in Croatia, available at the web address. The said websites in March 2016, found 350 small and medium hotel enterprises. A random sample formed from a defined frame of choice. The sample using a random number generator selected 250 small and medium hotel enterprises, and the survey so that small and medium hotel enterprises contacted by email for willingness to participate in the study, some were contacted by telephone, and a some of small and medium hotel is interviewed by the author personally. One hundred seven (107) questionnaires were answered properly. This response rate (42.8%) is considered to be satisfactory and sufficient for the adoption of the relevant conclusions. The survey was to collect data on the current state of strategic networks in SMHE's and its impact on making decision. Although the study instrument includes many questions concerning the business of SMHEs in Croatia, for the purposes of this paper we will present only that part of the study instrument that covers the five managers abilities: communication with environment, internal communication, business spirit, foresight, adaptation to changing environment and dimensions of operational affairs, sale of accomodation capacities, management of human resources and lost of autonomy in making decisions. These dimensions were measured by 5-point Likert type scale items. Five items measured managers abilities (from very weak – 1 point, to very satisfactory – 5 point) and four dimensions mesaured impacts of strategic networks (from completely unimportant – 1 point to very important – 5 point).

In order to determine the impact of strategic networks on making decision in SMHEs we set following hypotheses:

- H1: The form of strategic networking is significant for sale of accomodation capacities.
- H2: The form of strategic networking is significant for management of human resources.
- H3: The form of strategic networking is significant for operational affairs.
- H4: The form of strategic networking is significant for managers autonomy in making decision.

#### 4. RESEARCH RESULTS

Among the analyzed enterprises in 32% were small enterprises and in 68% were medium enterprises. Regarding the form structure of the analyzed enterprises 44% were joint stock company, 53% limited company and 3% were craft. While considering their geography position 55% belongs to Dalmatia, 15% to Coastal Croatia, 3% to Lika and Gorski Kotar, 20% Northern Croatia and 7% Continental Croatia. Besides defining the profile of enterprises, it is necessary to get a picture of the profile of the respondents. In the sample was 79% male while proportion of women is not at a high level (21%), with ages ranging: between 41 and 50 years (34%), between 51 and 60 years (26%) and between 31 and 40 years (21%). The respondents had different levels of education including university, college, secondary school and other, which accounted for 45, 40, 12 and 3 percent, respectively. Respondents are persons familiar with all aspects of the business of small and medium hotel enterprises. The workplace of the subjects were determined primarily the size of the hotel enterprise, and respondents were in managers 60% , the owners of the hotel enterprises 13%, sales managers 17%, chairman of the board 3% and directors 7%. Furthermore, their distribution by years of employment is ranging between 0-9 years (14%), between 10-19 years(33%), between 20-29 years (31%) and 30 and more years(22%). Table 1 shows the mean scores and standard deviations for the five assessments of the ability of managers of SMHEs. The mean scores showed that the managers of these enterprises rated their abilities as satisfying.

*Table 1: Mean and Standard Deviation of the Variables*

	<i>M</i>	<i>SD</i>	<i>N</i>
<i>Communication with Environment</i>	4.18	0.738	107
<i>Internal Communication</i>	4.36	0.678	107
<i>Business Spirit</i>	4.32	0.747	107
<i>Foresight</i>	4.21	0.670	107
<i>Adaptation to Changing Environment</i>	4.06	0.709	107

To test whether assessments of the ability of managers of SMHEs are associated with the form of strategic networks in hospitality enterprises, a compare means test was conducted (Table 2).

*Table 2: Test of association between assessments of the ability of managers and forms of strategic networks in SMHEs*

	<i>F</i>
<i>Communication with Environment</i>	0.163
<i>Internal Communication</i>	0.841
<i>Business Spirit</i>	0.381
<i>Foresight</i>	0.032
<i>Adaptation to Changing Environment</i>	0.

Based on the test, the five assessments of the managers ability were found to have no significant and directional association with form of strategic networks. Communication with environment ( $F=0.163$ ,  $p=0.850$ ), internal communication ( $F=0.841$ ;  $p=0.436$ ), business spirit ( $F=0.381$ ;  $p=0.685$ ), foresight ( $F=0.032$ ;  $p=0.968$ ), adaptation to changing environment ( $F=0.423$ ;  $p=0.662$ ) having p-values greater than 0.05. This also suggests that there are no variations on the levels of these measures when forms of strategic network in SMHEs are taken into consideration. To test Hypotesis 1, a chi-square test was examined as to whether there is significant difference in sale of accomodation capacities between three forms (clusters, strategic alliances, strategic partnerships) of strategic networks. Test results are shown in Table 3. The cricial value of chi-square is 12.59 for 5% level of significance and 6 degrees of freedom. The chi-square statistics is 19.757 and is greater than the critical value so the null hypothesis is true.

*Table 3: Chi-square test*

	<i>Value</i>	<i>Df</i>	<i>Asymp. Sig. (2-sided)</i>
<i>Pearson chi-square</i>	19.757	6	.003
<i>Likelihood ratio</i>	21.192	6	.002
<i>Linear by linear association</i>	11.193	1	.001
<i>N of valid cases</i>	107		

*Source: Authors' data processing*

To test Hypotesis 2, a chi-square test is used to check whether there is significant difference in management of human resources between three forms of strategic networks. Test results are shown in Table 4. The cricial value of chi-square is 12.59 for 5% level of significance and 6 degrees of freedom. The chi-square statistics is 18.365 and is greater than the critical value so it can be concluded that there is significant difference in management of human resources between three forms of strategic networks.

*Table 4: Chi-square test human resources*

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
<i>Pearson chi-square</i>	18.365	6	.004
<i>Likelihood ratio</i>	21.849	6	.002
<i>Linear by linear association</i>	11.104	1	.001
<i>N of valid cases</i>	107		

*Source: Authors' data processing*

The results in Table 5 indicate that Hypotesis 3 is rejected. The empirical values shows that the chi-square test statistics is 10.081 and is less than the critical value so it can be concluded that the form of strategic networking isn't significant for operational affairs.

*Table 5: Chi-square test operational affairs*

	<i>Value</i>	<i>df</i>	<i>Asymp. Sig. (2-sided)</i>
<i>Pearson chi-square</i>	10.081	6	.121
<i>Likelihood ratio</i>	11.901	6	.064
<i>Linear by linear association</i>	2.167	1	.141
<i>N of valid cases</i>	107		

*Source: Authors' data processing*

Figure shows that higher proportion of managers who have opinion that form of strategic networking doesn't significantly influence on autonomy in decision making are the ones that are in cluster. Managers of SMHEs in the strategic alliance are of opinion that form of networking significantly and partial influence theirs autonomy in decision making.

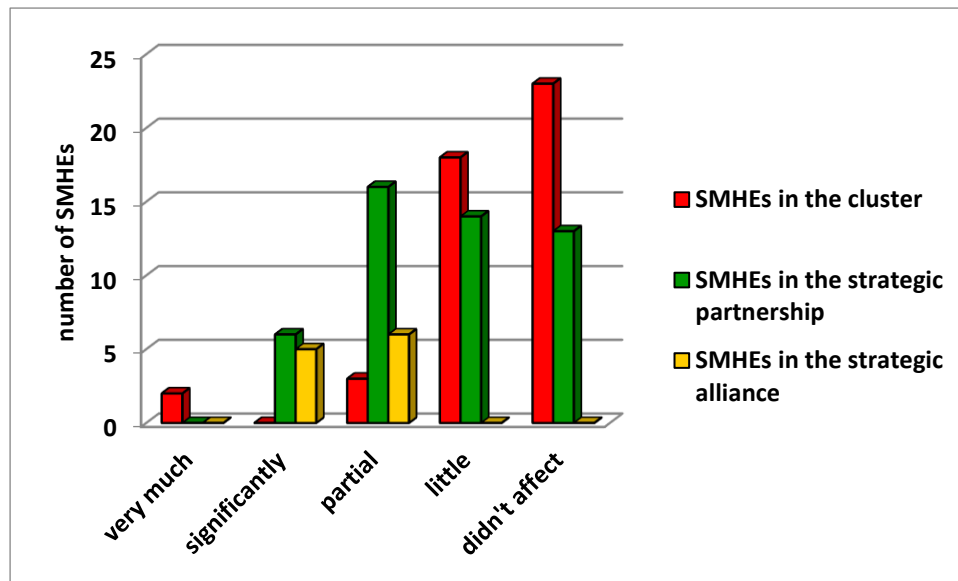


Figure 1. The distribution of the impact of networking forms on autonomy in decision making.  
Source: Authors' data processing

To test the Hypothesis 4, a chi-square test is used to check whether there is a significant difference in the assessment of strategic networking forms influence on autonomy in decision making between managers in Croatian SMHEs. Test results are shown in Table 5. The critical value of chi-square is 15.51 for 5% level of significance and 8 degrees of freedom. The chi-square statistics is 28.365 and is greater than the critical value so it can be concluded that the form of strategic networking is significant for managers autonomy in making decision.

Table 6: Chi-square

	Value	df	Asymp. Sig. (2-sided)
Pearson chi-square	28.365	8	.000
Likelihood ratio	32.849	8	.000
Linear by linear association	16.704	1	.000
N of valid cases	107		

Source: Authors' data processing

A compare means test was also conducted with the intention to determine whether assessments of the autonomy of managers of SMHEs are associated with the form of strategic networks in hospitality enterprises (Table 6).

Table 7: Test of association between assessments of the autonomy of managers and forms of strategic network in SMHEs

Networking forms	Mean	N
Cluster	4.30	45
Strategic partnership	3,67	51
Strategic alliance	2,55	11

Based on the test, the assesment of the autonomy of the managers were found to have significant and directional association with form of strategic networks ( $F=11.336$ ;  $p=0.000$ ). The managers who works in SMHEs that are in cluster find they haven't lost their autonomy in decision making.

## 5. CONCLUSION

Strategic networking is necessary in modern business practices in hotel enterprises. Strategic forms of networking enable small and medium hotel enterprises to expand the business cooperation, to have better access to resources and to increase the flexibility, speed and quality of business. On the other hand, it allows the pooling of various business activities that were previously separated and also enables the networking of compatible and formally independent hotel enterprises, suppliers, consumers and even competitors connected by modern information and communication technologies with the purpose of achieving common objectives by sharing skills, costs, competencies and market. The twenty-first century is heavily influenced by the pervasiveness of developments in transportation, modern telecommunications, and technology. These breakthroughs and quantum leaps have assisted in liberating past constraints and barriers to mobility and international collaboration. Similarly, today's fast-changing environment is affecting the nature of interaction with other organisation. In response to these new market conditions, more networked inter-organisational relationships, such as strategic alliances, strategic partnerships and clusters are observed. All of the above affects the position of managers in small and medium sized hospitality enterprises and their role in decision-making. This paper shows, on the basis of conducted testing, that the form of strategic networking is significant for sale of accomodation capacities, for management of human resources and for managers autonomy in making decision. Based on the results of the test it can also be concluded that the form of strategic networking is not significant for operational affairs. This research shows that assesments of the managers abilities: communication with environment, internal communication, business spirit, foresight, adaptation to changing environment have no significant and directional association with form of strategic networks. We hope that the ideas presented in this paper will inspire and enable further research on these issues.

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## **MARKETING ASPECT OF CORPORATE SOCIAL RESPONSIBILITY OF COMMERCIAL BANKS IN CROATIA**

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### **ABSTRACT**

*This paper deals with relation between corporate social responsibility (CSR), SM (social marketing) and CRM (cause related marketing) in the commercial banking sector in Croatia. Reserach includes analysis how implementation of this two marketing concepts as a extern dimensions of CSR concept affects on bank employee's and consumers perception. The survey seeks to explore are these two marketing concepts used as an extension of CSR in order to establish better communication and enhance interaction with internal and external stakeholders.*

**Keywords:** *corporate social responsibility, banks, social marketing, cause related marketing*

### **1. INTRODUCTION**

Changes in the global economy have led to need for different approaches in business management which resulted with the concept of social responsibility as a response to social demands. Corporate social responsibility issues are not tangential but fundamental for success of company, especially because of constantly changing societal expectations. (Tipurić, D. 2008.,p.343) Strategic and long-term commitment to CSR means company's aspiration to justify social expectations and establishment of balance between what society gives to company and what company can bring to society. Characteristics of socially responsible banks are the extension of focus to intangible values, attention to the society as a whole that needs to be streamlined by all business activities and foster good relations with consumers. It is important to engage with different stakeholders and move away from strict shareholder principles that advocate pure maximization of profit. An important characteristic of socially responsible bank is reflected in its efforts to conduct its business more transparently with a minimum speculative and compromising activities. Omazic, M. (2012., p.101.) explains that traditional role of the reactive financial sector has been replaced by a positive role of a proactive, propulsive and competitive characteristics, with a focus on positive contribution to social stability and economic development. Special attention is paid to the situational phenomenon; how the application of corporate social responsibility in business creates echo in the public, and how the entire business philosophy of this concept strategically shapes and creates a social matrix that is indirectly implemented into special, alternative form of marketing activities known as social marketing and cause related marketing.

### **2. INTEGRATING CSR INTO THE BANK'S STRATEGY**

Kundid, A. (2012., p.497-528 ) according to Achua (2008) explains the reasons for applying CSR into bank's strategy; since banks generate big money and have a great power, society begins to require greater and more inclusive involvement. Accordingly, banks are beginning to look for ways in which they can justify social expectations in the way that they can generate maximum positive effects from possible costs, thereby developing socially responsible strategies.

Although, in the short run, the economic goals of maximizing profits and socially responsible businesses can be seen as contradictory, they are not only opposed, but are mutually determined in the long run. "Banks must be socially responsible in order to be able to build their reputational capital that allows them to attract high-quality employees, charge more funds, negotiate better jobs, expand client base, attract more investors, and win public confidence." Buljan Barbača, D. (2012. p. 287.) according to Leko (2004) discusses CSR looking from the aspect of profit and profit tax and a fact that a successful bank becomes useful to the society at a time when pays a high tax to the state, assuming that this money will be used socially in the future. However, this is not enough. So Buljan Barbača (2012) concludes that if the bank does not take into account the interests of the sector from which it derives the highest profit, the population sector, the question arises about the future of the bank itself. Socially responsible banking or "Social Banking" describes banking and financial services whose main goal is to contribute to the development and prosperity of people and the planet today and in the future. First of all, it means taking into account the social, ecological, cultural and economic consequences of action at all levels, with the aim of reducing the negative effects and increasing the positive effects for the general well-being. In this context, money and profit are not the sole purpose, it is important to achieve socially responsible, higher goals. Since social banking constantly requires balancing, change and involves conflicting interests, we can describe it as definitely not that simple. Success depends on a lasting stakeholder dialogue. Social banking requires learning and commitment at the individual and institutional levels. Due to all this, the need for the birth of a new generation of socially responsible banks has arisen, so-called ethical banks.

### **3. MARKETING AS AN EXTENSION OF CSR STRATEGY**

Bagić, A., Škrabalo, M., Narančić, L.: (2006., p. 40) in their research conclude that companies use advertisements to inspire buyers to purchase a particular product based on quality, price and brand. Advertising is usually focused on the product itself. However, companies began to publicly advertise their CSR activities, using it as an opportunity to create a brand image on the market. Some companies began to realize that informing current and potential clients about their CSR activities can educate consumers and influence their decision to choose a particular product and service from socially responsible companies, not from some others. Due to increasing education and great advancement of communication technology that allows high availability of information on a global level, organizations are no longer able to control the perception of themselves in public, so therefore the CSR is an important element that goes beyond business policy and transforms into communication philosophy which builds an emotional connection between the brand and consumers, suppliers and all entities who cooperate with company. (Hubak, D.M., 2010) Having a prosocial program means having a powerful marketing tool that can build and shape a company's reputation status, make a difference in the market, and give the company a competitive advantage. In today's business environment, the companies that run are those that are well-managed by their key relationships and focus on their reputation. Distinguishing a company / brand through a picture of caring and compassion with society is a strategy that has a potential to be rewarded. However, only a consistent and credible contribution to a project (or non-profit organization) can build the image of the brand and the market value of brand. Therefore, corporate philanthropy must be strategic, CSR has to involve establishing two-way communication with stakeholder groups, learn from their business expectations and what are they willing to pay to meet their expectations. (Simicic, P. Belliu, A., 2001. p. 2018)

#### **3.1. Correlation between marketing and socially responsible business**

Marketing and socially responsible business are not in contradiction. We can say that marketing as a discipline supports CSR in many ways.

Different tools can be used to make marketing and CSR mutually complementary. The fact is that socially responsible business involves meeting social needs, but part of the point is also that society must know that a company is socially responsible. In order for such knowledge to come to individuals, it is necessary to build a communication tool between businesses and society. If a company is socially responsible, that nobody knows about that fact, the company won't be able to exploit all the potentials that could result from such business activities. Socially responsible business can be beneficial for business and consumers. Social marketing can be a tool for building a brand and reputation. It can possibly generate profits for company, while on the other hand, it will benefit consumers. This makes possible to reconcile the gap between the public interest of society and the particular interests of the company.

### **3.2. Implementation of socially responsible business into marketing activities**

There are numerous definitions of ways to impose socially responsible business in marketing activities, however, the most extensive definitions were given by Lee and Kotler (2009, p. 30-35). According to them, there are six ways for organization to integrate socially responsible activities into marketing activities: (1) Corporate promotion of social goals - funding, contributions in kind or any other resources needed to raise awareness, increasing interest or understanding for a social problem, the organization seeks assistance in collecting contributions and encouraging volunteering, socially useful work. Suggestive communication can help solving problems through corporate promotion of the important social objectives. Regardless it's relation to philanthropy, it includes contributions not only related to money. (2) Marketing related to the social goal - from all other ways that integrate social responsibility into marketing activities, marketing linked to a social goal, cause-related marketing is a direct link between a particular product or product line and a particular social goal. Although it is similar to promoting social goals in terms of awareness raising, in this way, the organization undertakes to support a certain activity, depending on the action of the consumer, in order to give a certain percentage or amount of sales of certain products for this purpose. (3) Corporate Social Marketing: besides improving public health, safety, the environment and the well-being of society, organizations undertake activities related to social marketing, which is a powerful tool for raising awareness of a social problems. That can result with changing consumers behavior. That is a long process which goal is long term. (4) Corporate philanthropy is most traditional social initiative within the organization, and it represents the most often non-refundable contribution that an organization wants to support the work of a humanitarian organization and its activities. What makes it difference nowadays is strategic approach to selecting social problems. (5) Socially useful work is an initiative within an organization where employees and partners are encouraged to devote their time and abilities to volunteer work to local humanitarian organizations. (6) Corporate Social Responsibility includes socially responsible business practices which can be integrated in CSR strategy and applied as a tool.

### **3.3. Difference between corporate social marketing and cause related marketing (CRM)**

The concept of social marketing often can be translated meaningfully with the notion of cause related marketing, but there are significant differences. Social marketing is focused on promoting a social problem or the cause for which a company/corporation decides to provide funds while in the case of cause related marketing (some authors translate it as a causal marketing), the corporation/ firm promises to donate a certain percentage, or part of the revenue by selling some of their product that is represented in the campaign. The goal is to improve sales and encourage it through actions on consumer awareness that can possibly help to achieve higher social goal based on this purchase. In the simplest example, the difference between these two terms can be explained; if the bank decides to donate, for example, a certain amount of money for the purchase of a diagnostic device is an example of social marketing, but if a bank

decides to donate a certain amount, or a percentage of the amount of hospital for every amount that citizens donate when paying, then we are talking about cause related marketing.

#### **4. CORPORATE SOCIAL MARKETING**

Social marketing was recognized as a discipline in the 1970s, when Philip Kotler and Gerald Zaltman realized that the same marketing principles used to sell products to consumers could be used to "sell" ideas, attitudes and behaviors. Kotler and Andreasen give an explanation of social marketing; it differs from other areas of marketing only in relation to the type of goals. (Meler, M. 2003.p. 71-72, according to Kotler & Zaltman (1971., p. 3-12) gives the explanation of social marketing describing it as a highly interdisciplinary character, because in its essence is the application of a whole range of social sciences, especially in the fields of sociology, psychology (a component of behavioral sciences), communication and education. Kotler and Andreasen (1987) are discussing between the distinction between generic and social marketing. The word social refers to one who has feelings for the community, understanding for other people's difficulties, but social efforts are currently most often alimented with the system of material and health protection of the population. Social marketing is primarily a simple application of generic marketing to a specific set of problems. In this sense, social marketing is similar to marketing in the market, marketing in banking, marketing in tourism, etc. Kotler and Zaltman (1971) in their article titled Social Marketing; "An approach to planned social changes" emphasize that this is the explicit use of marketing instruments to help translate efforts of socially organized actions into more effectively designed and communicative programs that will trigger the desired auditorium. Kotler, P., Eduardo, L. (1989.,p.370-380) explain that social marketing has an abstract approach and emphasizes the need for changing attitudes. The goal of social marketing is to find the answer to the social problem and to make positive changes directed towards the target audience. Like marketing services, social marketing is an "abstract product" on the market. Saraiva, A.,& Pinto, P. (2007., p. 236) are describing social marketing objectives and strategies by comparing commercial marketing, which involves guiding consumers to buy goods or services offered by the company and social marketing which engages in socially desirable activities. One of the common features is that neither social marketing nor commercial marketing are interested in temporary behavior, but to keep consumers over time, which implies adopting some socially useful behavior in long term, which is the key in this process. Both marketing concepts have accepted that human behavior is voluntary and highly sensitive to rewarding, which implies the fact that any attempt to change behavior must be convincing, instead of forced and intrusive. Social marketing can be seen as a process that uses major marketing to change behavior to benefit society and/or the environment if applied in a corporate context. According to Projović, I., Popović Šević, N. (2014., p.268) socially responsible marketing within the implementation of corporate social responsibility is an inevitable and should be clearly and precisely formulated, implemented and detailed in the internal and external CSR strategy. Andreasen, A.. (2002.,p.11) explains the benefits of social marketing presenting several components which have to be fulfilled; target audience needs to play a major role in developing and implementing the planned program. Focus has to be on behavior change instead of settling for short changes, influence attempts have to be tailored to specific segments of the target audience. Saunders, S., Barrington, D.J., Sridharan, S. (2015., p.164) explain that social marketing programmers aim to enable individuals and foster collective actions and ideas that are meaningful and valuable to those they are intended to benefit. They seek to enable a set of opportunities which individuals and collectives may choose to act upon, which essentially represents the key point of social marketing.

## 5. CAUSE RELATED MARKETING

Rajan Varadarajan,P., Menon A. (2012. p.58) are explaining definition of cause-related marketing as a confluence of perspectives from several specialized areas of inquiry such as marketing for nonprofit organizations, the promotion mix, corporate philanthropy, corporate social responsibility, fund-raising management, and public relations. Pringle & Thompson (1999) also explain that cause related marketing consists several components which strategically used can help organizations benefit from use of this concept. Farache, F., Perks, K. J.,Soares Outtes,L.,Sousa Filho,J.M.:(2008.,p. 211) according to Broderick (2003.) claim that the level of awareness, customer engagement and commitment is a key component of CRM. Influence on perception requires a follow-up behavior that has very valuable implications for maximizing marketing expenditures and customer relationship management. (Howie,K. Yang,L. Vittel,S.Bush,V., Vorhies,D. 2015) Papasolomou, I., Kitchen, P. (2011. p.63) see CRM as an effective way to build brands, create product awareness, revitalize corporate values and make corporate social responsibility and community involvement visible. Raletić, S. Rodojević,P.,Mihic S. (2009., p.163) conclude that CRM gives the opportunity for a firm to combine beneficial activities with various marketing techniques achieving synergy between the company's social and strategic goals. Adkins, S .,(1999.. p.12) says that CRM is certainly not a philanthropy or altruism, it is a good business opportunity, the way the company puts its focus on its goals and ultimately draws the benefit from the invested. These goals do not necessarily have to be related to sales or financial results in the short term, but in the long run the company can achieve the expected effects. By aligning charitable giving with the corporations self-interest in which corporations select suitable recipients of funding not so much according to need, but according to their potential of adding more brand value and improving corporate reputation ((Papasolomou, I.,Demetriou, M.,2005.,p.73) Adkins S.(1999.p.24)). In the end concludes that CRM is becoming a normal part of marketing program and marketing activities, as there is a growing understanding of the company that it has to behave responsibly and needs to have corporate values. Communication is important in that process because it provides stakeholders with knowledge of the values of the organization and its social responsibility. Good governance and consumer support can result with possibility for a company to extract from social sensitivity a commercial sense.

## 6. RESEARCH

The purpose of the research is to investigate the relationship between CSR and marketing activities in client's and bank employee's perception. The main questions are whether the CSR implementation in the bank's strategy can contribute to business and social development and can possibly this kind of strategy have a major impact on client's behavior.

### 6.1. Results of the first part of survey

First part of survey consists a questionnaire specially designed to research client's subjective opinions and beliefs towards CSR activities and its marketing extensions in Croatian banking sector. 102 clients participated in this study. The respondents were answering to several types of questions; choosing only one or several solutions. The other type of questions consisted answers with ranking scale from 1-4. Table 1. is showing number, age, gender and level of education of bank's clients.

*Table following on the next page*

VARIABLES	FREQUENCY	PERCENTAGE
<b>Gender</b>		
Male	77	75,5
Female	25	24,5
<b>Age</b>		
18-29	67	65,7
30-39	12	11,8
40-49	10	9,8
50-59	12	11,8
60 >	1	1
<b>Level of education</b>		
High school	24	48
EQF (level 6, bachelor degree)	24	23,5
EQF (level 7, master's degree)	49	23,5
EQF (level 8, Ph. D)	5	4,9
<b>Total of respondents</b>	102	

Table 1.: Number, age, gender and level of education of bank's clients.

Figure 1. gives the information through which media respondents most often find out about the bank's socially responsible activities. This question offers more options for respondents, and among them are offered; "Television", "Radio", "Newspapers", "Internet", and "I do not get information about socially responsible activities of banks in any of mentioned media". 62.7% of respondents heard about bank's socially responsible activities on Internet, 26.5% on television, 9.8% in newspapers and 2% on radio. 21.6% of respondents didn't hear about bank's socially responsible activities through any of these media. This survey shows that the majority of respondents finds out about these activities on the Internet. There are high percentage of respondents who don't find out about the socially responsible activities of banks in any of mentioned media.

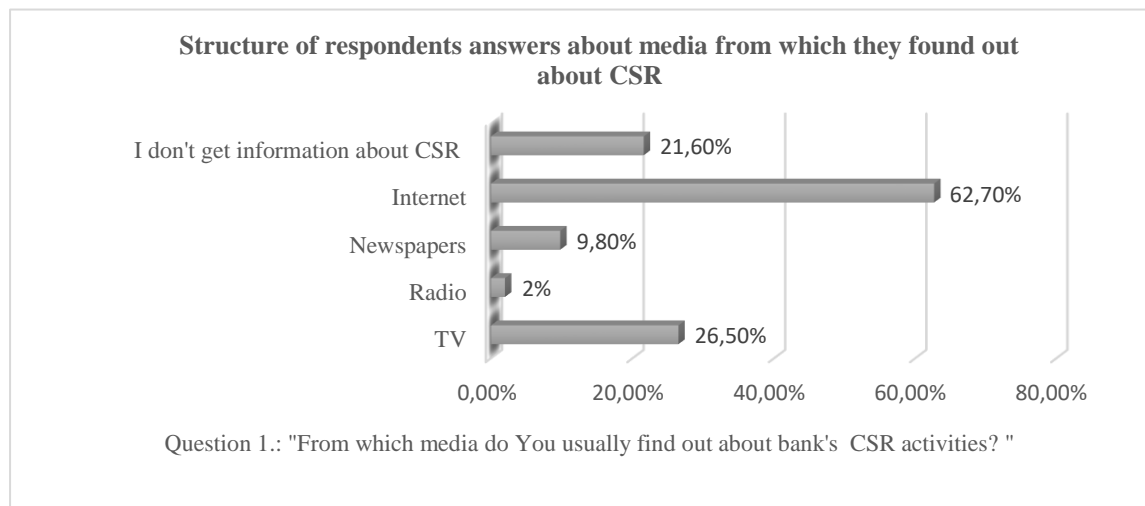
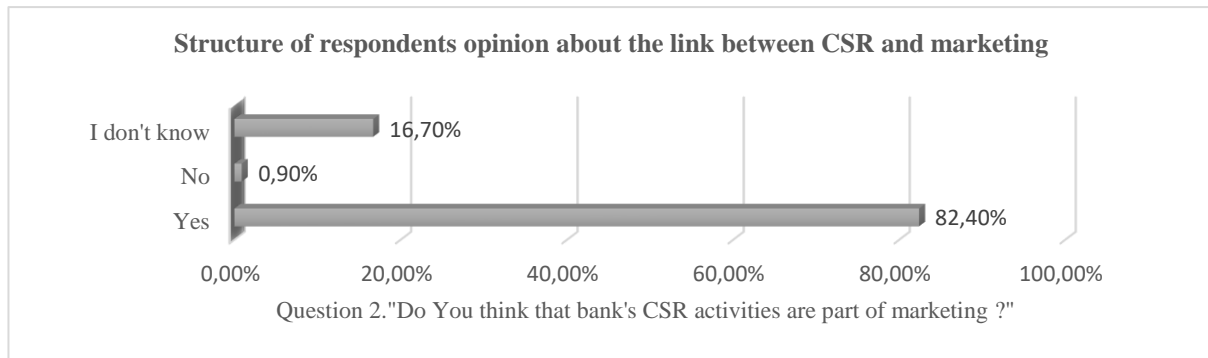


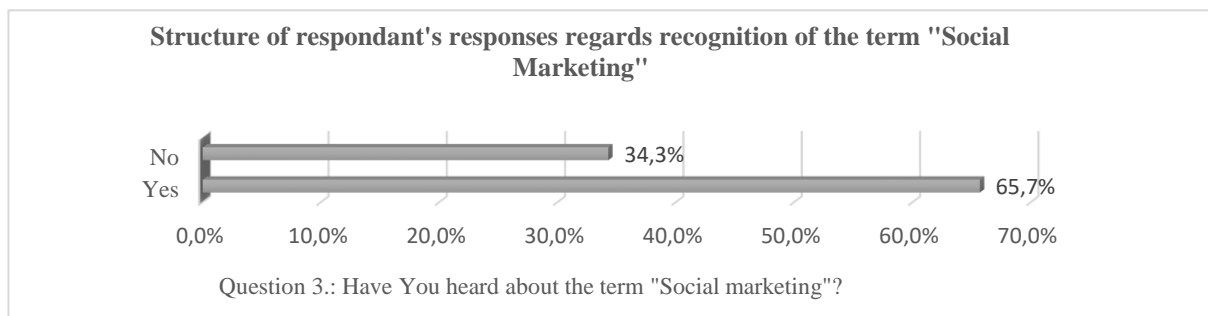
Figure 1. Structure of respondents answers about media from which they found out about CSR

Following question (Figure 2.) examines whether bank's CSR actions are part of marketing activities. There are three questions left to the respondents; "yes", "no" and "do not know". 82.4% respondents believe that socially responsible banking is part of marketing activities, while 1% think it is not. 16.7% of respondents answered that they don't know. It is evident that most respondents feel that socially responsible business is part of marketing activities, 82.4%.



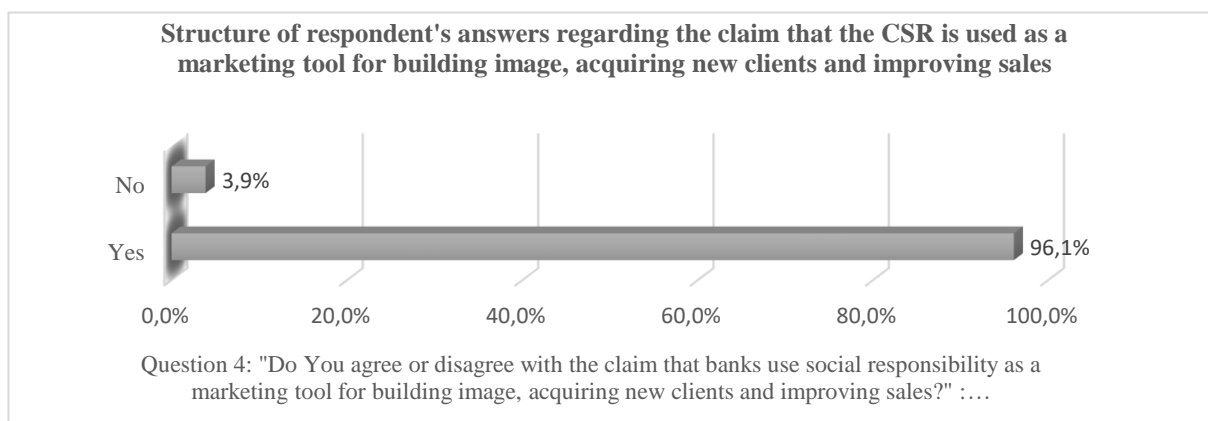
*Figure 2. Structure of respondent's opinion about the link between CSR and marketing activities*

Following question (Figure 3.) explores the distinctiveness of the concept of "social marketing" among respondents. The question is a dichotomous type. 65.7% of respondents heard of this term, while 34.3% of respondents did not hear about the concept of social marketing.



*Figure 3. Structure of respondent's responses about recognition of "social marketing"*

Figure 4. is showing respondents perception of banks' corporate social responsibility in context of marketing activities. Question is closed, offering agreement or disagreement with the claim that banks are using CSR as a marketing tool for building image, acquiring new clients and improving sales. 96.1% agreed with the claim, while 3.9% of the respondents disagreed.

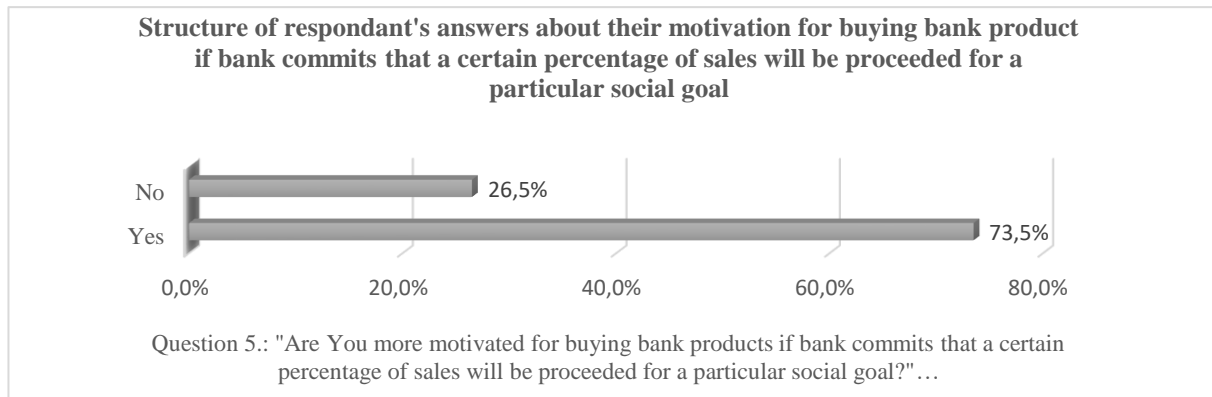


*Figure 4.: Respondents perception of banks' social responsibility in context of marketing activities*

Figure 5. is showing structure of respondent's answers about their motivation for buying bank products, if bank commits that a certain percentage of sales will be proceeded for a particular social goal.



The answers offered were "yes" and "no". 73.5% respondents (most of them) are willing to buy product if the bank declares that a certain percentage of their sales revenue will be attached to a certain social goal, while 26.5% of respondents are not motivated for such decision.



*Figure 5. Structure of respondent's answers about their motivation for buying bank products, if bank commits that a certain percentage of sales will be proceeded for a particular social goal*

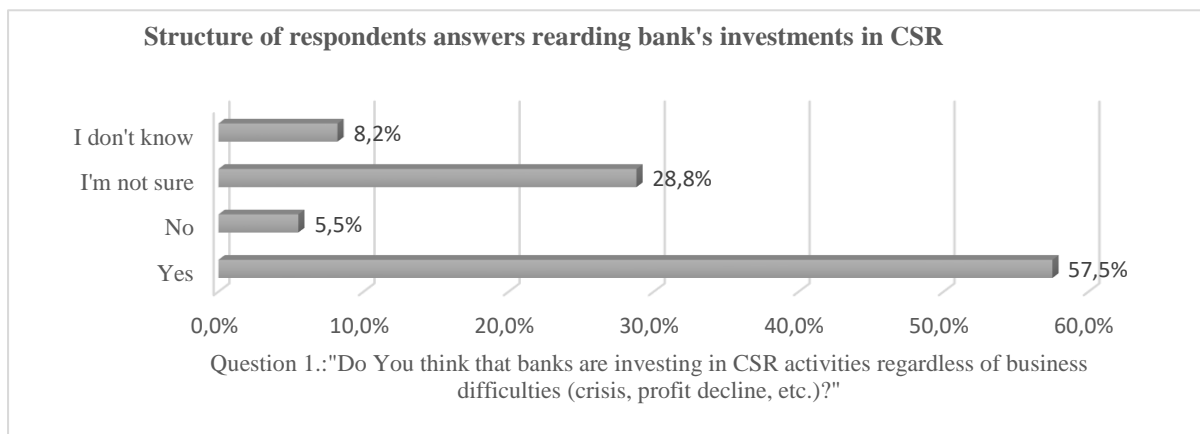
## 6.2. Results of the second part of survey

The survey questionnaire was designed to gather relevant information about opinions of bank employees about recognition of social marketing and cause related marketing. 73 bank employees took part in this survey. Structure of respondent's answers is shown in Table 2.

VARIABLES	FREQUENCY	PERCENTAGE
<b>Age</b>		
18-29	16	22,2%
30-39	22	30,6%
40-49	17	23,6%
50-59	14	19,4%
60 >	3	4,2%
<b>Level of education</b>		
High school	11	15,1%
EQF (level 6, bachelor degree)	21	28,8%
EQF (level 7, master's degree)	41	56,2%
EQF (level 8, Ph.D)	0	0,0%
<b>Position in bank</b>		
Managerial position	10	13,7%
Nonmanagerial position	63	86,3%
<b>Total of respondents</b>	73	

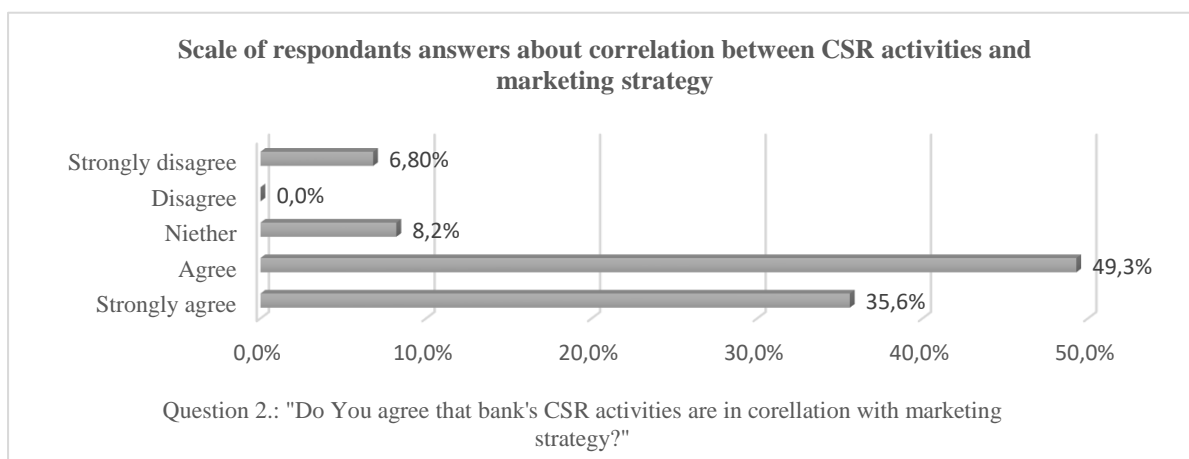
*Table 2.: Structure of respondent's (bank employees)*

Figure 6. is showing opinions of bank employees about continuity of investing in CSR. Responses to this questions is indicative because it points to continuity or discontinuity of the CSR strategy, regardless of any business difficulties. The largest number of respondents, 57.5% of them think that the bank is investing in CSR even in crisis, 28.8% is not sure, 8.2% do not know, while 5.5% believe that bank does not invest in CSR in such circumstances.



*Figure 6. Structure of respondents answers regarding bank's investments in CSR*

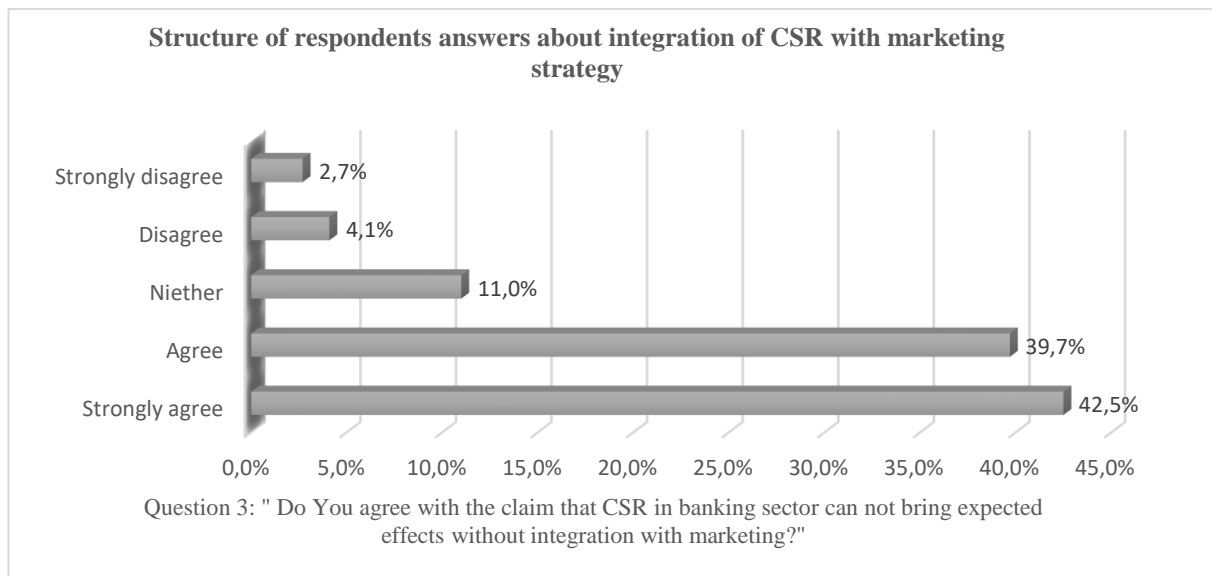
Figure 7. shows a scale of claims / opinions of bank employees from complete agreement to full disagreement. The aim was to find out the different aspects of respondent's opinion whether socially responsible business of banks is closely related to marketing. Strongly agreed 35.6% of respondents, 49.3% agreed, neutral was 8.2% respondent's, while 6.8% strongly disagreed. Option of disagreement was not chosen by any respondent.



*Figure 7. Scale of respondant's answers about correlation between CSR activities and marketing strategy*

Figure 8. shows a scale of claims / opinions of bank employees from complete agreement to full disagreement. The aim was to find out the different aspects of respondent's opinion whether socially responsible banking operations could bring the expected effects without integrating marketing component. 42.5% respondents answered they strongly agree that CSR activities can't bring expected effects without marketing, 39.7% agreed, neutral were 11% while 2.7% respondents declared that they disagree. 4.1% of respondents pleaded that they strongly disagree. It is evident that the largest number of respondents believe that CSR can't achieve adequate effects without integration with marketing.

*Figure following on the next page*



*Figure 8.: Structure of respondents answers about integration of CSR with marketing activities*

## 7. CONCLUSION

In process of establishing and application of CSR strategy, communication with public is very important. Relationship between banks and society can be achieved by social marketing and cause related marketing. Socially responsible business, social marketing and cause related marketing are mutually complementary, mixed together can enable synergistic effects and the establishment of a balance between benefits for the bank and benefits for society. Integrating marketing as a supporting activity of CSR strategy can possibly result with creating bigger influence, building corporate image, brand building, trust and reputation. If a cause related marketing and social marketing have ability to be extension, supportive part of CSR strategy, this presupposes the company's consideration of CSR from the aspect of investment, not the cost, and draws on other relations regarding the profit motivation of the CSR application. If the company behaves and acts socially responsible and consequently has various benefits and positive effects for their business from the application of this concept, establishing a balance between its own benefits and benefits for consumers, we can say that the use of CSR with marketing upgrade is justified and purposeful. This research shows that in Croatian banking sector cause related marketing (CRM) is unrecognized potential. Most respondents are more motivated for buying bank product if bank commits that a certain percentage of sales will be proceeded for a particular social goal. This research also shows that bank employees and clients in Croatian banking sector have perception of CSR as a integral part of marketing. Banks should learn more from client's needs and perceptions in order to make them more aware of synergy they can achieve in joint CSR actions, involving them into their CSR programs using social marketing and cause related marketing.

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# ANALYSIS OF THE CORRELATION BETWEEN OILS AND FATS CONSUMPTION AND GENERAL HEALTH STATUS ACROSS EUROPEAN COUNTRIES

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## **ABSTRACT**

*Health is a basic variable that allows people to live their lives to the fullest. Despite this logical fact, consumer behaviour in some European countries is being driven by unhealthy habits. Based on this fact, we assume that there has to be a dependency between health indicators measured and reported in these countries and the general tendency to consume unhealthy food. This paper presents partial result of our research, based on correlation and regression analysis, showing how the consumption of specified food products can influence the general level of human health. During our research we were testing the dependency between oils and fats consumption and the general health status reported in European countries and other specific health indicators. The oils and fats consumption were not the only factor considered. We also took in account diverse links between this indicator and other items included in the whole European final consumption basket reported in COICOP (The Classification of individual consumption by purpose) structure. To achieve our goals, we needed to apply standardized statistical methods, with a special emphasis on correlation and linear regression. Health indicators considered in the research study were especially average life expectancy, average mortality; the frequency of diabetes, hypertension and obesity. Of course, we took in consideration also other risk factors such as health service coverage, unsafe water and the lack of sanitation, use of solid fuels in households, harmful consumption of alcohol, use of tobacco, and unsafe sex, etc.*

**Keywords:** *consumer behaviour, consumption, fats, health, oils*

## **1. INTRODUCTION**

Consumers are often attracted to foods which have textures and flavours derived from fat. Despite that there are differences between regions, season and food habits. Generally, we can say that increase in the proportion of fat in consumers nutrition raise as their incomes increases. Increase in the quantity and change in the quality of fats and oils in the nutrition have important consequences for general health. According to the previous done researches, we consider that people in the quickly developing areas tend to eat more unhealthy meals than others. Mostly it is driven with change in their basic habits connected to the high level of working performance and with the lack of movement in their work as well as in their free time. To express the dependency of unhealthy eating habits to the public health we have decided to compare expenditures of households in selected EU countries to the given health indicators. We assume that health of people is closely connected to their attitude live fulfil life. In the following chapters of this paper we will display the dependency between nutrition habits of selected EU countries to the general health indicators such as: life expectancy, annual expenditures on healthcare, citizens mortality, number of days spent in hospital, average age without any diseases. Outcomes of this paper is based on the comprehensive statistics. During our research we try to examine also the most popular indicator of human health, the BMI index. Body mass index (BMI) is used by the medical professionals to quickly and simply determine human's weight regarding his height. From a straight forward calculation, the BMI factor can be gained and gives a measure which can be used to determine if an examined person is underweight, normal weight, overweight, obese or morbidly obese.

So, this simple tool can easily reveal to the tested human his potential future problems and diseases. We need to say, that this simple tool is also widely use with the nutrition specialist, and with the body and fitness trainers. Both these group of people use BMI as a key-value to create special diets to their customers. We were also curious if there is a dependency between consumption of oils and fats to the BMI, but because of the lack range of recorded values, we couldn't use this variable in our multicriterial analysis.

## 2. METHODOLOGY

Analysis of behaviour each market components we made thru comparative statics and comparative dynamics. Comparative statics is the comparison of two different economic outcomes, before and after a change in some underlying exogenous parameters (Grisáková, N., Kintler, J., 2012). As a type of static analysis, it compares two different equilibrium states, after the process of adjustment (if any). It does not study the motion towards equilibrium, nor the process of the change itself (Silerberg, E., Suen, W., 2000). Comparative dynamics is concerned with the effects of changes in the data (parameters, exogenous variables, initial conditions) on the whole motion over time of a dynamic economic model. This motion will usually be some sort of dynamic equilibrium path, such as, for example, a steady-state growth path where all variables grow at constant rates, or an optimal path deriving from a dynamic optimization problem (Besanko, D., Braeutigam, R. R., 2007). We made a quantification of the impact of individual factors on demand and we also study other serious consequences and related facts with mathematical calculation. The base core of calculation in impact of selected factors quantification is statistical and econometrics calculations.

For correlation coefficient calculation we used the same base data for all consumed medicines and for non-prescribed (free sold). Variable  $y$  represents quantity of consumed medicines (in packages) and variable  $x$  varies depending on selected demand factor (Lukáčiková, A., Lukáčik, M., Szomolányi, K., 2013). As we have already mentioned, for quantification the impact of individual factors of health demand represented by medicines consumption, we have chosen to use the methods and procedures of correlation analysis. The main outcome of this analysis is the correlation coefficient. For us is its value indicative in determining strength and direction of a linear relationship between two variables. In our case one variable is medicine consumption and the second one is selected demand factor. Value of correlation coefficient ( $r$ ) could be from interval  $-1;1$ . There are a lot of definitions for strength interpretation according its value. Despite the inconsistency in the interpretation of strength, the theory is unified in interpretation of sign of the correlation coefficient. If the correlation coefficient is almost zero, there is not linear relationship between  $x$  and  $y$ . If the correlation coefficient is negative, there is a downhill (negative) linear relationship between  $x$  and  $y$  and if it is positive, there is an uphill (positive) relationship between  $x$  and  $y$  (Cohen, J., 1988). In presented paper we use the interpretation of correlation coefficient according Rumsey (Rumsey, D., J., 2016). To interpret its value, see which of the following values your correlation  $r$  is closest to:

- **Exactly -1** A perfect downhill (negative) linear relationship
- **-0.70** A strong downhill (negative) linear relationship
- **-0.50** A moderate downhill (negative) relationship
- **-0.30** A weak downhill (negative) linear relationship
- **0** Zero linear relationship
- **+0.30** A weak uphill (positive) linear relationship
- **+0.50** A moderate uphill (positive) relationship
- **+0.70** A strong uphill (positive) linear relationship
- **Exactly +1** A perfect uphill (positive) linear relationship

For the calculation of Correlation coefficient, we have used the formula (Cohen, J., 1988):

$$r = \frac{k}{s_x * s_y}$$

where:

$$k = \frac{1}{n} * \sum_{i=1}^n (x_i - \bar{x}) * (y_i - \bar{y})$$

$$s_x = \sqrt{\frac{1}{n} * \sum_{i=1}^n (x_i - \bar{x})^2}, \quad s_y = \sqrt{\frac{1}{n} * \sum_{i=1}^n (y_i - \bar{y})^2}, \quad \bar{x} = \frac{1}{n} * \sum_{i=1}^n x_i, \quad \bar{y} = \frac{1}{n} * \sum_{i=1}^n y_i,$$

This means, that we can calculate the correlation coefficient as a share of covariance ( $k$ ) and multiplying of the standard deviation of variables ( $s_x, s_y$ ). It is necessary to fulfil the nonnegative condition for denominator. That means, neither one of the standard deviations  $s_x$  and  $s_y$  must be equal zero.

### 3. VARIABLES INFLUENCED BY OILS AND FATS

Oils and fats are commodities daily used in our cooking. So, we are in the daily connection with them, despite there is a lot of studies, that present their dangerous impact on health of humans. We can find several medicine studies, that observe relationship between overweight and high level of consumption meals that were prepared on oils and fats, or there are full of oils and fats. According to this we expect that consumption of oils and fats causes a lot of diseases and increases expenditures on healthcare as well (Štetka, 2012). In this paper we decide to present relationship between consumption of oils and fats to the selected variables. To our observations we have chosen: inhabitant expenditures on vegetable, fruits and potatoes, life expectancy, absolute volume of died people, expenditures on health care, absolute number of days spent in hospital care and net income of inhabitants. Oils and Fats are organic substances that form an important part of our diet. Fats are usually solid, oils are generally liquid at ordinary room temperatures. Some tropical products, liquids in their sites of origin, become solids in cooler climates. Chemically fats and oils are either simple or mixed glyceryl esters of organic acids belonging to the fatty-acid series – triglycerides. Fats and oils are derived from both plant and animal sources. Animal fats are esters of saturated fatty acids; vegetable oils are esters of unsaturated fatty acids. Animal fats used in foods include butter, lard, chicken fat, and suet. Cod-liver oil and some other fish oils are used therapeutically as sources of vitamins A and D. Nutritionally fats and oils are valued as a source of energy. Medical researches indicate the possibility that saturated fats in the diet contribute to the incidence of arteriosclerosis and contribute to increase blood's level of cholesterol, which can cause ischemic diseases. According to the COICOP classification oils and fats consists from: butter and butter products (butter oil, ghee, etc.); margarine (including "diet" margarine) and other vegetable fats (including peanut butter); edible oils (olive oil, corn oil, sunflower-seed oil, cottonseed oil, soybean oil, groundnut oil, walnut oil, etc.); edible animal fats (lard, etc.).

#### 3.1. Expenditures on vegetable, fruits and potatoes

Healthy life is closely associated with the healthy habits. To one of the healthy habit we can count healthy eating habits. Lot of diet specialists strongly support diversity in consumed meals.

Specially they prefer to have more vegetable and fruit in each meal of the day. Some of them recommend having half part of the plate fully covered with different types of vegetables and fruits. This recommendation is outlined from the observed fact, that people who have been eating fruits and vegetables as their part of the daily diet dramatically reduces risks associated with the chronic diseases. Daily eating vegetables and fruits provides following health benefits:

- better maintenance of body and increasing level in human vitality,
- decreases risks for stroke, cancer, diabetes mellites and heart diseases,
- contribute to the whole-body balance and reduces overweight.

### **3.2. Life expectancy and number of inpatient days in hospital**

Life expectancy is a statistical measure of the average expected time of living selected human being or a group of people. We can define life expectancy as the mean number of years remaining for an individual or a group of people at a given age. Length of living is determined with current age and specified demographic factors as follows: gender, pollution of the environment, accessibility of healthcare and other factors. Mostly is life expectancy measured at birth and expresses the total length of human being from its birth till the end of his life – death. Variable inpatient days in hospital says how many days in average inhabitant of EU spent in hospital. This variable is closely connected to the expenditures on health care and total expenditures on health industry.

### **3.3. Number of died people**

Variable number of died people we have examined to the consumption level of fats and oils. We expect that increasing consumption of fats and oils is closely connected to the causes of death. This variable we have divided into three separate parts. First part of our examination was to show the dependency between absolute volume of the deaths to the increasing level of oils and fats consumption. Second part of our observations were focused, if there is a dependency between deaths caused by chronic and ischemic diseases to the consumption of oils and fats. We did our observations in this detailed level, because both ischemic and chronic diseases are influenced by total amount of ate oils and fats. Increase level of consumption saturated oils and fats contribute to aggravate absolute level of health.

### **3.4. Expenditures on health care and net income**

Expenditures on health care represents share from total expenditures of inhabitants for daily living, that is needed to be outflow from their net income. EU statistics give us opportunity to observe the total amount of net income across EU countries in price purchase parity. Price purchase parity give us good tool, that help us compare consumption oils and fats to the health care and income of EU inhabitants. Net income represents amount of wage, that has inhabitant for daily use, after taxation and used expenditures on health and social insurance. Net income measured in price purchase parity is comparative tool for making cross-country comparison and observed results.

## **4. DISCUSSION**

In this part of our article we will discuss influence of consumption fats and oils on selected variables across EU countries. We were identified in the previous parts of this article several factors that may be affected by the oils and fats consumption. Our target was to identify causality between these variables to the consumption of oils and fats. For evaluation dependency between selected factors of consumption and level of dependency among selected factors as well we had use correlation coefficients. It may occur that between several data can be achieved strong direct dependency without any causality. This may occur, because we didn't examine causality of correlation coefficients that were measured between them.



Our outcomes are presented in tables below. Because of range recorded values we decide to split whole table into two parts, as you can see in the following text.

*Table 8: Correlation coefficients of selected variables (personal processing based on information from (Eurostat: Database, 2018))*

Variable	Expenditures on Oil and Fats	Expenditures on vegetable, fruits and potatoes	Life expectancy	Number of died inhabitants	Expenditures on health care	Net income
Expenditures on Oil and Fats	1	-0,4102	-0,4149	0,4496	-0,3790	-0,6139
Expenditures on vegetable, fruits and potatoes	0	1	0,7675	-0,7921	0,3162	0,7936
Life expectancy	0	0	1	-0,9843	0,3419	0,7358
Number of died inhabitants	0	0	0	1	-0,3713	-0,7443
Expenditures on health care	0	0	0	0	1	0,2581
Net income	0	0	0	0	0	1

*Notes: Correlation coefficient is a pair coefficient, therefor  $r_{xy} = r_{yx}$  – values in the lower part of table are equal to the its upper part*

- *Expenditures on oils and fats – % share from inhabitants' expenditures on food,*
- *Expenditures on vegetable, fruits and potatoes - absolute number of inhabitants' expenditures on these variables,*
- *Life expectancy – expected length of inhabitant's life,*
- *Volume of died inhabitants – absolute number of died residents,*
- *Expenditures on health care – absolute number of inhabitant's expenditures, which cover all types of health services and providers,*
- *Net income – share of inhabitant's income expressed in price purchase parity across EU countries.*

Table one gives us in coherent form information about relationship between consumption oils and fats and selected variables. Observed and recorded values show us both direct and indirect dependency. Variables expressed in the table above reach values from 0,3790 to 0,6139. As you can see, consumption of oils and fats positively depended only to the number of died people. That means if inhabitant of EU increases consumption of oils and fats dramatically increases probability for diseases, that can end with death. All other observed factors have negative dependency to the examined consumption. Generally, we can say that negative correlation (dependency) express, that increase level of consumption oils and fats decreases consumption of healthy food and contribute to shorten inhabitant's life. Last two variables refer to the consumers budget. Consumers tend to consume more unhealthy foods, when they have lower net income. Variable expenditures on health care refer to the consumer budget as well. Compare to the other factors it shows weak indirect dependency and we describe this fact, that consumers with high tendency to consume oils and fats aren't worry about their health. We assume this conclusion from our experience. Strength dependency of this factor is 0,3790. All examined variables refer to the weak dependency, except net income. Net income is in moderate indirect dependency to the consumption of oils and fats with final correlation coefficient 0,6139. We have collect more values that refers to the relationship between consumption oils and fats and their influence on other variables. In our observations except variables described in previous text we were researched also relationship of consumption oils nad fats to the volume of death caused by ischemic and chronic diseases and absolute days spent in hospital.

Our observations show us weak direct dependency in the absolute number of died inhabitants of EU, caused by ischemic and chronic diseases. To better understand how important the dependency between consumption unhealthy food to the different types of problems lead to death is, we need to do more detailed measures. In general, we can say, that consumption of oils and fats may occur ischemic and chronic diseases. The last variable that we had researched was days in hospital. This factor expresses average days spent in hospital of EU inhabitant. We found out for this factor indirect dependency on the final level of -0,2073. Highest time spent in hospital measured thru average days per inhabitant was recorded in Hungary 9,5 days. For example, in Serbia is it little bit higher 9,6 days and the lowest level of days spent in Hospital have in Bulgaria 5,3 days.

## 5. CONCLUSION

Consumption of oils and fats influence our health and within health also quality of our life. In this article we have expressed the dependency of human living quality to the consumption of oils and fats. We did cross-cultural research across EU countries. As a partial outcome of our research focused on consumption habits in EU countries. In this article we have focused our expectations on the relationship between consumption of oils and fats to the selected variables. As researched variables we had chosen life expectancy; expenditures on vegetables, fruits, potatoes, health care; causes of the death (none, ischemic and chronic diseases) and average days spent in hospital care. In the first part of this article we had shortly describe each variable with its basic and crucial characteristics. First part of article includes also used methodology, that had been used for our research observations. Second part of this article consists from our analysis that we have done. Relationship between consumers health index and their consumption habits was expressed via applied correlation and regression analysis. From all made observations we had chosen those that according to us are in the direct and indirect connectivity to the level of consumption oils and fats. Examined were variables appointed in the previous text. We were working with assumption that increase in consumption of oils and fats shorten life of human beings and contribute to evoke wide range of diseases. This assumption was validated. We have figure out that there is direct and indirect dependency between life expectancy, deaths and consumption on closely same level. On one hand life expectancy is indirectly connected (correlation value -0,4149) to the increasing level of consumption and on the other hand death is directly connected (correlation value 0,4496) to the consumption of oils and fats. If we will compare consumption to the death caused only by ischemic diseases will get value 0,4085, which better clarifies relationship between consumption and health indicators such as (life expectancy and causes of death). As we have pointed out several times our food consumption habits and high working performance influences quality of our living. If we want to increase quality of our lives first we need to think about our consumption habits and for what types of goods and services, we use our limited resources. According to the measured values we strongly recommend to think about change in our consumption habits. Without change in basic setting up of our lives, we will be not able to lengthen them, neither we will be not able to increase our health level.

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## INNOVATION AS A DETERMINANT OF ECONOMIC GROWTH AND COMPETITIVENESS OF COUNTRIES

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### ABSTRACT

*In the modern and turbulent world, every country aims to achieve high quality and stable economic growth, because only such economic growth can be sustainable and can have a positive impact on the prosperity and competitiveness of the economy. The creation of a highly competitive economy is a complex and continuing task for each country that wishes to develop. In this paper, we analyze the importance of innovation for economic growth, starting from the consideration of various factors that could improve economic growth, such as the physical environment, institutions, social organizations, business environment, sophistication of company operations and strategies etc. Higher investments in innovation capacity development will create a safe way to increase productivity and raise the awareness of the importance of innovation for the overall advancement of the economy and society.*

**Keywords:** competitiveness, economic growth, innovation

### 1. INTRODUCTION

In the modern and turbulent world, every country aims to achieve high quality and stable economic growth, but the numerous changes caused by globalization, the technological revolution, and the emphasis on the importance of intellectual capital based on knowledge, make it difficult to achieve economic growth. Therefore, it cannot be achieved based on the accumulation of production factors, that is, the work and capital according to Urbano and the associates (2016, p. 34.), because due to the changed economic environment and increased competitiveness, such economic growth would be limited. Obviously, the valid patterns of economic growth have been, to a great extent, transformed, because of the changes. Consequently, certain growth models that were common in the past cannot be applied nowadays without some modification due to intense competition. It would be inconceivable to achieve high-quality and long-term economic growth without modernizing the economy, especially in terms of innovative activities. Numerous studies show that innovation today is a very important determinant that drives economic growth and affects the competitiveness of countries. Innovations form the basis of development, while the economy exploits the possibility of growth by using the accumulated resources. (Tosovic-Stevanovic, 2009, p. 326). The links between competitiveness, economic growth and innovation have been studied for a long time. In his research, Schumpeter used the term innovation for the first time at the beginning of the 20<sup>th</sup> century, which included products, processes and organizational changes that do not necessarily arise from new scientific discoveries, but from a combination of already existing technologies and their applications in a new context (according to: Urbancova, 2013, p. 83).

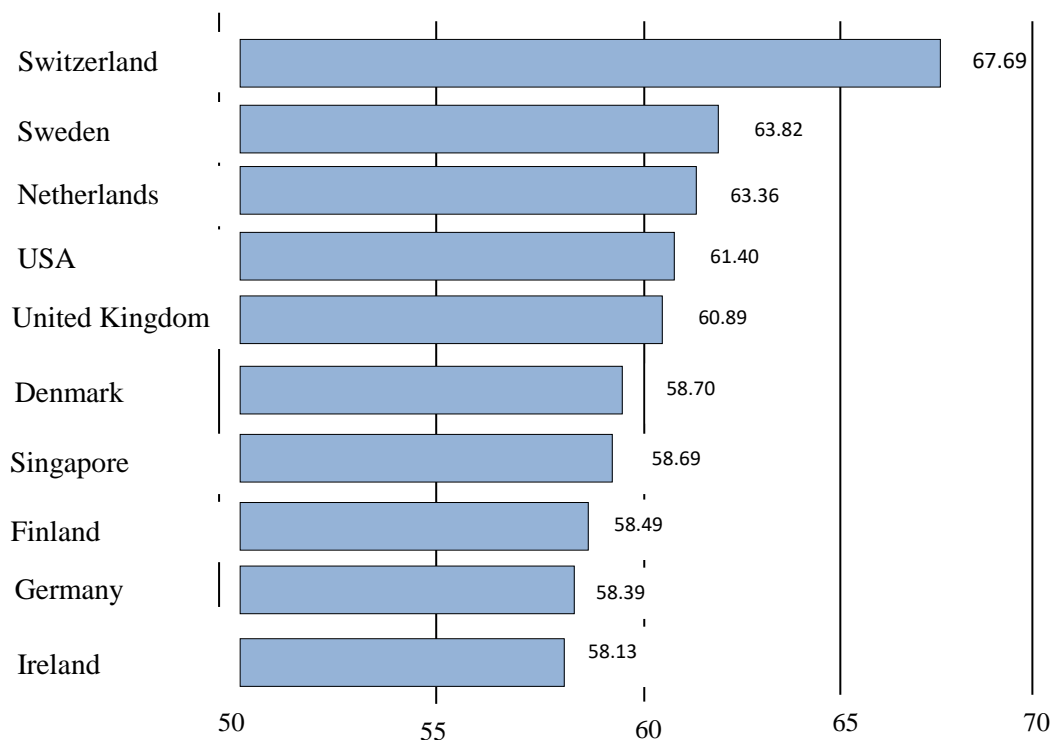
In the research, he also points to the importance of innovation for economic growth, starting from the consideration of various factors that could improve economic growth, such as the physical environment, institutions, social organizations etc. He believes that all of the aforementioned factors are not sufficient enough for the process of economic growth. This process is not simple and it depends on a set of features based on an adequate combination of the existing productive resources in new ways (according to: Galindo, Mendez, 2014, p. 826). His ideas and researches on innovation and economic growth served as a good basis for a number of researchers. There are numerous studies highlighting the role of innovation for economic growth (Galindo, Mendez, 2014; Uppenbergh, 2009; Pece, Simona, Salisteanu, 2015; Saucedo, Borges, 2016, are just some of them). Having conducted researches in several countries from Central and Eastern Europe, from 2000 to 2013, Pece and the associates (2015, pp. 464-467.) came to the conclusion that there is a positive link between the innovation and economic growth and they marked research and development as one of the key items. Several empirical and theoretical projects in some developed countries proved that innovation is a complex process involving participation, interaction and mutual relations of the actors (organizations, individuals, enterprises) and the institutions (education systems, research centres). Saucedo and Borges (2016, pp. 17, 25) analysed in their studies how innovations have a positive effect on economic growth of developed countries, and based on certain variables analysed the innovation systems and their impact on the economic growth of certain developing countries (Mexico, Brazil and Chile). The analysis has shown that there is a positive link between innovation and economic growth, that is, in the developing countries, innovation determines economic growth, depending on certain conditions, such as: respecting property rights, the existence of the necessary number of entrepreneurs, institutional conditions, and competition (Saucedo, Borges, 2016, p. 20). Worldwide, a lot of countries face the problem of achieving and then maintaining their economic growth that will be environmentally sustainable and socially inclusive. Significant influence on this has the complexity of features that determine economic growth. In modern business operations, along with the importance of innovation, there have to be the adequate capacities for innovative activities which can lead to the success of the economy as a whole. Higher investments in innovation capacity development will create a safe way to increase productivity and raise the awareness of the importance of innovation for the overall advancement of the economy and society. However, in order to generate innovation, each country has to meet certain requirements such as: research and development, entrepreneurial skills development, well-established national innovation systems, respect for intellectual property rights, and so on (Saucedo, Borges, 2016, p.17.). The competitiveness of economies on a global scale depends on how the economies of individual countries are ready and able to be the leaders in designing and implementing certain innovations, since the businesses based on innovation and knowledge encourage prosperity, creating and maintaining competitive advantage (Jovicic, Mirkovic, 2016, p. 64.). In today's highly competitive business environment, only the countries that value knowledge and allocate significant resources for research and development are able to make a progress. As a result, this can create new knowledge that stimulates the development of innovation. New knowledge is an essential element in the innovation process, because it is possible to generate innovative ideas that will facilitate, acquire, and most importantly maintain the competitive position. Many countries ignore the fact that it is much more difficult to maintain the quality competitive position than to acquire it. Nowadays, it is very important to base innovation on our own knowledge and experience rather than on the knowledge and experience of other countries. Therefore, radical and systemic innovation is of immense importance. Starting with the challenges that retain sustainable development, Boons and the associates (2013, p. 3.) point to the importance of the innovation, emphasizing that it is in front of so-called regular product and process innovation because they are oriented towards the future.

Radical innovation is essential and genuine, and as such can be sustainable. The development of the original innovation can especially encourage the investment in more sophisticated technology, which is illustrated by the examples of the most developed economies in the world that achieved greater economic growth due to technological advancement. It is not the case in developing countries.

## **2. INNOVATION POTENTIAL OF THE COUNTRIES AT A DIFFERENT LEVEL OF DIVERSITY**

In order to achieve success in the global economy, it is necessary to accept a new way of thinking due to numerous changes. In terms of economic growth and competitiveness of the economies, innovation is primarily based on creativity and new knowledge. It can be said that in recent years innovation has become an important prerequisite for gaining the competitive advantage, regardless of the level of the development of the countries. Every economy in the world has its own characteristics that determine the level of its innovative abilities. (Ristic, Vukajlovic, Brazakovic, 2016, p. 20). The countries compete for a global competitive position in various ways, regardless of its level of development. Sepashvili (2016, p.7.) believes that the success of a country regarding the development of science and technology, and its commercialization of scientific results determines its position on the global market, and, therefore, he emphasizes the importance of greater investment in research and development. Given that innovations arise as a result of research and development, the industrialized countries need to invest in research and development. Some countries, such as China, India, Brazil, Mexico and some countries in Eastern and Central Europe, have already increased annual expenditure on science, research and development (Sepashvili, 2016, p. 5.). It can be said that research and development has become an essential and leading condition for scientific and technological progress, resulting in technological changes that can lead to improved living standards and economic growth. The dynamics and flexibility of highly developed countries in a post-industrial society is directly related to the development of the scientific and technological revolution and the efficient use of its achievements (Popkova, Yurev, Stepicheva, Denisov, 2015, p. 58). Developed economies differ from developing ones, primarily because they are able to allocate significant resources for scientific researches. The lack of investment in research and development in developing countries on the one hand, and the increasing dependence of wealthy economies on the new technology on the other hand, create the already existing gap between developed and developing countries. Due to globalization, developing countries are forced to accept certain imperatives imposed on them to raise the level of national competitiveness. Williams and Woodson (2012, p. 221) emphasize that the innovation in developing countries is subject to varying challenges, from insufficient capital to poor infrastructure necessary for their realization. In addition to the capital and the creation of the adequate infrastructure for developing countries, it is of great importance for them to attract qualified labour because intellectual capital and innovation are closely connected, since such knowledge can generate new, profitable ideas. In transforming high-quality ideas into profitable products, those countries that achieve greater economic growth are the predecessors. Developing countries pay more attention to faster accumulation of physical and human capital, along with the adaptation of the available technologies. However, the research (The world in 2050, 2015, p.7, [www.pwc.com](http://www.pwc.com)) shows that a number of countries, thanks to the development of highly concentrated technological innovations, have achieved the economic growth and increased the participation in the creation of a global gross domestic product. China is the most typical example. Over the last thirty years, China has been the fastest growing economy in the world (Ji, Magnus, Wang, 2014, p. 323.). Since no economy has recently made such a big progress, China's economic growth has become one of the most interesting economic phenomena.

Thanks to a significant increase in its market share, this country also improved its competitive position. Kovacevic and Bojic (2014, p. 79.) state that the dynamic and rapid development of the Chinese economy resulted from a planned market development and a change in the growth strategy, focusing on quality rather than the quantity of growth, the reduction of the rural and the urban population, the reduction of income differentials, environment preservation, and the introduction of structural reforms that support economic efficiency and innovation. The Global Innovation Index, which represents the position of the countries in the innovative map of the world, shows that China was in the 22<sup>nd</sup> position in 2017 and made a progress in comparison with 20 when it entered the top 25 most innovative economies in the world (The Global Innovation Index 2017, p. 22, <http://www.wipo.int>). However, China's position in the global innovation ranking shows us that this country, as the fastest growing economy, should still do a lot regarding its innovation. Switzerland has been the leader in innovation (Chart 1) for seven years in a row. Thanks to its adequate innovation capacity, Switzerland is very successful in transforming its available resources into diverse, profitable and innovative products.



*Chart 1: The top ten most innovative countries according to the Global Innovation Index in 2017. (Authors, according to: The global innovation index 2017, p. 14, <http://www.wipo.int>)*

Among the top 10 most innovative economies in the world, Sweden and the United States retained the same position on the global innovation map both in 2016 and in 2017. The countries that accelerated the development of their innovation in 2017 compared to 2016 are: the Netherlands, Denmark, Germany and Ireland while the United Kingdom, Singapore and Finland decreased their innovative results in 2017 compared to 2016 (according to: The Global Innovation Index 2016; 2017, p. 20; p.18, <http://www.wipo.int>). In comparison with the developed, innovative economies, the innovation potential of Serbia is not that developed. Global Innovation Report (The Global Innovation Index 2016; 2017, p.21; p.18. <http://www.wipo.int>) shows that in 2017 Serbia was in the 62<sup>nd</sup>, making a progress compared to 2016, when it was ranked at the 65<sup>th</sup> place.

Serbia's position on the global innovation ranking shows us that it is far from being an innovative leader. As the competitiveness of economies on a global scale is determined by the extent to which the country is ready to invest in the development of innovations, Ristic and the associates (2016, p. 26.) noted that Serbia, in order to improve its competitiveness, would have to face the modernization of innovation capacity in terms of improving factor conditions, infrastructure and institutions, research and development funding, total allocations for science, and so on. The additional problem in Serbian economy (Ristanovic, 2010) is in the exports structure and partner countries' economic growth. From the aspect of the export structure, there are mostly mentioned resources, labour intensity products and lower technology intensity products. Serbia needs a strategic approach to innovation. The most innovative economies have a strategic approach to the innovation process. Due to the fact that the national competitiveness can be boosted by increasing innovation performance (Ciocanel, Pavelescu, 2015, p.736.), it would be desirable to have a strategic approach to innovation, similar to the one developed by the most innovative countries, and apply it to insufficiently innovative economies both at micro and macro levels.

### 3. COMPETITIVE ADVANTAGE OF COUNTRIES - GLOBAL COMPETITIVENESS INDEX

According to many eminent experts that deal with the influence and analysis of the competitiveness of economies and companies, such as M. Porter, X. Sala-i-Martin and others, the World Economic Forum (WEF) stands out as the institution that deals with the topic of competitiveness, both on the macro and the micro levels, in the most encompassing way. World Economic Forum reports are based on companies' surveys and the same format is used in all countries encompassed by the survey. The region's top performers (see table 1) remain at the competitiveness frontier, with six European countries in the top 10: Switzerland (1), the Netherlands (4), Germany (5), Sweden (7), the United Kingdom (8), and Finland (10). According to the Global Competitiveness Report 2017-2018 performance of the European region — which includes the EU28, the Balkans, Iceland, Norway, Switzerland, and Turkey — is stable overall compared to last year.

*Table 1: Global Competitiveness Index – The Top 10 Economies (World Economic Forum, The Global Competitiveness Report 2017–2018)*

<b>Rank/137</b>	<b>Country/Economy</b>
1	Switzerland
2	United States
3	Singapore
4	Netherlands
5	Germany
6	Hong Kong SAR
7	Sweden
8	United Kingdom
9	Japan
10	Finland

This is the ninth consecutive year where Switzerland has topped this list. Switzerland (1<sup>st</sup>) continues to top the overall rankings, with strong results evenly balanced across the different components of competitiveness (WEF, 2017). According to the Global Competitiveness Report 2017-2018 economic performance benefits from extremely strong fundamentals including public health, primary education, and a comparatively solid macroeconomic environment.



Its economy has a high level of flexibility, with its labor markets being ranked as the best-functioning globally. Absorptive capacity for new technologies is high, with an overall 2<sup>nd</sup> place ranking in the tech readiness of citizens and businesses. Switzerland further improves its scores for business sector sophistication and its innovation environment, thereby defending its top global ranking on those two important pillars (WEF, 2017). The best economy performances for Netherlands are support of a strong education system and high levels of tech readiness among businesses and individuals. The Germany economy performs best in innovation capacity and business sophistication supported by high levels of technological readiness and high-quality infrastructure. The best performances for United Kingdom are high technological readiness and the sophistication of its business sector. Finally, for Finland the best economy performances are high levels of investment in human capital complemented by a sophisticated innovation (WEF, 2017). In respect to Serbia's internal competitiveness, it has improved since the beginning of the 21<sup>st</sup> century but still remains at very low level. The GCI ranks Serbia at number 78 out of 137 countries covered by the survey (WEF, 2017).

*Table 2: Global Competitiveness Index – Serbia (World Economic Forum, The Global Competitiveness Report 2017–2018)*

Index Component	Rank/137
<b>Global Competitiveness Index</b>	<b>78</b>
<i>Subindex A: Basic requirements</i>	74
1st pillar: Institutions	104
2ed pillar: Infrastructure	75
3rd pillar: Macroeconomic environment	72
4th pillar: Health and primary education	52
<i>Subindex B: Efficiency enhancers</i>	82
5th pillar: Higher education and training	59
6th pillar: Goods market efficiency	110
7th pillar: Labor market efficiency	92
8th pillar: Financial market development	101
9th pillar: Technological readiness	72
10th pillar: Market size	74
<i>Subindex C: Innovation and sophistication factors</i>	104
11th pillar: Business sophistication	110
12th pillar: Innovation	95

The results of Serbian economy point out the important competitive advantages and weak points, grouped by the components of global competitiveness index. With regards to basic factors, Serbia ranked at the 74<sup>th</sup> place, which was its best ranking. The ranking of the efficiency factors (82<sup>nd</sup>) are the most significant factors for the development of transition countries. The results with the lowest value are in relation to factors of innovation and sophistication factors by which Serbia was ranked at the 104<sup>th</sup> position in the world in 2017, within which business sophistication had the lowest ranking – 110<sup>th</sup> position (in subcategories nature of competitive advantage Serbia ranked at 133<sup>rd</sup>; production process sophistication – 107<sup>th</sup>) and innovation ranks 95<sup>th</sup> (capacity for innovation – 117<sup>th</sup>; company spending on R&D – 107<sup>th</sup>).

#### 4. CONSLUSION

In order to achieve success in the global economy, it is necessary to accept a new way of thinking due to numerous changes. It can be said that in recent years innovation has become an important prerequisite for gaining the competitive advantage, regardless of the level of the development of the countires.

Innovation represents not just the driving force of a firm's development, but also the driving force of the entire economic development in a country. The key differences in understanding innovation, present in modern economics, are in close relation to innovation and the role of the government. For the purposes of this study, we analyzed the methodology of World Economic Forum that contributes to a better understanding of the competitiveness profile of certain countries and how they can improve and specialize. The indicators of international organizations such as the World Economic Forum allow the analysis of factors that best represent the performance of economies and the competitive advantages of analyzed countries.

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# INVESTIGATING THE ROLE OF E-SERVICE QUALITY AND BRAND IMAGE IN INTERNET BANKING ACCEPTANCE CONTEXT WITH STRUCTURAL EQUATION MODELING (SEM-PLS)

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## ABSTRACT

*Internet Banking is receiving growing attention globally. The rapid growth in internet technology and electronic business has stimulated the banking sectors to encourage customers towards acceptance of online banking system. This study aims to identify the main determinants of internet banking acceptance and customer loyalty. Thus a research framework is outlined with factors such as website design, assurance, customer service and brand image in order to identify which factors drives customer's intention towards acceptance of internet banking and enhance the customer loyalty. The research model was empirically tested using 500 responses from internet banking users. Data was analyzed using the structural equation modeling (SEM). Findings revealed that website design, customer service, assurance and brand image have significant influence on user's intention to accept internet banking. These findings may helpful for policy makers to understand critical factors that influence on user's intention to accept internet banking. For researchers this study provides a basis for further refinement of individual technology acceptance model in banking setting.*

**Keywords:** *Internet banking acceptance, Website design, Customer Service, Brand Image, Customer Loyalty*

## 1. INTRODUCTION

Technology is the most powerful element for the success of the business. It has changed the ways of the business and has strong influence on people lives (S. Samar, Ghani, & Alnaser, 2017). In views of Lichtenstein and Williamson (2006) narrated that internet banking is better than traditional banking and maximum operation should be transformed via internet banking. In this era of technology customer wants ease in their buying and selling process with latest features and companies are focusing to improve their technological systems (Samar Rahi, 2016; Rahi, Ghani, Alnaser, & Ngah, 2018). Information technology is a powerful tool or enabler in the era of customer service and create more opportunities for customer and as well as for investors. Authors like Weick and Quinn (1999) argued that information technology is the most essential service to provide front line function, a place where you may don't exist but your customer exist and he/she is willing to buy your products. According to Nabi (2005) argued that there are different types of internet banking definition however, we can conclude that it is a network which combine the computers all over the world. In views of Bauer, Hammerschmidt, and Falk (2005) explained, that internet banking involve a process where user use the internet and get directly access from bank account to perform banking transaction. Electronic banking contains different types of services like ATM,s, Mobile Phone Banking, Real Time online banking, Point of sale, Call center banking, Plastic card composition in Pakistan (Rahi, Ghani, & Ngah, 2018). Therefore, the present study will just focus on Internet banking which is most innovative and convenient service of Electronic banking.

According to R. Samar, Norjaya, and Feras (2017) if your company is providing better service on website, customer loyalty would be higher. According to Norsworthy, Griffith, Scott, Smith, and Oliver (2008) also explain in their research that if you are using internet properly it would be powerful for your business and it will enhance the image and loyalty towards that particular brand hence if you are just service provider especially in case of banking you must be more conscious about the performance of operation. In one another study authors like Tarí and Sabater (2004) narrate that companies must know that how to hold the customer for their survival and use of internet is the best way to attract your customer anywhere at any time. Hence companies should review their policies of product development they must get feedback about their online usage. If your customers are giving you proper feedback that's means you are gaining better image via use of internet (F. Alnaser, M. Ghani, S. Rahi, M. Mansour, & H. Abed, 2017).

## **2. LITERATURE REVIEW**

These days web-service quality is getting importance not only in evaluating of business success or failure but also determining consumer experiences in an interactive online environment (Santos, 2003; Yang, Peterson, & Huang, 2001). E-service quality and web-service quality both researcher and practitioners have used it interchangeably (Udo, Bagchi, & Kirs, 2010). With accession to this Zhang and Prybutok (2005) supported to the same concept as web site service quality and e-service quality can be used interchangeably. In views of Ho and Lin (2010) defined, e-service or interactive service quality that is delivered on the internet. Furthermore, Santos (2003) explains that e-service quality a virtual marketplace where customer can evaluate, judge and compare the excellence of e-service delivery. According Zeithaml (2002) posited that e-service quality is the extent in which a web site facilitates to customer to perform shopping, purchasing and receiving of goods and services. In e-service customer rely on information technology (Mazuri, Samar, Norjaya, & Feras, 2017). According to Rowley (2006) stated that e-services can be defined as deeds, efforts, or performance of the customers whom delivery is mediated by information technology. According to researcher like (Zeithaml, 2000) postulated that e-service quality is getting importance day by day.

### **2.1. Website Design**

According to Shariq (2006) a website plays delivery channel role and it is very important in usability point of view. Website design plays an important role especially in online business. In case of online business, availability of the information is the most important factor Wolfinbarger and Gilly (2001). Relevant information on the website is also important because it plays a role of salesperson (Zeithaml, 2002). Relevant information on website provides an easy way to select a product and save search time (Alba et al., 1997). Quality information on websites always motivates users to buy product on internet (Cristobal, Flavián, & Guinalú, 2007; Li, Kuo, & Rusell, 1999); Swaminathan, Lepkowska-White, and Rao (1999); (Wolfinbarger & Gilly, 2001). Hence, to provide quality information about products on website is very essential. This study focus is on three main dimensions include contents layout, contents updating, and user friendless adopted by research work of (Aladwani & Palvia, 2002; Barnes & Vidgen, 2002); Loiacono, Watson, and Goodhue (2002); (Yang & Fang, 2004). For banks, their internet banking website is important to perform a smooth financial transaction. Thus the following hypothesis generated:

- H1: Website design is positively influence on Intention to adopt internet Banking.

### **2.2. Assurance**

In services sector the term assurance means security and credibility that a company provides to its customer (Cristobal et al., 2007).

Overall it has been seen that in online environment security and privacy is the main obstacle for the growth of e-commerce. Security concern is much sensitive in online services where customers want privacy (Wolfenbarger & Gilly, 2002). This dimension is incorporated security elements, confirm the purchase process, guaranteeing confidentiality and communicating to customers. It is essential in an online environment and it has been used in different online perspective research studies for instance (Cristobal et al., 2007; Liu & Arnett, 2000; Long & McMellon, 2004; Wolfenbarger & Gilly, 2003). To sum up the overall objective of this dimension is to provide security and confidentiality to customers. Thus the following hypothesis is formulated:

- H2: Assurance is positively influence on Intention to adopt internet Banking.

### **2.3. Customer Service**

In early days of e-commerce there was a thought that success of the business was dependent only on low prices. However, customer service has proved an essential element in online buying process (Rahi, Ghani, & Muhamad, 2017; Zeithaml, 2002). Online transaction is very sensitive, what consumer demands quality services like correct and timely transaction, personal attention towards their emails and queries. Hence, website developer must bear in mind that website should fulfill the expectation of the end users. This dimension is supported and have been explored by several researcher like Liu and Arnett (2000); Madu and Madu (2002); Van Riel, Liljander, and Jurriens (2001) Wolfenbarger and Gilly (2003). Customer service is derived from service reliability, personalized service, fast response to complain and customer sensitivity. Hence, the main theory of service quality by Parasuraman, Zeithaml, and Berry (1985) include following dimensions of service quality: customer knowledge, sensitivity and courtesy. The subsequent SERVQUAL scale by (Parasuraman, Zeithaml, & Berry, 1988) include: sensitivity and empathy while, courtesy was moved into trust dimension. For online business customer service is very important. Thus the following hypothesis is formulated:

- H3: Customer Service is positively influence on Intention to adopt internet Banking.
- H4: Customer Service is positively influence on Customer Loyalty.

### **2.4. Brand Image**

What would be a brand in customer's point of view what they think about brand is the total accumulation of all his/her experiences and is to build all points of contact with the customer (Rahi, 2015). The brand is the identity of the product and image explains that is brand valuable or not (Aaker, 1997; Rahi, 2015) explain that brand is as important as product itself it differentiate the product with other products, brand is an emblem or symbol and this symbol motivate the customer to buy their product. A symbol may be called differently like logo according to the easiness or trademark moreover the key role of a brand is to distinguish a product with other on behalf of quality or service. It creates trust between customer and manufacturer and gives competitive advantages. According to (Kapferer, 2004) defined that brand is an identity of a product. There are many angles to see a brand for customer it includes overall experience from their buying process to using. Hence brand image comes when customers have overall experience about the brand. Authors like De Chernatony (1998) narrate that for successful brand image it is important that companies must observe the needs of the customer deeply and it must be relevant what customer actually want and does your product fulfill the need of the customer. According to (Aaker, 1997; S. Rahi & M. A. Ghani, 2016) explained that brand image research emphasize on identity of you product if the product has unique qualities it will attract the customer and will create good brand image. Hence, to maintain the brand identity it is important to maintain consistency about quality and services, research also explain that to attain customer attention via services and quality is the best tool to build strong image in customer minds.

- H5: Brand Image is positively influence on Customer Loyalty.

## 2.5. Customer Loyalty

Customer loyalty has been explored in several sectors with different ways. Loyalty is generally defined as a commitment to consistently revisit a site or repurchase an item or service from the same company, despite situational influences and marketing efforts having the potential to cause switching behaviour (FMI Alnaser, Ghani, & Rahi, 2017; Oliver, 1997). Another, definition of customer loyalty is introduced by Andreassen (1999) postulated that e-loyalty where the customer's favourable attitude towards an electronic business, resulting in repeat purchasing. With the emergence of e-commerce researcher has seen e-loyalty more sensitive as compare to loyalty that comes from offline business (F Alnaser, Ghani, & Rahi, 2018; F. M. I. Alnaser, M. A. Ghani, S. Rahi, M. Mansour, & H. Abed, 2017; Samar Rahi, 2016). According to Horppu, Kuivalainen, Tarkiainen, and Ellonen (2008) stated that e-loyalty is somewhat different from offline business. Several studies defined e-loyalty as a commitment to consistently revisit a website because of the shopping without switching on others websites (Cyr, 2008; Deng, Lu, Wei, & Zhang, 2010; Qiu & Li, 2008; S. Rahi & M. Ghani, 2016). In banking context S. Rahi and M. A. Ghani (2016) stated that how consistently internet banking users revisit bank website because of financial transaction or to get financial information from bank website.

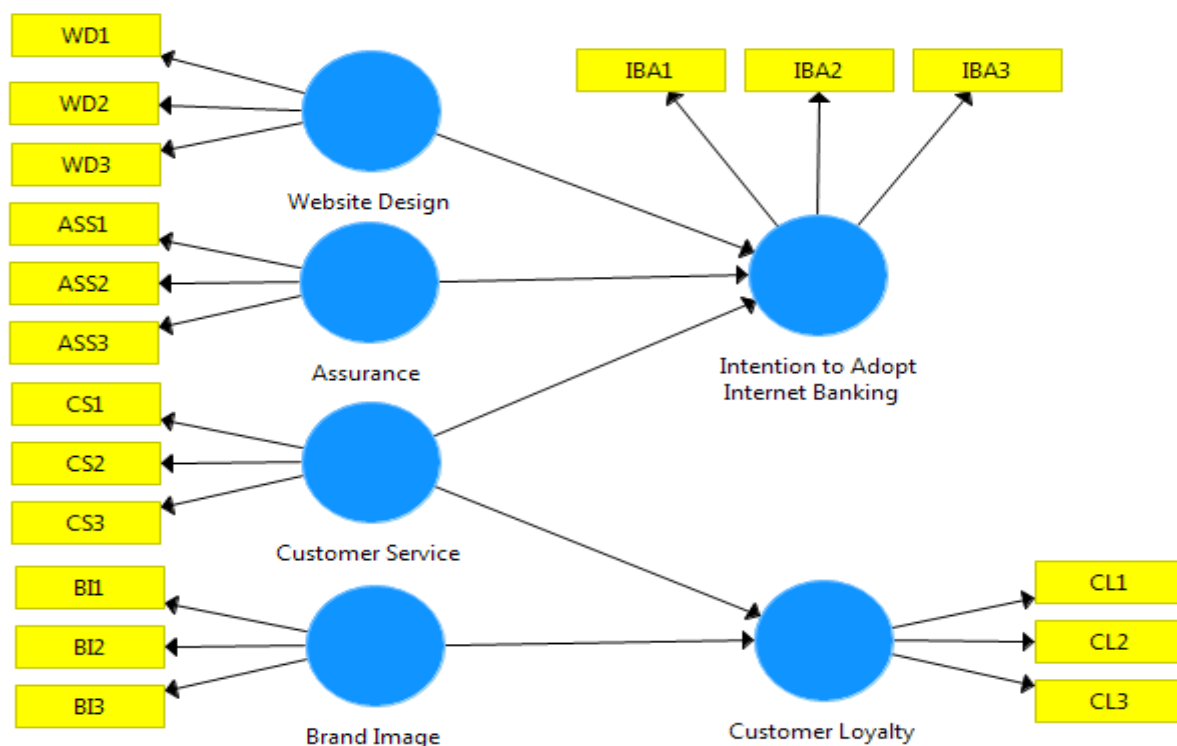


Figure 1: Theoretical Framework

## 3. METHODOLOGY

This study is conducted under positivist paradigm. Becker, Bryman, and Ferguson (2012) postulated that positivists believe in employing quantitative approaches to data analysis and support objectivity to define their ontological statements. Thus quantitative approach was used to verify the influence of e-service quality and Brand Image on intention of internet banking adoption and Customer Loyalty.

### **3.1. Survey Design and Sampling**

A questionnaire was developed for measuring the respondent's observation. The survey was directed towards customers of commercial Banks in Lahore city of Pakistan. Before conducting the survey, formal letters were written to the respective commercial banks. Where, researcher took the permission to collect the data within bank branches. Convenience sampling method was used in this study. Convenience sampling defined as a process of data collection from population that is close at hand and easily accessible to researcher. Rahi (2017) illustrated that convenience sampling allows researcher to complete interviews or get responses in a cost effective way. Comrey and Lee (1992) stated that sample size of 50 is very poor, while 100 is poor, 200 is reasonable, 300 is good, 500 is very good and 1000 is brilliant for structural equation modeling. For this study the required sample size was 500. However, researcher set out to collect data which was slightly larger than the required number. Thus a set of 550 structured questionnaires were distributed out of 500 useable response received from internet banking users.

### **3.2. Instrument Development**

The survey instrument was consisted on two parts. First part asked about demographic characteristics like region, age, gender, qualification while, second part include six latent construct named website design, assurance, customer service, Brand image, intention to adopt internet banking, and customer loyalty. All the constructs items were adopted from previous research work. Items of Intention adopted from Martins, Oliveira, and Popovič (2014), while Customer Service, Website Design, and Assurance adopted from Cristobal et al. (2007). Lastly Customer Loyalty items adopted from (Rahi, 2015). The items anchored on a 7-point Likert scale (1= strongly disagree to 7 strongly agree)

### **3.3. Data Analysis**

To analyze the research model Partial Least Square (PLS) analysis technique was employed by using the SmartPLS3.0 software Ringle, Wende, and Becker (2015). Following two-stage analytical procedure, researcher tested the measurement model (validity and reliability of the measures) and structural model (Hypothesis testing) recommended by F. Hair Jr, Sarstedt, Hopkins, and G. Kuppelwieser (2014).

### **3.4. Measurement Model**

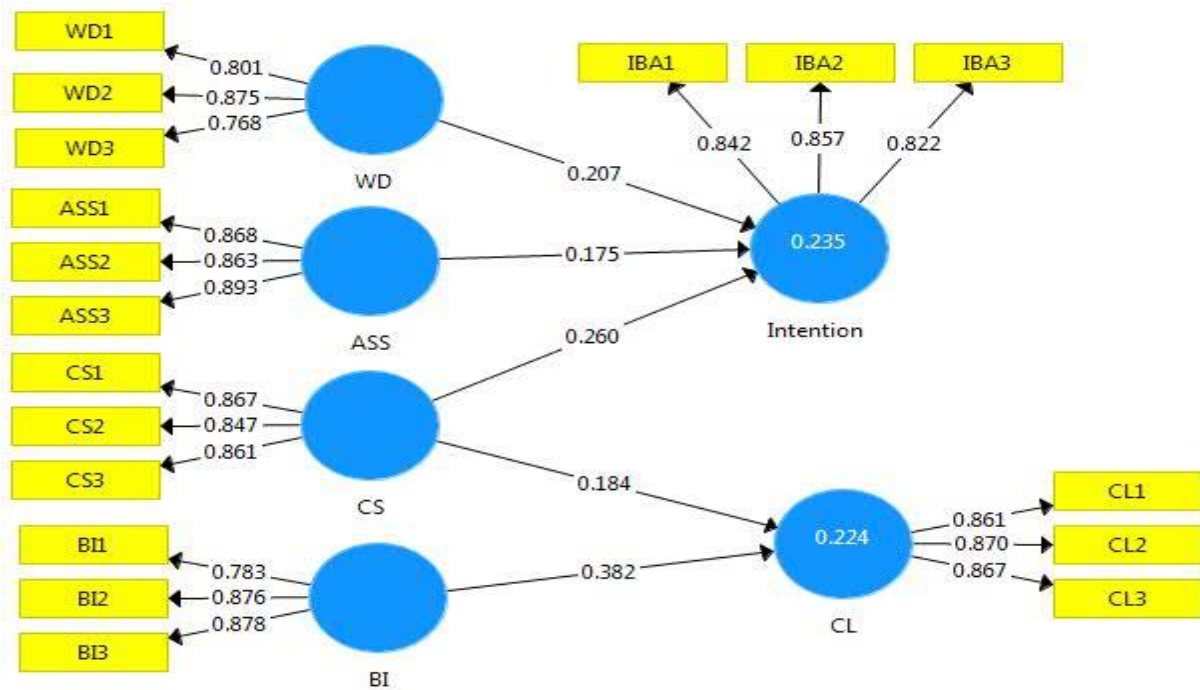
Prior to structural modeling study has to assess the measurement model of latent construct for their dimensionality, validity, and reliability by going through the process named as confirmatory factor analysis (CFA). As the study is quantitative in nature, usually Cronbach's ( $\alpha$ ) is recommended to ensure reliability. Therefore, Composite Reliability (CR) is also preferred Henseler, Ringle, and Sinkovics (2009). Two types of validity approached: Convergent and discriminate validity.

### **3.5. Convergent Validity**

Convergent validity of measurement model is usually ascertained by examining the factor loading, average variance extracted and compost reliability (Hair, Black, Babin, Anderson, & Tatham, 2010). Figure 2 depicted result where, factor loading values supported by Chin (1998) as recommended threshold level of 0.6. All the values were above than 0.6 that indicates the convergent validity.

*Figure following on the next page*



*Figure 2: Measurement Model*

The convergent validity was also confirmed through estimation of average variance extracted (AVE) by recommended values of Fornell and Larcker (1981) as it must be greater than 0.5. The average variance extracted that reflects the overall amount of variance in the indicators accounted for latent construct. Further to this measurement model needs to be assess composite reliability. Table 2 depicted composite reliability (CR) degree where the construct indicator represent the latent construct, values exceeded 0.7 recommended by Hair et al. (2010).

*Table following on the next page*

*Table 2: Results of Measurement Model*

<b>Constructs</b>	<b>Loading</b>	<b>(<math>\alpha</math>)</b>	<b>CR</b>	<b>AVE</b>
<b>Website Design</b>	<b>WD</b>	<b>0.751</b>	<b>0.856</b>	<b>0.666</b>
I can log in this portal easily.	0.801			
This internet banking portal enables me to complete a transaction quickly.	0.875			
I can complete online transactions easily.	0.768			
<b>Assurance</b>	<b>ASS</b>	<b>0.848</b>	<b>0.907</b>	<b>0.765</b>
Transactions on this portal site are reliable and credible.	0.868			
My transaction data are protected by this portal site.	0.863			
I feel relieved to transact on the internet banking portal.	0.893			
<b>Customer Service</b>	<b>CS</b>	<b>0.822</b>	<b>0.893</b>	<b>0.737</b>
Internet banking portal performs the service correctly at the first time.	0.867			
I received prompt responses to my request by e-mail or service line.	0.847			
When problems occur, the internet banking system guides me to solve them.	0.861			
<b>Intention to adopt internet Banking</b>	<b>IBA</b>	<b>0.793</b>	<b>0.879</b>	<b>0.707</b>
I plan to use the system in the next months.	0.842			
I intend to consult the balance of my account on the platform of Internet banking.	0.857			
I intend to perform a transfer on the platform of Internet banking.	0.822			
<b>Brand Image</b>	<b>BI</b>	<b>0.807</b>	<b>0.884</b>	<b>0.717</b>
I feel that a banks branding services (Internet Banking) possesses its practical function	0.783			
I feel that a banks branding services (Internet Banking) possesses a positive symbolic meaning.	0.876			
I feel that a bank branding services (Internet Banking) can relate to the pleasant experience.	0.878			
<b>Customer Loyalty</b>	<b>CL</b>	<b>0.834</b>	<b>0.9</b>	<b>0.751</b>
I will use Internet Banking product in the future.	0.861			
I will say positive things about Internet Banking when I talk to my friends or relatives	0.87			
I will recommend Internet Banking to my friends or relatives when they need the related information	0.867			

### 3.6. Discriminant Validity

The discriminant validity of the measures was examined by following Fornell and Larcker (1981). Discriminate validity is the degree where items differentiate among constructs and measures distinct concepts Fornell and Larcker (1981). It is measured by examining the correlation between the measures of the potential overlapping constructs (Fornell & Larcker, 1981). According to Compeau, Higgins, and Huff (1999) the average variance shared between each construct and its measure should be greater than the variance shared between the constructs and other constructs. Table 3 showed that the square root of the AVE as showed in bold values on the diagonals were greater than the corresponding row and column values that indicates the measures were discriminate.

*Table 3: Discriminant validity of Measurement Model*

Constructs	ASS	BI	CL	CS	IBA	WD
Assurance (ASS)	<b>0.875</b>					
Brand Image (BI)	0.48	<b>0.847</b>				
Customer Loyalty (CL)	0.827	0.44	<b>0.866</b>			
Customer Service (CS)	0.303	0.313	0.304	<b>0.858</b>		
Intention (IBA)	0.324	0.31	0.28	0.392	<b>0.841</b>	
Website Design (WD)	0.339	0.5	0.299	0.383	0.366	<b>0.816</b>

Note: Bold values indicate the square root of AVE of each construct

Discriminant validity can be measured by examining the cross loading of the indicators Hair Jr, Hult, Ringle, and Sarstedt (2016). It can be done by comparing an indicator's outer loadings on the associated constructs and it should be greater than all of its loading on the other constructs (Ngh, Zainuddin, & Thurasamy, 2015). Table 4 depicts that all the items measuring a particular constructs loaded higher on that construct and loaded lower on the other constructs that confirms the discriminate validity of the constructs.

*Table 4: Loading and Cross Loadings*

Items	ASS	BI	CL	CS	IBA	WD
Assurance	<b>0.868</b>	0.43	0.751	0.231	0.257	0.293
Assurance	<b>0.863</b>	0.419	0.732	0.296	0.261	0.275
Assurance	<b>0.893</b>	0.415	0.698	0.27	0.324	0.318
Brand Image	0.298	<b>0.783</b>	0.27	0.307	0.299	0.421
Brand Image	0.409	<b>0.876</b>	0.377	0.267	0.229	0.385
Brand Image	0.48	<b>0.878</b>	0.439	0.244	0.274	0.465
Customer Loyalty	0.692	0.385	<b>0.861</b>	0.264	0.246	0.267
Customer Loyalty	0.723	0.392	<b>0.87</b>	0.258	0.215	0.25
Customer Loyalty	0.736	0.366	<b>0.867</b>	0.267	0.269	0.261
Customer Service	0.289	0.282	0.262	<b>0.867</b>	0.37	0.371
Customer Service	0.249	0.237	0.25	<b>0.847</b>	0.292	0.304
Customer Service	0.242	0.284	0.269	<b>0.861</b>	0.343	0.306
Intention to Adopt	0.31	0.278	0.268	0.329	<b>0.842</b>	0.308
Intention to Adopt	0.262	0.256	0.237	0.333	<b>0.857</b>	0.291
Intention to Adopt	0.243	0.247	0.2	0.328	<b>0.822</b>	0.323
Website Design	0.255	0.373	0.205	0.333	0.28	<b>0.801</b>
Website Design	0.309	0.429	0.279	0.319	0.356	<b>0.875</b>
Website Design	0.261	0.427	0.245	0.286	0.243	<b>0.768</b>

### 3.7. Structural Model Evaluation

Measurement model was achieved after conducting validity and reliability analysis. Further, the hypothesis developed for this study were tested by running a bootstrapping procedure with a resample of 5000, as suggested by F. Hair Jr et al. (2014). The results in Table 5 depicts path coefficient of respective constructs with its level of significance. The hypothesis results revealed that all five hypotheses have significance relationship with their respective endogenous variables. The relationship between website design to Intention to adopt internet banking has supported by H1: ( $\beta = 0.207$ ,  $p < 0.01$ ).

Next, the relationship between Assurance and intention to adopt internet banking is supported by H2: ( $\beta = 0.175$ ,  $p < 0.01$ ). H3 showed that customer service is positively related with Intention to adopt internet banking by ( $\beta = 0.26$ ,  $p < 0.01$ ). Relationship between customer service to customer loyalty is supported by H4: ( $\beta = 0.184$ ,  $p < 0.01$ ). Finally, the results of H5, where the relationship between brand image to customer loyalty is supported by ( $\beta = 0.382$ ,  $p < 0.01$ ).

*Table 5: Results of Structural Model Analysis (Hypothesis Testing)*

Hypothesis	Relationship	B	S.E	t-value	P-value	Result
H1	WD -> Intention	0.207	0.04	5.171	***	Significant
H2	ASS -> Intention	0.175	0.041	4.238	***	Significant
H3	CS -> Intention	0.26	0.039	6.595	***	Significant
H4	CS -> CL	0.184	0.048	3.847	***	Significant
H5	BI -> CL	0.382	0.046	8.279	***	Significant

Note: Significance level where, \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The  $R^2$  for intention to adopt internet banking was 0.235 and for customer loyalty 0.224, which was acceptable based on the cut-off suggested by (Cohen, 1988). Researcher also assessed the effect size of ( $f^2$ ). As suggested by Cohen (1988) P value can show you that effect exist however it does not reveal the size of the effect. In table 6 effect size of ( $f^2$ ) can be seen where hypothesis H1 to H4 has small effect size while H5 has medium effect size as suggested by (Cohen, 1988). Further to this researcher also assessed predictive relevance of the model by using the blindfolding procedure. Blindfolding procedure should only be applied to endogenous constructs that have a reflective measurement (Hair Jr et al., 2016). If the  $Q^2$  values are greater than 0 it showed that model has predictive relevance for a certain endogenous construct (Cohen, 1988; Hair Jr et al., 2016). Table 6 showed that the values of  $Q^2$  is greater than 0 that depicts the proposed model has significant predictive relevance.

*Table 6: Evaluating Effect Size*

Path	Constructs	$R^2$	$Q^2$	$f^2$	Decision
	Intention	0.235	0.153		
	Loyalty	0.224	0.157		
H1	WD -> Intention			0.045	Small
H2	ASS -> Intention			0.034	Small
H3	CS -> Intention			0.072	Small
H4	CS -> CL			0.039	Small
H5	BI -> CL			0.170	Medium

Note:  $f^2$ : 0.02, small; 0.15, medium; 0.35, large

#### 4. DISCUSSION/CONCLUSION

Internet banking is becoming prevalent and competing banks have limited ways to feat in establishing a differentiation (Jayawardhena & Foley, 2000). Improvements in quality service can only be achieved when it can be measured in its first place. Delivering a superior service quality as compared to competitors offers an opportunity to banks to achieve a competitive differentiation (Ladhari, Ladhari, & Morales, 2011). The fact that effective measurement of service quality can be very useful when the allocation of resources and the segmentation of customer is well documented (Parasuraman et al., 1988). All these arguments combined have led to service quality measurement in internet banking becoming an area of growing interest to research. Furst, Lang, and Nolle (2002) stated that the profitability of the banks by using internet banking was higher than nonusers of internet banking. Internet banking is creating new

marketing opportunities and improving customer loyalty S Rahi (2016). In Pakistani banking sector there is a great need to identify the factors that effects adoption of internet banking (Rahi, 2015). By following above arguments this study explore the e-service quality dimensions towards adoption of internet banking in Pakistan. Website design, assurance, and customer service has collective 23% impact on intention of internet banking adoption. Thus we can infer that a bank should design the website with adequate and precise information content. H2 is supported to behavioral intention to adopt internet banking where we can imply that by giving a guarantee or assurance Pakistani banks can attract more customers towards adoption of internet banking. Customer service has proved an essential element in online buying process Zeithaml (2002). By supporting this argument it can be seen in H3 and H4 where customer service is influencing on intention to adopt of internet banking with this it also has supporting relationship with customer loyalty. To maintain the brand identity it is important to maintain consistency about quality and services. Previous research by Samar Rahi (2017) also explained that to attain customer attention by providing unique services is the best tool to build strong image in customer minds. Hypothesized relationships of both H4 and H5 are supported where banks brand image and customer service collectively influence on customer loyalty with a variance of 22%. The relationship between e-customer services and internet banking adoption reveal that by improving e-customer service banks can get more and more internet banking users. To sum up, we can conclude that website design, assurance customer service, and brand image are the most influential factors that can derive customers towards internet banking adoption and customer loyalty.

#### **4.1. Future Research**

Future research can apply this model in other developing countries to contrast and compare the factors that affect the internet banking adoption. Second, the variables selected in this study may not include all the variables that affect internet banking adoption. Using other variables derived from technology acceptance theory or theory of planned behaviors researchers can observe the behavioral intention of internet banking users.

#### **4.2. Limitation**

This study is cross-sectional in its nature and measures the internet banking user's behavior at one point in time that may be less significant as compare to longitudinal study.

#### **4.3. About the Author**

Dr. Samar Rahi is a researcher at the Faculty of Economics and Management Sciences, Universiti Sultan Zainal Abidin (UniSZA). Prior to this, Samar has worked with top-notch travel joint like Amadeus and Galileo. He graduated on time with a PhD in Marketing from UniSZA, Malaysia. His areas of expertise include marketing strategy, technology management, consumer behaviour and quantitative research methods in marketing research. His scientific record consist of about 20 peer-reviewed papers (indexed in Scopus and ABDC), including books, such as E-Banking challenges and opportunities, Technology adoption in Banks, Structural Equation Modeling and Business Research Methods. Samar can be contacted at sr\_adroit@yahoo.com. Mazuri Abd Ghani (DBA): is a senior lecturer at University Sultan Zainal Abidin (UniSZA). Now, she is a Deputy Dean of Academic and Undergraduates at Faculty of Economics and Management Sciences. Her core academic teachings are including International Business Management, Services Marketing and Management Studies. Her research interests are Market Orientation, Brand Orientation and building Customer-Based Brand Equity for Higher Education institutions.

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## ***APPENDIX***

### **Consent form**

The study you are about to participate is to investigate the relationship between e-customer service, Brand Image and intention to adopt internet banking. The study has no potential harms for participants, and has been approved by the Institutional Review for ethical standards. All the information provided by you will be kept confidential and anonymous.

Note: Please mark your relevant category to answer the question. Please make sure to mark only within the box.

Name (Optional): \_\_\_\_\_

#### **Please identify your age category:**

- ☐ Less than 25years
- ☐ 26 to 35 years
- ☐ 36 to 45 years
- ☐ Above 45 years

#### **Please identify your qualification:**

- ☐ Below high School
- ☐ Attended High School
- ☐ Attended College
- ☐ Graduate
- ☐ Post Graduate

#### **Gender**

- ☐ Male
- ☐ Female

#### **Region**

- ☐ Urban
- ☐ Country Side

*Table following on the next page*

*Internet Banking Adoption Factors*

For the following questions, Please tick (✓) or encircle any number from 1 to 7 based on your past experience. A rating scale (1-7) depicts the lowest point of 1 to the highest point of 7		LEVEL OF AGREEMENT						
		Strongly Disagree	Slightly Disagree	Disagree	Neutral	Agree	Slightly Agree	Strongly Agree
	<b>Customer Service (CS)</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
1.	Internet banking portal performs the service correctly at the first time.	1	2	3	4	5	6	7
2.	I received prompt responses to my request by e-mail or service line.	1	2	3	4	5	6	7
3.	When problems occur, the internet banking system guides me to solve them.	1	2	3	4	5	6	7
	<b>Website Design (WD)</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
4.	I can complete online transactions easily.	1	2	3	4	5	6	7
5.	I can log in this portal easily.	1	2	3	4	5	6	7
6.	This internet banking portal enables me to complete a transaction quickly.	1	2	3	4	5	6	7
	<b>Assurance (AS)</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
7.	Transactions on this portal site are reliable and credible.	1	2	3	4	5	6	7
8.	My transaction data are protected by this portal site.	1	2	3	4	5	6	7
9.	I feel relieved to transact on the internet banking portal.	1	2	3	4	5	6	7
	<b>Brand Image (BI)</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
10.	I feel that A banks branding services (Internet Banking) possesses its practical function.	1	2	3	4	5	6	7
11.	I feel that A banks branding services (Internet Banking) possesses a positive symbolic meaning.	1	2	3	4	5	6	7
12.	I feel that A banks branding services (Internet Banking) can relate to the pleasant experience.	1	2	3	4	5	6	7
	<b>Behavioral Intention (BI)</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
13.	I plan to use the system in the next months.	1	2	3	4	5	6	7
14.	I intend to consult the balance of my account on the platform of Internet banking.	1	2	3	4	5	6	7
15.	I intend to perform a transfer on the platform of Internet banking.	1	2	3	4	5	6	7
	<b>Customer Loyalty</b>	(SD)	(SLD)	(DA)	(N)	(A)	(SLA)	(SA)
16.	I will use Internet Banking product in the future.	1	2	3	4	5	6	7
17.	I will say positive things about Internet Banking when I talk to my friends or relatives	1	2	3	4	5	6	7
18.	I will recommend Internet Banking to my friends or relatives when they need the related information	1	2	3	4	5	6	7

## PROCESSOR SYSTEMS SECURITY IMPACT ON BUSINESS SYSTEMS

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### ABSTRACT

*The intensive industry development, telecommunications services of the financial sector and other aspects of the economic system is generated by the parallel development of information communication technologies, ie the development of processors, artificial intelligence, cloud computing, mobile systems, IoT, 5G networks, robotic systems. The importance of the processors is large-scale because they represent the basic building element of all layers of the modern information system. Processor systems security is very important because it enables the optimal operation of all structures that rely on a given processor platform. Meltdown and Spectre are gaps that have been discovered recently, representing a challenge to the information system security. Given weaknesses are related to certain techniques that enable the CPU performance acceleration. Due to increasing data processing speed processor system manufacturers use the speculative execution and the cache technique. The speculative execution technique encompasses the phase of prediction of data flow branching and analysis, then the speculative execution of instructions in advance and keeping the processing results in the temporary memomoric locations. The caching method increases the speed of CPU access to logical data integrations in the memory systems, hence the processing speed of the computer system. The incompetence of the given methods allows important data access to malicious software. Processes are generally not allowed to read data from other processes, however, malicious programs can exploit this feature. Meltdown and Spectre use these failures to get data such as passwords, emails, instant messages, and business documents stored in memory that belong to other running programs, as well as they can also violate the safety of customers. The observed weaknesses of the CPU can threaten the IS optimal work. Examining the weaknesses of modern processors and analyzing the solutions that make it possible to overcome these failures, facilitate the productive and efficient work of the IS, and therefore the business system as a whole.*

**Keywords:** *business system, computer system architecture, information system, Meltdown, processor architecture, Spectre*

### 1. INTRODUCTION

The development of the socioeconomic sector was followed by information systems development. The given technology development is enabled by the IS system layers evolvent, that is, the development of basic material elements that are defined by processor systems (Langović, Pažun and Tomić, 2015; Langović, Langović-Milićević and Pažun, 2015; Langović and Pažun, 2016). Processor systems manufacturers use the speculative execution technique to increase the data processing speed.

Then they use a cache technique defined through a hierarchy of memory systems within a computer system that increases the speed of accessing CPU to memory locations, and hence the data processing speed (Lipp et al, 2018; Kocher et al, 2018). The speculative execution technique involves the phase of prediction of branching and analysis of data flow, then the speculative execution of instructions in advance, and finally the storage of processing results in the temporary memory locations. Certain oversights in the speculative execution technique are defined by the term Spectre. Meltdown takes advantage of the state of the modern processor, which is reflected in the possibility of accessing certain user processes to the system part of the memory, ie, kernel. Modern business systems are exposed to high security pressures. Companies must prioritize the implementation of new security solutions. For this reason, the new concept of “zero confidence” as a fundamental concept must be integrated into the company's strategy. In this paper, we look at business solutions that enable a higher degree of IS safety, from the aspect of repairing the weaknesses of modern prosperity platforms, discovered as Meltdown and Spectre, CPU malaises.

## 2. MELTDOWN CONCEPT

The ability to access memory through Meltdown is a newer date threat. Given weakness is a feature of Intel's processors made since 1995 that uses speculative execution, with the exception of the Itanium and Atom models (i.e. Intel) This vulnerability is a feature of certain ARM processors, as well (such are Arm Cortex-A75). Prior to Meltdown, the attacker used the Mimikatz tools for leverage theft (Delpy, 2018). By applying Meltdown such an operation can be done more easily. In addition to these attacks, the exploitation of meltdown defects can be easily performed by Rovhammer attacks (Bosman et al, 2016). Meltdown potentially allows the exploitation of CPU defects that have been previously amortized using the random access to the address space in the kernel (ASLR) (Gras et al, 2017). Microsoft has released PoverShell scripts that contain specific commands. Given commands define the sensitivity of the processors to Meltdown and Spectre. Companies which develop operating systems such are Windows, Linux and Macintosh work together on a given security project. The Linux patch, known as the Kernel Site Insulation (KPTI), isolates the user's memory from the kernel. Figure 1 shows that before Meltdown, it was assumed that user mode code could not access sensitive kernel data (arrow 1), but this is not true (arrow 2). The KPTI fix does not include kernel data in the page tables used by user mode, preventing the Meltdown attack (arrow 3).

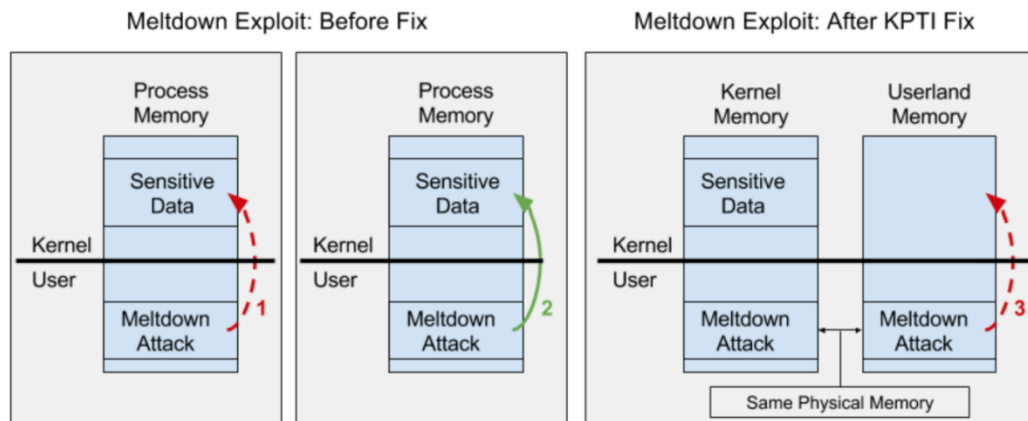


Figure 1: Meltdown exploit before and after KPTI fix (Stevens et al., 2016)

When it comes to cloud computing services, cloud providers have to provide their infrastructure. Users of their services must provide their infrastructure, ie virtual machines (VMs) and containers (Langović, Pažun and Tomašević, 2014; Pažun, Langović and Langović-

Milićević, 2015; Langović and Pažun, 2016). Meltdown allows user programs to read from private and sensitive kernel addresses, including sandboxes like Docker or Xen in paravirtualization mode.

### 3. SPECTRE CONCEPT

Spectre can not be repaired with software updates, but it can be mitigated by microcodes updating, as well as by processor replacing. However, new processor architectures can last five to ten years, and this tactic will most likely affect business systems. Microcode updating with loss of performance is by far the most optimal option.

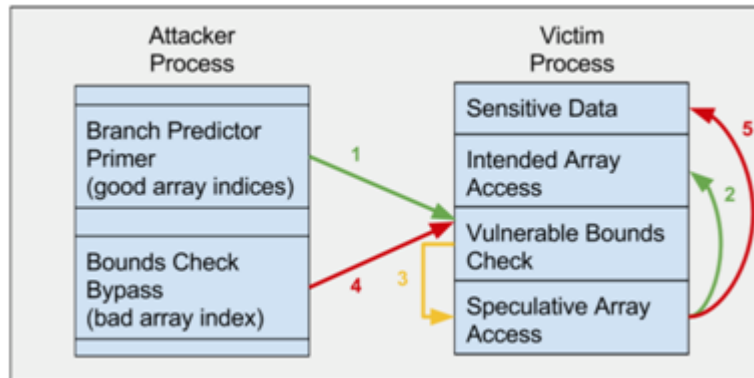


Figure 2: Spectre bounds check bypass (Stevens et al., 2016)

Figure 2 shows that the attacker repeatedly provides well-behaved input to the victim (arrow 1). This only accesses the intended array (arrow 2), but it influences future behavior of the branch predictor (arrow 3). When the attacker provides bad input (arrow 4), it uses the trained behavior of the branch predictor (arrow 3) due to accessing sensitive data (arrow 5).

The Spectre code version 1 is following:

```

if (within_bounds(brojac)) {
    vrednost = array[brojac];
    if (some_function_of(vrednost))
        execute_externally_visible_action();
}

```

In next lines the Spectre code in arm processors is given:

```

1 struct array {
2 unsigned long length;
3 unsigned char data[];
4 };
5 struct array *niz1 = ...; /* small array */
6 struct array *niz2 = ...; /*array of size 0x400 */
7 unsigned long untrusted_offset_from_user = ...;
8 if (untrusted_offset_from_user < niz1->length) {
9 unsigned char value;
10 value = niz1->data[untrusted_offset_from_user];
11 unsigned long index2 = ((value & 1) * 0x100) + 0x200;
12 if (index2 < niz2->length) {
13 unsigned char value2 = niz2->data[index2];

```

```
14 }
15 }
```

### 3.1. Spectra influence on search engines

In addition to the operating system framework, companies need to have a strong external defense, as Spectre attacks can be triggered from Javascript executed by the web browser:

```
1 if (brojac < simpleByteArray.lenght) {
2     brojac = simpleByteArray.lenght [brojac | 0];
3     brojac = (((brojac* TABLE1_STRIDE) | 0) & (TABLE1_BYTES-1)) | 0;
4     lokal ^= probeTable [brojac | 0] | 0;
5 }
```

However, Apple has released updates for Mac OS and iOS to block Spectre's impact through the Safari browser, and Google has provided an experimental patch for Chrome. Companies should apply updates and patches to browsers as soon as they are available. There are tools that enable better JavaScript control. These tools block, that is restrict scripts that can be run in the search engine. In this case, the implementation of Multifactor Authentication (MFA) is recommended. For example, in the case of password theft, data related to them would be useless without MFA access.

## 4. BUSINESS SOLUTIONS

The nature of the fixes for Meltdown repair and Spectre mitigation affects the performance of computer systems. Implementation of the Kernel Page Table Isolation or KPTI (formerly called KAISER) closes the security hole. This solution pushes the kernel into a separate address space, thus isolating it from user processes. The disadvantage is that whenever an application uses a kernel, such as reading a file, the CPU needs to use a virtual kernel address space that slows down the CPU. (Gruss et al, 2017). Multi-user systems and applications, which rely heavily on system-level kernel calls, such as databases, will experience the most effective effects. The slowdown effects are in the function of the number of users, processor models, types of tasks, and ways of repairing certain weaknesses and contain five to 30 percent. The first projections were that companies could see performance losses of more than 30%. Newer chips from Intel have a PCID feature, that is how to minimize the performance of the processor. (Claburn, 2018)

*Table 1: Risk estimates of Meltdown and Spectre harmful effects on system layers (Reis, 2018)*

	Highest Risk	High Risk	Moderate
Desktop and laptop end-users			
Public cloud service providers			
Applications running in public cloud environments			
Public cloud environments with open self-service models			
Private cloud and virtualisation environments with more restricted models			
Applications running in private cloud environments			
Bare-metal and other application-specific server use cases			

Next table shows processors types which are sensitive on Meltdown and Spectre, as well as processor repairing weakness possibilities.

*Table 2: Comparison between Meltdown and Spectre (Reis, 2018)*

	<b>Meltdown</b>	<b>Spectre</b>
<b>CPUs affected</b>	All modern Intel processors and IBM POWER7, POWER8 and POWER9 generations	All modern processors
<b>Root cause</b>	Out-of-order data fetches bypass memory permission checks	Speculative execution of privileged code can be controlled by an unprivileged attacker to inadvertently leak data
<b>Mitigation strategy</b>	Unmap kernel memory when running in user context	1. Using CPU hardware features to make speculation safer 2. Changing programs to not trigger speculation where it is unsafe
<b>Form of mitigation</b>	Updated kernel code	A. Updated kernel code B. Updated CPU microcode C. Updated compilers D. Updated application code
<b>Mitigation features</b>	KPTI	IBRS, IBPB, STIBP, retpoline
<b>Mitigation context</b>	Host (bare-metal) and guest kernels must be updated	All host and guest kernels must be updated. In order to leverage the retpoline optimization, all userspace code must be recompiled.
<b>Direct performance impact</b>	System calls and other user to kernel context switches are slowed down. Any process which reads data from disk or the network will be impacted. PCID* reduces the impact on platforms where it is available.	Code using indirect branches will be slowed down. This pattern is used heavily in interpreted languages. Current versions of mitigations affect performance of all branching instructions.

Chip producers and software vendors have indicated that while patches will add a certain degree of cost to operating systems and virtualization software, depending on the type of workload, they will not cause widespread performance problems.

## 5. CONSLUSION

Meltdown and Spectre, as both weakness of the processor platforms, today present a major challenge for both manufacturers and end-users, such are business systems. It is necessary to have an IS development strategy within which there is a security related segment. Solutions, that is, optimizations are defined through the update process. Meltdown and Spectre are significant vulnerabilities with widespread impacts, but the overall risk is small because the exploitation of IS vulnerability requires local administrative access to the system. However, except optimization, processor manufacturers need to cooperate in solving problems. Large companies (Google, AWS and Azure) have implemented business solutions, but in order to make more quality results, they are expected to work together, as well. When it comes to smaller business systems, the solution is in cooperation with the CIO, with crisis management, etc. through state analysis, a plan generating due to reduce the vulnerability of information systems, or chips. Based on the previous steps, it is necessary to improve the hardware systems and chips, to update the processor platform microcodes, virtual machines, containers, cloud applications and so on. It is necessary to ensure that server machines can not execute arbitrary code. The next step is the modernization of systems that are loaded to the maximum capacity, as well as the elimination of systems for which there is no possibility of improvement. The next step in the study-research of a given problem is the use of the system monitoring tool, ie its scanning and scanning of its surroundings.



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## ORGANIZING COOPERATION OF CROWDSOURCING PLATFORM CONTRIBUTORS IN OPEN INNOVATIONS

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### ABSTRACT

*The goal of the crowdsourcing platform (CP) is to engage the crowd (the Internet's community members) that use own and/or developed with collaborators in teams - knowledge, and also have both the willingness and ability in solving problems, creating open innovations also new products for innovative companies. Managers of CPs organize and develop cooperation between creators (the crowd members) and innovative organizations, people - client of open innovations on the Internet. Managers are workers of: (1) the innovative company that is the owner of CP or (2) independent firm-owner of the platform, that offers effects of cooperation with the crowd to organization, people (clients, user of innovative solutions). The purpose of the paper is to propose the model of organizing mutual cooperation among the crowd members - as providers, organizations and people - as seekers of innovative solutions and managers of the platforms during development of open innovations on CPs, and also present possibilities its application in the economic practice on the base of the research results of existing CPs on the Internet. The paper characterizes contributors of CPs, that is (1) the crowd, (2) innovative organizations and people as clients of CPs, and also (3) the platform managers. It describes mutual cooperation of the analyzed kinds of contributors and services which are provided by them during development of open innovations on CPs. The author proposes the model of organizing mutual cooperation of CPs' contributors during accomplishment of open innovation processes. Own research results which was conducted for 38 websites of existing CPs on the Internet in 2018 enable to verify application of the elaborated model in the economic practice. **Keywords:** Crowdsourcing platform, Kinds of contributors, Open innovation, Organizing cooperation*

### 1. INTRODUCTION

Contemporary organizations evaluate from close innovations towards open and networked innovations that are centered on external resources of knowledge and development of innovations in outside networks, also by participants of crowdsourcing platforms (CPs) on the Internet. New information technologies have empowered companies to tap into the creative potential, distributed work patterns, and expansive knowledge of huge online crowds. Crowdsourcing has become established in various business fields since crowds can solve certain problems faster, better, and cheaper than companies are able to in house (Blohm, Zogaj, Bretschneider, Leimeister, 2018, p. 122). Crowdsourcing is a form of IT-enabled open innovation development and it is applied by innovative organizations, people to learn new values, knowledge, innovations, also new products from the engaged crowd members during cooperation with them in open innovation processes. Services of IT-based crowdsourcing are offered by an organization that directly manages the crowd during execution of open innovation processes on the Internet. The new possibilities of innovation co-creation on CPs by their contributors that is the crowd members – providers and seekers (organizations, people) of open innovations and also managers of the platforms depend on organizing their mutual cooperation during accomplishment of open innovation processes on the Internet. The purpose of the paper is to propose the model of organizing mutual cooperation among the crowd members - as providers, organizations and people - as seekers of innovative solutions and managers of the platforms during development of open innovations on CPs, and also present possibilities its

application in the economic practice on the base of the research results of existing CPs on the Internet. The paper characterizes an idea of open innovation development on the Internet and contributors of open innovations on CPs, that is the crowd, the innovative organizations, the platform managers. It determines principles and describes ways, rules of their cooperation in open innovation process on CPs. Next, the author proposes the model of organizing mutual cooperation of CPs' contributors during accomplishment of open innovation processes. Results of conducted research for 38 websites of existing CPs on the Internet verify possibilities of the elaborated model application in the economic practice.

## **2. PARTICIPANTS OF OPEN INNOVATION PROCESSES ON CROWDSOURCING PLATFORMS**

The Internet characterizes high degree of openness, using new ways and tools of cooperation among its users and richness of created by them actual information, new ideas, knowledge, that stimulate development of open innovations, also new products by creative members of the crowd on CPs. Crowdsourcing is a form of IT-enabled open and networked innovation and enable organizations to learn and/or to receive innovative solutions from the Internet's communities – the crowd. The active role of the crowd on CPs is accompanied by the rapidly evolving global trend of social communities (networks) development on the Internet. Creative members of the crowd on CPs may be professionals, amateurs, enthusiasts or representatives of commercial entities. The members of the crowd work individually or in teams. Crowdsourcing is a production platform through which people and firms send requests and other people (the crowd) return responses. CP connects people, employs their skills, and/or aggregates their knowledge, with the responding crowd being strategically managed by the firm for the purpose of open innovation elaboration, or problem solving (Saxton, Oh, Kishore, 2013, p. 5). Existing research characterizes crowdsourcing as an open call for participation and a self-selection of contributors. Publishing an open call on the Internet, crowdsourcers invite contributors to submit solutions for a specific problem. Contributors then decide to contribute a potential solution in a voluntary fashion (Blohm, Zogaj, Bretschneider, Leimeister, 2018, p. 123). In a network approach, innovation is considered as a solution to the problem experienced and solved by its users. This process involve several actors who combine and adapt their knowledge to develop the innovation (Goglio-Primard, Crespín-Mazet, 2015, p. 137). The emergence of the Internet has created new opportunities to capitalize on the crowd' creativity and knowledge during new solutions development and virtual consumer integration on CPs has been recognized as a promising open innovation practice (Füller, Matzler, Hutter, Hautz, 2012, p. 247). The strength of CPs is to deliver the value unit in a more efficient, effective, reliable, personal way. The companies using crowdsourcing grow faster, expand with lower marginal cost, and generate substantial revenue. By encouraging external innovators to contribute to value creation, crowdsourcing innovation platforms have the capability to grow significantly in size and revenue without equally increasing its costs (Kohler, 2018, pp. 98, 99). The creation of collaborative networks of open communities plays an important role in the open innovation development process on CPs. By means of contributors, organizations can successfully innovate by sharing complementary resources of knowledge, innovative competencies and creative abilities of engaged members of the crowd on CPs. The most valuable crowdsourcing feature is ability to transcend geographic, political, economic, cultural, technological barriers by the crowd. This enables organizing cross-functional teams of collaborators, creating innovative solutions, also new products, services and solving a broad scope of problems by engaged and creative members of the crowd on CPs (Dolińska, 2017a; Dolińska, 2017b). Innovative organizations are fostering their innovative competitiveness and development potential by promoting different collaborative approaches within innovation networks of outsiders, also with the crowd and managers of CPs on the Internet.

CPs are developed on the basis of virtual and mutual collaboration of their participants in open innovation processes. Three kinds of contributors take part in execution of open innovation processes on CPs (1) the crowd members – providers (creators, innovators), (2) organizations, people - seekers (clients, users and/or purchasers) of open innovations and organizing their mutual cooperation and also collaborating with them during execution of open innovation processes – (3) managers of CPs. Crowdsourcing-based open innovation model of organizations consists of three elements. First, organizations building their business upon the crowd need to adopt an idea of open innovation process. Second, opening up certain innovation process activities and knowledge resources to external creators can make a significantly greater set of resources available to the organization and allows it to share the Internet's community networks, user-generated knowledge, and mobile connectivity to invite the crowd members to participate in value creation during execution of open innovation processes. Third, these business models transfer knowledge, innovation development activities to creative members of the crowd. CPs engage the crowd that has both the willingness and capacity in new value, knowledge, innovation creation. They cooperate and co-create innovative solutions with other kinds of participants that is seekers of open innovations and managers on CPs, and sometimes with proposed by the managers of the platforms – additional partners (consultants, facilitators, patent owners, designers, specialized firms) (Kohler, 2015; Dolińska, 2017a). The crowd members as engaged participants of crowdsourcing can be involved in all activities of open innovation process, beginning with the acquisition of weak signals, future needs in innovation markets, and continuing up to sharing user experiences, abilities and further developing ideas and concepts when using the final products and services (Battistella, Nonino, 2012, p. 559), and also how promote, sale of them efficiently. Open innovation process on crowdsourcing platforms may consists of different activities and each platform may serve one or more, or all of these activities. Members of the crowd may participate and/or collaborate with manager of the platform and/or seekers of innovative solutions in execution of the following (one, a few, all) activities of open innovation process: 1) presentation of expectations, 2) generation of new ideas, 3) evaluating design ideas, 4) innovation elaboration, testing, 5) innovation application, development, 6) innovation promotion, sale, diffusion (Dolińska, 2017c. p. 195). The contribution of the crowd members to the development of innovative solutions varies strongly. Therefore, the identification and selection of the right, engaged and creative the crowd members, with the relevant knowledge, and also organizing cooperation with them, and also motivating them, play a critical role in open innovation development on CPs. Only when the crowd members are qualified and motivated to contribute promising ideas and relevant know-how they are able to add value to a producer's open innovation process (Füller, Matzler, Hutter, Hautz, 2012, p. 247). Managers of CPs must understand how to motivate the crowd innovators in accordance with requirements of seekers of innovative solutions, and stimulate their mutual effective collaboration during knowledge development and effective using in open innovations. The results of conducted by the author research on cooperation of participants of the analyzed CPs during development of open innovations on the Internet enable to distinguish the following types of CPs:

1. CP organizes cooperation with the crowd for only one company – its owner and seeker, and also user of innovative solutions. The creative crowd members elaborate open innovations for the company in accordance with its requirements. The managers are workers of the innovative company that is also the owner of CP.
2. CP as the broker organizes:
  - 2.1. Regular cooperation with the crowd for the same one or a few innovative companies – seekers and users of open innovations. The managers as owners of CP cooperate with the crowd and innovative companies during development for them many open innovations. Innovative companies cooperate with the managers of CP for long period of time.

2.2. Cooperation between the crowd and many seekers - users (organizations, people) of open innovations. The creative members of the crowd develop open innovations for seekers and the compositions of the crowd members on CP may be changed or stable in time. The managers organize work of the crowd creators for many seekers - clients of open innovations.

### **3. ORGANIZING MUTUAL COOPERATION OF CROWDSOURCING PLATFORM PARTICIPANTS IN OPEN INNOVATIONS**

A goal of CPs is creating new values, knowledge, innovative solutions for their seekers (users) by their providers - the crowd members. Organizing mutual cooperation of CPs' participants (seekers, providers of innovations and also the platforms' managers) by managers during development of open innovations enable to achieve this goal. The proposed model of organizing mutual cooperation of CPs' contributors during development of open innovations consists of the following part:

1. Characteristics of CP contributors in open innovation processes on the analyzed in this paper - types of CPs (see Table 1)
2. Description of ways and rules of organizing cooperation:
  - 2.1. With the crowd members as providers of open innovations on CPs (see Table 2),
  - 2.2. With seekers (organizations, people) of open innovations (see Table 3),
  - 2.3. Between the crowd providers and seekers of open innovations by managers on CPs (see Table 4)

From the perspective of managers and seekers of innovative solutions on CPs, the value of using Internet's communities as open innovation networks depends largely on activity, creativity and knowledge of the crowd members involved in development of open innovations. Seekers should develop precise definitions of the crowd contribution requirements to ensure that results of its work can be implemented in practice. Managers determine problems for solving, innovations for elaboration and also engage the crowd in anticipating evolution of markets on CPs. They present of primary material, which is used by the crowd members for elaboration and rules of taking part by them in development of open innovations. Engaged members of the crowd use own creativity, experiences, knowledge and generate new design ideas and submit them online. The crowd members with different skills, abilities and professional knowledge collaborate with other contributors on CPs individually or in teams.

*Table following on the next page*

*Table 1: Characteristics of CP contributors in development of open innovations (own elaboration)*

The type of CP contributors	Presentation of each kind of CP contributors
A. The crowd members – providers (creators) of innovative solutions	a) individual members of the crowd (people) b) team(s) of the crowd members c) other solution providers: (1) other companies or their employees, (2) research institutions, laboratories, universities, colleges, (3) other organizations
B. An organization looking for the innovative solutions (also determining problems for solving)	a) the company – the owner and the manager of the platform that uses innovative solutions for own benefits b) the user/client/purchaser of the crowd's knowledge, innovative solutions: (1) company, (2) people, (3) government agency, (4) university, college, research institution (5) other also non-profit organization, (6) people
C. The manager(-s) of the platform working as the independent firm-broker of crowdsourcing	- cooperating with the crowd members - providers and seekers (organizations, people) of innovative solutions, that is with and: a) the determined (1) one or (2) a few innovative company(-ies) looking for innovative solutions (also new products) b) many seekers/users (organizations, people) of innovative solutions, c) also other partners during execution of open innovation processes (consultants, patent owners, trainers of the crowd, designers, specialized firms)

The managers propose the crowd members various options to interact and to comment, discuss, and vote on design ideas. They enable participants of CPs to know who's registered, who's submitted and who's still in progress. CPs propose the crowd members voting on submitted ideas for open innovations and/or testing elaborated innovative solutions and connected with them requirements. Expert(s) of the company-seeker review the best (winning) idea(s), conduct financial and marketing analysis of new solution application and decide which ideas are the best candidates for implementation or sale. Sometimes the engaged members of the crowd as new product designers collaborate with innovative companies and propose them forms of packaging and even positioning new products on markets. Companies also activates providers of the best innovative products in their e-promotion and/or selling via online, physical channels (Schlagwein, Bjørn-Andersen, 2014; Dolńska, 2017b).

*Table 2: Organizing cooperation with the crowd members on CPs (own elaboration)*

Areas of cooperation with the crowd	Ways, rules of organizing cooperation with the crowd members—providers of innovative solutions
Providing the crowd with a comprehensive tools of cooperation	1) Presentation of (1) case studies, (2) publications, (3) e-books, also handbooks 2) Organizing workshop, training offer for the crowd members Characteristics of challenges, services types 3) Presenting primary material, which is used by the crowd for elaboration 4) Connecting together all ideas (which are used by the crowd for elaboration) 5) Connection participants (with diverse skills, innovative abilities, level of professionalism, knowledge) in two or more (1) teams, or (2) networks
The crowd perceived as a partner during accomplishment of open innovation process activities	1) Determining submission guidelines, rules 2) Clear information about selection criteria of chosen solution 3) Determining how members of the crowd upload a complete design of accepted innovative solution 4) Proposing the crowd options of evaluating, commenting, voting on submitted design ideas 5) Providing voting as a market test before implementation of chosen – the best innovative solution design 6) Access to the knowledge resources, also - of experts, mentors, facilitators

Manager(s) can invite the crowd members with specific skills (e.g., design professionals or individuals with a specific technical background), demography (e.g., age or income), or past performance (e.g., collaborators that have successfully completed similar tasks in the past)

(Blohm, Zogaj, Bretschneider, Leimeister, 2018, p. 129). The crowd should be provided with a comprehensive tool for retrieving primary information, submitting their solutions and putting all the diverse ideas together. Very important solution for providers and seekers of open innovations is intellectual property protection. Rights and ownership of the crowd work after the submission and after the end of the organized contest should be clearly defined.

*Table 3: Organizing cooperation with seekers (organizations, people) of open innovations on CPs (own elaboration)*

Areas of cooperation with seekers of innovative solutions	Ways, rules of organizing cooperation with seekers/clients (organizations, people) of innovative solutions
Encouraging the crowd members to elaborating, developing innovative solutions	<ol style="list-style-type: none"> <li>1) Defining (a) contest and judging rules, (b) terms of providing services, innovative solutions</li> <li>2) A comprehensive categorization, presentation of motives, incentives for the crowd</li> <li>3) Presenting financial rewards, ways of payments for the best solutions, offering career options clearly</li> </ol>
Opening up innovation processes and developing their activities on the crowdsourcing platform	<ol style="list-style-type: none"> <li>1) Opening knowledge resources to external creators of the Internet's community</li> <li>2) Co-creating value with the crowd members (providers) by (experts of) the seeker</li> <li>3) Reviewing projects by seekers – clients</li> <li>4) Involving creators of the best of innovative solution (also new product) in marketing: <ol style="list-style-type: none"> <li>5a) – in (e-)promotion via (1) own community, (2) via social media channels</li> <li>5b) - in sale via (1) on line, (2) physical channels</li> </ol> </li> </ol>

*Table 4: Organizing collaboration between seekers and providers of innovative solutions by managers of CPs (own elaboration)*

Areas of cooperation between providers and seekers of innovative solutions	Ways, rules of organizing cooperation between providers and seekers of innovative solutions
Platform's infrastructure works as a tool for submission, aggregation of information, knowledge and also development of open innovations	<ol style="list-style-type: none"> <li>1) Presentation of Information about (a) the platform, (b) its partners</li> <li>2) Presenting information about own solvers, top solvers</li> <li>3) Facilitating interactions, information, knowledge exchanges, innovation elaboration along open innovation process</li> <li>4) Offering own software (for designing, testing of innovative solutions)</li> <li>5) Determining rules of choosing winners</li> <li>6) Collecting provider (creator) ideas which might be developed into new solutions</li> <li>7) Answering questions of participants (the crowd members, seekers of innovative solutions)</li> <li>8) Right and ownership of the crowd collaborators after the submission and - the end of contest are presented clearly</li> <li>9) Intellectual property protection is determined clearly</li> </ol>
Promotion of CPs, shaping linkages with partners, image of the platform, trust	<ol style="list-style-type: none"> <li>1) Presenting previous success stories (news and events)</li> <li>2) Information about winners (their careers)</li> <li>3) Access to (a) the blog, (b) online communities (social media: Twitter, Facebook, LinkedIn, YouTube, ...)</li> <li>4) Building relationships with well-known corporate stakeholders - innovative partners (governmental institutions, famous magazines, others partners)</li> <li>5) Offering (a) magazine(s), newsletter(s) subscription, (b) press</li> <li>6) Presenting reviews, testimonials</li> </ol>



The success or failure of CPs is connected with its manager's ability to motivate the crowd to active, creative participation in development of open innovations. Motivation and incentives for the crowd's participation should be considered very carefully on CPs. Crowdsourcing often taps into a level of intrinsic motivation that traditional companies find difficult to match. Incentives, such as salaries and bonuses, are not the primary drivers of crowds. Contributors from the crowd self-select their challenges and draw motivation from the joy of a creative task, learning, or the recognition they receive (Füller, 2010; Battistella, Nonino, 2012). Support of well-known CPs' stakeholders gives more trust to seekers and providers of open innovations. Any association with or support from governmental institutions, famous innovative partners, magazines is more likely to add trust to performance of CPs. Previous success stories, actual case studies or testimonials also add some trust elements and build positive image of CPs.

#### **4. RESEARCH RESULTS ON ORGANIZING COOPERATION OF CROWDSOURCING PLATFORM CONTRIBUTORS IN OPEN INNOVATIONS**

The research was conducted by the author into 39 websites of existing CPs on the Internet in 2018. An appendix to this paper presents list of the analyzed CPs. The paper answer the following research question – Can mutual cooperation of CP contributors during development of open innovations on the Internet be organized in accordance with the proposed in this paper model. The results of conducted study are presented according to assumptions of the presented in this paper model of organizing mutual cooperation of providers (the crowd members), seekers (organizations, people) of innovative solutions, and managers of CPs in open innovation processes (see Tables: 1, 2, 3, 4). Most (68,42%) analyzed CPs are managed by independent firm-brokers of crowdsourcing on the Internet, and most (63,16%) this type CPs integrate cooperation between the crowd and many, different kinds of seekers-clients of the crowd's innovative solutions that is innovative companies, other organizations (also non-profit organizations), people; and fewer (5,26%) this type CPs offer own specialized services to one or a few the same companies looking for innovative solutions on the Internet. Fewer (31,58%) CPs are developed by their managers and also owners, that is innovative companies - seekers and also users of open innovations (also new products) for own benefits. Only 21,05% of CPs cooperate with other external partners (consultants, patent owners, trainers-lecturers, designers, experts, prototype makers, other facilitators, also specialized firms) taking part in development of open innovations. The crowd may consists of both private individuals, amateurs, professionals in the relevant field, affiliated researchers, as well as representatives of commercial entities. Most (78,95%) CPs cooperate with individual crowd members, however some of them also cooperate with other CPs' members (63,16%) in teams. Additionally, the crowd members on 50% of the analyzed CPs are professionals and employees of external organizations (other companies, government agencies, laboratories, research institutions, high schools, trade organizations), or networks of them. The analyzed CPs provide the crowd with the following comprehensive tools of cooperation:

- characteristics of challenges, services types (89,47% of CPs),
- presentation of case studies, publications, e-books, also handbooks (78,95% of CPs),
- presenting primary material, which is used by the crowd for elaboration (68,42% of CPs),
- connection participants in teams, or networks (of diverse skills, innovative abilities, level of professionalism, knowledge) (57,89% of CPs),
- connecting together all the diverse ideas (which are used by the crowd for elaboration) (34,21 of CPs),
- organizing workshop, training offer for the crowd members (18,42% of CPs),

The crowd is perceived as a valuable partner during accomplishment of open innovation process activities and CPs managers offers creative members of the crowd relevant services and solutions:

- determining guidelines, rules of submission new ideas, innovative solutions (on 92,11% of CPs),
- determining how members of the crowd upload a complete design of accepted innovative solution (on 78,95% of CPs),
- clear information about selection criteria of chosen solution (on 68,42% of CPs),
- access to the knowledge resources, also - of experts, mentors, facilitators (on 47,37% of CPs),
- proposing the crowd options of evaluating, commenting, voting on submitted design ideas (on 39,47% of CPs),
- providing voting as a market test before implementation of the chosen – the best innovative solution design (on 34,21% of CPs).

Managers of CPs organize cooperation with seekers (companies, other organizations, people) of open innovations. They use different ways, solutions to encourage the crowd members to elaborating, developing innovative solutions for seekers. Majority (81,58%) of managers determine contest and judging rules on the analyzed CPs and terms of providing services, innovative solutions by the crowd members. Most (73,32%) analyzed CPs define a comprehensive categorization, presentation of motives, incentives for the crowd, and 63,16% of them propose financial rewards and possible ways of payments for the best solutions, or propose career development. Organizations looking for innovative solutions also offer many options of opening up innovation processes on CPs. Experts of most (73,68%) institutional seekers of innovative solutions co-create new values, innovative solutions with the crowd members. Most (71,05%) seekers - take part in reviewing innovative projects, majority (84,21%) of seekers interact with the platform managers, and fewer (44,32%) seekers - open up own knowledge resources to creative crowd members. Some innovative companies as clients of the analyzed CPs propose involving the best creators of the chosen innovative solutions, also new products in their marketing that is:

- in (e-)promotion (on 36,84% CPs), and via own community (on 36,84% CPs), and/or via social media channels (on 18,42% CPs),
- in sale - via on line channels (on 21,05% CPs), and on a few (5,26%) CPs - via physical channels.

Managers of CPs organize collaboration between seekers and providers of innovative solutions. They develop platform's infrastructure which ought to work as a tool for submission, aggregation of information, knowledge and elaborated innovations. Managers of all analyzed CPs present information about performance of managed by them platforms, and 57,90% of them characterize own external partners of CPs. Managers of most (63,16%) CPs facilitate interactions, information, knowledge exchanges, innovation elaboration along open innovation processes, and 63,16% of them answer questions of participants (the crowd members, seekers of innovative solutions), and 60,53% of CPS also determine rules of choosing the best innovative solutions and winners of organized by managers - contests. CPs protect right and ownership of the crowd collaborators after the submission of proposed innovative solutions until the end of contest, so 60,53% of CPs present relevant information on this subject clearly and fewer (31,58%) of them propose relevant intellectual property protection for designers and authors of open innovations. 42,11% of CPs also collect provider ideas which might be developed into new solutions later. and a few (21,95%) of them offer own software for designing, testing of proposed innovative solutions.

CPs build own image, develop effective linkages with partners, shape confidence of participants, and also promote CPs on own websites and in social medias (Twitter, Facebook, LinkedIn and others) on the Internet. Most (84,21%) CPs present information about winners, their careers, 68,42% of them describe previous success stories (news and events), and 63,16% of them support from well-known CPs' stakeholders that is innovative partners, governmental institutions, famous magazines and CPs offer users access to online communities using social medias (73,68% of CPs) and blogs (50% of CPs). Managers built relationships with well-known corporate stakeholders - innovative partners (governmental institutions, famous magazines and others partners) efficiently on the most (63,16%) platforms, and 39,47% of CPs offer users free magazine(s), newsletter(s) subscription, press, and also present reviews, testimonials. The presented results of the conducted research on the Internet confirm that all the analyzed CPs organize mutual cooperation of (1) the crowd members - as providers, and (2) organizations, people - as the seekers of innovative solutions, and also (3) managers of CPs in accordance with assumptions of presented in this paper model. The analyzed CPs use most determined in the model (in Tables: 1, 2, 3, 4) possible ways and rules of organizing mutual and broad cooperation of CPs' contributors during development of open innovations on the Internet. The end conclusion is the following - the proposed in this paper model describe universal and basic principles of organizing mutual cooperation of CP contributors during development of open innovations on existing CPs on the Internet and they can be applied in the economic practice.

## 5. CONCLUSION

CPs offer the crowd members the opportunity to resolve the presented challenges, problems and to create products, services, and/or innovative technological solutions in accordance with requirements of their seekers – clients that is innovative organizations, people on the Internet. Managers organize cooperation between the crowd members (as providers) and seekers of innovative solutions, and collaborate with them during accomplishment of open innovation processes on CPs. CPs are developed on the basis of virtual and mutual collaboration of their contributors (providers, seekers of innovative solutions and also managers of CPs) in open innovations. The paper presents results of CPs research, which was conducted by the author on the Internet. They confirm that mutual cooperation of CPs' contributors (the crowd members as providers-, organizations and people as seekers of innovative solutions, and also managers of the platforms) during development of open innovations is organized in the economic practice in accordance with proposed in this paper model.

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## ***APPENDIX***

List of the analyzed crowdsourcing platforms:

LEGO Cuusoo, InnoCentive, IdeaConnection, MulinoBianco, NineSigma, DellIdeaStorm, OpenIdeo, Spnnet, MicroWorkers, Opencores, CrowdSpring, Amazon's Mechanical Turk, BankPomyslowBZWBK, Toptal, DesignCrowd, 99Designs, Peopleperhour, BigIdeaGroup, Innovationexchange, Humagrid, Maemo, Skild, NineSigma, Crowdsite, Spinacz, BrainReaction, TopCoder, BrainStore, Threadless, Zooppa, Sourceforge, P&GConnect+Develop, Shopeways, Arcbazar, LocalMotors, Userform, Fiverr, Clikworker.

# SELECTED FACTORS OF POPULATION AND SOCIAL INDICATORS ANALYSIS ON OILS AND FATS CONSUMPTIONS ACROSS EUROPEAN COUNTRIES

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## **ABSTRACT**

*This paper presents partial result of our research, based on identifying of factors, which can affect the consumption of specified food products, which can influence the general level of human health and quality of living. In this part of our research we mostly focus on population and social conditions indicators. Our research is based on correlation and regression analysis between oil and fats consumption, selected population and social indicators and some health indicators. We assume, that in the countries with better living standards their inhabitants try to live healthier and they will consume less unhealthy food products based on oils and fats. From population and social indicators we select for example physical activity of inhabitants measured through employment in sport, education according education level, unemployment rate, etc. From health indicators we selected for example consumption of alcohol, consumption of nonalcoholic beverages and different mortality reason in EU countries. This paper presents partial results of the research project VEGA No. 1/0876/17 'Research of cognitive and behavioural determinants of products innovation diffusion across European markets', being solved at the University of Economics in Bratislava, Faculty of Business Management, Department of Business Administration.*

**Keywords:** *consumer behavior, consumption, fats, health indicators, oils, social indicators*

## **1. INTRODUCTION**

Health is a basic variable that allows people to live their lives to the fullest. Despite this logical fact, consumer behaviour in some European countries is being driven by unhealthy habits. Based on this fact, we assume that there has to be a dependency between some selected factors measured and reported in these countries and the general tendency to consume unhealthy food based on oils and fats. In this paper we would like to identify positive or negative correlation between oils and fats consumption and selected factors in European Union. Due to different time series in selected factors, the correlation was made with different time series. We made this decision, because, for some factors we could find longer time series, but for some, only 5 year time series are published. The factors, which were selected for all European Union (EU) countries can be divided into three categories: consumption (of selected goods and services), education level, unemployment rate, employment in sport, and causes of death (for inhabitants younger than 65 years). With our analysis we made a first step for cross-consumption analysis, by applying correlation and regression analysis to identify unhealthy consumption patterns, with an emphasis on the consumption of oils & fats, other healthy and unhealthy food products, sport items, medicaments and medical services. The initial correlation analysis will be transformed and completed in the form of European markets segmentation. With this segmentation we would like to identify and profile healthy and unhealthy market segments. The segmentation will be concluded in the form of hierarchical segmentation at first (to identify

optimal number of segments), but then we would like to precise our results by using more proper – K-means segmentation.

## 2. METHODOLOGY – CORRELATION ANALYSIS

In presented paper we would like to analyse behaviour of European Union inhabitants. Analysis of behaviour of some market, we can make through comparative statics and comparative dynamics. Comparative statics is the comparison of two different economic outcomes, before and after a change in some underlying exogenous parameters. As a type of static analysis, it compares two different states, after the process of adjustment (if any). It does not study the motion of parameters, nor the process of the change itself (Silerberg, E., Suen, W., 2000). Comparative dynamics is concerned with the effects of changes in the data (parameters, exogenous variables, initial conditions) on the whole motion over time of a dynamic economic model. In Economy, this motion will usually be some sort of dynamic equilibrium path, such as, for example, a steady-state growth path where all variables grow at constant rates, or an optimal path deriving from a dynamic optimization problem (Besanko, D., Braeutigam, R. R., 2007). As we have already mentioned, for quantification the impact of individual factors of oils and fats consumption, we have chosen to use the methods and procedures of correlation analysis. The main outcome of this analysis is the correlation coefficient. For us is its value indicative in determining strength and direction of a linear relationship between two variables. In our case one variable is oils and fats consumption and the second one is selected factor which can affect or can be affected by oils and fats consumption. Value of correlation coefficient ( $r$ ) could be from interval  $<-1;1>$ . There are a lot of definitions for strength interpretation according its value. Despite the inconsistency in the interpretation of strength, the theory is unified in interpretation of sign of the correlation coefficient. If the correlation coefficient is almost zero, there is not linear relationship between  $x$  and  $y$ . If the correlation coefficient is negative, there is a downhill (negative) linear relationship between  $x$  and  $y$  and if it is positive, there is an uphill (positive) relationship between  $x$  and  $y$  (Cohen, J., 1988). In presented paper we use the interpretation of correlation coefficient according Rumsey (Rumsey, D., J., 2016). Nearly same interpretation of correlation coefficient used for example Kintler (Kintler, J., 2016) to interpret its value, see which of the following values your correlation  $r$  is closest to:

- Exactly  $-1$       A perfect downhill (negative) linear relationship
- $-0.70$       A strong downhill (negative) linear relationship
- $-0.50$       A moderate downhill (negative) relationship
- $-0.30$       A weak downhill (negative) linear relationship
- $0$       Zero linear relationship
- $+0.30$       A weak uphill (positive) linear relationship
- $+0.50$       A moderate uphill (positive) relationship
- $+0.70$       A strong uphill (positive) linear relationship
- Exactly  $+1$       A perfect uphill (positive) linear relationship

For the calculation of Correlation coefficient, we used the formula (Cohen, J., 1988):

$$r = \frac{k}{s_x * s_y}$$

where:

$$k = \frac{1}{n} * \sum_{i=1}^n (x_i - \bar{x}) * (y_i - \bar{y})$$

$$s_x = \sqrt{\frac{1}{n} * \sum_{i=1}^n (x_i - \bar{x})^2}, \quad s_y = \sqrt{\frac{1}{n} * \sum_{i=1}^n (y_i - \bar{y})^2}, \quad \bar{x} = \frac{1}{n} * \sum_{i=1}^n x_i, \quad \bar{y} = \frac{1}{n} * \sum_{i=1}^n y_i$$

This means, that we can calculate the correlation coefficient as a share of covariance (k) and multiplying of the standard deviation of variables ( $s_x, s_y$ ). It is necessary to fulfil the nonnegative condition for denominator. That means, neither one of the standard deviations  $s_x$  and  $s_y$  must be equal zero.

### 3. DATA

We made an analysis of oils and fats consumptions and other factors which could influence (or could be influenced) this consumption. Consumption of oils and fats is measured through nominal expenditures per inhabitant (in euro) on oils and fats. For better interpretation of data, we calculated with percentage rate of oils and fats expenditures per inhabitant on total food expenditures per inhabitant. We used the data from Eurostat, the consumption expenditures per inhabitant on selected goods and services are according COICOP (classification of individual consumption by purpose). We used data for whole EU and for the countries for EU region (28 countries together with United Kingdom). We looked on data in EU region also according the time, when countries became a member of the EU (till year 2004 – 15 countries, from year 2004 – plus 10 countries, from year 2007 plus another 3 countries together with Croatia who is a member of EU from year 2013). The base for our correlation analysis is the percentage rate of oils and fats expenditure on total food expenditure. For simplicity we will call it as oils and fats expenditure rate. The first set of indicators which could be according us correlated with oils and fats rate were selected from COICOP classification, the data were from year 2007 till 2016 and all selected factors were calculated as a percentage rate on total food consumption expenditures per inhabitant (in euro). At first we assumed the correlation with expenditure on recreation (per inhabitant in euro). In this correlation we can explain positive, but also negative correlation. With the positive one, we can assume, that on recreation people consume more unhealthy food, with negative one, we can assume, that they will spend their money and time not only for resting, but also for doing something for their health. The next one was the correlation with expenditure on health (per inhabitant in euro). We assume, that with higher consumption of oils and fats inhabitants will spend more on health and therefore the correlation is positive. The last selected factor from COICOP classification is expenditures on alcoholic beverages. For this factor we also calculated as a percentage rate on food consumption expenditures per inhabitants. This time, we assume, that with higher consumption of alcoholic beverages the consumption of oils and fats is raising. This assumption is based on hypothesis, that both, oils and fats and alcoholic beverages, are unhealthy products, and when consumption one of them is rising, the consumption of the other one is rising too. We have the time series for all expenditures data per inhabitant in euro (on recreation, health and alcoholic beverages) from year 2007 till 2016. With unemployment rate we assumed positive correlation. This assumption is based on a fact, that people without work has less income (if some) and they consume more unhealthy food based on oils and fat. An unemployed person is defined by Eurostat (Eurostat, 2018) is someone aged 15 to 74 (in Italy, Spain, the United Kingdom, Iceland, Norway: 16 to 74 years); without work during the reference week; available to start work within the next two weeks (or has already found a job to start within the next three months); actively having sought employment at some time during the last four weeks. The unemployment rate is the number of people unemployed as a percentage of the labour force. For this factor we have time series from year 2013 till 2016. As a next factor we selected employment in sport as a percentage of total employment in country. According to the World Health Organization (WHO), Europe had the second highest proportion of overweight or obese people in 2014, behind the Americas. Globally, in 2014, 39



% men and 40 % of women aged 18 or over were overweight (World Health Organization, 2018). The number of overweight and obese persons has been growing in recent years and many people find it increasingly difficult to maintain a 'normal' weight in today's largely obesogenic environment. This environment spans from low breastfeeding rates to difficulties in geographically or financially accessing the ingredients of a healthy diet, to a lack of cooking skills, to the abundance and marketing of energy-rich foods, to urban planning choices and lifestyle pressures that often reduce the opportunity for physical activity (both at work or for leisure). While obesity was once considered a problem only for high income countries, there has been a considerable increase in the proportion of people from low- and middle-income countries who are considered to be overweight or obese (in particular in urban areas where people are more prone to a sedentary lifestyle). The malnutrition problem has become more complex as obesity and deficiencies in micronutrients can and do go hand in hand (Eurostat, 2018). According this, we can assume, that when more people work in sport, than sport is more accessible for all inhabitants and they can live healthy, what means, they consume less oils and fats. Eurostat collect data for employment in sport from year 2011 till 2016. Factor Life expectancy was chosen because people who live healthy live longer. Healthy living means less oils and fats consumption that means, we assume negative correlation between these two factors. Life expectancy at a certain age is the mean additional number of years that a person of that age can expect to live, if subjected throughout the rest of his or her life to the current mortality conditions (age-specific probabilities of dying, i.e. the death rates observed for the current period) (Eurostat, 2018). Time series are from year 2007 till 2016. Next, we assume, that people with higher education are living more healthy than ones with lower education. Therefore we took for an analysis a data for education level according International Standard Classification of Education 2011 (ISCED 2011) which define eight level of education (OECD, European Union, UNESCO Institute for Statistics, 2015):

- ISCED 0: Early childhood education ('less than primary' for educational attainment)
- ISCED 1: Primary education
- ISCED 2: Lower secondary education
- ISCED 3: Upper secondary education
- ISCED 4: Post-secondary non-tertiary education
- ISCED 5: Short-cycle tertiary education
- ISCED 6: Bachelor's or equivalent level
- ISCED 7: Master's or equivalent level
- ISCED 8: Doctoral or equivalent level

Eurostat publish data for three groups of education levels. For education levels 0 - 2, levels 3 - 4 and levels 6 - 8 as a percentage from whole population of the country. The last selected group of factors which are affected with oils and fats consumption are causes of death calculated as a standardized death rate by residence. The standardized death rate, abbreviated as SDR, is the death rate of a population adjusted to a standard age distribution. It is calculated as a weighted average of the age-specific death rates of a given population; the weights are the age distribution of that population (Eurostat Statistics Explained, 2016). We analyze at first all causes of death, than we choose death for Diseases of the circulatory system and Ischaemic heart diseases all for age less than 65 years. We think that these diseases are highly correlated with oils and fats consumption.

#### 4. DISCUSSION

In this part of our paper we discuss influence of the selected factors on the consumption of oils and fats in countries of European Union calculated as percentage rate of oils and fats expenditure on total food expenditure (rate of oils and fats expenditure).

In the previous parts of this paper were identified several factors that may affect level of oils and fats consumption. Our target was to identify direct linear dependency between oils and fats consumption and selected factors. For evaluation of the dependency level between selected factors and oils and fats consumption as well as the level of dependency among selected factors we had used correlation coefficients. In this part of our research we try to find only a linear dependency between oils and fats consumption and other factors. We do not focus, if this dependency is direct or indirect. According to the conditions of measurement we can process next table for rate of oils and fats expenditures and other 12 selected factors (which can be affected or affect the rate of oils and fats expenditure) in European Union as a whole and in individual counties of European Union.

*Table 9 Correlation coefficients for oils and fats expenditure rate and selected factors (Own calculation according Eurostat database)*

Time series	2007-2016	2007-2016	2007-2016	2011-2016	2013-2016	2007-2016	2008-2016	2008-2016	2008-2016	2011-2015	2011-2015	2011-2015
Rate of Oils and Fat expenditures	Recreation expend.	Health expend.	Alcohol expend.	Employment in Sport	Unemployment rate	Life expectancy	Education level (0-2)	Education level (3-4)	Education level (5-8)	All causes of death	Circulatory system diseases	Ischaemic heart diseases
European Union	0,8084	-0,8207	-0,8018	-0,4958	0,5327	-0,8757	0,8802	0,494	-0,8886	0,8618	0,8594	0,8826
Belgium	0,8241	-0,8847	-0,0608	0,3999	-0,4881	-0,8009	0,6908	-0,0237	-0,819	0,3822	0,4378	0,4062
Denmark	-0,9391	0,748	-0,041	0,114	0,1741	0,8954	-0,8645	0,832	0,8492	-0,7284	-0,8934	-0,7182
Germany	-0,0169	-0,0658	-0,0234	-0,4489	0,8906	0,1756	-0,6151	0,7156	0,4635	-0,1021	0,1588	0,4525
Ireland	-0,4793	0,0507	-0,1043	-0,6842	0,6921	-0,175	0,3671	-0,1513	-0,3795	-0,6344	-0,7437	-0,2805
Greece	-0,3404	0,1715	-0,4187	-0,3025	-0,3555	-0,03	0,5699	-0,4608	-0,6087	0,102	0,0431	0,0781
Spain	0,7441	-0,7177	-0,6895	0,2701	-0,7934	-0,593	0,1824	0,0217	-0,2456	-0,2904	-0,4101	-0,5725
France	0,6984	-0,7677	-0,7453	0,3853	0,8761	-0,8142	0,6632	-0,4301	-0,7198	0,313	0,3246	0,2912
Italy	0,63	-0,7262	-0,5405	-0,3277	-0,9595	-0,8493	0,8176	-0,8839	-0,7052	0,824	0,8994	0,9126
Luxembourg	0,493	-0,2585	0,036	-0,0754	-0,6842	-0,5291	0,4283	0,397	-0,5252	-0,1042	-0,1187	0,5368
Netherlands	0,2005	0,0235	0,0085	-0,6544	0,4182	-0,163	0,6905	-0,7056	-0,6142	0,9569	0,9878	0,9846
Austria	0,0025	-0,1374	-0,0587	-0,0095	-0,7726	0,1754	-0,0893	-0,0535	0,0687	0,0974	0,0115	0,1123
Portugal	-0,4261	-0,3462	0,5238	0,0372	0,0921	0,4767	-0,5354	0,5502	0,5183	0,052	-0,6842	-0,6252
Finland	-0,7861	0,777	-0,595	-0,2904	-0,9176	0,9068	-0,7964	0,7614	0,7773	0,2451	0,069	-0,084
Sweden	0,1026	0,2171	0,0555	0,0231	-0,9491	-0,1586	0,1818	-0,0344	-0,0873	-0,2914	-0,2674	0,1927
United Kingdom	-0,4888	0,1478	0,2836	-0,201	0,9171	0,226	-0,0313	-0,1287	0,0665	0,3231	0,2222	0,4718
Czech Republic	0,8249	-0,8994	-0,8917	0,4725	0,5389	-0,7522	0,7414	0,6258	-0,6884	-0,6036	-0,5793	-0,4323
Estonia	0,2848	-0,7182	-0,506	-0,8038	0,6032	-0,8451	0,8235	0,371	-0,8402	0,9413	0,605	0,8673
Cyprus	-0,0681	0,7614	0,7674	0,509	-0,4236	0,9303	-0,8314	-0,2254	0,8667	0,5876	0,6673	0,7268
Latvia	-0,1435	-0,0895	-0,2268	0,1124	0,981	0,7326	-0,779	-0,0477	0,712	0,0677	-0,0423	-0,1992
Lithuania	0,5017	0,2858	0,0308	-0,1606	-0,3861	0,7176	-0,875	-0,4592	0,7619	-0,0108	0,2546	0,3544
Hungary	0,3416	-0,4256	0,5974	-0,8943	0,9613	-0,6364	0,7238	0,2138	-0,6594	0,7264	0,5942	0,7612
Malta	0,6163	0,6142	0,0687	-0,4058	0,2698	0,3426	-0,1742	0,0654	0,274	0,9619	0,9483	0,9149
Poland	-0,4966	-0,9149	0,3616	-0,9122	0,9721	-0,7327	0,8383	0,8492	-0,8391	0,8866	0,7642	0,9351
Slovenia	-0,8473	0,8522	0,0379	-0,3611	0,854	0,6538	-0,3683	-0,1307	0,2599	0,6125	0,466	-0,2873
Slovakia	-0,5942	-0,9616	0,1897	-0,633	0,6728	-0,7331	0,637	0,8289	-0,7625	0,8025	0,7517	0,8392
Bulgaria	-0,0051	-0,8567	0,7987	0,0775	-0,1963	-0,639	0,5822	0,1453	-0,7385	-0,1698	-0,0429	0,0983
Romania	-0,6519	-0,8086	0,2772	-0,9494	-0,169	-0,4371	-0,0229	0,3615	-0,2898	-0,2666	-0,464	-0,3326
Croatia	-0,5395	-0,5449	-0,6392	-0,6327	0,8926	-0,6387	0,5615	0,1063	-0,5736	0,7788	0,6535	0,7806

Where:

	EU Member states till 2004
	EU Member states from 2004
	EU Member states from 2007
	EU Member states from 2013

The first row of Table 9 inform about length of time series, which we used. Between selected factors we try to find at least weak linear relationship; that means, we try to find the correlation coefficient higher than  $|0.3|$ . We marked this relationship with green color in the table. We can see, that there is nearly in each country at least weak linear dependency between selected factors and rate of oils and fats expenditures. If we look on the direction of relationship, we can take as a base the correlation coefficients for whole EU. The correlation with recreation expenditure is positive for whole EU, what means, that peoples with higher expenditures on holidays eat more unhealthy food. But in individual EU countries it is true only for approx. 50% of countries. Correlation with health expenditure is in whole EU negative, what is true nearly for every country in EU.

Correlation with expenditure on alcohol beverages is negative for whole EU and it holds for every member country till year 2004 (except Portugal). For countries which became a member of EU after 2004 is this correlation mostly positive. With employment rate in sport we expected negative correlation and it holds for most of EU country. For unemployment rate and rate of oils and fats expenditure we assumed positive correlation. This assumption holds for whole EU and for new EU countries (member countries after 2007). We can say, that there is nearly moderate dependency between rate of oils and fats expenditures and life expectancy. The direction of this dependency is different. For example, in Cyprus, there is a strong direct dependency, but in Estonia is this strong dependency negative. We suppose that with higher education level people live healthier and consume less oils and fat. We can say, that it is true, because for education levels 0-2 there is 16 positive correlation with oils and fats expenditure rate and for education levels 5-8 there is 17 negative correlations (from 28 country of EU). With all selected causes of death we expected a positive correlation in most from EU countries. There are only a few countries with stronger than weak negative correlation with selected causes of death.

## 5. CONCLUSION

These days most people who live in European Union have a fast lifestyle which goes together with unhealthy food consumption. In this paper we tried to identify some factors, which can affect or can be affected by consumption of unhealthy food measured through expenditures on oils and fats. The selected factors were: Recreation expenditures, Health expenditures, Expenditures on alcohol beverages, Employment in sport, Unemployment rate, Life expectancy, Education level, and causes of death (all causes, circulatory system diseases, Ischaemic heart diseases). According Table 9 we can say, that there is at least moderate dependency between oils and fats expenditure rate and factors selected by us. In the discussion we outlined also analysis of dependency direction according group of EU countries (we divided them according year when they became a member of EU). The next step of our research will be to analyze also a direction of dependency between selected factors and then we would like to make a cross-consumption analysis, by applying correlation and regression analysis to identify unhealthy consumption patterns, with an emphasis on the consumption of oils & fats, other healthy and unhealthy food products, sport items, medicaments and medical services. This initial correlation analysis will be transformed and completed in the form of European markets segmentation. Within this segmentation we would like to identify and profile healthy and unhealthy market segments. The segmentation will be concluded in the form of hierarchical segmentation at first (to identify optimal number of segments), but then we would like to precise our results by using more proper – K-means segmentation.

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## ROLE AND PLACE OF INNOVATION AND CREATIVITY IN QUALITY MANAGEMENT IN LIBYAN COMPANIES

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### ABSTRACT

*Creativity drives the generation of ideas, innovation is a necessary step to turn ideas into useful products and services, something that allows companies to gain added value, while quality is the way in which companies recognize themselves with customers. The quality system helps companies to meet customers' needs and expectations, and how to satisfy these needs and exceed their expectations. The quality system helps companies to continually improve products and services while reducing costs. The role of innovation and creativity is also very important for the technological and industrial development of companies. The ability of companies to adapt to the modern market and to become competitive has become a basic necessity, which is now considered crucial for the growth and development of companies. All this requires the preservation of human resources that are most responsible and meritorious for innovation in companies. Their preservation and further development can be achieved through the provision of a creative environment suitable for innovation, environment where human creativity can come to light. In this context, this research deals with the possibilities for creating such an environment in companies in Libya. Based on the research, recommendations are given on how companies in Libya can support and achieve greater innovation with their employees. It is certainly the motivation of employees, but it does not necessarily have to be material in nature. This paper also contributes to the understanding of the place and role of innovation in Libyan companies as a factor of success for technological development of Libya's economy. The main reason for studying the aspects of innovation and creativity in Libya was to show that innovation and creativity are one of the drivers of economic growth. This would not be possible without good business organization, which can best be achieved through a good quality management system.*

**Keywords:** Companies, Creativity, Development, Innovation, QMS

### 1. INTRODUCTION

For large corporations, company-level strategies are more involved in managing the company's portfolio. For example, at the corporate level, the strategy involves deciding on which business units will grow, distributing financial resources among business units, using synergies between business units and mergers and acquisitions. The mission is often expressed in the form of a mission that conveys the sense of purpose for employees and project images of the company towards customers. In the process of formulating the strategy, the mission determines the mood in which the company should go. Strategic goals are the specific goals an organization seeks to achieve, for example, one goal is to increase profits (Dobson, 2004, pp. 6-9). Goals should be a challenge, but achievable. They should also be measurable so that the company can monitor its progress and, if necessary, make corrections. All organizations explore new paradigms in order to increase the discovery and exploitation of ideas. Of course, this brings too much organizational tensions and challenges. Our focus will be on developing participants' understanding of values, strategies and governance that enable creativity and innovation in complex organizations and environments (Hitt, Freeman, & Harrison, 2001, pp. 4-7). While the theory frameworks will be reviewed on this subject, the primary goal is to provide participants with the real practical skills needed to develop a sustainable innovation strategy. Here are some key concepts that support innovation: innovation of the type and strategy, creativity at individual, group and organizational levels, creativity of techniques and tools, opportunity of

recognition, open innovation, democratic innovation, creation of strategic alliances and networks, commercial potential of innovation.

## **2. THE QUALITY AND QUALITY MANAGEMENT**

Depending on the author from which aspect they observe the quality and what they throw attention, we also have different quality definitions. There are a lot of scientists who have dealt with the problem of quality, and the most famous among them are: Edwards, Deming, Jozef Juran, Armand Fajgenbau, Filip Krozbi and the Japanese Kaouli Ishikawa and Taguchi Genici. Juran says that the quality is good for use. Deming: quality should focus its attention on current and future user needs (Garvin and March, 1981, pp. 25-34). The International Organization for Standards Based on ISO (International Organization for Standards, Focus, 2012) of Standard 9000: 2000 says: the level to which the set of inherent characteristics meets the requirements. In the last 40 years, there have been significant changes in the world market in the past 40 years, so manufacturers have played the main role in the beginning because of the low number of products and poor competition, so that later a larger number of producers appeared, and the buyer had the dominant role. Today we have a market with a large number of products, high quality and competitive prices. Some studies in the West have shown that out of 100 buyers who bought a bad product, 90 of them will never buy it, and will disclose their dissatisfaction to another 21 people from the nearby environment. If they are satisfied with the product, they will share their satisfaction with only 9 people from the surrounding environment, which means that a good voice is heard and the bad one is still farther away (Porter, 2008, pp. 12-18). Organizations are very hard to get a good image, but because of "small" failures they quickly lose it, and in order to get back it is necessary to invest a lot of effort and knowledge. Quality management is a set of activities and actions aimed at improving the quality of products (and services), work and organization. One of the purposes of quality management is to get to know the needs of the customer and to take proactive measures to meet the requirements. Also, one of the measures of quality management is undertaking actions or activities in order to find and eliminate the error at the earliest stage of its creation. It is far better to eliminate the error, for example, in the design phase of the product than in the testing phase, and the worst mistake is to eliminate in the product use phase. Quality management subsystems are: quality control, standardization, reliability, metrology (science of measuring tools and standards) and design.

## **3. CREATIVITY AND INNOVATION**

Creativity is an essential feature of a modern manager, a phenomenon whose development possibilities are almost unlimited. It is realized through a creative process that reflects the individual creative abilities developed by work and learning. The natural characteristic of a man is to develop means that will make his life easier, and this will enable him intelligence and creativity. The need for constant innovation is the deepest of human qualities. Technique is just one of its terms, but its value depends on what purpose a person uses. The concept of technology was previously solely related to processes in material production, but in time, the concept of this concept has evolved / evolved. One of the current issues of modern management is to free up the creative thought of the manager. The purpose of the innovation process can be to maintain the position of the innovator or to acquire it. The initial step in this process is the idea. True innovators, through the continuous infusion of new ideas, are trying to master the corporate culture of the company, encouraging its inevitable growth and development. So we can freely say that man is a key factor in the innovative process. The notion of innovation and innovation activities has become very important in modern society, and is required in most of the vision and mission of modern companies. Many leading business theorists (but also practitioners) believe that this notion is as important as the concepts of marketing, positioning, branding.

In the West, innovation management is becoming one of the most important areas of quality management of the organization. Innovation is an important element of the new economy (knowledge economy). However, innovation should not be considered a separate event, but rather a process. Technological innovation is the name for every product innovation and process innovation. Innovative abilities can be defined as an advanced set of characteristics of the organization which support innovative strategies. It is important to note that innovation depends not only on the level of technology, but also on production, marketing, sales, distribution and human resources. In terms of innovation, they are divided into the following: 1) product innovation = the implementation of a new or significantly improved product for a particular legal entity (it does not have to be new to the market), and it is not a change of aesthetic nature or the exclusive sale of innovative products produced and developed by another legal entity, 2) process innovation = the implementation of a new or significantly improved mode of production or delivery (including significant changes in technology, equipment or software, but not exclusively organizational and managerial changes) that is new or improved for the observed legal entity, regardless of who it is developed, 3) innovation of the organization = the implementation of new or significant changes in the structure or methods of management in order to improve the use of knowledge, product quality or services in the related legal entity or increase the efficiency of business flows, 4) marketing innovation = the application of a new marketing method including significant changes in product design, packaging, placement and product promotion, as well as in product billing, 5) product innovation = reorientation to new product types, freezing or "quenching" of existing products and processes. In the innovation space of the company there are two poles (two types of innovations):

1. incremental and
2. radical (significant) innovations.

Incremental innovations are linked to the expansion of variants of the same product to meet the demands of a larger number of customers (external reason), or reduce costs and increase productivity and flexibility (internal reason). They are predominantly represented in large systems, where they mainly refer to modifications of products and processes. Small systems relate to the rapid embedding of customers' demands in the concept of products and processes. An example of incremental innovation is the creation and introduction of a new package for an existing product. Radical (significant) innovations in small enterprises arise as a result of the entrepreneurial spirit of the founders, and they are the major result of investing in the complete innovation space of products. After radical innovation, incremental innovations follow. In the case of large enterprises, radical innovations are larger in scope (innovations in a number of different products), and in small enterprises they are more effective, as there is a significant reduction in costs (and therefore a greater competitiveness in the product and service market). According to the innovative capability, big and small enterprises are different. Large enterprises have a complete innovation chain (well-defined market, established market demands, typically small marginal profit, intensive use of equipment and high production volume). In large enterprises, innovations are used in specialized parts of a system with a high degree of automation (the area of increasing flexibility). Small businesses use already developed products, further improve them and place them on the market. By continually improving the product during its life cycle, up to half of the economic result (profit) is achieved. Most small businesses have resources only for incremental innovation.

#### **4. BENCHMARKING AND BRAINSTORMING**

Benchmarking is a permanent process of measuring and evaluating its own products, processes, services in comparison with leading companies. Long ago some army commanders said, and this still applies: in order for the opponents to win, they must know its weaknesses, if its

weaknesses in the likelihood of success are half. In order to reach and overcome the organization with which we compare, we need to set up a team of experts that will determine: organization with which the comparison will be made, determine the key characteristics to be compared, collect data, analyze data, and analyze the ability to improve quality. It is necessary for the organization with which we will carry out the comparison to provide us with the requested data. There are three types of benchmarking: internal - where a comparison with the production process in our organization is made of the same or similar and with similar technology and approximately the same number of employees, competitive - compare with direct competition (i.e. Mazda and Toyota companies in Japan), and functionally - a comparison is made with some of the functions well developed in another organization that does not have to be from the same activity. Brainstorming is a storm of thought and idea. This method is important as a technique for encouraging and generating a large number of ideas by a group of people in a short time in order to obtain proposals to overcome the problem. There is a manager, secretary and members (usually up to 20). It is desirable that everyone seated at the same table as a "round table" (to be equal), that the room be isolated in terms of noise, that there is a board for writing the ideas that the secretary will shape. The duration is 60 to 90 minutes. It is necessary for everyone present to understand the topic to be considered. 7 days ahead, the manager should announce the title of the topic in order to prepare the rest. It is necessary to respect four rules: no idea should be criticized, because only in this way can you get the right ideas, free and unlimited presentation of ideas, give priority to quantity in relation to quality, combine ideas and thus improve them. This method takes eight steps:

1. Explain ideas and rules,
2. Defining rules,
3. Re-define the problem,
4. Finding influential factors,
5. Numerical estimation of the possible impact of factors with a score of 0 to 5, and sometimes it is possible to evaluate negative ideas with a negative score of -1 to -5
6. Ranking of factor priorities 8 proposal of possible actions and
7. Determining priority actions.

## **5. QUALITY MANAGEMENT STATUS IN LIBYA**

Government of the Libya adopted a decree on the introduction of a quality system in the economy and organization. But only a few of organizations have introduced quality system by obtaining certificates of reference houses for the introduced quality management system (QMS). The basic obstacles for faster introduction of the quality system in the Libyan economy are: party-friendly management and misunderstanding of the advantages of introducing a quality system. By my opinion in order to enter the world market today and beyond, Libya must to overcome the following barriers (ending crisis and civil war is prerequisite):

1. Assembly as soon as possible to harmonize laws and regulations,
2. Elimination of politically management,
3. Privatization of national organizations,
4. Avoid rewarding according to the number of pieces of product rather than quality,
5. Stop the monopoly,
6. Eliminate the spiritual laziness (reluctance, indiscipline).

It is also necessary to establish continuous communication and exchange of information within the company, as well as to stimulate the creativity of all members of the collective. All of those barriers will not be easy to break but Libya must to go further and to think about future.



## 6. CONCLUSION

In order to make the company progress, or at least survive, managers need to be clear in communicating with employees on the issues they represent and what they believe. By creating and introducing innovations, the company increases the chances of survival or achieves a competitive advantage. It is necessary to establish continuous communication and exchange of information within the company, as well as to stimulate the activity and creativity of all members of the collective. Innovation is not just the way to better business of an enterprise; it is also the path to better social relations, richer companies and richer society as a whole. For example, after the Second World War, the Japanese economy was destroyed by the Allies. After the capitulation, the allies appointed American General McArthur as the headmaster. 6 million refugees returned from the previously occupied territories. McArthur invited Japan, Deming, Americans, Juran to hold a quality course for Japanese managers and engineers. They were joined by Kaoru Ishikawa and the Japanese Association of Scientists and Engineers (JUSE). It was a permanent training for executives and in 1956 a working diffusion course was introduced, through which workers were trained on the need for quality introduction. It should not be forgotten that before the Second World War, Japan was a strong industrial country as airplanes, ships and cars were produced. The main reason for studying the aspects of innovation and creativity in Libya was to show that innovation and creativity are one of the drivers of economic growth. This would not be possible without good business organization, which can best be achieved through a good quality management system. Only the persistent work, continuous improvement, product and process innovation and preventive action for quality are today the first industrial force.

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## ON UNDETERMINED AND UNDETERMINABLE CONTRACTUAL RATE OF INTEREST

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### ABSTRACT

*This paper aims to analyse some solutions for the problems arising from the contracts that stipulate paying of certain interest, while its rate remains both undetermined and undeterminable. The paper presents and analyses respective dogmatic and legislative definitions and solutions under the laws of the Republic of Croatia and under the comparative law. Analysed legislations, in general, provide a substitution for the said deficient contractual stipulations, sometimes also allowing a distinction between different types of contracts (e.g. commercial, non-commercial, public etc.). Deficient non-commercial contracts entered into under the laws of the Republic of Croatia have been particularly taken into consideration due to their numbers. The paper also analyses the recent Croatian legal practice in regard the criteria required to consider a certain interest rate as undetermined and undeterminable, as well as respective solutions in practice. The findings of the abovementioned analyses indicate considerable inconsistency in legal practice. Recent efforts of the Croatian regulators have provided stronger legal frame that imposes further requirements expected to diminish the number of such deficient contracts. Nevertheless, many doubts remain in regard such contracts entered into before enactment of the said legal frame. The author proposes a consistent approach to this problem, primarily in order to achieve and maintain an appropriate measure of predictability in this matter. Such predictability is a necessary element of the legal certainty, itself being a central requirement for the rule of law. Therefore, above presented issues and proposed solutions may be considered to be of wider social interest.*

**Keywords:** *undetermined rate of interest, undeterminable rate of interest, contractual rate of interest*

### 1. INTRODUCTION

The law of the Republic of Croatia prescribes several conditions for the validity of contracts. One of them is stipulating of a determined, or at least a determinable, prestation, i.e. the object of an obligation. The Croatian Civil Obligations Act, Article 270 paragraph 1 explicitly states: „When a prestation is ... undetermined or undeterminable, the contract is void.“ (Zakon o obveznim odnosima, Republic of Croatia, 2005). An identical provision may be found in the laws of the neighbouring countries on the civil obligations, i.e. Montenegro, Article 42 (Zakon o obligacionim odnosima, Montenegro, 2008), Republic of Serbia, Article 47 (Zakon o obligacionim odnosima, Republic of Serbia, 1978), Federation of Bosnia and Hercegovina and Republika Srpska, Article 47 (Zakon o obligacionim odnosima, Federation of Bosnia and Hercegovina and Republika Srpska, 1978), Republic of Macedonia, Article 39 (Zakon za obligacionite odnosi, Republic of Macedonia, 2001), Republic of Slovenia, Article 37 (Obligacijski zakonik, Republic of Slovenia, 2001). The problem of determination and determinability of the rate of interest has become particularly topical in the successor states of the Socialistic Federative Republic of Yugoslavia. Those states shared the common legal frame for civil obligations since introduction of the 1978 federal Civil Obligations Act (Zakon o obveznim odnosima, Socialistic Federal Republic of Yugoslavia, 1978) until the dissolution of their predecessor (Vizner, B., 1978, p. III). Likewise, those states notoriously shared the same regime based upon socialistic, dominantly common, non-private ownership and centralised, state i.e. administrative governing.

The consequence was, and we shall prove that in some regards it still has been, the termination of the said regime and legal relations based upon it, but not the termination of all the related legal mechanisms. Eventually, that situation recently resulted in a multitude of court cases throughout Southeast Europe. In further text, we shall present and analyse legislative and theoretical bases of some solutions for the abovementioned problems.

## **2. (IN)DETERMINATION AND (IN)DETERMINABILITY OF PRESTATION**

The aforementioned laws define neither determined nor undetermined prestation. In the other hand, available legislative definitions of determinable prestations allow room for different interpretations. Therefore, we present below theoretical tenets on determination of prestation, as well as legal provisions on determinability of prestation under the all aforementioned laws.

### **2.1. On Determination of Prestation**

Legal theory teaches that a prestation may be considered determined "...if, at the time of entering into a contract, debtor knows in advance, what exactly it will owe to give, do, forbear or abide in favour of the creditor when the time come to fulfil the stipulated obligation." (Vizner, B., 1978, p. 218). It follows that prestation, in order to be determined, in the time of entering into a contract ("in obligatione"), must be identical to the prestation in the time of its fulfilment ("in solutione"). Furthermore, it is necessary that prestation has been sufficiently specified. We deem no declaring of a prestation as determined may produce any legal effect unless the prestation itself has been determined both legally and factually (not only declaratory). In other words, thus only the obligor may know which obligation it has to fulfil, while the obligor may know fulfilment of which obligation it has been entitled to demand. So states Gorenc: "A prestation is determined if, at the time of entering into the contract, it has been known, in advance and precisely, what the obligor has been obliged of in favour of the obligee at the time of fulfilment." (Gorenc, V. et al., 2005, p. 412). Argumentum a contrario, we may consider a prestation as undetermined if, at the time of entering into a contract, it has not been in advance and, nota bene, precisely known what the obligor will be obliged of in favour of the obligee, at the time of fulfilment.

### **2.2. On Determinability of Prestation**

While the analysed laws provide no definition of determined prestations, they provide the legal frame for defining of determinable prestations. E.g. according to the Croatian law, *Zakon o obveznim odnosima*, Republic of Croatia, 2005, Article 272 "...prestation is determinable if the contract includes the information that may be used to determine it or if the parties entrusted its determination to a third person.". That provision has remained basically unchanged in comparison to the respective provision of the aforementioned SFRJ federal law it originates from (*Zakon o obveznim odnosima*, Socialistic Federal Republic of Yugoslavia, 1978), Article 50. Regardless the significant amendments introduced to the analysed group of comparative laws during the last thirty years or so, all those laws also retained said provision unamended.

## **3. UNDETERMINED AND UNDETERMINABLE RATE OF INTEREST**

In addition to the above discussed definitions of (in)determination and (in)determinability of prestations in general, in further text we shall present and analyse specific legal solutions on the undetermined and undeterminable rate of contractual interest according to the Croatian and comparative laws. Just as any other contractual prestation, the prestation to pay the contractual interest must be determined or, at least, determinable. Rules on determination and determinability of prestation are also to be applied to its constitutive elements. If a constitutive element of a prestation fails to be determined or determinable, we deem the whole prestation as inevitably undetermined and undeterminable as well.

Since the rate of interest is a natural determinant of interest, it follows that indetermination or indeterminability of the rate of interest results in indetermination or indeterminability of a prestation to pay the interest. In conclusion: according to the abovementioned general regulations, in order to have the rate of interest validly stipulated, it must be:

- a) determined, i.e. an obligor knows precisely, already at the time of entering into a contract, how much interest will have to pay, while the obligee, at the same time, knows precisely how much interest will have right to claim, or
- b) determinable, by means that
  - i. the contract itself contains the information sufficient to determine the rate of interest, or
  - ii. the parties to a contract agreed to let a third party determine the rate of interest.

#### **4. SOLUTIONS FOR THE UNDETERMINED AND UNDETERMINABLE RATES OF INTEREST**

All the afore discussed general regulations contain provisions for the situation that the certain interest has been stipulated, but the contract does not validly determine the rate of the interest. We are under impression that in passing such provisions the legislators followed the principle “in favorem contractus”. In order to circumvent the nullity and voidness as a regular consequence for the contracts containing undetermined and undeterminable prestations, here undetermined and undeterminable rate of otherwise stipulated interest, such missing or inadequate contractual stipulations have been substituted by a legal provision which regulates the rate of interest. Structure of the analysed regulations of the successor states remain in that regard rather similar to the respective provisions of the predeceasing law, *Zakon o obveznim odnosima*, Socialistic Federal Republic of Yugoslavia, 1978, Article 399. However, provisions of the current laws on the substitute rate of interest underwent certain transformation. Do note some issues. Aforementioned provision of the SFRJ law distinguishes substitute rates for two groups of contracts: the commercial contracts and all the other contracts. Moreover, substitution of the undetermined rates of interest had been provided for the cases when the “...interest has been stipulated, but neither its rate nor its maturity period”. The cited part of the said provision causes doubts over the scope of its implementation. Does the law substitute the rate undetermined by the contract only if the interest maturity period has also been undetermined or regardless the determination of the interest maturity period? Following the previous conclusion that the legislator heeded the “in favorem contractus” principle, we believe that it would be more appropriate to adhere to teleological interpretation of that norm and allow for the substitution even when the maturity has been determined, while the rate has been not. The Republic of Croatia and the Republic of Macedonia have meanwhile solved this problem dropping that part of the said norm from the current iterations of respective laws. Furthermore, comparing the reviewed civil obligations acts, only the Slovenian law, *Obligacijski zakonik*, Republic of Slovenia, 2001, Article 382 paragraph 2 fails to provide different substitute rates for different kinds of contrahents via said general norm. Croatian law, *Zakon o obveznim odnosima*, Republic of Croatia 2005, Article 26 paragraph 3 differentiates the contracts between the business subjects and contracts between the persons out of which „at least one is not a business subject“, in Croatian: „trgovac“. Bosnia and Hercegovina's *Zakon o obligacionim odnosima*, Federation of Bosnia and Herzegovina and Republika Srpska, 1978, Article 399 paragraph 3 differentiates „individuals“ and „other persons“. Serbian *Zakon o obligacionim odnosima*, Republic of Serbia, 1978, Article 399 paragraph 3 provides different rates of interest for physical and legal persons, and an identical solution is present in the Montenegrin *Zakon o obligacionim odnosima*, Montenegro, 2008, Article 408 paragraph 3. Macedonian *Zakon za obligacionite odnosi*, Republic of Macedonia, 2001, Article 388 paragraph 6 envisages a solution similar to the Croatian one, distinguishing the contracts between the persons out of which „at least one is not a business subject“ and the contracts between the business subjects,

as well as contracts between the business subjects and public subjects. Statutory regulation of the contractually undetermined rate of the, otherwise, stipulated interest, may be found in other legal systems as well. German Civil code in such cases assign a single law prescribed rate "...if not otherwise determined", in original: „...sofern nicht ein anderes bestimmt ist.“, (Bürgerliches Gesetzbuch, Federal Republic of Germany, 2017), Article 246. Austrian General Civil Code provides the rate of interest which shall be applied when the paying of the interest has been contracted or prescribed by the law, but without the determination of its rate, in original: „...die ohne Bestimmung der Höhe vereinbart worden sind oder aus dem Gesetz gebühren, sind“ (Allgemeines bürgerliches Gesetzbuch, Republic of Austria, 2010), Article 1000 paragraph 1. Italian Civil Code (Codice Civile, Italian Republic, 2018) Article 1284 introduces a „statutory rate of interest“, in original: „Il saggio degli interessi legali“. In following paragraph of the same article the said code, furthermore, orders the payment of the interest at the statutory rate, if paying of the interest has been contracted, while its rate has been not, in original: „...interessi convenzionali, se le parti non ne hanno determinato la misura.“. Solutions for the afore analysed problem in legal systems based or inclined towards the common-law or its tradition vary considerably: from statutory or similar determination of the contractually undetermined interest rate, general ruling of a competent body or a court, to the court ruling in an individual case. E.g. in Scotland, England and Wales, the rate of interest has been proscribed „...unless otherwise stated.“ (Scottish Law Commission, 2005, p. 78), while the Republic of India has no uniform solution for such a case, but the courts have been entitled to rule on the „...reasonable rate of interest...“ (Gotanda, 1998, p. 33). Some countries determinate the rate of the interest contracted at an undetermined rate via administrative decisions, e.g. in the Republic of Philippines, by means of the Central Bank's circular letter, „...in the absence of an express contract as to such rate of interest...“ (Bangko Sentral ng Pilipinas, 2013). Finally, a significant number of countries allow no payment of interest, at least directly. E.g. concept of the interest has been prohibited in Islam, so certain countries forbid the contracting of interest, in original: the „riba“ (Karsten, 1982, p. 108). Therefore, such legal systems either provide no solutions for undetermined rate of interest, or provided solution are not comparable with the other solutions presented in this work, due to the specifics of the previous and, consequently, will not be further analysed. Statutory substitution or amending of the contractual stipulations on the rate of interest is present in the context of the conventional law and the private international law. Due to the heteronomy, complexness and specifics of those legal systems, solutions for such substitution will not be particularly analysed. Nevertheless, it should be indicated that the previously mentioned solutions envisaged by national laws might still be applicable in context of the contracts entered into under the conventional law, when the payment of the interest has been stipulated or prescribed, but neither the contract nor the convention law determine its rate. In that case, it should be assessed whether such an omission is defect „intra legem“ (i.e. convention does not relate the problem) or „praeter legem“ (convention does relate the problem, but not explicitly). In later case, the problem will be solved in accordance with the principles of the convention. If the later approach proves to be not viable, the problem will be solved, as in the first situation, in accordance with the „law applicable by virtue of the rules of private international law“ (Chengwei, 2003, p. 26).

## 5. SOME OPEN ISSUES IN PRACTICE

The aforementioned, seemingly clear, statutory provisions of the Croatian law open, however, several issues. The fact that those provisions have not been substantially amended for more than 40 years might indicate their efficiency and adequacy. Nevertheless, as it has been pointed out in the Introduction above, said period has been the time of significant changes in social, among other, economic and legal relations. Relations have changed, while the statutory provisions mainly have not. Let us review some problems and related solutions in that regard.

### **5.1. Validity of the Unilateral Determination of Rate of Interest**

In order to answer whether it is possible to, under the Croatian law, have one party to the contract validly unilaterally determine the rate of interest, we must answer another question: is the nature of the afore cited applicable provision cogent or dispositive (Zakon o obveznim odnosima, Republic of Croatia, 2005, Article 272 paragraph 2)? We believe its nature is cogent, and no prestation may be considered determinable unless stipulated in accordance with that provision. Namely, said provision is a logical extension to the Article 269 of the same law, which article specifically requires that any prestation “must be...determined”. Otherwise, under the following article 270 paragraph 1, the contract is being null and void. Thus, any relativization of the said provision should not be allowed. So it is in legal theory which finds that „The legislator ... by means of this article establish means and prerequisites for ... determinability.“ (Gorenc, V. et al., 2005, p. 382). Therefore, the abovementioned cogent provision of the Article 272 paragraph 2 allows for valid determination of the rate of interest by the third party only i.e. by a person which is not a party to the contract. Consequently, entrusting only one party to the contract with determining of the contractually undetermined rate of interest leaves that rate undetermined, regardless of the parties' dispositions. For additional arguments in this regard, see judicial practice in 5.5 below.

### **5.2. The Temporal Application**

In practice, there appears the issue of temporal application of the cited Croatian Civil Obligations Act provisions. As a rule, laws do not apply retroactively: “only certain provisions of a law may have a retroactive effect”, even that in case of “the particularly justified reason...” only (The Constitution of the Republic of Croatia (Ustav Republike Hrvatske), Republic of Croatia, 1990). The Article 1163 of the said law, itself being enacted in 2005, specifies that its provisions will not be applied towards the obligations established prior to its enactment. Since there are no particular provision on the retroactive application of its provisions on the substitute rates of interest, it would follow that there may be no retroactive application in that regard. Nevertheless, the Article 1165 of the same law prescribes that it is “coming into force” on January 1, 2006, while some provisions, including those on substitution of the contractual rates with the statutory ones “shall apply upon the expiry of two years from the date of entering into force of” that law. Taking into consideration that under the Article 1164 paragraph 2 of the said law, as of, *nota bene*: “the date of beginning of application” (not: coming into force) of the provisions of the Civil Obligations Act on the substitute rates of interest, expired the only special regulation on the rates of interest (Zakon o kamatama, Republic of Croatia, 1994), we believe that there should be, actually, no doubts over this matter. We also believe that the disputable provisions of the Civil Obligations Act of 2005 should not be interpreted grammatically only and *sensu stricto*, but teleologically, i.e. taking into consideration the full legislative context referred to above. Thus, the disputable provisions would have to be applied towards the obligations that were established prior to the coming of that law into force, but only in regard the course, rate etc of the interest, from the moment defined by that law on. Besides, we do not perceive such an action as retroactive application of a legal provision. The contractual obligation to pay interest remains established in accordance with the earlier regulation, and continues unchanged. Only the substitute rate determined by the law is being changed. We consider such approach is in accordance with the understandable socio-economic changes and, it is to believe, in the best interest of the addressees of the respective norms, as per the legislator's opinion.

### **5.3. Objectivization of Elements of the Rate of Interest Determination**

Stipulating of the CHF currency clause in tens of thousands of contracts in early 2000s, as well as subsequent court cases, in particular throughout the Eastern and Southeast Europe, including

the Republic of Croatia (Maganić, A., 2014, p. 229) induced, among other, an extensive legislative activity. Amendments to the Croatian law on consumer loans require that, whenever a variable rate of interest have been contracted, the creditor must define the parameter (clear and known to the customer) for correction of the variable interest rate, as well as provide the qualitative and quantitative analysis of the causal nexus between oscillations of that parameter and changing of the rate of interest, periods of potential corrections etc. In other words, that law, Article 11.a provides a comprehensive list of elements required for objectivization of the variable and undetermined rate of interest, in order to consider it validly determinable (Zakon o izmjenama i dopunama Zakona o potrošačkom kreditiranju, Republic of Croatia, 2013). It should be noted that in practice, in our personal experience, sometimes there appears an attitude that the request for objectivization of the data necessary for determination of a variable interest rate has been introduced by means of the abovementioned act, while the earlier enacted general regulations on civil obligations prescribed no such prerequisites. We deem such an attitude unacceptable. Absence of the objectivized elements for determination of the rate of interest results in arbitrariness, while the arbitrariness leads to unpredictability, which is intolerable and undesirable (we shall revert to that issue in further text). Therefore, the alleged parameters for determination of a rate of interest solely defined by, e.g. “business results” of one contractual party, “market trends” etc. should be considered inappropriate for the said cause, while the thus only regulated rate of interest should be considered both undetermined and undeterminable. Such stance has been confirmed by the judicial practice which, regardless the earlier legislative solutions, insists on “...objectivized criteria which could be subsumed under the term of a determined prestation...”, requires defining of “...a referent rate which is being applied against the initial rate of interest...”, or, e.g. “...a precise means to determine the variable rate of interest.” (The High Commercial Court of the Republic of Croatia (Visoki trgovački sud Republike Hrvatske), Republic of Croatia, ruling in Pž-7129/13, 2014, p. 56) or, e.g. demands that “...contracting of a variable rate of interest should be undertaken in manner which will be, from one side, sufficiently objectivized, and from the other, sufficiently determined. ... Contracting the rate of interest variable in accordance with decision of a competent body of the creditor is a relic from the period in which the banks and the insurance companies had, substantially, status of public institutions (e.g. in one period, an autonomous inter-banking agreement had a regulatory function on the rate of interest), not the status of subjects of the private law” (The Zagreb Commercial Court (Trgovački sud u Zagrebu), Republic of Croatia, ruling in P-2157/96, 1996) etc. The last citation confirms also the need to present in this paper the evolution of some of the reviewed laws, in order to analyse the respective current legal provisions and practice taking into consideration the relevant historical context.

#### **5.4. Determination of the Rate of Interest by Means of the Referent Rates**

An agreement over the referent rate is, as a rule, a reliable method to make determinable an, otherwise, undetermined rate of interest. However, such determination is reliable as much as reliable is the reference rate itself. Compromising of the referent rate imply the compromising of the rate of interest determined by such a referent rate. E.g. in so called “Libor Scandal”, from 2012 onward several world class banks have been punished, reached a settlement or entered non-prosecution agreements over charges on the fraudulent manipulation of the Libor referent rate. Indicted were, among other, Barclays Bank PLC (Statement of Facts, 2012) and Deutsche Bank. In 2009 Libor comprised, approximately, 450 trillion USD in financial derivatives, besides mortgages, card and other customer products. Penalties and/or other remunerations related to the said manipulations amount to over 9 billion USD (Larson, E., 2017). Final consequences for the legal relations established, at least partially, upon a referent rate which is result of impermissible dispositions, possibly even criminal acts, has not been uniformly solved in practice, yet. Nevertheless, we should point out the opinion that “...the LIBOR scandal could

allow debtors and other borrowers to invalidate financial contracts and swap deals that use a fraudulently established LIBOR as the reference rate.“ (Rayburn, C. C., 2013, p. 222).

### 5.5. Judicial Practice

Here we shall briefly revert to the previously cited ruling of the High Commercial Court of the Republic of Croatia, since it has been related to, by far, the most prominent court case over the rates of interest in the Republic of Croatia. The said ruling established that the defendants “...violated collective interests and rights of the customers as loan debtors introducing into the customer loan contracts an unfair provision, which (provision) stipulates a regular rate of interest that is variable in accordance with the unilateral decision of the bank during existence of the contractual obligation, which (provision) has not been individually negotiated, and which (provision) has been null and void.” (The High Commercial Court of the Republic of Croatia (Visoki trgovački sud Republike Hrvatske), Republic of Croatia, ruling in Pž-7129/13, 2014, p. 2). Wording of the previously mentioned ruling indicates that the disputed contractual stipulation contains the following elements:

- a) obligation to pay the interest,
- b) the variable rate of interest,
- c) entrusting just one contractual party with determining of the rate of interest.

Otherwise, the ruling remained most vague. Most important, it is not clear which part of the disputed contractual provision has been declared null and void. We believe that the ruling should not be interpreted in manner that the debated interest clause is found to be null and void in whole. Stipulating of an interest clause as such, undoubtedly, has been allowed, while a loan agreement, under the law, necessarily assumes the paying of interest (Zakon o obveznim odnosima, Republic of Croatia, 2005, Article 1021). Since the courts are to examine notions of invalidity of their own motion under the law (Zakon o obveznim odnosima, Republic of Croatia, 2005, Article 1021), and the court found not the respective contracts null and void in whole, it follows that the court hasn't deemed the whole interest clause as null and void. Alternatively, if it is to be deemed that the obligation to pay the interest itself remains in effect, why the second part of the contractual clause, i.e. the part which stipulates variable rate of interest, should be considered null and void? There is no applicable statutory provision that would prohibit stipulating a variable rate of interest. Besides, stipulating of the variable rate of interest is being, notoriously, a part of the regular practice in regard all kinds of loan agreements. Furthermore, analogously, deeming the second part of the contractual clause as null and void would contradict the will of the contractual parties to stipulate a variable rate of interest, otherwise allowed by the law. In addition, such an interpretation would be in contrast to the terms and principles of the supranational law which, among other, provides, that the ‘fixed borrowing rate’ means „that the creditor and the consumer agree in the credit agreement on one borrowing rate for the entire duration of the credit agreement or on several borrowing rates for partial periods using exclusively a fixed specific percentage. If not all borrowing rates are determined in the credit agreement, the borrowing rate shall be deemed to be fixed only for the partial periods for which the borrowing rates are determined exclusively by a fixed specific percentage agreed on the conclusion of the credit agreement;“ (Directive 2008/48/EC of the European Parliament and of the Council, 2008, Article 3 paragraph 1/k.). In this case, therefore, the contracted variable rate could be judged as a fixed one not even for a certain period of the contract length, and even less for the whole contract length, as it would appear so under the here reviewed, hypothetical interpretation of the abovementioned ruling. Hence such an interpretation would, ipso facto, also mean that the contracted, variable rate of interest, otherwise allowed by the law, may be obtruded by means of a shear court ruling, without any statutory legal base.



In consequence, the said ruling would, via such an interpretation, become arbitrary, and thus contrary to the “constitutional principle of the rule of law as the highest value of the constitutional order of the Republic of Croatia (The Constitutional Court of the Republic of Croatia (Ustavni sud Republike Hrvatske), Republic of Croatia, ruling in U-III - 374/2008, 2010). Therefore, we deem such an interpretation erroneous and illicit. Hence it is to be assumed that, according to the law, judicial practice and legal principles, the only null and void part of the disputed contractual stipulation is the one that stipulates the right of one party to the contract to unilaterally determine the rate of interest. Finally, upon the above stated, we strongly believe that the aforementioned disputed loan agreements established valid obligations of paying interest under variable rate. However, that rate remained undetermined, since the debtors did not know at the very moment of entering the contract, how much interest will have to be paid precisely. That rate remained also undetermined, since the parties to the contract haven't let the third party determine the rate, while the contracts itself, did not provide the data required for determination of the rate of interest, as follows from the above presented wording of the said ruling and the above displayed findings. In conclusion, it further follows that as a rate of interest in regard the disputed contract should have been applied the rate provided for such cases by the Zakon o obveznim odnosima, Republic of Croatia, 2005, Article 26 paragraph 3.

## 6. CONCLUSION

Presented analyses indicate that the issue of the rate of interest indetermination and indeterminability appears to be rather more debatable than it might have been expected, taking into consideration clear provisions of the positive law and attitudes of the legal dogma. Widespread improper stipulating of the rates of interest, as well as vagueness of the judicial practice have caused the unpredictability of obligations of numerous legal subjects, which in return fundamentally deteriorated the legal certainty, itself being a basic element of the rule of law. Findings demonstrated in this paper confirm that the said violation of the rule of law could have been prevented, and still may be resolved, with relative simplicity. Furthermore, we believe that the additional regulation have not been necessarily the most appropriate solution in this matter. In other words, we believe that the already existing regulations had provided an adequate, firm and above all, clear and simple legal frame for solution the analysed problem. Therefore, we propose to solve the problem of the undetermined and undeterminable rates of interest via uniform, complete and consistent stance of judicial practice in this matter, and as an advised general tendency, upon the basis, and in spirit, of the sufficient existing regulations, instead of further burdening of the society with new, ever more complex, ever less understandable and entirely heteronomous norms.

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