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Genius loci...

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Foreword

Knowledge for Market Use is a traditional international scientific conference organized by the Department of Applied Economics, FoA, PU in Olomouc since 2006. With regard to the current world issues the subtitle of the conference in 2016 was *Our Interconnected and Divided World*.

The participants of the conference presented this subject from many different and very interesting points of view. For example, during the opening roundtable the topics of changes of knowledge requirements on the job market, ethical aspects of knowledge and innovation, or those of glocal nationalism versus spaceless identity and community were discussed. These proceedings contain papers chosen for publication.

You can find the proceedings and broader information about the conference on its website <http://knowledgeconference.upol.cz>.

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KNOWLEDGE ORGANIZATION - A NEW DIMENSION OF THE QUALITY OF WORKING LIFE

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Abstract: *The quality of working life in environment of the knowledge organization is becoming the general vision for all modern organizations. Its wonder drug is widely known in theory, in which the basic characteristics of the knowledge organization are precise identified as is known also approach to management through which it is possible to achieve. There are also transparent the general steps that should lead to a change in the quality of working life of employees, but they are only indicated globally and do not represent a specific scenario and implementation procedures. The practical level of the knowledge organization remains shrouded in mystery. For this reason, we have focused our paper on development of the theoretical and methodological framework of this organization model, but such form, that would allow the specific quality of the working life, different from the learning organization, perceive on the empirical level. We believe, that our proposal stages of implementation of the knowledge-based organization will support dissemination of this phenomenon in all organizations and institutions in the Slovak Republic.*

Keywords: *quality of working life, knowledge organization, working conditions, human capital.*

JEL classification: D8, Z1, L2

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1 Introduction

The quality of working life in an environment of the knowledge organization is becoming a vision for all modern organizations. Its "miraculous medicine" is widely known, but more in theory than in practical level. It is seen as development of a positive management towards a long-term prosperity. The essence of this "miraculous mechanism" is not possible to find as something extraordinary and mysterious, but in the changed approach from side of the top, middle and line management to the managing of people and also to all processes in organization.

We oriented our paper at development of the theoretical and methodological framework of the model of this type of organization in such a way as to enable - the specific quality of working life, which is different from the learning organization - perceive better on the empirical level. We believe that by our designed stages of implementing of the knowledge-based organization, we will promote dissemination of this phenomenon in all organizations and institutions in the Slovak Republic.

2 Theoretical background of the knowledge organization

The recent emergence of the theoretical dilemma that evoked the wide professional discussion about differences between the learning and knowledge organization, because it is evident, that they have significant common features. For clearing of the ongoing problems we shall reflect only the main characteristics both of them, which represent the most important differences, which, according to us, are based on the professional competencies of employees.

The essence of philosophy of the learning organization is development of employees, thus the emphasis on the continuous learning process through which is possible to achieve the extraordinary effects. Within its inter environment it means a constant linking of the working and educational process. People can learn in teams, they can mutually exchange experiences, gain knowledge and apply them within organization. Its main characteristic feature is that within its culture the accent is on self-study, distribution of information between members and creation perception of the common problems.

In situation of the achieved status of the learning organization, management may state that the company is successful and does not need further changes. "Why to prepare again complicated processes of achieving status of the knowledge-based organization, when we are on top of our effectiveness?" We recommend to continue in this process, because implications of the knowledge organizations have their specific manifestations, synergistically linked with the learning organization. From our point of view, the knowledge organization is on higher level of quality of the working environment as the learning organization, and therefore it is more difficult to achieve.

Employees of the knowledge organization have specific the professional competencies typical for the learning organization but also further, focused on information and communication technologies for goal to create knowledge for their exchange and sharing. Therefore, we are writing about the professional competencies of the knowledge workers.

3 Knowledge workers - challenge for the new labor market

There exist a lot of approaches to the knowledge worker, to the specification of his content or to identification of his characteristics. The exact definition as well as strict delimited his knowledge, skills and attitudes still remains unclear. What one author - the specific approach, determined by his or her own research purpose.

Generally, it can be assumed the significant differences between the current worker and the knowledge worker. Difference between them relates not only to the level of education as well as the specific competencies which the knowledge capital represents itself. If we want to specific more his present or future quality, it is necessary to base our starting point on theory of the human capital.

Today, very often is talking about the different types of the human capital, binding to the new forms of societies that are the learning society, the knowledge society and the creative society. We note, that in the economic theory, there exist a shift in this category, because finished to present the existing reality. For solving of the presented dilemma we suggest to perceive the human capital on higher abstract level and within it to exclude the several dimensions that would present the basic abilities of the labor force, working in the specific circumstances of each societies. In terms of current needs, we propose the following dimensions of the human capital:

1. the professional capital,
2. the social capital,
3. the learning capital,
4. the knowledge capital.

1. The professional dimension of the human capital represents a set of the professional competencies required for the professional performance.
2. Social dimension of human capital is the ability to develop co-operation, participation and positive relationships, thus to create the social networks and use them for own benefit or for benefit of organization.
3. The learning capital reflects people's capabilities for creation of environment that support cooperation and learning. Its basis lies in implementation of the learning approach in leading processes in organization.
4. The knowledge capital presents the ability, through which we are creating new values and spreading them in the organizational environment. This type is often called also as the intellectual capital. It includes knowledge, ideas, methods, processes, and talents of people that is possibly to use for the organizational objectives.

The knowledge worker is characterized by the professional and specific competencies, which can be seen as a combination of the professional, social, learning and knowledge capital. For the specific competencies we consider the personal competence, the individual competence, the social competence and the societal competence. We start from the perception of the social empowerment in dimensions of P. Herrmann, who emphasized the ability to activate people through the social relationships (Herrmann, 2005, p. 6).

We perceive the personal competence as an ability for self-changing with priority-on self-management. We included in it the following abilities: self-confidence, self-analysis, self-assessment, self-development, self-management, creativity and innovation.

The individual competence represents the ability to change the external environment and adapt it according to own expectations. In the context of that competence can be considered following competencies: formulation ideas and their presentation, work with technologies and software, giving and receiving feedback, openness to new information and knowledge, empathy and language skills.

The social competence is perceived as an ability to change the immediate environment in which individual moves, based on the objectives. At this level, the knowledge worker should exhibit skills in leadership, teamwork, negotiation, solving problem, coaching and evaluation.

Mentioned forms of competencies were verified through research with A. Chinoracká. Object of it were 30 experts - representatives of training firms and coaches as well as academics from the University of Economics in Bratislava, Faculty of National Economy as well as from the Faculty of Commerce, who were interested directly and also indirectly in the knowledge society (Antalová & Chinoracká, 2014, 6-22). All had enough information about the knowledge society and also knew problems with identifying of the knowledge worker (Name list: E. Rievajová, S. Šipikalová, M. Nováková, M. Antalová, A. Chinoracká, R. Klimko, T. Kolláriková, J. Kováčová, E. A. Vondrová, A. Přívara, P. Sika, P. Strhár, M. Novák, J. Vidová, J. Tkáčiková, M. Chinoracký, M. Lovecký, J. Líška, R. Rybár, P. Rolný, P. Turčan, G. Szüdi, J. Spúra, V. Šuterová, P. Plesník, A. Veszprémi-Sírotková, M. Tkáč, B. Skaličanová, M. Husáková, Ľ. Velichová). The aim of this activity was to obtain more information about the importance of the individual competencies and highlight the need to re-define the existing educational standards that would ensure his formation. Research has confirmed that all of the capabilities of knowledge worker have their justification, but their importance is linked to a specific job position in organization.

4 Methodological framework

The working conditions are, from our aspect, the central category of quality evaluation of the knowledge organization. They are creating the essence of the successful implementation and presenting the cornerstone of its architecture. Without them, is not possible to diagnose the existing situation or identify the expected developing process. By them we can deduce at several phases of the organizational development, as well as monitor at the achieved results.

In theory of the quality of working life, there exist some attempts to establish a universally valid definition that would lead to elaborate of the single methodologies, which would allow to generalize and compare organizations or countries.

Interest about this effort demonstrated also the European Foundation for Improvement Living and Working Conditions - famous institution, and specifically in frame of the research project "European Working Conditions Survey (2005)". Methodological approach this task was concentrated on mega-level with possibility of comparison of several countries (9). The survey, despite all positive, missed out creation of the theoretical platform, which would take into account the influence of the working conditions in a broader context.

In searching solution from the existing situation, we went back to old Slovak literature, represented by A. Jurovský. In work "Working conditions of non-material form in Czechoslovakia"(1972) he dealt with the theoretical problems of the working conditions and by very creative way he defined their essence. He used in this process accumulation of content of both categories: work and conditions.

According to him, the working process consists from four components that are human, the working object, the working tool and the working time. By working object we understand something on what is working. It can be a raw material, other material or land. The working tool represents, all by which is working. It means facilities. The working time is defined as the time period within which the working activities are doing. All components are indispensable elements of the working process. They

may express by varying levels of intensity (very strong, moderate, weak), but in no case, their force cannot decrease to zero level, because would not exist the working process.

In frame of the working process is necessary to differentiate the indispensable components of the working process and factors, which are influencing at these components - in which these indispensable components are operating. This fact we can identify as a content of the working conditions.

Human - the worker – is considered as extremely important component of the working process, which is reflected also in definition of the working conditions. We understand by them a summary of factors, in which human acts by the working tool on the working object during concrete interval of time.

In the meaning of presented theoretic-methodological approaches, it depends only from researcher purpose in which width and depth will be allocated analyzing.

The working conditions are also the specific circumstances and factors creating and accompanying components of the specific working process in the knowledge organization, in which the main actor is a knowledge worker.

We can understand them in two forms:

- a) In the material form - for example, physical security of workplace - that is, form of circumstances and factors accompanying and creating the working object, the working tool and the working time, which is embedded in the organizational standards.
- b) In the form of human - namely in form of the professional competencies, which are specific for the knowledge workers.

From aspect of methodology, it is necessary to respect the objective and subjective nature of the working conditions. Among these, we based on premise that the working conditions is determining their subjective reflection in consciousness.

In the implementation process of the knowledge organization, as we mentioned earlier, is necessary to identify the professional competencies of the knowledge worker, which are part of the working conditions research, but also to determine the levels or stages of the organizational development itself.

We highlight three important steps representing change in quality of the working life proposed by E. Mečířova (2013). She identified the sequence of changes concerning to characteristics of the knowledge organizations in the following way:

1. Level: The existence of information and communication technologies (typical jobs for the knowledge workers) but they are used only for routine administrative tasks.
2. Level: Complete of first stage plus the using information and communication technologies for creating, accumulation and sharing information of databases in intentions of fulfilling the organizational mission. At individual positions are in detail identified activities of the knowledge workers.

3. Level: Fulfillment first and second level plus change of the organizational culture whose foundation is based on the learning culture. We think about the supportive organizational culture which allows by its quality not only creation of the needed knowledge but also their enlargement.

E. Mečířova proposed three stages of changes within which she monitored development from the classical organization into organizational behavior of the knowledge-based organization, without took into account the status of the learning organization.

According to our opinion, it is necessary to prefer as a first step of implementation the learning organization, which makes the change of various forms of culture into only one that is supportive type. This process is longest of all, because within it, is changing people's minds, and especially their attitudes. From the status of the learning organization is possible to applicate only two steps, represented by the first and second levels, so with building infrastructure and with "promotion" of the learning workers at the knowledge workers. Third level – change of the organizational culture, will be not implemented, because in the case of both types of organization (the learning organization, the knowledge organization) is the same type of supportive culture.

5 Conclusion

From aspect of presented the theoretical and methodological starting point of the knowledge organization, we have to admit that there are many dilemmas with which managers have to deal in implementation with.

As the first problem we consider the lack of the theoretical elaboration. Although there exist various definitions and identification of the different characteristics, but the exact quality of organization remains "vague". Therefore, we tried to clarify it through comparison of the learning and knowledge organization and on basis it to identify differences between them. We came to conclusion that the main work force in the learning organization is the learning worker, which is characterized by specific professional competencies different from other types of workers. We also noted that in case of the knowledge organization, it is important to specify the professional competencies of the knowledge workers. We tried his special competencies to identify and verify on the basis of survey, by participated 30 experts.

Another problem of implementation of the knowledge organization we consider the variety of the methodological approaches to quantification. For solving of this problem, we recommend using our proposed approach, consisting in the operationalization of the working conditions with accent on measuring the achieved level of the professional competencies of the knowledge worker.

The third dilemma consists in the implementation process itself, which is too complicated, so we recommend it to stratify into some several levels. From our point of view is interesting three-level model, but we recommend using of two-level, with the fact that implementation of the learning organization we considered as a necessary first step.

We conclude that the knowledge organization, by its essence, is a new quality of the working environment, which will require a new approach as to development of the human resources and also to management and leading of organization. In addition to the specific working conditions will be necessary to monitor suitability of the existing organizational structure or worganizational culture dominance. This path is not easy, but only one for a smooth fulfillment of the organizational mission.

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For more see:

<http://www.eurofound.eu.int/docs/ewco/4EWCS/4EWCSqualityassurancepaper.pdf>

http://www.europa.eu.int/comm/cdp/working-paper/learning_organisation.pdf

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APPROACHES TO DEFINE MANAGEMENT ACCOUNTING

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Abstract: *Although Management accounting is taught today in most of the university economic programs and used in practice in many economic activities, it is a challenge to define it. We consider there are three leading approaches in the attempt to clarify what Management accounting is: historic, normative and academic approach. Each of these approaches has several manifestations and countless treatment variations. The paper is an attempt to present a short summary of the possible approaches to define Management accounting. The topic is a gap both in textbooks and in researches. It might be useful for the theory and practice for better understanding and application of the concepts of Management accounting.*

Keywords: *Management accounting, IFAC, CIMA.*

JEL classification: *M14, M40, M49*

Grant affiliation: .

1 Introduction

Management accounting enriched with many additional fields of action and become more strategic focused in the last decades. **Starting** its development as operating oriented cost accounting, it underwent huge change in its concepts, purpose, instruments, and methods. Along with enrichment comes the separation of different approaches and trends in management accounting. National specificity, level of economic development, type of law and accounting system, type of company ownership, industry constrains, management model, different theoretical bases and many more factors influence management accounting. The described context makes particularly difficult to define one and only understanding for management accounting. There is still not a consistent management accounting theory that could propose a sole definition of management accounting. The purpose of this paper is to present a short summary of the possible approaches to define Management accounting (MA). We consider there are three leading approaches: historic, normative, academic.

2 Historic approach

Historic approach tries to explain MA in the context of socio-economic development and different theory approaches. It has several manifestations, regarding the time span of topics, considered concerning MA.

2.1 Holistic

The explanation for reasons, roots, scope and meaning of MA goes as deep in time as the emergence of economic activity, any record for it and management approaches based on them. Obviously economic records even in its primitive form were for better management of the resources and results, long before these abstract terms were unified as common knowledge. It is impressive how often book keeping and people doing it are mentioned in ancient manuscripts (Svrakov, 2014, p.31) (Slavickova & Puchinger, 2016).

2.2 Prevailing

This approach defines MA in the range of capitalistic development, paralleling socio- economic development, economic theories and accounting development since late Middle Ages. Most of publications start their MA chronology since this stage and propose different sub periods and explanatory approaches (Kaplan, 1984) (Johnson & Kaplan, 1987) (Loft, 1995) (Trifonov, 2000, p.23) (Yonkova, 2008, p.13).

2.3 International Federation of Accountants (IFAC) approach to MA development

MA appeared as a term when it was taught for a first time as a master degree course in 1946 in Harvard and MIT, as per Ford Foundation's Initiative requirement. A third historic approach is to start with the formation of Management accounting as a separate integral trend of knowledge, science and combined practical activity in the middle of 20 c. and follow its evolution. The best known classification of this type is the IFAC classification, starting since 1950 and proposing five stages (IFAC, 1998, p.3).

3 Normative approach

Management accounting is not regulated by a legal framework worldwide, although there are some exceptions (RF, 2002) (RF, 2004). The essence of normative approach to management accounting is in the fact that independent professional management and cost accounting bodies or financial accounting organizations propose definitions for management accounting. These definitions are broadly used, they evolve, paralleling economic and theoretic development. The result is a serial of definitions for Management accounting with an enlarged meaning and scope. Normative approach to management accounting is typical for Anglo- American accounting systems and the ones strongly influenced by them. This approach is popular in the world today in practice and theory, as a result of leading economic powers intellectual influence. The most influential recently are the definitions of:

- IFAC definition (IFAC, 1998, p.99)
- The Institute of Management Accountants in the USA (IMA) definition (IMA, 2008)
- The Chartered Institute of Management Accountants in UK (CIMA) definition (CIMA, 2005, p.18)

All definitions are quite broad and giving perspective for the future. They are decisive in underlying the strategic orientation, supplementing the operating one of MA, increased role of MA in decision

making, performance management and financial reporting, irrespective of users of information. Some definitions even overpass the financial perspective of MA and enrich it with non-financial (CIMA, 2005). MA became integral part of management in the last decades, as quantified information is considered a first grade resource. MA became precious as a value creator with efficient transversal decisions in real time, linked with strategy. The rapid global development of organizations is promoting the spread of their understanding for management accounting worldwide.

4 Academic approach

Academic approach is presented in leading academic books. Far from being unified, it might be grouped into three approaches:

4.1 Comparative

This approach compares MA with Controlling in German speaking countries and Contrôle de gestion in French speaking countries. They never fully coincided, but there is a tendency of convergence (Hoffjan, A., Nevries, P. & Stienemann, R., 2007). Comparative management accounting is gaining force in the last two decades, but it is still far behind comparative financial accounting. It has the potential to develop and give impact of MA understanding.

4.2 Summarizing the leading trends in academia texts on the topic of Management accounting

There might be formed several groups of academic viewpoints for MA (Pavlova, 2010, p.19). They start from the narrow position that MA is equivalent to cost accounting and end expanding to the MA as the widest field of accounting, incorporating financial accounting, management accounting in the narrow sense (such as cost management, operations management accounting, cost volume profit analysis, budgeting), tax accounting and internal control (Keller, 1976) (Martin, 2006).

4.3 Conceptual

The purpose, meaning, scope, methods, instruments, indicators, organization of MA are proposed in a syncretic academic form, as per authors' viewpoint in each original publication. There are two types of definitions: Conceptual- highly generalized; and operational- concrete specific definitions (Martin, 2006). It is typical to find conceptual definitions in academic texts. As we are limited by the volume of this paper, we could not propose a statement on all theoretic elements for representing a full MA concept. We use conceptual approach to define MA subject: It is the provision of information for measuring, reporting, presenting, analysing, optimizing, controlling, planning, organizing, supporting management decisions and their implementation for resources, processes and results in a separate economic entity by using every possible quantitative measure for quantitative and qualitative information and using any scientific method that respects the operational, tactical and strategic objectives of the enterprise. The purpose of MA is to be an inner consultative system in a business entity, serving the information needs of management of multiple quantitative information (financial and non-financial) for each hierarchical level of governance (from the lowest to the highest) in every aspect of information (from the most detailed to the most summarized) and for each time horizon (past, present, future; short, medium and long term) to achieve the objectives of the enterprise (operational, tactical and strategic). MA information is any information that could be quantified and is useful for management. The academic approach, especially the one research orientated, is based on one of many theories grouped in four sections: economic, sociologic, psychologic and other

theories (Lindquist & Smith, 2009) (Narris & Durden, 2012) (Trapp, R., Endenich, Ch. & Hoffjan, A., 2014) (Atanassova, A., 2015). But the academic approach is quite vague for practitioners and might lose relevance (Johnson & Kaplan, 1987) (Scapens, 2006, p.38) (Al-Htaybat & Alberti-Alhtaybat, 2013).

5 Conclusion

MA is evolutionally linked with management, but in the last decades it became an integral part of it. It is a challenge to define a one and only definition for MA useful for practitioners, academics and broader public. The way we presented approaches to define MA is following a pragmatic logic: from evolution (historic approach), through current practice (normative approach), to the possible academic summary for the concept of MA, incorporating previous two. The syncretic revision of the topic might be useful for the theory and practice- for better understanding and application of the concepts and huge practical potential of Management accounting.

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HOW THE CZECHS PERCEIVE THE CHINESE - AN IMPORTANT ASPECT FOR SUCCESSFUL IMPLEMENTATION OF THE ONE BELT ONE ROAD INITIATIVE

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Abstract: *In 2013 Chinese president Xi Jinping introduced a new initiative called the New Silk Road - One Belt One Road (OBOR) initiative. This project will economically and culturally connect Mainland China with Europe. The Czech Republic also showed its interest in participating in this project by signing an agreement in November 2015. There are already some activities which started to establish an economic and cultural cooperation. But it is important to realize, that the economic and cultural cooperation always depend on people. The aim of this paper is to analyze the way the Czechs perceives Chinese people. The survey took place among young students at Palacký University. These students will enter the job market soon and it will be them who will create the human background for cooperation within this OBOR initiative.*

Keywords: *Multicultural communication, Czech culture, Chinese culture, the One Belt One Road Initiative*

JEL classification: Z1

Grant affiliation: IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.

1 Introduction

Chinese president Xi Jinping introduced a new initiative called the New Silk Road in 2013. This initiative will economically and culturally connect China with Europe, Africa and Asia. First part of this paper introduces Chinese New Silk road, second part deals with a case study introducing the way the Czech young people perceive the Chinese. The case study took place among 146 students at Palacký University in spring 2016. Czech young people's attitude is very important for New Silk Road initiative.

2 New Silk Road Initiative

New Silk Road is an initiative introduced by Chinese president Xi Jinping, it consists of two parts; the first is Maritime Silk Road, the second is an economic belt New Silk Road. Economic belt called One

Belt One Road (OBOR) is actually a new type of Chinese foreign policy towards Europe, Asia and Africa.

It is not a geopolitical activity, as China has always claimed, it is a geo-economic initiative. There are no specific or special geographical plans under this initiative yet. At the moment, it is still a mere initiative and any country can join in. China also expects that all participants will come up with their own ideas and plans (Kopecký & Lídí, 2016).

The New Silk Road should go through Central Asia, West Asia, the Middle East and to Europe. The Maritime Silk Road should go through Southeast Asia, Oceania and North Africa. This ambitious project needs huge funding and investment. Financial funding is supported by several institutions; the most important now are The Asian Infrastructure Investment Bank (AIIB) and the Silk Road Fund. But except for financial investments the successful implementation also needs human investments, both of them are equally important (AIIB, 2016).

The Czech Republic is now experiencing big boom in its relations with China, although the boom still has been taking a very short time compared to other countries in the Central Europe region. Still the Czech Republic is quickly catching up its delay and can still build a successful cooperation. Czech-Chinese relations are still defining a common direction, OBOR initiative's content can change according to both countries needs. Areas of mutual cooperation can be assumed only in general terms.

Possibilities for the Czech Republic in the OBOR initiative

OBOR initiative's important goal is to develop logistics. The Chinese pay attention to railway transportation, ports and logistic companies. Chinese cities are growing and there is an ever growing demand for domestic aviation. The Chinese are looking for aviation technologies and the Czech Republic is known for very good aviation technology. Another potential cooperation area is the environmental protection. Automotive and engineering industry is a key industry in the Czech Republic; it can be assumed it is also attractive for Chinese investments. Cooperation also brings around various side services such as tourism, financial and advisory services (Kopecký & Lídí, 2016).

The initiative will need multicultural negotiation and support of each country; it means support from their governments and inhabitants.

The paper deals with Czech young people's attitude towards the Chinese. Finding out about the way Czech people perceive the Chinese is very important for successful cooperation between China and the Czech Republic.

This case study can be divided into three parts: the first asks about respondents own ideas about Chinese people and their relationship with Chinese people, the second part asks about respondents themselves, their behaviour, date of birth, etc and the last part asks about their travelling experience and ideas about travelling to China.

3 Case study – a questionnaire about the way the Czechs perceive the Chinese

The questionnaire deals with young generation attitude towards cooperation between China and the Czech Republic. The questionnaire was provided by Mr. Matevž Rašković from the University of Ljubljana. The sample of 146 respondents took part in this case study; they were born between 1988

and 1996. People's Republic of China is now discussing One Belt One Road (OBOR) initiative with the Czech Republic, we can assume the young generation will be working on this project in the future. Respondents are all university students mostly studying economics, business or foreign languages. More than half of the respondents (68,3%) are women, more than half of the respondents (81 respondents) were born between the years 1994 and 1996.

3.1 Contact with Chinese people

Respondents could choose from no contact to regular contact. Almost 30% of respondents (28,8%) respondents chose no contact, only 9,6% respondents chose often. It is important to mention, that the often possibility was described as "a few times per year". More than three-quarters of respondents (76%) chose no contact to very little contact.

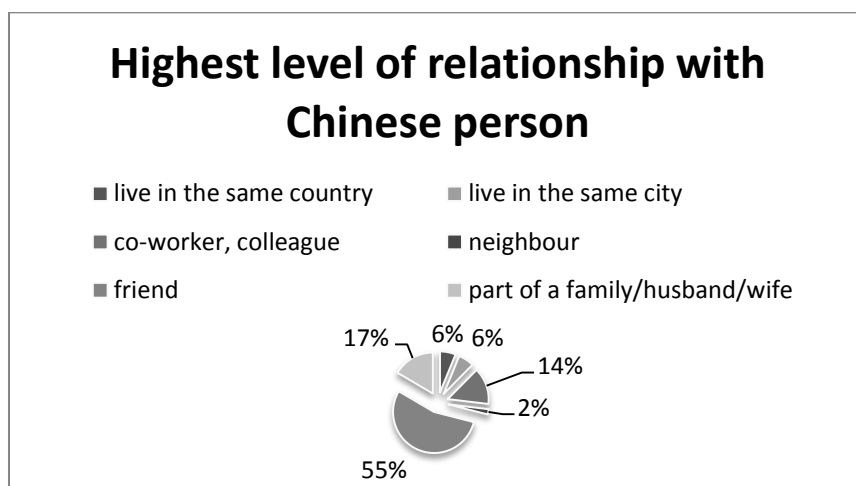
3.2 Five things about Chinese people (respondents own ideas)

Respondents mostly mentioned that Chinese people are hardworking, often taking pictures, that China is overpopulated and Chinese people often smile.

3.3 The highest level of relationship with a Chinese person

Respondents were to choose what kind of the highest level of relationship they want to have with a Chinese person, from living in the same country /city/ working in the same place to being neighbour / friend/ relatives. Only 24 people from 146 respondents would agree with a Chinese person being their relative, 54,5% respondents agree with Chinese person as their friend, but they don't seek a deeper relationship. Only three people want to have a Chinese person as a neighbour. The structure of answers is shown in FIG. 1.

FIG. 1: The highest level of relationship with a Chinese person



We can see from these three questions that respondents don't know much about Chinese people. Most of respondents didn't mention anything specific about Chinese people characteristics in the second question. For example, most of respondents didn't mention cultural characteristics, current economic situation; mostly they only mentioned easy, common characteristics such as black hair, hardworking, smiling. But very positive finding is that respondents are willing to meet with Chinese people, 127 respondents want to work with Chinese people or being their neighbour or friends or being their family member. This is a very positive finding for future successful OBOR cooperation.

3.4 Choosing a desired business partner in the future

Respondents were to choose with which country inhabitants they would like to do business in the future. There are eight countries: USA, Hungary, Poland, China, Germany, India, Russia, Japan and South Korea. Most people chose Americans as the most or second most desired business partner and 53 respondents chose German person as the first most desired business partner in the future. Of course this is not surprising since Germany is our neighbour and an important business partner already as well as USA. What about China? Chinese person as the most desired business partner in the future was chosen by nine respondents, 16 respondents chose them as the second, 28 respondents as the third, 34 responded as the fourth, 22 respondents chose a Chinese person as the fifth and sixth most desired business partner in the future out of eight possibilities, nine respondents chose Chinese person as the last but one respondent chose them as desired partner and five respondents chose Chinese person as the least desired partner. Even though respondents are willing to have Chinese people as friends, they are not willing to have business relationship with them in the future. This might be one of the biggest challenges for future success of OBOR initiative in the Czech Republic. One of the reasons that Chinese people are not desired business partners might be that China is too far away from the Czech Republic. It is not so easy to establish business relationship because of the language barrier, cultural differences and faraway distance. There are still plenty of Chinese businessmen who cannot speak English or they communicate in bad English. This might cause a lot of misunderstanding. Also Chinese business negotiation is different from typical European and American style. Recently, Czech Ministry of Education started trying to help establish business relationship between Czech and Chinese businessman by arranging various meetings.

3.5 Ideas about Chinese economic situation

Respondents were to guess what China's position is among 144 countries in the world (according to the WEF global competitiveness ranking). Half of the respondents guessed China's economy situation is very good, 31 respondents chose the first position, 23 respondents chose the second position, 21 chose the third position.

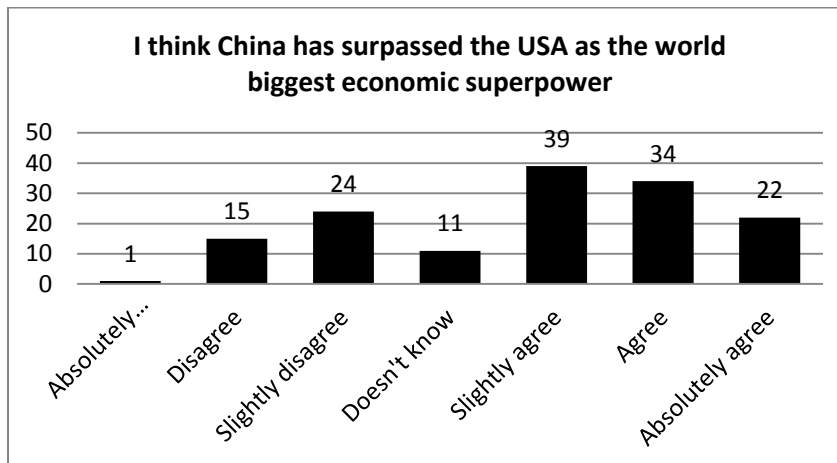
3.6 China's economic situation

This part finds out respondents ideas about the Chinese economic situation and their ideas about Chinese foreign direct investments. There are 7 questions.

1) I think China has surpassed the USA as the world biggest economic superpower.

More than half of respondents agree that China has surpassed the USA; it means they are aware of the Chinese growing economy. The structure of answers is shown in FIG. 2.

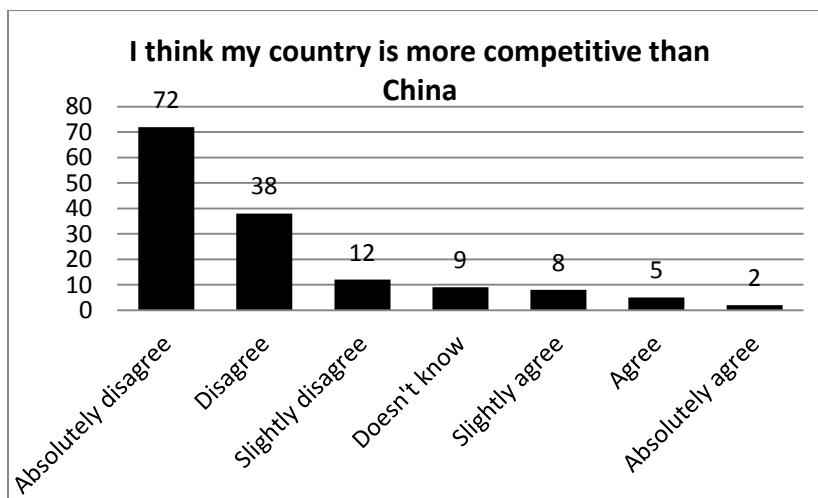
FIG. 2: China has surpassed the USA as the world biggest economic superpower



2) I think my country is more competitive than China (according to the WEF global competitiveness ranking).

Almost all respondents think Chinese economy is more competitive than Czech economy. An interesting finding is that Czech young people are aware of Chinese growing economic power; they think Chinese economy is more competitive than Czech, but still they do not want to have business relationship with Chinese people in the future. The structure of answers is shown in FIG. 3.

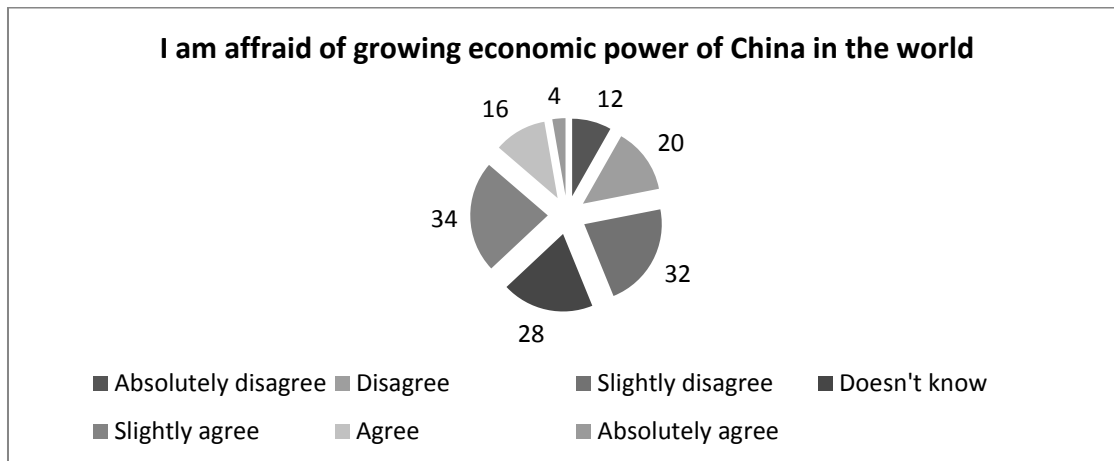
FIG. 3: Czech Republic is/ isn't more competitive than China



3) I am afraid of the growing economic power of China in the world.

Only 20 respondents agree or absolutely agree that they are afraid of growing economic power of China, on the other hand 64 respondents are not afraid. The answers structure is shown in FIG. 4.

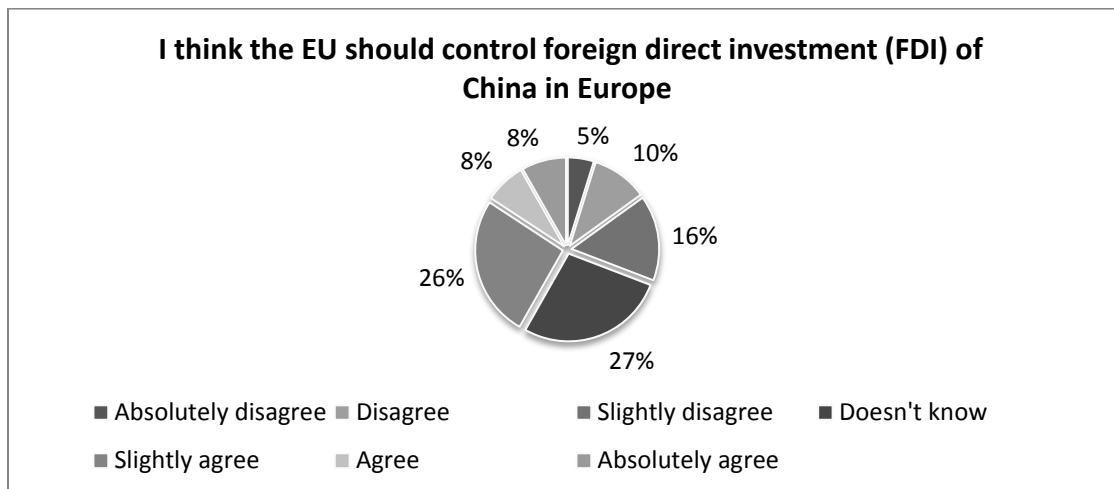
FIG. 4: Growing economic power of China



4) I think the EU should control foreign direct investment (FDI) of China in Europe.

In the pie chart we can see that about one-third respondents disagree, less than one third doesn't have strong opinion about this and more than one third agree that EU should check Chinese FDI in Europe. Even though respondents are not afraid of Chinese growing economic power, they want to check Chinese FDI. The structure of answers can be seen in FIG. 5.

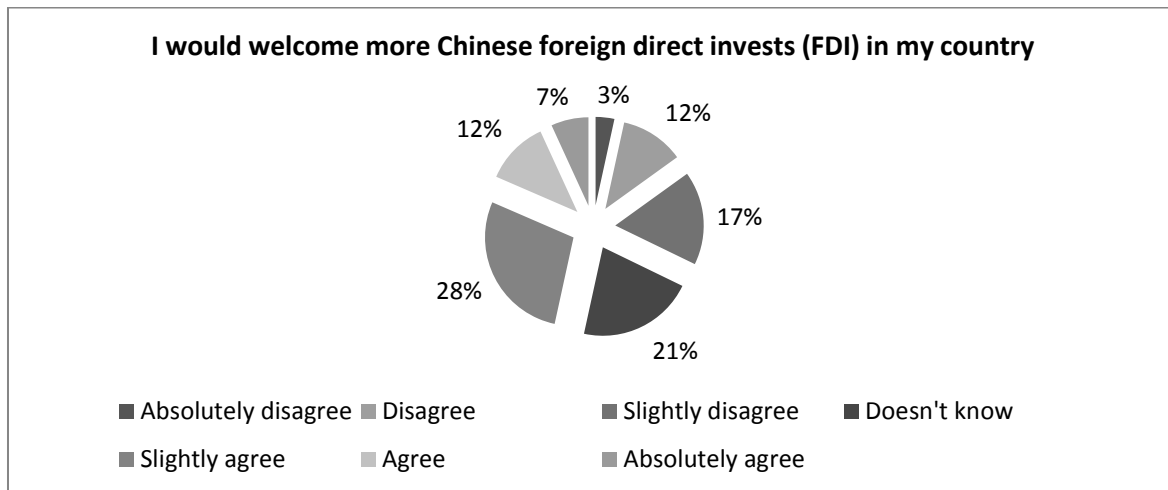
FIG. 5: Checking Chinese FDI in Europe



5) I would welcome more Chinese foreign direct invests (FDI) in my country (e.g. creation of more jobs).

As was said before, most of Czech young people are not afraid of Chinese FDI and moreover 47% of respondents welcome more Chinese FDI in the Czech Republic, 21% don't have a strong view and 32% don't welcome Chinese FDI. The structure of answers can be seen in FIG. 6.

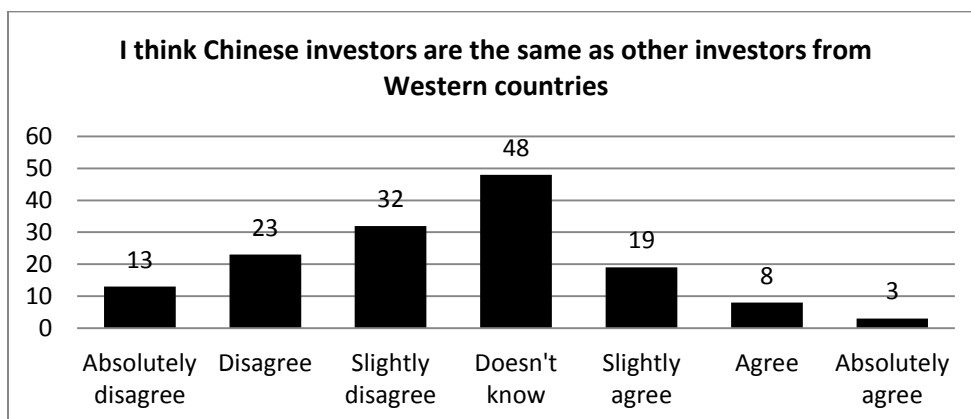
FIG. 6: Welcoming more Chinese FDI



6) I think Chinese investors are the same as other investors from Western countries (in terms of FDI).

Only 30 respondents agree that Chinese investors are the same as other investors from Western countries (in terms of FDI). Quite a lot of respondents (48) don't have a strong opinion, 68 don't agree that they are the same. The structure of answers is shown in FIG. 7.

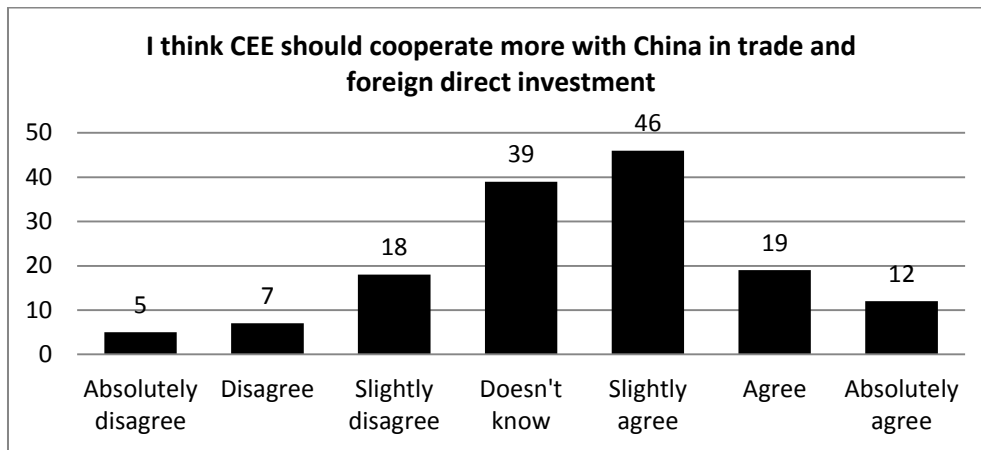
FIG. 7: Chinese investors and Western investors



7) I think CEE should cooperate more with China in trade and foreign direct investment.

Some respondents (39) don't have strong opinion about CEE and China cooperation in FDI, 30 respondents don't agree with the cooperation and 80 respondents agree with cooperation. This is also very important and positive finding. The answers structure can be seen in FIG. 8.

FIG: 8: Cooperation between CEE and China



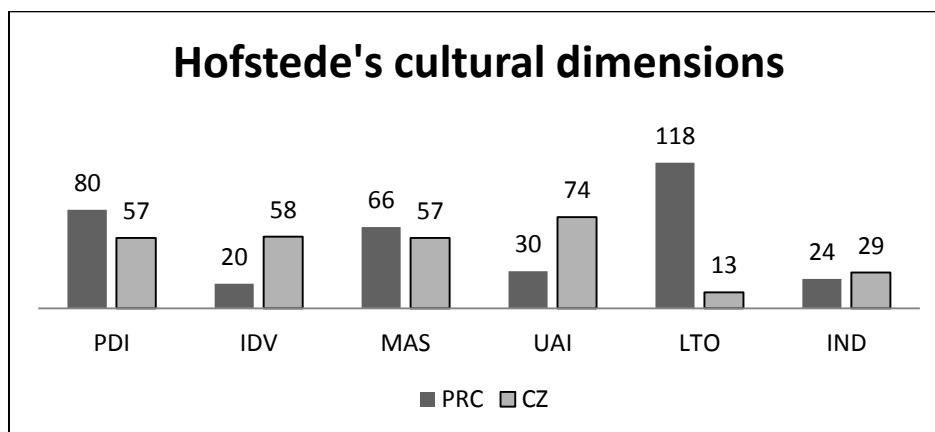
3.7 Relationship with authorities and individualism

Respondents were to say how much they agree with the following statements. Questions deal with relationship between a respondent and a boss. This question consists of seven parts. Cooperation among different cultures is very important not only for multinational companies and international trade. To make the cooperation successful, it is necessary to find out about specific cultural traits. Business partners from another culture may have different way of thinking and understanding. If Czech companies want to make business in China, it is essential for them to know more about attitudes, behaviour and values of Chinese people. Also it is important to notice, that these values may be changed due to social and economic changes in the China or may vary among the different regions in China.

Hofstede's cultural dimensions

Geert Hofstede is a Dutch social psychologist and developed cultural dimensions theory (Hofstede, 1991). His cultural dimensions are a framework for cross-culture communication. Dimensions are measured by an index, the index values are from zero to 120. There are six cultural dimensions. Power distance (PDI), individualism (IDV), uncertainty avoidance (UAI), long time orientation (LTO), indulgence (IND). Czech and Chinese cultures differ significantly in long-term orientation, individualism, and uncertainty avoidance. These differences can be seen in FIG. 9.

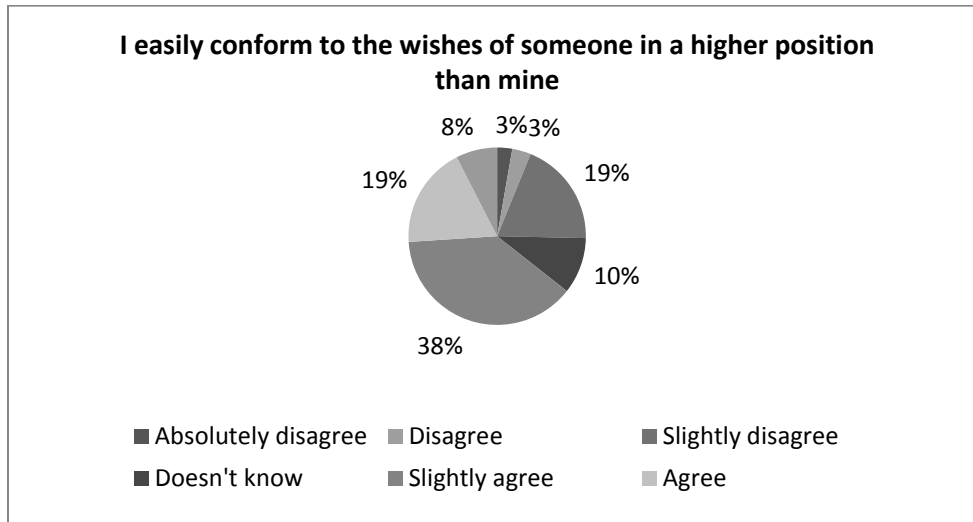
FIG. 9: Hofstede's cultural dimensions (Hofstede, 2016)



1) I easily conform to the wishes of someone in a higher position than mine.

According to Hofstede's cultural dimensions we can assume that most Chinese people would agree that they can easily conform with authorities wishes. More than half respondents also agree that they easily conform with authorities wishes. The structure of answers is shown in FIG. 10.

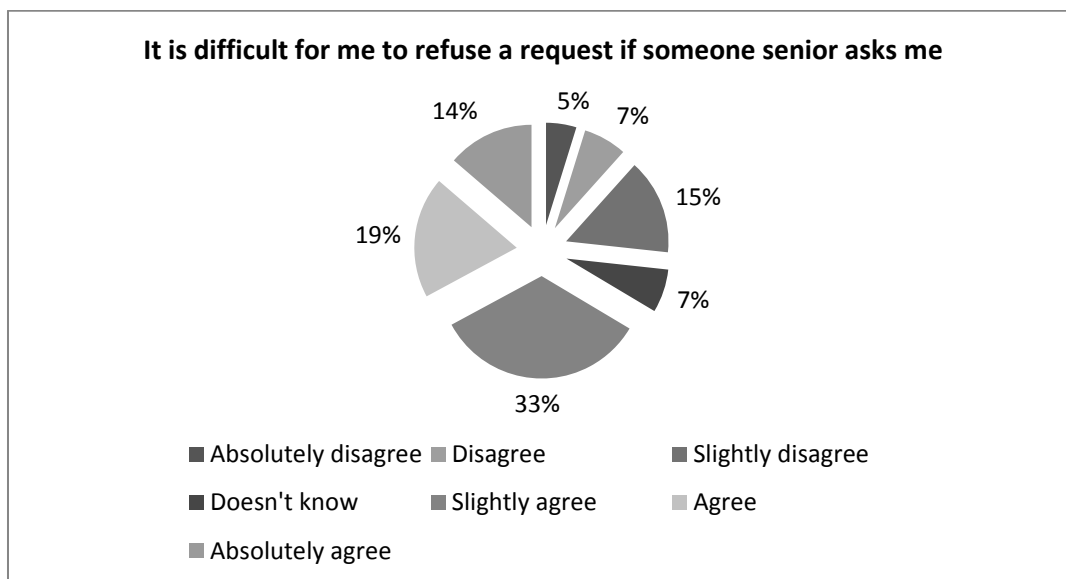
FIG. 10: Conform to wishes of someone in a higher position



2) It is difficult for me to refuse a request if someone senior asks me.

According to Hofstede's cultural dimensions we can assume that most Chinese people would agree that it is difficult for them to refuse a senior person's request. More than two thirds of respondents also agree that it is difficult for them to refuse a senior person's request. The structure of answers can be seen in FIG. 11.

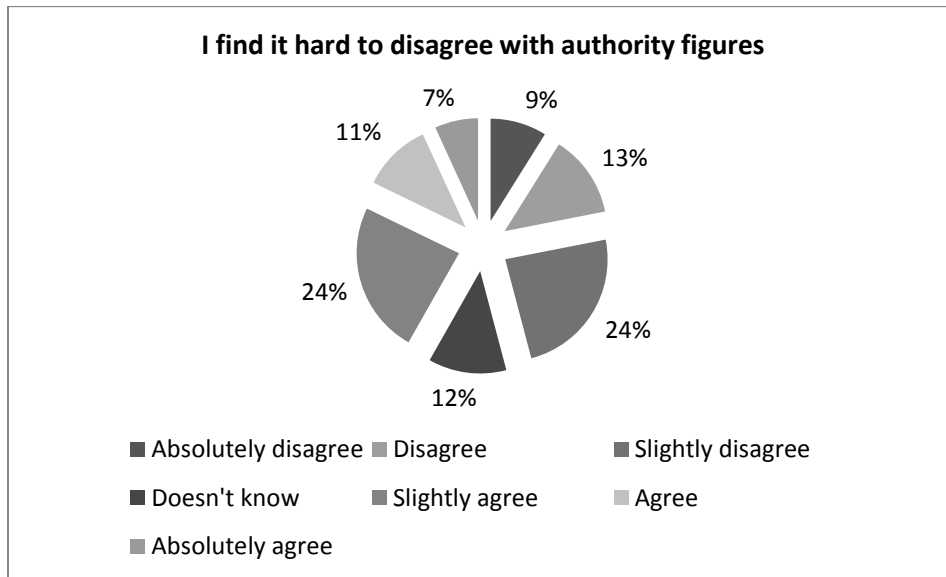
FIG. 11: Refusing a request



3) I find it hard to disagree with authority figures.

Almost half of respondents (46%) don't agree it is a problem for them to disagree with authorities, 12% don't have a strong opinion, 42% respondents admit it is hard for them to disagree with authorities. According to Hofstede's cultural dimensions we can assume that most Chinese people would agree it is difficult for them to disagree with authorities. The structure of answers is shown in FIG. 12.

FIG. 12: Disagreement



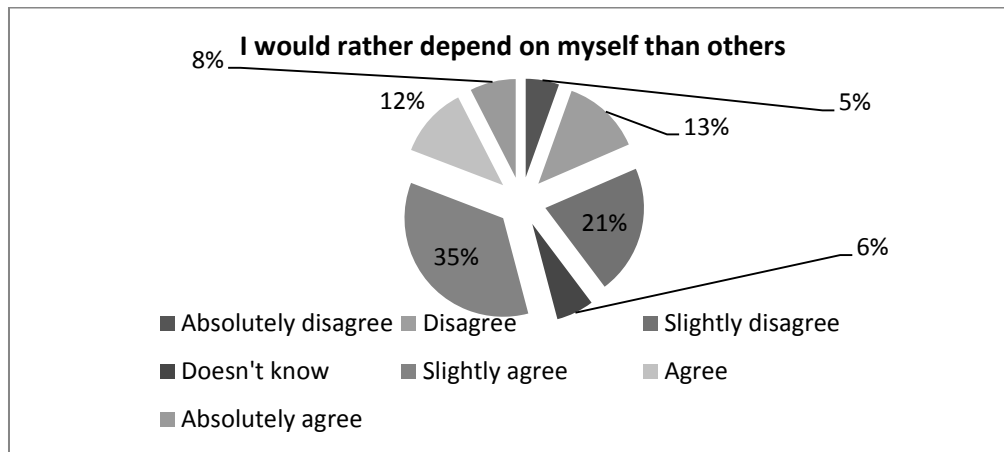
4) I would not describe myself as a risk taker.

Almost half of respondents (40%) would describe themselves as risk takers, 10% doesn't have strong opinion, 50% agree that they would not describe themselves as a risk taker. According to Hofstede's cultural dimensions we can assume that most Chinese people would not agree, because they do not usually avoid uncertainty, it is seen as a normal part of life.

5) I would rather depend on myself than others.

Slightly more than half of the respondents agree they want to depend on themselves rather than on somebody else. This is a typical feature of an individualistic culture. According to Hofstede's individualistic cultural dimension, Chinese people are always part of a group and depend on this group. We can assume that Czech and Chinese people are very different in this way. The structure of answers is shown in FIG. 13.

FIG. 13: Depending on myself



6) My personal identity is independent of others and is important to me.

7) I rely on myself most of the time, rarely on others.

These two questions ask about a typical feature of an individualistic culture. Almost three-quarters (74%) of respondents agree that their personal identity independent of others is very important to them. Also 74% of respondents claim that they rely on themselves, rarely rely on others. These are typical characteristics of an individualistic culture.

The Czech and Chinese are different in power distance and individualism, as we can see from Hofstede's cultural dimensions (Hofstede, 1991). More than half respondents easily conform with authorities wishes, for more than two thirds of respondents it is difficult to refuse a senior person's request. According to Hofstede's dimensions we can assume the Chinese would answer similarly. But only 42 respondents of this survey admit it is hard for them to disagree with authorities. Young Czech students have less difficulties with disagreeing with authorities than the Chinese (according to Hofstede's cultural dimensions).

3.8 Supporting closed or opened economy

Respondents chose from absolutely don't agree to absolutely agree.

1. We should not buy products from abroad, because they may harm our country's economy in the future.
2. We should import only goods we cannot produce in our country.
3. Purchasing foreign products allows other countries to get rich off us.
4. It may cost me more in the long run, but I support my country's products.

All these questions ask about respondents ideas about opened economy. The most respondents don't agree that we should not buy foreign products. On the other hand, a lot of respondents think that we should only import products we cannot produce in our country. Respondents mostly disagree that buying foreign products help other countries get rich off us. The most respondents agree, that they support products produced in their homeland.

3.9 Knowledge about Chinese initiatives

This question is asking whether respondents have heard about Chinese initiatives having connection with Eastern Europe and the Czech Republic.

Chinese initiatives 16+1 program is a programme for cooperation between 16 central and eastern European countries (16) and China (+1). Only two respondents knew this project and nine have heard about this. Vast majority of respondents (135) don't know about this project at all.

New Silk Road initiative was introduced at the beginning of this paper. More than half of respondents (78) don't know this initiative, 47 have heard about it, but maybe they didn't notice it is New Silk Road, not Silk Road. Structure of these two answers can be seen in two following figures FIG. 14 and FIG. 15.

FIG. 14: 16+1 program

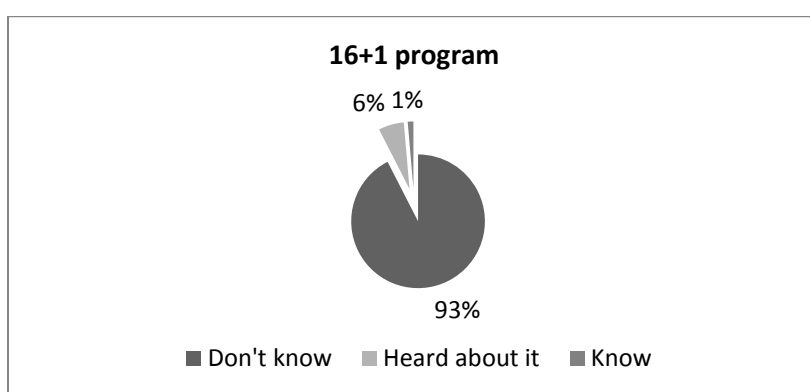
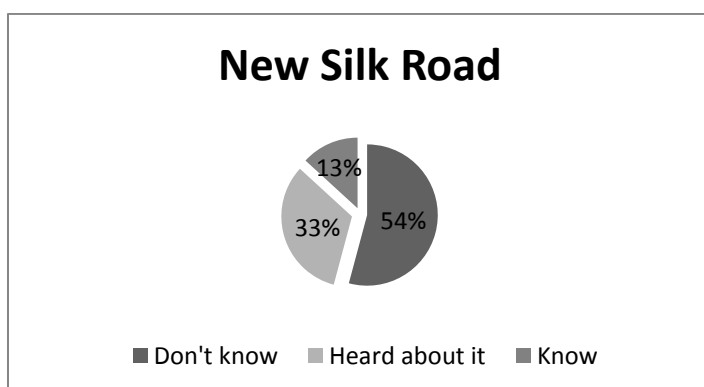


FIG. 15: New Silk Road



3.10 Visiting China

This question finds out whether respondents have ever been to China. Only four respondents have ever been to China. Two of them three times, two of them once.

3.11 Staying abroad

This question finds out whether respondents have ever spent more than three months abroad. More than half of respondents (66, 9%) haven't spent such a long time abroad.

3.12 Probability of traveling to China

Respondents were to say how probable it is they would go to China. Almost one-third of respondents (29,7%) said not probable at all, almost half of respondents (46,2%) don't know yet, only 24,1% of respondents think it is probable for them to go to China.

4 Conclusion

One Belt One Road initiative is presented as an economic initiative which will bring profit to both countries. The main purpose is economic, but successful implementation of this initiative also needs human capital. People are a very important aspect in achieving success in this project. Because of this the aim of this paper is a case study dealing with the way Czech people perceive the Chinese. Very positive finding is that Czech young people are willing to meet and live with Chinese people. But on the other hand they have very limited possibilities of meeting with Chinese people. Also Czech respondents don't see Chinese people desired business partners, 58 respondents out of 146 chose Chinese person as a middle or less desired business partner. Also respondents taking part in this case study didn't spend long time (more than three months) in abroad, so they don't have much multicultural experience. Almost all of them have never been to China and also most of them don't think or aren't sure if they will ever go to China.

Interesting finding is that Czech young people are aware of Chinese growing economic power; they think the Chinese economy is more competitive than Czech, but still they don't want to have business relationship with Chinese people in the future. Most of respondents are not afraid of Chinese FDI in the Czech Republic and Europe, 47% welcome more Chinese FDI in the Czech Republic and Europe, 80 respondents support CEE and China cooperation in FDI. From the survey we can find out 68 respondents think that Chinese investors are different from other Western investors (in FDI terms).

Recommendations arising from the survey

Young Czech people should get more knowledge about the Chinese and also should get more opportunities to meet with Chinese people. In this way, they will know more about them, and because they are willing to be in contact with them already, this might help to expand their opportunities for future cooperation.

Now there is newly established New Silk Road organization in Prague and recently the Czech Ministry of Commerce started arranging various business meetings for Czech companies introducing potential Chinese business partners. This supports mutual communication. Very important finding is that most respondents support Chinese FDI and agree with cooperation between CEE and China.

We can also find some cultural similarities and differences. For example, respondents agree they easily conform to the wishes of someone in a higher position than theirs and it is difficult for respondents to refuse a request if someone senior asks. According to Hofstede's cultural dimensions, Chinese culture also has these specific features. On the other hand, Czech respondents tend to avoid risking and it's not hard for them to disagree with authorities. Czech respondents also rather depend on themselves than others. According to Hofstede's cultural dimensions, Chinese culture has the opposite tendency.

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TEAM COACHING

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Abstract: *The focus of this article is on coaching and priorities for team managers. There are a number of coaching models but this paper introduces the most important ways to reach goals of a team manager including effective communication, creating of a successful vision of the future and motivation of every single person in the team. The main mission of a good coach is to help the team manager to understand his co-workers and find out how to cooperate with each other. He helps them with finding appropriate and the most suitable solutions on every day basis. The role of a coach who focuses on team management skills is to help team managers to understand his position and his mission. The most important thing for every coach who works with teams is to teach the manager how to delegate tasks and how to delegate them effectively. Even the most experienced manager who is skilled and qualified cannot achieve all goals on his own. Successful delegation is completed when all the tasks, roles and goals are sufficiently explained to the team. Good team manager needs to know how to motivate and develop his team and coach is helping him with this as well.*

Keywords: *Coaching, team, team coaching.*

JEL classification: *M50*

Grant affiliation: *IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2..*

1 Introduction

The main objective is to describe the meaning and use of coaching. The paper aims to describe sufficient reasons for application of coaching in every company where teams create significant part of its business. First, it is described how important is coaching and why it is so meaningful to understand this new trend not only for top managers but also and mainly for employees who will then benefit from usage of coaching as well as their superiors. This paper introduces the main ideas of coaching and its connections with team management.

2 Coaching

Coaching is defined as a combination of individual counseling, personal feedback and practice-oriented training (Galen, Kuipers, & Christiaans, 1999). The main aim of coaching is to achieve professional and personal development. According to Hargrove (2008), coach himself is not a counselor but he is looking for a solution together with his client. He helps him to get from the point where he is now to the place where he wants to be in the future. He is not responsible for results but his role is to help his client to discover as many ways how to reach the aim as possible. It is very difficult to become good coach because to be able to coach others, we must first achieve satisfied life (Atkinson & Cho, 2009). If coach was not satisfied with his own life he couldn't be able to bring balance to someone else's life, the less to improve workplace relationships, and accelerate career growth of employees.

The main idea of coaching is that man learns best by getting new experience and practise (Somers & Chartered Management, 2008). New knowledge is much easily assimilated when is daily practiced along with feedbacks. Coaching is pervasive throughout the life course, from childhood (e. g., a parent helping a child learn to ride a tricycle), through schooling (e.g., a teacher coaching a student in the proper conduct of a chemistry experiment), and into adulthood (e.g., a fitness coach helping with an exercise regime or a supervisor coaching an employee in improving his or her job performance). As McAdam (2005) states, for a coach it is important to have absolute trust in his client, his integrity and his ability to find their own solution because it is necessary for coach to act as an equal partner who does not give advice to the client, does not make any recommendation or does not approve anything.

Coach motivates his clients to create their own solutions which leads to the development of their skills and learning to be independent. Sharing opinions and listening to each other creates a strong relationship between the coach and coachee. The coach in this regard is a support for the coachee. Coach uses their specific means and style of communication and coachee discovers some new options and realizes the reality from different point of view (Whitmore & Lisa, 2004).

3 Team Coaching

Team coaching can be defined as a process that is results-oriented and which leads the group to the individual actions and subsequent to the target (Thornton, 2010). It is regarded not only as basic management tool but it is also seen as a development of teams. According to Mohauptová (2013), the main content of team coaching is making individuals think about how they could achieve goals together and what can they do for reaching their goals. They are willing and able to talk about responsibility for their dealing with each other. If they can work together they can share information and make it more valuable.

Coach manager inspires and empowers because they have the desire to see their staff progress and remain attentive of individual's objectives. The coach should have necessary knowledge and skills in his field so the result of his work could have an effective performance of group members. He does not have to be more skilled than other people in his team.

As Hackman and Wageman state (2005), team coaching is intended for teams or groups of people who: are dependent on each other for business reasons (need to work together to achieve goals) or

have a common goal (a vision) or they form together a unit which is bounded by the company system - has its own identity (department, project team).

Coach does not help the team manager with the process itself but he help him to be prepared by asking him questions which make his client think about his goals and how is he going to reach them with his own effort (Fischer-Epe, 2006). Questions might look like these: Which option or options did you chose? How much are in line with our objectives? When do you begin the first steps? What obstacles might arise? How to overcome them? What kind of support do you need to get and from whom? With these questions coach helps the client to develop the cooperation with his team and to set up his goals clearly.

The manager-coach must be able to connect with his employees, first to facilitate discussion and then be capable to ask appropriate questions. Employee's answer gives him the information to coach them effectively. Recently coaching is being used not only because of good condition of employees but one of the new perspectives on coaching managers is as a preventative intervention protecting managers against increasing 'psychological strain', which refers to the outcomes of the stress process by which individuals manifest recognised symptoms of poor psychological health for example, losing sleep through worrying, struggling with decision making, feelings of unhappiness (Crkalová & Riethof, 2007).

Coaching itself is perceived as either individual or team coaching. Individual coaching is considered as most fundamental method of coaching. This kind of coaching has a lot of advantages but it is quite expensive and for the employee almost unreachable. This type of coaching is applied in top management in companies and among executives. On the contrary, team coaching improves the performance and value of the relationship. It also has many advantages and it is applied when we need to find common solutions to refine ideas and find optimal solutions (Hackman & Wageman, 2005). Team coaching is applied for example when working on a project.

Success of team coaching can be indicated in the percentage of executives who were asked how do they feel about coaching. 53 % of them think that coaching increases productivity, 48 % of them think that coaching enhanced the quality of work, 77 % of them think that coaching improves working relationships with direct reports and 71 % think the same about relationship with direct boss (63 % think coaching improved with relationship with their colleagues, 61 % of executives think that coaching increases job satisfaction (Weinberg & Cooper, 2012).

The main benefits for the team are strengthened relationships among themselves, shared knowledge and skills. For teams it is important to create a good work environment where people trust each other and improve each other. As a team, they can be benefit for each other with their knowledge and skills that are needed for their performance.

4 Conclusion

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CORPORATE SOCIAL RESPONSIBILITY IN ENVIRONMENTAL PROTECTION IN ENTERPRISES OF CEMENT INDUSTRY

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Abstract: *Since the 70s of the last century there is a continuous debate on sustainable development and directions of the business entities on social, economic and environmental aspects connected with voluntary actions in relation to the environment. The answer to the challenges issued by the concept of sustainable development is the corporate social responsibility. An expression of corporate social responsibility in ecologic area is primarily a concern for providing products and services that are safe for consumers and a care for the environment. The paper presents the essence of corporate social responsibility (CSR). The aim of the article is to present the issue of reporting the environmental aspects of the selected companies of cement industry. Study was based on analysis of literature and information posted by individual cement facilities on their websites. There are presented the practices of selected entities of presentation of CSR reports.*

Keywords: *Corporate social responsibility, environmental, cement industry*

JEL classification: *M40, M41*

Grant affiliation:

1 Origin and essence of CSR

Since long time, interest in social and environmental aspect of running businesses have grown. Enterprises interested in increasing their competitiveness on the market, are forced to operate in a socially responsible manner, which is consistent with principles of sustainable development (European Commission, 2010). They are therefore forced not only to comply with regulations, but also to invest in human capital, environment and increasing social welfare. This is due to the fact that under current conditions, maintenance and development of entities depends not only on achieving high economic results, but also on acceptance of business by their environment.

Social responsibility of business is an answer to challenges posed by concept of sustainable development. The issue of CSR is not new because it reaches 1930s of twentieth century, but in recent years, in times of economic crisis, it began to play a key role in functioning of enterprises.

In the literature one can encounter a variety of views on CSR. An interesting overview of definition of corporate social responsibility, depending on the dimension of meaning presents (Galimska A., 2015, p. 21); see also: (Rubik J., 2015, p. 414).

Study of literature leads to conclusion that definitions of corporate social responsibility emphasize voluntary nature of undertaken activities, generating social, environmental and economic effects. It should be emphasized that this concept goes beyond requirements of the law and its purpose is to seek the best solutions not only for organization but also for its proximal and distal environment (stakeholders).

Environmental (ecological) aspect of social responsibility associated with taking voluntary action in relation to environment, is the most frequently discussed issue taken into consideration in reports of companies. Environmental responsibility is a broad concept and relates in particular to compliance with environmental regulations and implementation of actions in the area of improving business efficiency measured by environmental effect. Concept of environmental responsibility represents the set of initiatives of organization aimed at reducing impact of business on environment, particularly producing goods with materials safe to environment, saving energy, water, materials in production process, use of recycled raw materials and products, introduction of environmental assessments and reports on environmental performance (Ślupik S., 2014, p. 79-80). This applies to both planning and production control phases, as well as logistics and waste collection and disposal. From the point of view of manufacturing process, eco-friendly business activities will focus on eliminating negative effects and improve operations in three areas, namely: supplies, production and packaging and transport and storage.

Environmental activities have therefore become current trend in business primarily among companies involved in philosophy of Responsible Business. Activities in the field of ecology are manifested among other things by introduction of so-called eco-innovations.

2 Good practices in CSR reporting by cement industry enterprises

Currently in Poland operates 13 cement plants located in seven regions (voivodeships): Lublin, Lodz, Kujawy-Pomerania, Małopolska, Opole, Silesia and the Swietokrzyskie. Owners of these facilities are HeidelbergCement, Lafarge, CRH, Cemex, Dyckerhoff, Polen Cement, Miebach, Cementownia Krakow Nowa Huta and Mapei (see figure 1, table 1)



FIG 1. Cement plants in Poland

Source: <http://www.polskicement.pl/>

TAB. 1: Owners cement plants in Poland

Plants	Owner
Góraźdże Cement S.A. Cementownia Góraźdże Ekocem sp. z o.o.	Hiedelberg Cement Group
Lafarge Cement Cementownia Kujawy Cementownia Małogoszcz	LafargeHolcim
Ożarów S.A. Group, which includes: Cementownia Ożarów Zakład Cementownia Rejowiec	CRH
Cemex Polska Cementownia Rudniki Cementownia Chetm	Cemex
Cementownia Nowiny	Dyckerhoff Polska belonging to Buzzi Unicem Group
Cementownia Warta	Polen Zement Beteiligungsgesellschaft GmbH from Dortmund
Cementownia Odra	Miebach Miebach Projektgesellschaft GmbH from Dortmund
Cementownia Nowa Huta	Cementownia Kraków Nowa Huta Sp. z o.o.
Górka Cement Sp. z o.o.	Mapei

Source: study based on <http://www.polskicement.pl/> and websites of each of cement plant

In order to answer question of whether and how information on social responsibility to protect environment by operating cement plants in Poland is presented, author of this paper analyzed

information published on websites of individual Groups, which operate cement plants. Protection of environment against dangers arising from the conduct of business of cement industry is in fact extremely important issue for economy and every consumer. Analysis covered all cement plants currently operating in Poland.

Most of analyzed companies has on its website information on implementation of sustainable development strategies and objectives of internal environmental policy. In pursuing this strategy, companies eliminate, reduce and compensate identified impacts, to minimize the nuisance plants for local community.

It should be noted that for several years, cement increasingly have taken effort to spread sustainable development and adopt social responsibility. Operations conducted by companies affect in a significant way all components of environment including: emission of gases and dust into air, wastewater discharge to surface water, water consumption, waste generation, transforming the earth's surface, etc. Because of that, such companies have always been seen as entities having negative impact on environment. In order to change it, cement plants have taken in the last two decades many environmental investments both enforced by regulations and on its own initiative. Considering the scale of their impact on environment, they have implemented and continuously improved internal environmental management systems. They inform local community about taken actions and initiatives by providing information on their websites and initiating dialogue with stakeholders.

Additionally nowadays company stakeholders expect that entities will provide them with information about their socially responsible activities. Reporting social responsibility is no longer a fashion, but rather a necessity, especially in companies perceived to have a negative impact on environment. Primary function of reporting is to present achievements and plans of the company in the economic, social and environmental area. Actions are taken usually in selected areas, rather than comprehensively and more by large companies, which is mainly caused by the scale of its operations. In the case of international companies, i.e. most of cement plants operating in Poland, CSR strategy is inscribed in overall global strategy of company. Integrated reporting has developed but only some cement plants draw up such reports. First Company in the cement, construction and real estate industry, which has decided to issue sustainability report, as well as apply to the Social Reports competition is CEMEX Polska, which includes cement facilities in Rudniki and Chelm. For the first time it was in 2011 and concerned the sustainability report CEMEX Polska 2010, which was awarded by the Ministry of Economy in the fifth edition of Social Report. "Sustainable Development Report CEMEX Polska 2011-2012" was recognized as the best social report received the main prize and the prize of journalists. What is more: "Sustainable Development Report CEMEX Polska 2013-2014" CEMEX Polska Sp. o.o. achieved the prize in 2015.

Another Company, which joined the group of companies reporting according to methodology of international reporting guidelines (GRI) is Dyckerhoff Polska, which for several years has prepared data for annual report Buzzi/Dyckerhoff company for sustainable development. Aim of GRI reporting principles is to create a generally accepted framework for reporting economic, environmental and social aspects of functioning of organization. Guidelines take into account practical aspects of different types of organizations, from small businesses to international organizations/companies conducting operations around the world.

Much information on implementation of sustainable development strategies and objectives of internal environmental policy is presented on websites of Cemex and LafargeHolcim. Pro-ecological actions taken and implemented environmental initiatives are described in detail. Also Górażdże Cement S.A., Ożarów Cement and Cement Odra should be mentioned.

Górażdże Cement S.A. and Ożarów Group S.A. present environmental information as a foundation for sustainable development and present assumptions of implemented environmental strategy. Cementownia Odra provides information about completed 13 environmental investments.

Most of analyzed companies have an Integrated Quality, Environmental and Safety Management System compliant with ISO 9001, ISO 14001 and PN-N 18001 in Cemex, in cement plants in 2012 the ISO 50001 on energy management has been implemented.

Some cement plants have implemented the most demanding and prestigious European Eco-Management and Audit Scheme (EMAS). Accession to the EU EMAS is a conscious declaration of cement treatment of environmental aspects on an equal footing with other elements of business, while meeting requirements set by law and continued efforts to achieve best results of the pro-environmental actions. An essential element of EMAS, which differs from other management systems is an open dialogue with interested parties including publishing environmental statement. EMAS provides Cement facility modern management methods aimed at achieving subsequent targets of companies in the field of environmental protection. Efficient management system optimizes cost of operations, contributes to development of the company, increase its competitiveness and improves the image.

It should be noted that so far this system has been implemented only by 37 organizations in Poland, including the Cementownia Warta from 2010, Cementownia Chełm since 2011, Cementownia Odra from 2014, and LafargeHolcim from 2015.

Conclusion

Aim of discussion was to show whether and to what extent companies in the cement industry present information on ecological issues. To achieve the main objective concept of sustainable development and based on it - corporate social responsibility have been discussed with the help of literature. Empirical studies were carried out on the basis of analysis of information provided on websites of individual companies. In this regard, we showed practices of analyzed entities to present information about corporate social responsibility. Analysis lead to conclusion that together with popularization of the concept of sustainable development, slow change of consciousness, management strategies, sensitivity of enterprises to environmental issues and introduction of effective environmental management systems, occurs.

Companies increasingly take voluntary environmental activities. Activities of companies Cemex and LafargeHolcim that lead the way in making environmental activities deserve credit. LafargeHolcim that wants to be a leader in sustainable development and sets new standards, has prepared and published "Plan 2030 - We are building a better tomorrow." This plan supports objectives of sustainable development set by the UN for the planet, through which the Company will be able to report in a transparent way of its progress.

Moreover, the Ożarów Group has adopted Initiative of Sustainability Development of Cement Industry (CSI), which was adopted by 23 of the world cement producers operating in 100 countries under the auspices of the World Business Council for Sustainable Development (WBCSD) and independent shareholders.

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PRODUCT AS AN INTEGRAL PART OF THE CORPORATE IDENTITY

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Abstract: *No longer the product in terms of user perceived only as a definition of services or benefits to materialize. Became a comprehensive set of features and elements that are users currently still growing competition critical to making a major impact sophistication and application of corporate identity, which is part of the product. The article also aims to define not only an integral part of this and the links with corporate identity, but also provide practical examples of successful products in which the companies were able to find added value and then capitalize on the market for the past 10 years. Of course, as well as the less successful. Subsequently build from these real examples of the portfolio the recommendations and principles for start-ups, as one of the criteria for creating a successful product and placing it on the market.*

Keywords: *corporate identity, product, marketing mix, brand*

JEL classification: *L2, L31*

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1 Sense of Corporate Identity

Corporate identity can be seen as something abstract within each company on the market, though some of that is dealt with thoroughly and comprehensively, and some may not. The importance of corporate identity evidenced below according Kafka (2005), under which the corporate identity impact on the profitability of the company through two routes. The first is through external communication, in which it is implemented corporate identity and supports the creation of a positive image, which affects customer satisfaction and loyalty. Ultimately, it stimulates them to larger purchases, and thus a greater profit.

The second way is to improve the efficiency of internal business processes. In the case definitions tend to the same author, who in his other work defines corporate identity, like the way the company presents itself to the target groups. Identity is based on the very nature of the organization, its strategy, philosophy, vision, company long-term and short-term objectives, the nature of production

or services provided. This is actually the highest standard, which governs the entire corporate communication both inside the company and externally. (Kafka and Kotyza, 2014).

If we should focus on the sense of corporate identity, it lies primarily in defining the identity of the company itself, its identification with the target group or groups and also in the internal environment of the company strengthens solidarity. It is currently considered one of the main benefits of corporate identity - if employees feel they are part of the company, hence the one hand, it strengthens trust among others, and refers to a company's reputation outside environment itself towards the target groups or partners. It may in fact be linked stimulus job performance of employees. As a result, high-quality corporate identity can mean an influx of quality human resources and talented, better and more profitable contracts and public affection. (Horáková and Stejskalová and Škapová, 2000, Pelsmacker, 2013).

The cornerstone in case of realization of corporate identity is the philosophy of the organization. This should give meaning to the work activities of employees, define the focus of the market and clearly express the relation to interest groups, reflect accepted norms and values the entire company. It is essential conciseness, clarity and simplicity of its content, therefore it does not matter on the scale. (Foret, 2011) It should, however, take into account a longer time horizon, it still in start-up companies is not a project with a specific time horizon, but the goal should be a permanent character comprehensive business activities.

Still appearing market companies that just because fragmented philosophy and thus identity is totally unusual. There should be noted that not all of these cases are merely unfortunate business plan, or so-called. "Finding oneself", it is necessary here to respect the bodies of the many reasons they have a specific philosophy, built, rather than on the quality of corporate identity, to close specification of their business and the markets in which they operate. However, this is mostly B2B companies and those that are entrenched in the market for several years. Therefore, at present the vast majority of novice players should already comply with the above and strive for creating your own quality and corporate identity.

2 Product as a part of Corporate identity

It is without doubt that the corporate identity has a direct relationship and interdependence of marketing and communications mix as well, is absolutely essential element of the product. Kotler (2007) defines the product as: "Anything that can be offered in the market to attract attention, to purchase, use or consumption that might satisfy the desires, wishes, or needs, includes physical objects, services, people, places, organizations and ideas. Which is a very general definition, however it can infer that the product is the alpha and omega of every company. In connection with the corporate identity of an American company called Ceonex IT company in its report dealing with the true identity, the most important product for any extra speakers or brand. company. A key to define corporate identity assessment is based on how well the company communicates its vision and values through the identity and image of its products as it is necessary to constantly maintain engagement and attention of target customers. (Ceonex, 2005).

The fact that the product to their specific situation is absolutely key element built up corporate identity refers even negative cases where even if some interest groups attack some problems and irregularities, and the goods themselves, it does not so affect and customers are still buying even

necessary despite momentary decline in sales, we know the examples of US firms McDonalds or Starbucks. However, it is necessary both to the image of the product and the company itself while carefully protect and build (Brønn, 2002).

Since we mentioned multinational brands such as McDonalds just, it must be said that there based on the division Olins (1989) under the corporate identity of three different concepts in terms of corporate organization, its size, or philosophy. They're monolithic, endorsed and branded. The monolithic identity is primarily associated with organizations where a company uses the same visual identity, logo, etc. Identity is small exceptions the same for all products and the parent company is in them instantly recognizable.

As examples we can mention for example. BMW and Shell. Endorsed identity occurs in such companies whose subsidiaries have their own style, but the parent company is nonetheless still visible in the background. We can bring another company in the automobile industry and General Motors falling under other brands such as Chevrolet or Cadillac. A final brand identity as opposed to monolithic. In this case, the parent company of a number of brands or products, and it is very difficult to determine who is the parent company is sometimes inappropriate. This identity includes companies such as P & G, Unilever, L'Oreal and conglomerate which fall under brands such as Biotherm, Helena Rubinstein, Giorgio Armani and Ralph Lauren. (Brønn, 2002).

3 Product identity

Here it is important to note that the identity of the product outside of the first case does not come out of the parent company, but by the end of the company, which is a direct distributor of the products on the market and which itself has created the strategy and philosophy. Because such a huge multinational holdings are the result of globalization factors and possible acquisitions within the investment activities of individual companies.

In association with the identity of the product, we can be divided into three levels. Firstly, it is the primary product as an individual: this product is the direct perception of the media to the customer on the basis of which shapes its brand awareness through shape, form, colour, design or quality. But it is not just a commodity, but precisely these aspects make up an imaginary connection between the company and the customer. Therefore, the products should include a clearly defined corporate identity traces its uniqueness and originality.

Product as a cluster: The product lines are related to a group of products that have a single original prototype on which to build, and then these groups, which have their precise targeting of market transfer target group benefit that comes directly from the corporate strategy. Product as a brand on the final product can be described as one of the most important media company brand. Users will primarily learn about the product through various promotional activity across the market, but the brand experience is actually tested and verified by them to the use or consumption of the product itself (Lee, 2014). One of the direct sample of cases, Apple brand and its product, respectively. product line of smartphones iPhone. Journal 24/7 Wall St.'s published in 2012 the top 10 best-selling products of all time, and now the iPhone with more than 250 million units sold (24/7 Wall St., 2012), but at present, precisely on July 27 of this year the number reached one billion units sold (About.com, 2016)! Although at present we already know several product lines of this product, it's a phenomenal achievement, and testifies that it is not only the central product of Apple, but also fulfil

one role as spokesperson for its corporate identity and corporate strategy, company says that: „...committed to bringing the best user experience for its customers through its innovative hardware, software and services. Business strategy utilizes a unique ability to design and develop their own operating systems, hardware, software applications and services provide its customers with new products and solutions with superior ease of use, seamless integration and innovative design." (Securities and Exchange Commission, 2013). In addition, Apple reached something what is called corporate religion when the customers themselves become bearers and protectors of the ideas and mission of the company.

4 Brand heaven

In relation to products and the company's religions there exists also a phenomenon that Kunde (2003) calls "brand heaven" and this is a case where the product itself loses its meaning and the company and its values have become the focus. According to him, a perfect representative of the company Harley-Davidson, this product has perhaps the most loyal customers in the world. (Not only) Their bodies adorned with tattoos company logo and probably would have stayed true even if the product itself was the worst motorcycle on the road. In this case, it becomes very firm belief in the product through the most major, so I do not run people on motorcycles, Harley-Davidson, because they are the best, but because they believe in the value of the company. Again, however, it is significant that these values have penetrated to these loyal customers very unique product to which they are attached to all aspects of corporate identity.

The product, despite being one of the key elements of corporate identity, carries an important role as a mediator of values directly to the customer and is a key element in creating a profit or increase market value. Corporate identity in terms of the product should be reflected in all activities of the organization, not just the marketing, but which are the basis for decision making, customer, but not the most important. This perception of the product throughout the concept and philosophy of the company.

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LOW INTEREST RATES - SOME RISKS AND SOLUTIONS

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Abstract: *Czech economy has been contending with low interest rates for a long time. The interest rates started to fall after the financial crisis that came to Europe from the USA in 2008. In that year, the Czech National Bank, worried about the decrease of GDP, accepted the decreasing its basic interest rates as the reaction on the crisis. The discount rate has dropped from 2,75 % p. a. in February 2008 to 0,05 % p. a. Fortunately, the financial crisis Has not damaged Czech banking sector. Nevertheless, the decrease of the basic interest rates of ČNB has touched interest rates of classical banking products. The largest decrease has been recorded in mortgage loans as well as in savings accounts. Unfortunately, the interest rate decrease has also affected financial markets, where it is possible to invest free funds, just with the expectation of higher yields. In the following text some risks that can low interest rates implicate and the ways, how to accept them, will be discussed.*

Keywords: *interest rate, treasury bond, yield to maturity, yield curve, savings*

JEL classification: G12

Grant affiliation:

1 A piece of history

In the Czech economy there were low interest rates yet before the financial crisis in 2008. Despite the fact that gross domestic product made 6 % during 2004 -2006, the basic interest rates were low, the 2W repo rate ranged between 2,00 % - 2,50 % except the period May - October 2005, when it made 1,75 %. During the second half of 2007 until February 2008 the 2W repo rate exceeded 3 %, namely because of rising inflation. Since late 2007 the financial crisis expanded from the USA to Europe. Worries about the economic slowdown, the temporary lack of liquidity in the banking sector and the economic drawdown in 2009 were the main reasons for further decreasing of the basic interest rates. The Czech National Bank lowered them in total eight times during 2008 - 2009. The next decrease was performed in May 2010 for the suport of the domestic economy being already in recession. Last the basic interest rates were lowered in November 2012. Current value of the 2W repo rate makes 0,05 % (Monetary policy instruments, 2016). Response of the interest rates of

banking loans to the decrease of the 2W repo rate was slower, namely in 2009 -2010, due to more risky clients. After the loan interest rates were decreasing faster. If the interest rates of mortgage loans made about 5,5 %, today's value is 1,87 % on average (Hypoindex, 2016). The interest rates of savings account decreased from approx. 3,5 % in 2008 to about 0,05 %. TAB. 1 shows the values of the savings account interest rates in the Czech banks (Hamalčíková, 2014, Zámečník, 2015 and 2016), in the last three years: higher interest rates are determined for balances to a certain limit.

TAB. 1: Interest rates of savings accounts in the Czech banks

Year	2014	2015	2016
Basic interest rates (% p. a.)	0,01 - 0,90	0,01 - 0,83	0,01 - 0,60
Interest rates (% p. a.)	0,05 - 1,63	0,05 - 1,23	0,02 - 1,10

Although the interest rates have reached their historical minimum values, enormous sum of savings (3,1 trillions crowns) is allocated in banking savings accounts. The reason is Czech people are very conservative. Their savings are often completed only with buiding savings, less with conservative mutual funds.

The aim of the paper is to present treasury bonds as possible supplement to the mentioned savings products. The Chapters 2 and 3 deal with possible risks resulting from the low interest rates in a market economy. In the Chapter 4 the yield curve, the useful tool for bond pricing, is introduced. Numerical example in the Chapter 5 shows the choice of treasury bonds for the savings completion.

2 Low interest rates from a debtor's point of view

Interest rates in market economy are mostly influenced by the central bank. These basic interest rates then determine values of banking interest rates and bond yields. The central bank, in making the decision about the values of the basic interest rates, take into account not only the development of the domestic economy, but also the situation in foreign countries.

The low interest rates are welcomed by the subjects that are going to borrow money by means of a loan, or a bond issue. Mortgage loan interest rates are the example, see the Chapter 1. Borrowed money represents a cheap source. The low interest rates tempt to investments to real estates despite the total or partial indebtedness. Only a person with sufficient incomes, during the whole repayment period, should be allowed to accepted such an investment.

Bonds are offered with low coupons, which is the advantage for bond issuers. But not for investors, because such bonds are too expensive. The yield to maturity is then low too.

The relation between bond price PV and bond yield to maturity i is contradictory (Bohanesová, 2013):

$$PV = cF/(1 + i) + cF/(1 + i)^2 + \dots + F(1 + c)/(1 + i)^n,$$

where c is coupon rate representing the debt interest rate, F face value - the principal of debt and n is maturity of a bond.

Bonds are characterized by the two kinds of interest rates: coupon rate and yield to maturity. In case of market equilibrium the two rates are equal. However, mostly the rates are different. If the yield to

maturity is higher than the coupon rate, then the price of a bond is lower than its face value and vice versa. It can attract investors. It comes when issuers offer low-coupon bonds and interest rates in economy start to increase from some reasons.

The yield to maturity and consequently the price of a bond depends also on the rating of an issuer. Treasury bonds being regarded to be risk-free, provide only very low yield while more risky corporate bonds offer higher yield. Higher yields are offered also by issuers with lower rating.

If a bond is held during a low-interest-rate period, its real value can exceed its face value. Such bonds could be sold. Unfortunately, it can be only if a buyer is ready to pay higher price. Therefore holding the bonds until their maturity is mostly the only solution, see the official price list of BCPP (Prague Stock Exchange, 2016). In August 2015 even negative yields were recorded in the sale of the Czech treasury bonds on the primary market first (Strnad, 2015).

For bond issuers, the low interest rates represent the low price of the debt on one hand, but the risk of the difficult sale because of the high prices on the other hand. For bond investors the low interest rates mean the increase of the financial asset value, but higher interest risk consisting in the future decrease of bond real value after the interest rates start to grow.

3 Low interest rates from a saver's points of view

As mentioned above, the low interest rates are not welcomed by savers. Their savings allocated in banks or in conservative mutual funds bring only minimal yield.

Building savings still represents favourite savings product thanks to the state subsidy and thus the annual effective yield about 2,7 %. However, funds are unavailable for six years, otherwise the state subsidy is lost. The decrease of the interest rates avoids neither this product.

The risk of the low interest rates for savers consists in almost zero, maybe negative yields. The basic interest rates in our country are still positive, but how long? Thus, the need to reduce the savings in banks is large.

Funds on the savings accounts are usually intended for short-term financial reserves. However, long-term savings deposited on them are not the exception. Building savings is the long-term product without possibility to gain money earlier than in six years, because of the loss of the subsidy. Thus, medium-term treasury bonds (with positive yields) could complete such a reserve portfolio. First, several words to yield curve.

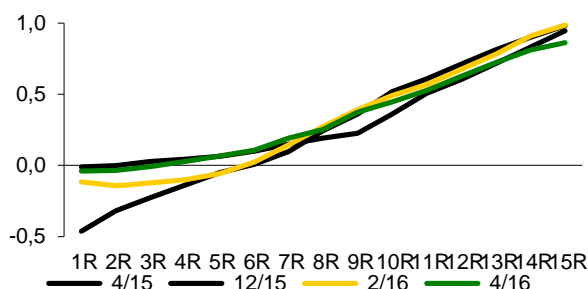
4 Yield Curve

Yield curve represents the dependence of bond yields to maturity on time to maturity, see FIG. 1. It is usually constructed from the bonds of the same issuer. The short end with the interest rate for the shortest maturity and the long end with the interest rate for the longest maturity are distinguished. The difference between them is called spread. Low spread is typical for the standard economic development, while higher spread values indicate certain problems, e. g. expectation of higher inflation in a longer period, or increased necessity to borrow money (bonds are offered for lower prices). The shape of a yield curve is often growing and corresponds to the decelerate economic boom. Expectation to interest rate growth can increase the steepness of the curve. Expectation to interest rate decrease induces the decrease of the rates in the long end, so that the curve takes

bulging shape. Continuing on the decrease the yield curve become to be flat. During the next expected interest rate decrease or in non-expected short-term increase the yield curve can take the inverse shape. (Jílek, 2009, Kohout, 2013) However, the last two shapes occure quite seldom.

Yield curve can be also viewed as the graphic representation of the bond market as for the relation between yield and maturity. It can be used for calculations of bond real values. Comparing them to market prices we can find out if a bond is under- or overvalued. Bond issuers are the next users of yield curves during setting coupon rates in new bonds.

FIG. 1: Government bond yield curve (odkaz)



In the next chapter the way of a medium-term bond choice for the reserve portfolio will be shown.

5 Numerical example

We are interested in the treasury bonds being traded on the financial market already for a longer time, still with medium time to maturity. There are four such medium-term bonds on the Czech financial market now. (Prague Stock Exchange, 2016), see TAB. 2. The face value of each bond makes 10 000 crowns.

TAB. 2: Data for the Czech treasury bonds, July 22, 2016

Bond	Maturity (yrs)	Trading price (cr.)	Real value (cr.)	YTM (% p. a.)
ST. DLUHOP. 1,50/19	3,27	10 114,58	10 597,91	-0,351
ST. DLUHOP. 3,75/20	4,14	9 622,92	10 523,90	0,911
ST. DLUHOP. 4,60/18	2,07	9 926,78	12 049,81	0,193
ST. DLUHOP. 5,00/19	2,72	10 110,28	12 003,10	-0,406

Trading prices include market price and accrued interest (Bohanesová, 2013). Real values have been calculated using the latest government yield curve, see FIG. 1 (Inflation Reports of the Czech National Bank, 2016 and Jílek, 2009).

Comparing the trading prices and the real values it is obvious all the bonds are undervalued in the market. Thus, each could be bought. Notice, the trading prices of the first and the last bond in TAB. 2 are higher than their face values. Therefore yields to maturity have been calculated (Bohanesová, 2013) for further decesion making.

The second bond, ST. DLUHOP. 3,75/20, is the most suitable one for the completion of the reserve portfolio. It provides the highest positive yield, moreover fully comparable to the interest rates of the banking savings accounts.

6 Conclusion

In the paper the low interest rates in the market economy together with possible risks for debtors and savers were discussed. Czech people are conservative and their savings and reserves are allocated in the savings accounts, building savings or in conservative mutual funds. Although the interest rates in these financial products are always low, with the decreasing trend, there is still the possibility to complete the reserve portfolio by the treasury bonds with positive yield being traded some time on the financial market with the medium time to maturity.

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MILITARY EXPENDITURE AS A PART OF PUBLIC FINANCE AND THEIR IMPLICATIONS ON THE SECURITY ENVIRONMENT

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Abstract: *Current changes in the security environment created by their turbulent changes and the overall dynamism wide scope for exploring its links with the character foreign and security policy; economic situation of states and their neighbours and strategic partners, through monitoring key macroeconomic indicators; or for the possibility of quantification the security itself. Question of public resources volume dislocated for military use is become a core matter from the viewpoint of defence planning and budgeting or security policy itself. How, and if at all is possible to find a connection between the volumes of these resources and changes in the security environment and possibly character of them, is focusing to explore this paper.*

Keywords: *Allocation, security environment, conflict, public finance, military expenditures.*

JEL classification: *E62, E690, O5, F4*

Grant affiliation:

1 Military expenditure

The issue of level of military expenditures and their impact development of the country is still a current topic in relation to decisions about the importance of burden the state budget and impact on the state and changes in the security environment with regard to the possible reaction of alliance partners; neighboring states and potential threats. Required is awareness not only negative but also the positive effects of the funds spent on military purposes and thus ensure the defense and protection of the state, people and property.

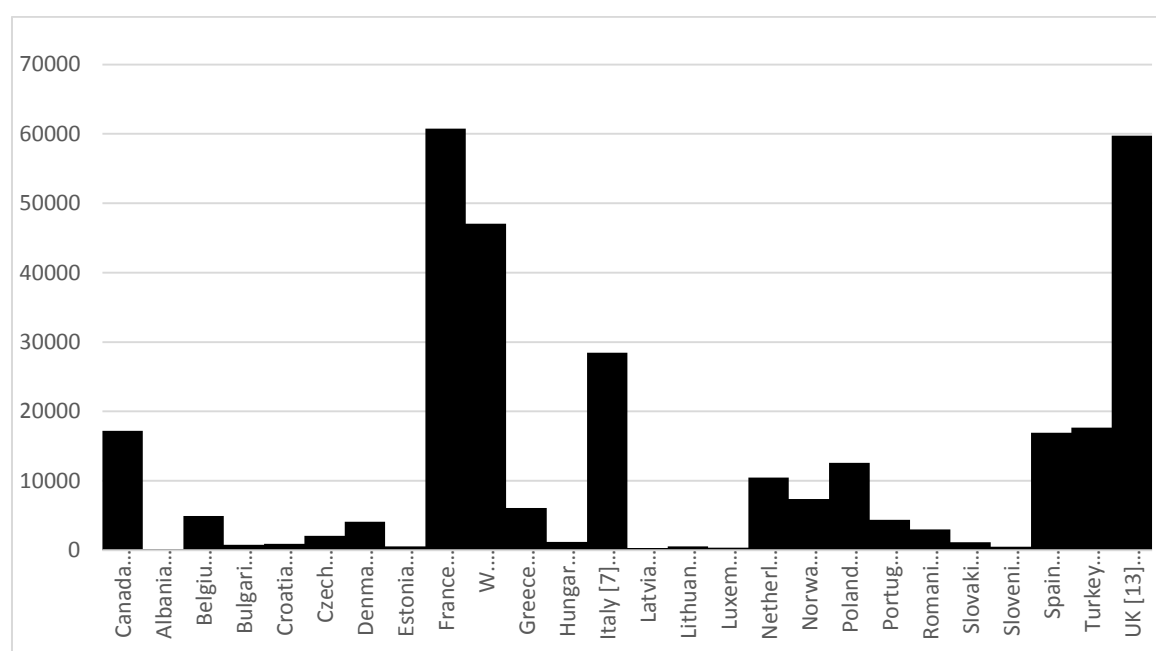
Data of defense expenditures are available from a variety of yearbooks, the most respected and at the same time the most popular include the Stockholm International Peace Research Institute (SIPRI). Military expenditures brings with a variety of effects, beside the effects of supply and demand effects also security. Ensuring the security of persons and property against domestic and foreign threats is essential for the functioning of markets and appropriate environment for the realization of investment and innovation. So if military spending enhance the safety, they can also improve

economic performance. In many poor countries, wars, and insufficient security of the main obstacles to development. However, military spending, or their level may not be everywhere and in all circumstances governed by the needs of security, but issues such as profit, etc., And can be perceived as a form of provocation leading to an arms race, conflicts, wars, and in such cases military means will lead to safety effects (Dunne, P. 2004).

Military spending in the examination and analysis of their particular significance to the national economy deals with a number of authors such as: Christos Kollias, 2004; Emil Benoit, 1973; K. Rothschild 1977; L. Ivánek 1979; T. Zipfel, 2006, and others. Another author and famously representative of classical political economy, which influence military spending on the economy dealt with was Adam Smith.

Most of the literature on economic growth did not find any military spending as a significant factor affecting the growth of the economy. For example, in a study Sala-i-Martin (2004) studied 67 variables, including the initial share of military spending, considered possible factors for the growth of the examined period 1960–1996 in cross 88 countries surveyed. So called Bayesian averaging were found 18 variables as significant with a probability greater than 10%. The share of military spending as a factor influencing economic growth was the 45th, a probability of 2,1. Similar results are many, for example Christos Kollias, (2004); Emil Benoit (1973); Robert Alexander (1990); Ivánek L. (1979); Zipfel, T., (2006) (Dunne Paul 2004) etc.

FIG. 1: Military expenditure of 2015 NATO member state in constant prices (2014) USD 2015 (SIPRI, 2016).



2 Security

The area of security, peace and war have laid after World War base of the birth of international relations as a discipline. Security as such research issues aside of international relations at the extraordinary position after World War II. This position has also been strengthened by bipolarity next season. Two decades after the Second World War, international relations and security professionals focused on the area of national security and the political and military threats. In the 70s had been

included security research and other areas and aspects, especially the economy. The nineties brought a change in the international environment and talk about the overall security concept. Scientists and politicians held conception cruciality security issues, but also issues of collateral and the question "What is security?" That difference of responses to this question have led to a different conception and conception of security. The concept of security is a very hot topic since the development of security analysis depends on the concept of security. (Waissová Š. 2002)

2.1 Security Environment

The recommended definition of security environment according to Czech security terminology reads: The Security Environment, the external environment affecting national security policy. It can be seen as an area located outside the national borders, which are implemented and meet the interests of the state, the interests of other actors in international relations, in which they take place processes that have a significant impact on the level of national security (Zeman P. 2002).

Security environment is an important concept and a key to determine the starting point of national security policy. The territorial delimitation the security environment is characterized by nations, international organizations and other entities, and their mutual activities that are significant in terms of safety. It is therefore an area in which there is or may endanger the national interests of the state or other protected values. What are the interests of the state (derived from its position and influence in the system of international relations) far-reaching, the larger is also the security environment in which it intends to promote and protect the interests. Security environment is not necessarily limited to the nation state, but several states with similar interests (Zeman P. 2002).

Krejčí uses this process to capture changes in the security environment in which the security environment describes the determination of the main characteristics (typical features of security issues); geopolitical context (perceptions global position); threats and military force (in terms of the character of the Armed Forces) (Krejčí O. 2007).

The advantage non-territorial define of the security environment is the possibility of its application to the environment in which, due to globalization leads to weakening of the territorial dimension and the growth of non-governmental actors and virtualization security environment associated with the boom of the information society where the protected value is precisely the information independent of the territorial unit (Zeman P. 2002).

Security environment in which the entity (state, organization, etc.) Is located, it is possible to distinguish in the various levels depending on the importance of the events that take place within it, and which have directly and indirectly affect the security situation in the state. Each level is characterized by territorial and dynamic dimensions. These dimensions describe geographically determinable scope and degree of influence of the State on the development of this area, where the immediate security environment includes the neighboring states and regional integration groupings, the development is to some extent influenced the foreign policy of the state (the intervention of diplomatic, military, economic).

Close security environment (for example, includes the countries of the continent and an important integrative large economic and military groupings), the State can influence its development only to a limited extent, depending on the nature and importance of the event. Security environment (the main area of interest of European and world powers, as a strategic raw material bases, etc.)

Developments within it is practically not be influenced by the State, for example by only engaging in discussions within international organizations with a global reach. At these levels, given the security environment can lead to events of different nature, which may directly and indirectly affect the level of safety of the state (Zeman P. 2002).

According to the evaluation in 2010 related foreign direct investment and economic security of the state Pach showed that the indebtedness of countries in the past caused a decline in import Debtor countries, while exports of creditor countries and thus real threat and braking growth in the world economy. Efforts these states involve servicing the debt by author led to a decline in consumption and the growth of social poverty.

Šefčík states that issues of national security affect the scope, timing and direction of economic development policy. Considerations of national security must influence such decisions, such as location, ownership (private versus state) and the choice of technology used for capital-intensive projects. It is further stated that economic factors as efficiency and the prosperity of the economy determine the resources that are available to the defense sector (i.e. Especially solvency of the state). (Šefčík V. 1999).

Krč deals with areas of measuring military expenditures and issues of their reporting, but also in particular the determinants of defense spending in terms of environment, national security and defense expenditures of USA, according to the author, "a US foreign policy was in the postwar period associated with a show of military strength." Krč also determine the size of the share of annual interest charges, which are related to the armed forces through the subtotal annual deficit (surplus). The reason for this was the basis of the US government in the implementation of loans to finance the budget deficit, using part of the loan and interest associated with them to cover the military part of the federal budget (Krč M. 2000).

3 Conclusion and Outputs for Exploring

From the above perspective, for possibility to be evaluated the relationship between changes in the security environment and the level of allocated military expenditures, it may be used the findings of the above-mentioned authors contrary view that military spending reflects the economic-political and military developments in the security environment.

What efforts at quantitative and data-based assessment of the security environment is concerned, there are a number of studies dealing with the measurement capabilities of the security environment. Vision of Humanity under the auspices of the Institute for Economics and Peace measures the degree of the security environment as a Global Peace Index. This index is examined through calculations of 22 indicators, both quantitative and qualitative character, which are credited to the weight of significance. Global Peace Index as part of their indicators for a assess site safety and security of company involvement in international and domestic conflicts; State crime rate; terrorist activities; violent demonstrations; Relations with neighboring states; stable political scene; the status of refugees; Military securing peace; Direct access to weapons; Military expenditure as a percentage of GDP; army size in terms of number of members of the army and others.

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THE VALUES AND MARKETING MANAGEMENT OF REGIONAL DEVELOPMENT

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Abstract: *The development of regional policy and the utilisation of the region's own potential, regarding its municipalities and their inhabitants, must be linked to the requirement of improving this potential. The cultural potential of regions, through historical, cultural and spiritual buildings, may be a factor in the development of tourism, a source of job opportunities for the inhabitants of the region and an important source of income for the region. An important prerequisite for the use of the cultural potential of the region is the establishment of appropriate tourism products. At the time of today's challenging battles for a spiritual "mentality" in all areas of our life, sacred buildings are considered as one of the relevant factors stimulating towards a participation in tourism, in the desire to gain spiritual motivation. This paper presents development opportunities through the marketing of differences in the Levoča District, the utilisation of sacred buildings in tourism and through the utilisation of unique cultural and historical traditions and values.*

Keywords: *values, the marketing of the region, sacred buildings*

JEL classification: *M31, R11, R23*

Grant affiliation:

1 Culture and marketing of the region

These days, strong trends enforcing dominance of globalising culture at the expense of traditional national, well-established culture emerge. This can result in various cultural distortions and deformations of value system which interferes with marketing competition based on uniqueness. Multiculturalism has not worked out in Europe, this fact has been admitted by European leaders. In our understanding, cultural environment as a positive factor of region or continent development is based on values like love and tolerance, not on a culture of fanatical hatred and terrorism; it is a culture of creativity and kindness, not a culture, where mercy is understood and interpreted as an expression and manifestation of subordination to fanatical ideology and its representatives.

Slovakia as a part of the EU is under strong pressure of globalization trends - with all the advantages and disadvantages. Practical experience shows that most regional units tend to be more successful when globalization is the concept and localization is the execution, or when we begin a process "from

globalization to re-localization". (Budaj, P., 2014) "Chinese managers thought that the problem (in building a good management system) foreign managers have is caused by the lack of knowledge of the local environment." (Kubátová, J., Bedáňová, H., 2014) A "tailored" system utilizing the strengths of regional and national culture can form a good basis for a harmonious development of the entity and its competitiveness. Competitive advantages can change very dynamically over time; factor of marketing difference represented by traditional values of the region is a sustainable competitive advantage.

Traditional values of the Levoča region are embodied in a number of unique sacral buildings. Research conducted in the segment of religious buildings and other potential factors of district performance improvement outlines options for a better marketing use of sacral buildings especially in tourism. The Levoča District needs original impulses like this, because it is currently one the economically most undeveloped districts of Slovakia (measured by GDP per capita or unemployment rate).

Globalization of economic life connected with immense development of information technologies have contributed to the wide range of possibilities we have for getting to know other cultures and for convergence of countries and nations in various areas of life. The negative impact of this development is an effort to create some kind of a uniformity and a "universal" lifestyle. Promoting traditional values of regions appears to be necessary for implementing marketing in the context of regional policy.

According to P. Kotler, products and services, events, experiences, people and places - entities closely related to marketing of regions - are the main marketing entities. The goal of the region management is to create a good mix of marketing tools, where high-quality and affordable products will be supported by effective marketing communication and by people. The decisive and essential element is a human being as a thinking creature in the centre of developing values, preferred values and creation of the scale of values. (Budaj, P. et al., 2015) Quality region marketing management is a way to its efficiency, better quality of life of its inhabitants. Quality is inextricably linked to traditions and ethical values of the region, because "only the organizations capable of creating for their consumers new values in a socially responsible manner will achieve the highest goals" (Jacková, J., Špánik, M., 2009) A link between traditions and values has been formulated by philosopher L. Hanus: „ The first constructive act is a flashback on the past, on the basis of your own life... Tradition is the most important element. It cannot be replaced by anything." (Hanus, L., 2003) Cultural potential of the region can be rationally used in form of quality marketing products on the tourism market, which is highly dependent on natural and historical monuments. This market is characterized by high added value, it is labour intensive.

2 Traditional values and tourism - factors of regional development

Tourism can be an important source of income for the region and its communities by means of historical cultural and spiritual buildings, it can be a source of job opportunities for people in the region and the "spring" for their cultural and spiritual needs. Cultural attractions, historical monuments "are tied to one place, they cannot be moved. They can only be used when we relocate the consumer or the tourist where these sites are." (Srovátková, J., Jáčová, H., 2013) Perhaps the most important cultural and historical monuments in the region of Slovakia are sacral buildings. They cover the entire spectrum of ideological and social references - theological, liturgical, artistic and

historical, sociological, anthropological, history of mentalities and contemporary spirituality, all within the socio-historical and political context. Sacral buildings can be a source of emotions for many people, these buildings can be a place where healthy communities are created and they also prove that Slovak municipalities, regions and the nation have been solid stones of the mosaic the modern European culture and Christian civilization has been built upon.

Christianity has not only brought a new culture quality-wise; it has also brought sacral buildings that, due to their spiritual, historical and artistic richness, can be an effective component in developing a specific type of tourism called ecclesiastical, religious or pilgrimage tourism. Sacral buildings were or still are a form of worshipping a deity or God, religious behaviour, affirming and spreading these teachings which reflects in their decorations and portrayals significantly. "Religious tourism ... is a moment when you detach from everyday life, a moment which in addition to cultural growth boosts spiritual growth through knowledge and experimentation with experience from different fields: cultural, artistic, ecological, archaeological, historical, etc." (Dědková, J., Honzáková I., 2013).

3 Research model and research results

The research, focused on possibilities of sacral buildings utilized in tourism in the Levoča District, was conducted based on the research model – FIG. 1.

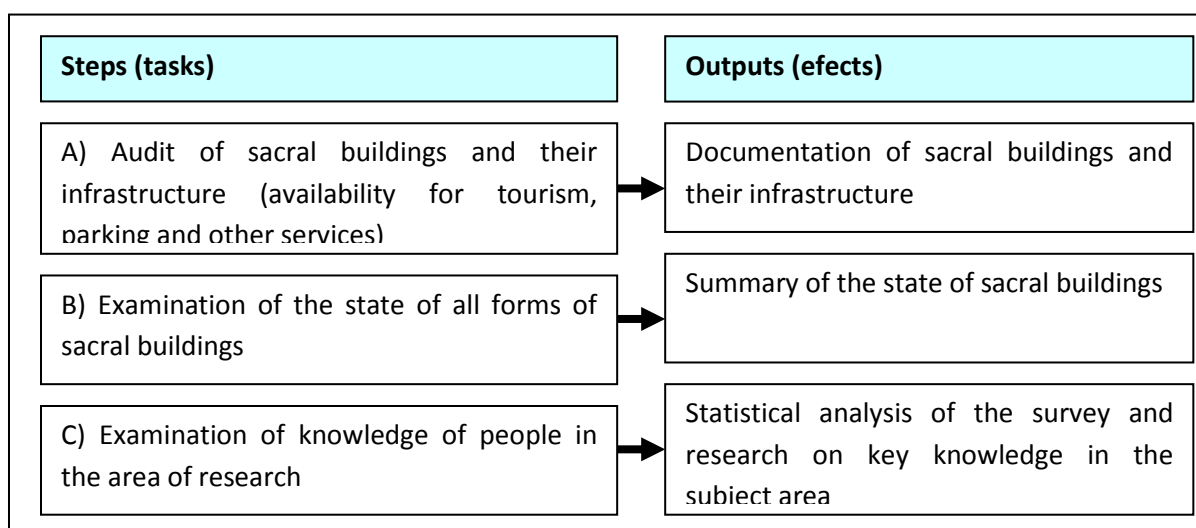


FIG. 1: Research model

Source: own calculations

The research was conducted in the Levoča District, its describing characteristics can be found in table 1.

TAB. 1: Main characteristics of the Levoča District

Indicator	Unit	Value
Area	km2	421
Inhabitants - Dec 31, 2015		33 396

Population density	km-2	79
Number of cities		2
Number of villages		31
Share of churchgoers	%	83.6
Share of inhabitants without religion	%	16.4

Source: own calculations

According to the basic characteristics of the researched district, the Levoča District is one of the smaller districts of the Prešov Region and also of Slovakia. Catholicism is the religion of 82% of its inhabitants, 1.6% of the population have a religion different from Catholic.

In this article, we present results of the research question A) of Figure 1 in a concise form. The research has been targeted on the basic marketing characteristics of each sacral building in municipalities of the Levoča district: transport, parking, admission prices, wheelchair accessibility, availability of sanitary facilities, heating of the building, place for rest, relaxation, meditation, mass times, times of other religious ceremonies, availability for tourists (not during mass or religious ceremonies) taking pictures, tourist guide.

An in-depth research of every municipality of the district revealed that there are 43 churches, 30 crosses, 23 chapels and 10 other small sacral buildings (sculptures, pillars, bell towers) in the Levoča District.

The Roman Catholic Church owns 38 churches (88.4%), the Evangelical Church of the Augsburg Confession owns 3 churches and Greek-Catholic Church owns 2 churches of all churches. All churches are easily accessible on foot, by car or by public transport; places for rest or relax can be found close to 88% of churches. All churches hold regular (usually daily, in some cases only Sunday) masses. Churches can only be visited during a mass, different time of visit has to be arrangement with the parish administrator in advance (with the exception of Basilica of St James, Levoča). Other marketing factors can be found in Table 2.

Out of 30 crosses (begging, votive, protective, for the dead), 17 are located in courtyards of churches, others are located next to roads, in meadows and next to cart-roads. 23% of 13 crosses that are not in courtyards of churches are located close to parking spaces, others are accessible only by foot. Chapels and other small sacral buildings are located directly in the municipalities; these buildings can also be found in meadows and next to cart-roads. Parking is available next to 75% of these buildings, 31% of buildings is wheelchair accessible. Small sacral buildings are usually not equipped with a sophisticated space for relaxation and rest.

See the comparison with a geographically similar Semily district in the Czech Republic in Table 2. Both of the compared districts are mountainous with plenty of natural beauties and attractions.

TAB. 2: Chosen marketing factors of sacral buildings in the Levoča and Semily district

Indicator	Levoča district	Semily district	Index Levoča/Semily
Inhabitants (in thousands)	33.4	75.0	0.445
Share of people with religious affiliation in %	83.6	16.8	4.976
Number of cities and villages	33	65	0.508
Number of churches	43	34	1.265
Number of churches per 1 municipality	1.30	0.52	2.500
Number of inhabitants per 1 church	777	2 206	0.352
Number of crosses	30	61	0.492
Number of chapels	23	51	0.451
Number of other small sacral buildings	10	78	0.128
Wheelchair accessible churches in %	56.0	21.0	2.667
Availability of sanitary facilities in churches in %	21.0	25.0	0.840
Heating in churches in %	35.0	17.6	1.989

Source: own calculations based on Dědková, J., Honzáková, I., 2013

The Levoča District has half the population of the Semily District; however, regarding the denominational structure of the region, number of churchgoers is almost five times higher, which puts this region in a better position to support the development of religious tourism. The number of small religious buildings in both districts is proportional to the size of districts. Number of big sacral buildings - churches, is higher in the Levoča District, although the quantitative analysis in Table 2 may not completely correspond with the qualitative analysis. Almost all of the monitored temples were built before the 20th century and they were used by dozens of previous generation to their original purpose. It is the task of the current and future generations to take care of preserved monuments, often historic and artistic treasures (see for example PICT. 1-3), detect why they were built and complement their traditional use with new ways, preserving traditional values and inducing new positive emotions especially among the young generation. In 1948 – 1989, traditional systematic care of these magnificent cultural and spiritual creations was drastically disrupted. Currently, it is necessary to look for new creative solutions for their maintenance, enhancement and efficient use. Sacral buildings are one of the strenghts of the Levoča Dictrict useful for the presentation of the district as an old historical region of Europe; this may present the whole continent old, but still modern and standing pillars of its development. The research has revealed shortcomings and reserves in various areas (maintenance of facilities, marketing communication, skills of people) building a barrier to a much more efficient use of religious buildings - objects of a specific tourism – in development programs of the district.

PICT. 1: St. Martin's Cathedral in the Spišská Kapitula



PICT. 2: Virgin Mary's Basilica of Visitation in Levoča



PICT. 3: St. Jacob's Basilica in Levoča



4 Conclusion

Results of the research question A) (FIG. 1) are only a part of the analyses oriented on preparation and determination of goals and action plans for development of the Levoča District on the basis of utilizing sacral buildings in tourism. Results of the research question B) and C) (FIG. 1) are not a subject of this article. Together with conclusions presented in chapter 3, they build a solid basis for justified steps towards developing a comprehensive concept of regional development, which includes building a complete geographic information system within marketing communication, implementation of an educational program for inhabitants of the region, publishing professional marketing publications etc. Research results confirmed the potential of the Levoča Region for religious tourism, respectively pilgrimage tourism. Potential of sacral buildings makes the studied district unique from a marketing point of view and brings back the cultural feeling to vague values of Europe.

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THE ASSESSMENT OF SUBJECTIVE COMFORT IN THE WORK ENVIRONMENT FROM THE PERSPECTIVE OF EMPLOYEES

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Abstract: *The article elaborates on the theoretic basis of subjective satisfaction in the work environment and referring to the factors that are affecting the subjective comfort of the employees. In the empirical chapter of work, we are referring to the importance of subjective comfort of the employees in production business. The results of the research are referring ring to the failings in creations of the subjective comfort of the employees. The research's results show there are statistically significant differences between variables.*

Keywords: *Subjective comfort, Employees, Physical work.*

JEL classification: *I30, I31*

Grant affiliation:

1 Introduction

Working environment is not just ordinary place being designed to work at. The most diverse human activities are carried out over there. Vojtovič (2013) expressed his conviction that it is important to pay attention to working environment to have an adequate impact on human senses, and by means of them to thinking, feeling and action of human being. Employer should struggle to ensure that the work environment is as comfortable as possible for employees to feel comfortable in it, and to allow them to increase work efficiency and well-being at workplace.

2 Subjective satisfaction at workplace

Subjective well-being is a subjective state of mental well-being, which includes mostly positive emotions, constant sense of satisfaction in important areas of life, where also a work area belongs. Working well-being intensively affects the working behavior, performance and quality of work being performed by workers. By knowledge and encouraging the strengths of personality and focusing on main aspects of his/her working life it can be possible to enhance the ability to copy with difficult situations and increase the rate of experienced subjective well-being and satisfaction at workplace

(Slezáčková, 2002). Employees understand wellbeing as a good and overall concept for better and more successful working life. Based on professional careers, interests, values, motives and personal characteristics and skills an individual, subjective view on perception of well-being at work is being formed. The objectives of this paper are external factors of job satisfaction and therefore we pay attention to them in the following section

2.1 Job satisfaction factors

By external factors, we understand those variables which worker cannot control under his/her purview. Kollárik (2002) depict them as factors resulting from particular workplace conditions and are characteristic features of workplace. Specifically we refer to the factors such as: physical environment – having an impact on workers mostly as a whole and is not perceived as separate individual factor. The set of physical conditions, as described by Štikar (2003), consists of noise, lighting, colourful appearance of workplaces, vibration and microclimate, health and work safety - all work is somewhat risky, and it can cause illness or injury. Legal risks associated with work may cause some changes of well-being. Good working conditions and job security are not only indicators of better health, but also job satisfaction of employees (Pacelli, Leombruni, D'Errico, Ardito, et al., 2013). Monetary reward - cash is viewed as a dominant source of satisfaction. Kollárik's a research (2002) showed that more than half of workers being surveyed (56%) expressed dissatisfaction with the salary. If worker considers payment lower in terms of his/her inputs into the work, he or she feels to be underrated, what may lead to job dissatisfaction. Social climate - social environment is an essential part of human life. The point is that human being does not live isolated, but all the events are carried out in contact with other people within the society. The positive level of interpersonal relations has been also demonstrated, what mostly determines the job satisfaction. Management style – the way of managing the employees is an elemental component that affects the satisfaction of employees. Flešková, Podolcová (2010) found out a link between the management style oriented at corporate culture and job satisfaction of employees. They argue that the more management style is focused on corporate culture, the better subjective working satisfaction of employee is. Conversely, management style less focused on corporate culture leads to a lower degree of job satisfaction.

In paper we have focused on the detection of subjective well-being of employees at work in production area. We wondered how workers perceive well-being while performing their work and what factors are affecting their job satisfaction.

3 Methodology and data

The main goal is to find out the subjective well-being of employees in production-technology company. Also, we are curious how the well-being is assessed by employees and what factors affect their job satisfaction. The results we have obtained from our own questionnaire survey being conducted in the period of February - April 2015. The structure of respondents was as follows: 40% of women and 60 % of men. 15 % of respondents were 18-30 years old, 50 % 31-45 years old and 35 % were 46-62 years old. As reported by Kollárik (2002) to assess the job satisfaction the questionnaire method is mostly used, based on a system of statements about themselves and their work. The questionnaire consisted of six main topics focused on satisfaction within the following areas: physical environment, health and safety, monetary reward, social climate, leadership style, work and personality. Each factor consisted of at least three questions where respondents have

expressed their satisfaction rate (e.g. regarding the social climate factor participants were asked about collective cohesion, conflicts and popularity in a team). Employees have expressed their satisfaction rate with various factors by means of Likert scale. According to Kollárik (2008) it is the most frequently used method how to assess opinions and attitudes of respondents. The assessment has been carried out by means of a scale of five: 1 - I am very satisfied, 5 - I am very dissatisfied. Statistical comparison has been executed by means of a Chi-square test. The test was used to compare the correspondence of empirical division with the theoretical one and as a test of independence of characters being compared. The evaluation was conducted in a standard way by comparing the p-values with a significance level α . If the value of probability p is less than the significance level α then the test hypothesis H_0 has been rejected in favour of alternative hypothesis.

In this paper we set three scientific hypotheses by the analysis of relevant literature and surveys being carried out:

- H1: We assume that the distribution of individual factors of job satisfaction is statistically significantly different compared to the proportional distribution.
- H2: We assume that between the factors of job satisfaction and age statistically a significant dependence is to be demonstrated.
- H3: We assume that the distribution of monetary reward factor and other job satisfaction factors is significantly different compared to the proportional distribution.

4 Results

In the next section we have compared the distribution of job satisfaction factors with the particular proportional distribution in order to prove whether some of the factors (workplace physical environment, health and work safety, monetary reward, social climate, leadership style, work and personality) have got significantly different score compared to other factors.

TAB. 1: Statistical differences determination in job satisfaction factors

Job satisfaction factors	χ^2 test p-value
Physical work environment	0.889
Health and safety	0.700
Monetary reward	0.782
Social climate	0.920
Leadership style	0.713
Work and personality	0.831

Within the physical environment factor respondents have assessed following indicators: ergonomics at workplace, technical and material facilities and the appearance of environment. The value p of the Chi square test is $p = 0.889$ ($p < 0.05$). Among these indicators there is not a statistically significant difference in the scores that particular items have reached by means of Likert scale.

In health and safety factor respondents have assessed following indicators: the impact of work on mental health, the impact of work on physical condition. The value p of the Chi square test was $p = 0.700$, ($p < 0.05$). Among those indicators no statistically significant difference has been observed in

the scores that particular items have reached by means of Likert scale. All values were oscillating around one level.

In the monetary reward factor respondents have assessed following indicators: reward system, the total amount of salary, the salary amount by years being employed. The value p of the Chi square test is $p = 0.782$, ($p > 0.05$). Among those indicators there is not a statistically significant difference in the scores that particular items have reached by means of Likert scale. Therefore, we conclude that in terms of monetary reward factor respondents have not assessed those characteristics significantly differently compared to the proportional distribution.

Within the social climate factor respondents have assessed following indicators: collective cohesion, conflicts and popularity with others in collective. The value p of the Chi-square test was $p = 0.920$ ($p < 0.05$). The score difference where particular items have been reached by means of Likert scale is not statistically significant.

In leadership style factor respondents have assessed following indicators: the method and head of management style, working tasks control done by chief, respecting of views, opinions and criticism of subordinates. The value p of the Chi square test was $p = 0.713$ ($p < 0.05$). A statistically significant difference in scores among those indicators has not been recorded. All values in leadership style were oscillating around one level. Those indicators have not been assessed significantly differently by respondents.

In the factor of work and personality employees have assessed following indicators: interest in work, work expectations, self-realization. The value p of the Chi square test, $p = 0.831$ ($p < 0.05$). Values in the factor of work personality were oscillating around one level. Those indicators have not been assessed significantly differently by respondents and statistically significantly different in the score has not been recorded.

In the following part we assessed the relationship between age groups and job satisfaction factors. We wondered whether the statistical relationship between variables is present.

TAB. 2: The relationship between job satisfaction factors and age

Job satisfaction factors	18-30 years of age	31-45 years of age	46-62 years of age
Physical work environment	56	42	44
Health and safety	64	50	56
Monetary reward	58	74	72
Social climate	54	48	46
Leadership style	62	50	48
Work and personality	60	50	54
\bar{x} of satisfaction factors	60	50	54
χ^2 test	0.846		

As shown in Table 2 the p -value of Chi-square test is $p = 0.846$ ($p < 0.05$), and we state that there is no statistically significant relationship between job satisfaction factors and age. The differences in the table are casual.

Next we surveyed the relationship between monetary rewards and other job satisfaction factors in all age groups. We were curious how the financial aspect is considered in comparison with the other factors being surveyed.

TAB. 3: Frequency distribution between monetary rewards and other job satisfaction

Factors in the 18-31 years of age group	18-31 years of age	Expected frequency	χ^2 test
Monetary rewards	58	59.1428571428571	0.872
Other factors	356	354.857142857143	
The sum	414	414	

Note: As the other factors are considered these: physical work environment, health and safety, monetary reward, social climate, leadership style, work and personality.

The p-value of Chi-square test is $p = 0.872$, ($p < 0.05$), and within monetary reward factor in the age group of 18-31 the statistically significantly different scores have not been recorded as compared to other job satisfaction factors. The monetary reward is not a factor that has the highest impact on job satisfaction at 18-31 years of age employees. This fact is likely to be affected by lower sample in this age group.

TAB. 4: Frequency distribution between monetary rewards and other job satisfaction

Factors in the 31-45 years of age group	31-45 years of age	Expected frequency	χ^2 test
Monetary rewards	74	52.28571429	0.001
Other factors	292	313.7142857	
The sum	366	366	

Note: As the other factors are considered these: physical work environment, health and safety, monetary reward, social climate, leadership style, work and personality.

The p-value of Chi-square test is $p = 0.001$, ($p < 0.05$), and within the monetary reward factor in the age group of 31-45 the statistically significantly different scores have been recorded as compared to other job satisfaction factors. The difference between the actual and expected frequency is statistically significant. The monetary reward factor has the greatest impact on job satisfaction of all factors.

The relationship between monetary reward and other job satisfaction factors has been surveyed in the age group of 46- 62 years-old. We wondered how the financial aspect is to be considered in comparison with other factors being surveyed in this age group.

TAB. 5: Frequency distribution between monetary rewards and other job satisfaction

Factors in the 46-62 years of age group	46-62 years of age	Expected frequency	χ^2 test
Monetary rewards	72	53.42857143	0.006
Other factors	302	320.5714286	
The sum	374	374	

Note: As the other factors are considered these: physical work environment, health and safety, monetary reward, social climate, leadership style, work and personality.

The p-value of Chi-square test was $p = 0.006$, ($p < 0.05$), and within the monetary reward factor in the age group of 46-62 the statistically significantly different scores have been recorded as compared to other job satisfaction factors. The difference between the actual and expected frequency is statistically significant. Monetary reward factor is rated significantly higher than other job satisfaction aspects.

5 Discussion

The main goal of this paper was to find out the subjective well-being of employees in production - technological enterprises. The results have shown that our respondents tend to assess the job satisfaction factors as neutral even negative. Especially we were focused on physical environment, health and safety, financial reward, social climate, leadership style, personality and work. The difference between actual and expected frequency in factors being surveyed has not demonstrated the statistical significance. As shown in Table 1 no statistical difference has been demonstrated by any single factor. The tendency is rather to be opposite.

Respondents have chosen the proportional assessment of individual aspects. In statistical testing the significance between the actual and expected frequency of individual factors has not been proved. In terms of the ranking, however, the respondents being surveyed by us have attached the greatest importance to factors such as financial reward, self-realization, work expectations and management style. Next we wondered whether the field of job satisfaction in connection with the age of respondents is a subject of change. The findings showed that in the age categories of employees and the relevant factors of job satisfaction any statistically significant relationship has not been demonstrated.

While comparing the monetary reward and other job satisfaction factors significantly higher scores were found in two selected age groups. By respondents in the categories of 31-45 and 46-62 years of age the financial reward is the factor having the greatest impact in aspects being observed. This finding could also be affected by the fact that the age representation of subjects was uneven. Age structure could cause a distortion of results.

6 Conclusion

workplace as neutral even negative. For employees in the age groups of 31-45 years or 46-62 years old the monetary factor was rated significantly higher than the other ones. This fact could affect the issue that the observed age mostly consists of the heads of families whose income is divided among the other family members. There are also people who are close to retirement age and it is a way how to maintain their living standards. Regarding the data completeness, it is necessary to note that the distribution of the sample was uneven and this could lead to the results interference. Essentially it is a practical research problem, where on one hand there is the availability of respondents, respectively favourable approach to the survey execution and on the other hand there is the structure of employees that we cannot influence.

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SERVICE MANAGEMENT SYSTEM

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Abstract: *Higher competitiveness can be achieved by the implementation of modern systems of management. One of those new systems is the Information Service management system - SMS (ČSN ISO/IEC 20000-1:2012 or ISO/IEC 20000-1:2011). SMS promotes the adoption of an integrated process approach to effectively deliver managed services to meet the business and customer requirements. For an organization to function effectively it has to identify and manage numerous linked activities. An activity using resources, and managed in order to enable the transformation of inputs into outputs, can be considered as a process. Often the output from one process forms an input to another.*

Keywords: *standard, service management system, ISO/IEC 20000-1:2011*

JEL classification: *M15IT*

Grant affiliation:

1 Introduction

The ISO/IEC 20000 standard is being adopted globally by hundreds of companies in commercial environment which are using the certification as market advantage. Others are using the standard as a vehicle to show their customers that quality service is important to them.

ISO (the International Organization for Standardization) and IEC (the International Electro technical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. A service management system is a set of interrelated or interacting elements that service providers use to direct and control their service management activities. These elements include all of the service management policies, objectives, processes, procedures, documents, and resources that service providers use in order to direct and control how services are

planned, designed, developed, implemented, deployed, delivered, monitored, measured, reviewed, maintained, and improved (i.e., how these service management activities are carried out).

ISO/IEC 20000-1:2011 can be used by:

- an organization seeking services from service providers and requiring assurance that their service requirements will be fulfilled;
- an organization that requires a consistent approach by all its service providers, including those in a supply chain;
- a service provider that intends to demonstrate its capability for the design, transition, delivery and improvement of services that fulfill service requirements;
- a service provider to monitor, measure and review its service management processes and services;
- a service provider to improve the design, transition, delivery and improvement of services through the effective implementation and operation of the SMS;
- an assessor or auditor as the criteria for a conformity assessment of a service provider's SMS to the requirements in ISO/IEC 20000-1:2011.

2 History

ISO/IEC 20000 is the first international standard for IT service management. It was developed in 2005, by ISO/IEC JTC1/SC7 and revised in 2011. It is based on and intended to supersede the earlier BS 15000 that was developed by BSI Group.

ISO/IEC 20000, like its BS 15000 predecessor, was originally developed to reflect best practice guidance contained within the ITIL (Information Technology Infrastructure Library) framework (reference needed), although it equally supports other IT service management frameworks and approaches including Microsoft Operations Framework and components of ISACA's COBIT framework.

The standard was first published in December 2005. In June 2011, the ISO/IEC 20000-1:2005 was updated to ISO/IEC 20000-1:2011. In February 2012, ISO/IEC 20000-2:2005 was updated to ISO/IEC 20000-2:2012. ISO/IEC 20000 consists of the following parts, under the general title Information technology — Service management:

- Part 1: ISO/IEC 20000-1:2011 - Service management system requirements - This is the formal specification of the standard. It describes the required activities, documents and records defined in 256 'shall' statements.
- Part 2: ISO/IEC 20000-2:2012- Guidance on the application of service management systems - Code of Practice describes the best practices in detail and provides guidance to auditors and recommendations for service providers planning for service improvements defined in 'should' statements (Standard ISO/IEC 20000-2:2012).

- Part 3: ISO/IEC 20000-3:2012- Guidance on scope definition and applicability of ISO/IEC 20000-1 - provides guidance on determining the scope of certification and the applicability of the standard (Standard ISO/IEC 20000-3:2012).
- Part 4: ISO/IEC TR 20000-4:2010 - Process reference model [Technical Report] - facilitates the development of a process assessment model that will be described in ISO/IEC TR 15504-8 Information Technology – Process Assessment (Standard ISO/IEC 20000-4:2010).
- Part 5: ISO/IEC TR 20000-5:2013 - Exemplar implementation plan for ISO/IEC 20000-1 [Technical Report] - provides guidance on the implementation of the standard's requirements (Standard ISO/IEC 20000-5:2013).

Next parts of standard which relate with SMS:

- Part 6: ISO/IEC TR 20000-9:2015 - Guidance on the application - provides guidance on the use of ISO/IEC 20000-1:2011 for service providers delivering cloud services (Standard ISO/IEC 20000-9:2015).
- Part 7: ISO/IEC TR 20000-10:2015 - Concepts and terminology - describes the core concepts of ISO/IEC 20000, identifying how the different parts support ISO/IEC 20000-1:2011 as well as the relationships between ISO/IEC 20000 and other International Standards and Technical Reports. This part of ISO/IEC 20000 also explains the terminology used in ISO/IEC 20000, so that organizations and individuals can interpret the concepts correctly (Standard ISO/IEC 20000-10:2015).
- Part 8: ISO/IEC TR 20000-11:2015 - Guidance on the relationship between ISO/IEC 20000-1:2011 and service management frameworks: ITIL - is a Technical Report that provides guidance on the relationship between ISO/IEC 20000-1:2011 and a commonly used service management framework (Standard ISO/IEC 20000-11:2015).

Other parts of the standard are currently being planned.

3 Main changes and important terms

The main differences between ISO/IEC 20000-1:2005 and ISO/IEC 20000-1:2011 are as follows:

- closer alignment to ISO 9001;
- closer alignment to ISO/IEC 27001;
- change of terminology to reflect international usage;
- addition of many more definitions, updates to some definitions and removal of two definitions;
- introduction of the term “service management system”;
- combining Clauses 3 and 4 of ISO/IEC 20000-1:2005 to put all management system requirements into one clause;
- clarification of the requirements for the governance of processes operated by other parties;
- clarification of the requirements for defining the scope of the SMS;

- clarification that the PDCA methodology applies to the SMS, including the service management processes, and the services;
- introduction of new requirements for the design and transition of new or changed services.

A service is a means or a method that organizations use to deliver results that customers value and wish to achieve. These results are usually intangible although they may also include tangible elements.

A service component is a single unit of a service. Service components are made of configuration items. When several service components are combined, they make up a complete service. Examples of service components include hardware, software, documents, information, processes, and other supporting services.

Service continuity is a corporate capability. This capability exists whenever organizations are capable of managing risks and events that could have a serious impact on their ability to continually deliver service at agreed levels.

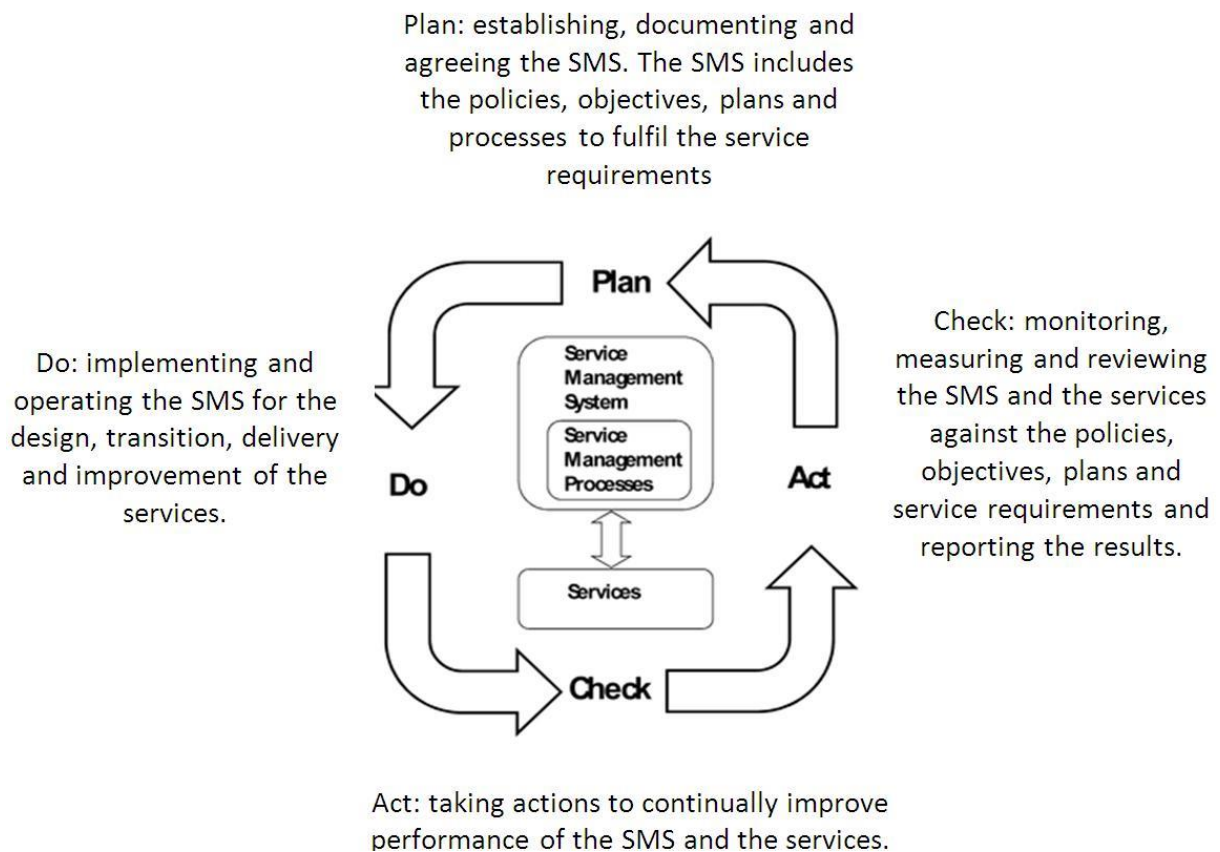
A service level agreement identifies services and service targets and is between a service provider and a customer. It can also be between a service provider and a supplier (or an internal group or customer acting as a supplier). Service level agreements are documented. They can be standalone agreements or be part of a larger agreement or contract.

Service management is a set of capabilities and processes that service providers use to direct and control the activities and resources needed to fulfill service requirements. Service management is used to direct and control the design, deployment, delivery, and improvement of services.

4 Body of SMS

New standard ISO/IEC 20000-1:2011 requires the application of the methodology known as “Plan-Do-Check-Act” (PDCA) to all parts of the SMS and the services. The PDCA methodology, as applied in this part of ISO/IEC 20000, can be briefly described as follows.

FIG. 1: PDCA methodology applied to service management



New standard ISO/IEC 20000-1:2011 comprises nine sections (Standard ISO/IEC 20000-1:2011):

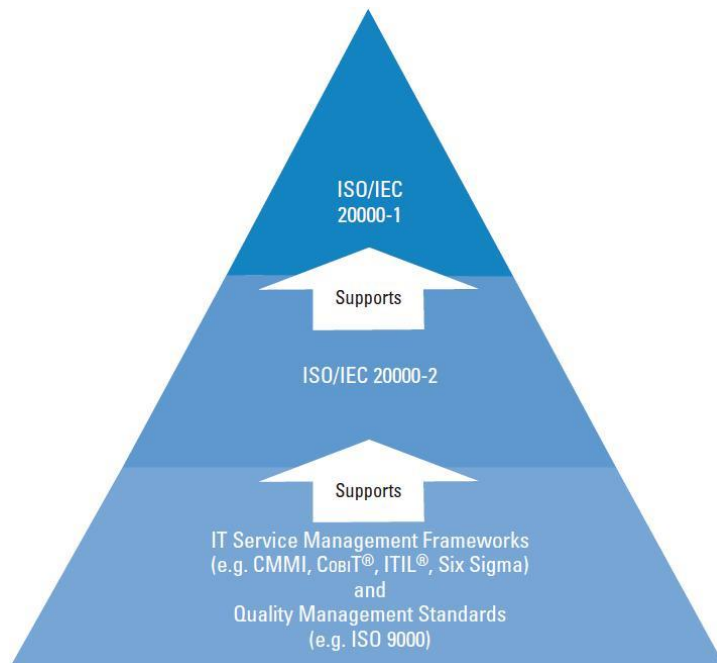
- Scope
- Normative references
- Terms and definitions
- Service management system general requirements
- Management responsibility (Management commitment, Service management policy, Authority responsibility and communication, Management representative);
- Governance of processes operated by other parties;
- Documentation management (Establish and maintain documents, Control of documents, Control of record);
- Resource management (Provision of resources, Human resources);
- Establish and improve the SMS (Define scope, Plan the SMS, Implement and operate the SMS, Monitor and review the SMS including Internal audit and Management review, Maintain and improve the SMS);
- Design and transition of new or changed services;

- Plan new or changed services;
- Design and development of new or changed services;
- Transition of new changed services;
- Service delivery processes
- Service level management;
- Service reporting;
- Service continuity and availability management (Service continuity and availability requirements, Service continuity and availability plans, Service continuity and availability monitoring and testing);
- Budgeting and accounting for services;
- Capacity management;
- Information security management (Information security policy, Information security controls, Information security changes and incidents);
- Relationship processes
- Business relationships management;
- Supplier management;
- Resolution processes
- Incident and service request management;
- Problem management;
- Control processes
- Configuration management;
- Change management;
- Release and deployment management;

5 Relationships between SMS and ITSM

The diagram below depicts the relationship between part 1 and part 2 of the ISO/IEC 20000 standard and the many ITSM frameworks available in the market:

FIG. 2: Relationships between ISO/IEC 20000-1 part 1 and part 2 and ITSM framework (Rovers M. - ISO/IEC 20000-1:2011 – A pocked guide):



6 Conclusion

ISO/IEC 20000-1:2011 was completely rewritten. This was far more than just tweaking the content of the 2005 edition since ISO/IEC insisted on substantial changes to align this standard with other management systems standards covering quality assurance, environmental protection etc.

The idea is that managers who are familiar with any of the ISO management systems will understand the basic principles underpinning an SMS. Concepts such as certification, policy, nonconformance, document control, internal audits and management reviews are common to all the management systems standards, and in fact the processes can, to a large extent, be standardized within the organization.

All users of the old standards should upgrade to the 2011 editions. If they are certified to the 2005 edition of ISO/IEC 20000-1, their Certification Body will expect them to upgrade within two years from the date of publication (31st May 2013). Otherwise their certification will lapse.

We can see benefits for customers who are comparing service providers (ISO/IEC 20000 provides uniform and common language as well as a standard for benchmarking), for customers and service providers who are seeking for increase transparency of cost of service provisioning and of total cost of ownership (TCO) and the associated risk or for service providers who are looking for ways to implement changes faster and more effectively.

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Standard ISO/IEC 20000-4:2010 - Process reference model

Standard ISO/IEC 20000-5:2013 - Exemplar implementation plan for ISO/IEC 20000-1

Standard ISO/IEC 20000-9:2015 - Guidance on the application

Standard ISO/IEC 20000-10:2015 - Concepts and terminology

Standard ISO/IEC 20000-11:2015 - Guidance on the relationship between ISO/IEC 20000-1

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MINIMALISM IN MARKETING

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Abstract: *If marketing constitutes a set of relationships and processes that lead to the satisfaction of consumer needs, then minimalism in marketing is set of processes that lead to meet minimalistic needs, it means the effort will be at minimum costs in order to achieve the greatest effect, it means to meet the needs, desires and demands of the buyer. Marketing minimalism focuses the attention on - how is it possible to achieve the maximization of marketing outputs with a minimum of cost, investment, energy on one hand, and on the other hand with high emotional creativity. It is about a new trend in marketing that builds on the simplification in many aspects, on low-cost marketing and low-cost business.*

Keywords: *marketing minimalism, low-cost marketing, minimum costs*

JEL classification: *M30, M31, M39.*

Grant affiliation: *This article was prepared as a part of VEGA grant no. 1/0178/14 “common EU consumer policy and its implementation in Slovakia with an impact on consumer education.*

1 Introduction

Marketing, as we all know, is the art of conveying value to the customer and imprinting in its mind. It survives on understanding and manipulation of the psyche of the prospective customers. This idea of minimalism is transcending every facet of our lives today. Art, writing, websites, emails, marketing, advertising, packaging, designs, aesthetics, social media, promotions and lifestyle – everyone is jumping onboard with this notion. Minimalism serves the need of an audience which is tired of opulence, ostentation and being overwhelmed. It lets them escape clutter and keeps things simple. Minimalism is a current trend in marketing that exudes the philosophy of “less is, more”. This type of marketing uses the principle of “little money for a lot of music”. Clear concise information and well-designed, simple packaging are highly valued by consumers. Consumers are more likely to engage with a simple display of information and unique presentation of visuals, versus an overwhelming smorgasbord of superfluity. It is important to know why targeted audience finds an allure in minimalism and how content can be molded to fit this popular trend. In this paper, we intend to

focus on the specification of marketing minimalism as a new trend in marketing. The aim is to give a brief overview of the general information about topic.

2 Methodology

The research process consists of several stages. In this paper, we focused mainly on the pre-treatment phase and the role of research as a contribution serves as a study, which is intended for further research. The aim is to get as much information for carrying out research among consumers and minimize the impact on the amount of sales. As the post is primarily used as a baseline study for a specific future research.

1. Preconditioning phase - be given information retrieval literature sources related to this topic. The study of secondary sources has helped to deepen the overview of the subject and to penetrate deeper into individual problems. As part of this phase, the standard scientific methods of analysis of documents, analysis and synthesis, induction and deduction and comparison were used.
2. Research activity - its main activity is to highlight the specifics of marketing minimalism.
3. Design Research - specific suggestions related to the marketing of minimalism and demonstrating the effect on consumers and increase sales for retailers. Pointing out the importance of having marketing minimalism in business.

3 Marketing minimalism

Perry (2014) says about marketing minimalism that as a type of marketing, it can mean something different depending on the medium in which brands express it, such as:

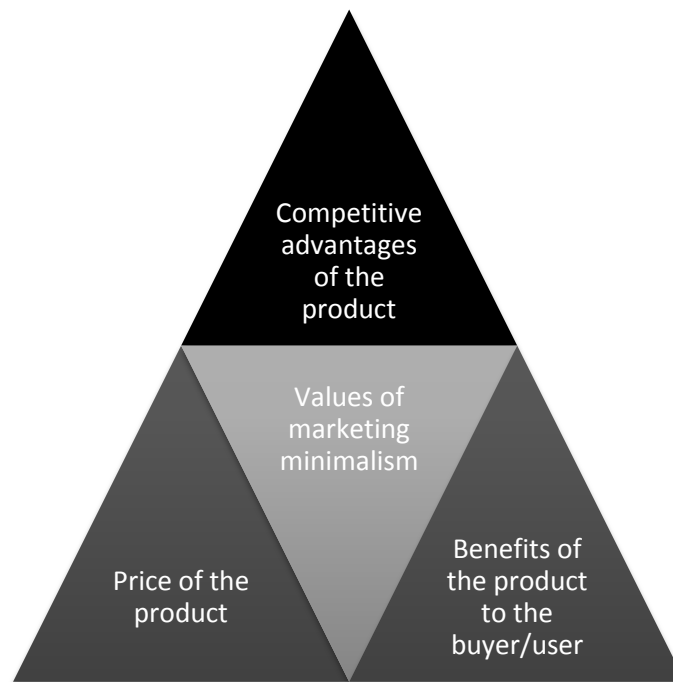
Images. Minimal visual advertising uses simple, strong images to tell a story about a brand, its product, or its customers; ideally, the same story applies to all three. The lack of visual clutter draws the viewer's eyes directly to the desired focal point, making a strong impression.

Words. Consider the impact a poem can have with only a few words. Minimalist content marketing provides similar effects through short, succinct posts, articles, or taglines to communicate a message. As mobile consumers spend rapidly decreasing lengths of time reading online content, keeping marketing messages short and sweet is crucial to retaining their undivided attention.

Video. Thanks to the proliferation of YouTube and Vine, video marketing is enjoying its day in the sun, which will likely last for many years to come. However, anyone who has clicked on a video only to gasp in horror at its length (who has ten minutes to watch a video?) understands the importance and impact of a short, narrative-driven marketing video.

Čichovský (2015) claims that marketing minimalism is based on three values. It is the core values of minimalist marketing presents always the three major categories relevant to customers for the purchase of: (a) the competitive advantages of the product / producer / seller, (b) price / Continuum product services, and (c) the benefits of the product to the buyer / user / consumer always in the minimalist design and presented with an emphasis on factual information.

FIG. 1: Three core values of minimalism marketing according to Čichovský



Source: own procession

3.1 Competitive advantage of the product

Considerable competitive advantage is written in the book Innovation - generator performance. Thus, product innovation generates a competitive advantage as the theme purchase. The reason is that the customer takes advantage of the innovation as a product new to the market having the necessary. Otherwise, we could define a competitive advantage motivates the buyer, consumer, based on the fact that consumers appreciate it, for aspects in which the product is better than a competitor's product. For each starting a business, it is appropriate to ask, in what will my product be better, and in this form of enhancement or the market, build a marketing plan.

This phenomenon can be visible in the area of food, which is not the main motive for the competitiveness of the price of the product and which is expected to maintain its standard quality. Most often it is based on the fact that cheaper products use cheaper raw materials, but marketing-posing as the original. Simplification is a change in the product, the manufacturer is satisfied and brings innovations to the market, maintain the price and save costs. But if the food complies with the specifications of the buyer, the manufacturer brings a competitive advantage in the form of - price, appearance, design, size and quality, or other characteristics of the product.

This phenomenon is often visible in retail chains, which bring their own - private labels, which are particularly interesting for the customer in the price from the original product, which as we have already mentioned above brings competitive advantage. These products use elements of marketing minimalism - their design is simple, have a simple container, few colors are standardized, practical size and they are easily accessible and available for the consumer, buyer (Novák, 2015).

3.2 Price of product

The second of the goals which we were defined above is price. Marketing does not just use minimalism with a height of prices, but the price and the price contextually ambiguous in relation to the award of competitive advantage, and benefits of the product lifecycle.

When starting their own businesses, it must therefore be considered in all possible ways in which the potential consumer can get a better price, and adjusted accordingly. According to various surveys, the price of private label is more attractive to the consumer, since in 2013 it was found that 2/3 of the population purchases private labels of retail chains (Dzurová, 2015).

3.3 Benefits of the product for user/buyer

The ultimate aim is the benefit of the product or service. Product benefits that meet consumer's wishes, needs, requirements and expectations on quality, design and quality of product or service. A perfect example of the benefits is the mobile phone. Imagine a person who urgently needs a mobile phone for calls and SMS messages is not interested in smart phone functions. This is only the most basic user functionality. The aim is to find an inexpensive consumer product that meet only the following functions. It is a perfect example of products and services that are scarce and open doors to new business.

Customer benefit is the fact as to why a person buys the product or service. Therefore, the marketing focus should be on promoting benefits (Dzurová, 2015).

These parameters are linked to each other. Greatest competitive advantage is low cost while maintaining quality standards. Although quality is a subjective term, it applies the same standards. We see that in the context of simplification - that of offering "cheaper" products - particularly in food, comes to the "simplification" of quality by adding a variety of substitute raw materials, and as a result the product flavorings "face" as original product. However, it is the composition of the product as a standard. This producer claimed that the market calls for such products. The fact that not a ham, is not cheese, it is possible to write a lot. In this case, simplification leads to a change in the product.

4 Summary

Marketing minimalism has become a new trend in marketing following simplification in many shapes and forms and also low-cost marketing and business. The result of the combination of both tasks is an education leading to consumer marketing minimalism, when the consumer with a minimum of effective tools and ideas needed in smart mobile applications can be targeted with marketing ideas and decide what, when, how and how much he will buy to live a healthy and organic life by using values for his joyous life (Čichovský, 2016). Changes in marketing trends and in marketing communications should be inextricably linked to the use of social networks. A number of tools that offer social networking enable consumers to be creative and create their own views and opinions. Consumers themselves identify and choose exactly what interests them. This function is active media. Despite the changes in behavior, social situation, it is a trend that needs to be actively used.

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A DIVIDED YET STILL UNITED COMPANY - IN DEFIANCE OF SOCIAL CONDITIONS: PITTEL+BRAUSEWETTER, CASE STUDY

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Abstract: *This paper deals with the impact of socio-political changes that occurred as a consequence of the dissolution of the Austro-Hungarian Monarchy on the interlinkage in a concrete engineering company and the structure of its management. The owners managed to maintain the previous linkage between the management based in Vienna and the individual subsidiaries located throughout the monarchy and even though the branches can be found in various countries, the owners managed to harmonize all the steps the company made including the introduction and implementation of technical novelties and the exchange of information.*

Keywords: *entrepreneurship, management, history of entrepreneurship, economic history and history of entrepreneurship in the 20th century.*

JEL classification:

Grant affiliation:

Introduction

Connecting the seemingly divided world can take place on a number of levels; one of them is nowadays also the much-discussed issue of entrepreneurship of companies across borders and connecting the different regions with a single company philosophy. This topic is not a new one, yet in the history of the turbulent 20th century, the issue was mainly a number of business or rather managerial decisions that were implemented under the pressure of external circumstances, the outside world. These were mainly the consequences of military conflicts, which forced the companies to adapt to such influence. For this case study, we chose a typical, today one could also say multinational, company, which, despite the adversity of external factors, managed to preserve the past trends. A number of steps the management strictly followed could be recommended to the management of companies that wish to expand across borders.

1 Pittel+Brausewetter in the first generation

The usage of concrete in civil engineering (see Dohnálek, Seidlerová, 1991) was more and more widespread at the end of the 19th century, both in the monarchy and the Czech lands. It was the Pittel+Brausewetter company, established according to the documents in 1870, who pioneered the usage of ferroconcrete, a new and innovative material that allowed the architects to use completely new methods and design buildings in a different way and also helped with the development of industrial building mainly in the industrially developed regions. Concrete was more and more used as the material for construction of important buildings, not only in the Hapsburg Monarchy; it also proved useful in river regulation, construction of city water line and sewerage system (Pittel+Brausewetter became very popular thanks to the construction of the sewerage system in Bratislava and that aroused the interest of other cities of the Danubian Monarchy. The company constructed sewers in 112 cities and settlements in the Austro-Hungarian Empire until 1914, in 21 of them even constructed the complete sewerage system in cities or villages.), construction of dams etc. The Vienna headquarters received large numbers of contracts and among the main points of interest was the immediate implementation of novelties into everyday life (Brausewetter, 1925) or cooperation with the theoreticians, primarily with technical schools in Vienna, Brno and Prague (One of the important personalities was also professor Josef Melan of University of Technology in Brno and later in Prague, who closely cooperated with the company on constructions of ferroconcrete bridges, a novelty at the end of the 19th century. (for further see Melan, 1975)

In fact, the leader of the company was the whole time Victor Brausewetter, who consistently influenced the entrepreneurial culture and company philosophy. Thanks to his education focusing on technology and engineering, he kept track of scientific discoveries, nevertheless, he also took seriously the experience from everyday practice. He appointed experts and design engineers to all managerial positions in the company, people, who - mainly after 1918 - had education and experience primarily from their own companies. These employees were then regularly sent from one branch to another. Besides the offices in Austria, there were also subsidiaries in Bohemia, Moravia, Slovakia, the former Austrian Silesia, Slovenia and Croatia, one branch in Trieste and a joint-stock company in Budapest (Even though the headquarters was located in Vienna, the Prague branch had a very important role since the establishment of the company until the World War 2. It is not surprising then that the company journal, Mitteilungen [Announcements], was being published in Prague [the office was in Opletalova street] and distributed to all branches; this journal played a very important role after the dissolution of the monarchy regarding the exchange of information among the former branches of the company, now independent companies in different countries.). The company's construction activity spread into other regions of both Austrian and Hungarian part; according to the data, the company had to deal with a number of conflicts or tension based on national differences. However, the company hired local experts who often helped to bridge the gap between the locals and the "foreign" company from Vienna (During the field research conducted in summer 2015 in the village and municipality Poniklá [Semily District, Liberec Region, CR] was found out that locals still say that one should work like for Brausewetter - ask for money but deliver a top-quality product.) This expansion brought not only an economic advantage but also the knowledge of the individual regions and their peculiarities. In many cases, this fact had prevented many difficulties or ethnic conflicts. All of this in combination with the entrepreneurial policy of expansion also created the basis for self-sufficiency; Victor Brausewetter managed to cover all costs of his business activity: production costs, financial and economic demands.

2 Pittel+Brausewetter in the second generation

Victor Brausewetter established a successful and wide-spreading family company with tradition and the successor, Benno Brausewetter, his son, continued with this approach and further developed the company (Mosser). External and internal company culture encompassing all the newly established branches in all the individual successor states remained faithful to the previously fostered and concertedly developed company identity of the previous company existing under the Danubian Monarchy. It was not only due to the choice of personnel and the entrepreneurial philosophy of the company owners but also because of the well adjusted generational change: the founder of the company, Victor Brausewetter, set the rules and the successor, his son Benno Brausewetter not only abode by these rules, he also improved them in a positive way that allowed further development.

The transformation of the original, parent company into several companies of different nationality necessitated rapid but at the same time well thought-out adaptation to the framework conditions in the given countries, in legal, social, economic and other terms. The data show that the Vienna branch, thanks to the ownership relations, held the reins of the common policy on management in all the companies. The common company policy concerning the management was based on the thought-out continuance of the crucial fields of activity of the concern, the key competencies in production the concern managed to keep in all the companies in the group to an identical degree; Pittel+Brausewetter had a good position in the field of civil engineering for a long time, including the construction of bridges and mechanisms, mining constructions and pipeline construction, road construction. The company thus could make use of such position. The primary aim was, therefore, retaining the position on the market thanks to a purposeful company policy and effective work of all the companies of the group in the successor states. The credo was not expansion and growth of the group but managing to defend and retain the position in the environment of highly competitive national economies, including Czechoslovakia.

The transformation of the company based on the system of cooperating branches in the monarchy into an internationally active group would not be possible without appropriate decisions of the management of the group. Although the Brausewetter family representatives remained in the top positions of the company management, other partners and members of top management were chosen to partake in the management. The management of the individual national Pittel+Brausewetter companies consisted of highly regarded experts and the historically proven close connection between experts in theory and practical experience was also of high importance. A cooperation with University of Technology, mainly in Brno and Prague, was established from the very start. The company journal *Mitteilungen* (Announcements), first published in 1912, had also a significant role concerning the unified group policy and constant information exchange (The journal had probably a more important role, which slightly differs from what was written about it in 1940: "For 20 years, our *Mitteilungen* journals represented the mutual connection among our personnel. They maintained the mutual ties and thus nurtured the social cohesion...the development vindicated our aims..." 20 Jahre *Mitteilungen* [20 years of *Mitteilungen*]).

Conclusion

Several important timeless moments can be illustrated by the example of the two generations in the management of a multinational company. Such moments might set an example from history, seemingly remote but real, even in the divided yet still united world of today. This family company is

still in existence and the company philosophy, outlined by the founder years ago, is still respected. It is, of course, adapted to the pace of modern life, nevertheless, looking back and learning from one's mistakes as well as one's successful steps might provide an important inspiration.

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MEDIA AND SCIENCE: MEDIA ATTENTION TO SCIENTIFIC ISSUES IN THE CZECH ENVIRONMENT

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Abstract: *We live in a time of continuous scientific cognition where the world is formed by new technologies and discoveries. Just look in the newspapers, search internet news, listen to the radio or watch television. There is a high probability that today or tomorrow we will find or hear news for example about DNA evidence or cloning. Interest in the links between science, media and the public has increased in recent years. Access to knowledge is an important prerequisite for further development of science and the quality of life in general. In this context knowledge, information and scientific literacy become the most valuable and the most important commodity of today. Especially media and their contents influence what the public knows about science and how it is perceived. The aim of this paper is to try to describe the increasing media attention to scientific issues and growing orientation of science on media with the effort to apply this fact to the Czech environment.*

Keywords: *media, science, quantitative content analysis.*

JEL classification: *O30, E600*

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1 Introduction

Science is undeniably regarded as part of society. The society finances scientific research and it also applies the outcomes of science, they become part of culture, lifestyle, and world view. The following text is aimed at getting acquainted with the basic outcomes of quantitative content analysis focused on science medialization in the Czech environment.

Readers are interested in articles on science. They find them amusing, providing them with new knowledge, and such articles will certainly freshen up the media. Media discourse is influenced by technical specifications of individual media and also by the definition of target audience. It is about how to find such communication channel through which the audience can get new knowledge. It can be an article, a radio or television program, a lecture or scientific show. It is always important that the topic had its own story. Whether the topic attracts the audience it depends on a journalist, on

their presentation (Čada, 2006, p. 39-40). However, the present time using electronic media can bring according to Stodola (Stodola, 2010, p. 121) "overestimating of science", which consequently manifests itself by adopting various contentious directions of pseudo sciences.

2 Analysis of media contributions focused on R&D&I in the Czech environment

The aim of analysis of media contributions focused on research, development and innovation (hereafter R&D&I) was to map the development of providing information on R&D&I in a selected set of media in the period from 1998 to 2015 in order to confirm or disprove the specified hypotheses. There was the effort to include printed and electronic media to the media set, and within the specified category then those aimed at different readers, audience or listeners. As for printed media, daily papers such as Economic Newspaper, Young Front TODAY, and Lightning (Blesk) were included into the analysis. As far as radio stations were concerned, the public Czech Radio, and Radio Impulse and Frequency One stations were chosen as representatives of nationwide commercial radio stations. Similarly, public Czech Television and private TV NOVA, and Prima television stations were included in the analysis.

A preliminary set of contributions from the Czech media database (Czech media Product Database is run by the IT Anopress joint stock company) was gained based on the filter of selected media and years. This preliminary filter was supplemented by keywords and phrases which should occur in contributions, keywords and phrases concerned both R&D&I issues and also the support and financing of that area, the appraisal of scientists, science popularizing, etc. For comparison of radio and television stations also one polemic debate was chosen for each station to represent it in the analysis. In the analysis of television stations it was Events (Czech Television), Television News (TV NOVA), and News (Prima). As for radio broadcasting, the choice fell on Radio Forum (Czech Radio), Press Club (Frequency 1), and Impulses by Václav Moravec (Impulse Radio).

Formal categories were suggested for each contribution: source (medium), sequence of contribution, section, and page. Each contribution was supplemented by contents identifiers containing a qualitative character of information. For the needs of the analysis identifiers were chosen indicating whether it was possible or not in the specified contribution to find information to which the specified identifier related (Domestic/foreign contribution, Medical science - operations, R&D&I support, R&D&I financing, Science popularizing, a positive/negative tone of the contribution, Index effect of R&D&I media presentation).

Into the analysis of Research and Development and Innovation presentation in media, the total of 8350 contributions published in the chosen media between 1998 and 2015 were included. Printed media dealt with science, research and innovations issues in 4290 contributions, television stations placed information on science, research, innovations and related topics to their news in 3287 cases and radio stations broadcasted 773 items with the focus on science.

During the searched period a rising trend of between-year growth in the number of contributions about Research, Development and Innovations between 1998 and 2010 is apparent. At the same time it is possible to state that starting 2008, the number of contributions in the examined media was stabilized and media published annually a comparable amount of contributions about R&D&I issues. The exception is then 2010 in which the number of contributions about R&D&I achieved during the whole period the maximum, which were 845.

During the examined period the share of contributions about R&D&I in which identifiers of content "support of research and development" and "science and research financing" ranged from 30.4 % to 48 %. The year of 2004 was an exception, because the share of contributions about science and research support and their financing reached only 16.3 % and the year of 2009 where protests against cuts in subsidies caused the maximum 57.6 % share of contributions about policy aimed at the support of science and research and science financing.

As for individual media during the examined period the highest share of contributions with the occurrence of content identifiers "support of science and research" and "financing of science and research" showed all three radio stations among which Economic Newspaper wedged in. On the contrary, the lowest share of contributions in which science and research support and their financing were mentioned, showed from 1998 to 2012 daily papers Lightning (Blesk) (4.8 %) and Young Front TODAY (6.6. %) followed by TV NOVA. This pursued the issues roughly in every twelfth contribution focused on R&D&I.

From 2005 to 2015, the share of contributions devoted to science popularizing continuously rose and in 2011 every fourth contribution was devoted to science popularizing. In 2012, a decline in the share to the level of 2009 occurred. It was Young Front TODAY that showed the highest share of contributions focused on science popularizing for a long time (25 %). On the contrary, TV NOVA, and Frequency 1 and Radio Impulse radio stations practically do not think science popularizing a satisfactory topic (a share from 1 % to 3 %)

Unique operations formed a significant part of contributions agenda about R&D&I in the daily paper called Lightning (Blesk). They were reported in 40 % of contributions concerning R&D&I. TV NOVA reported about unique operations in every fifth contribution about R&D&I. The lowest share of contributions about unique operations within R&D&I showed Economic Newspaper, Radio Journal, Czech Television 1, and Young Front TODAY.

2.1 Hypotheses evaluation

H1: Public media placed contributions about science, research and innovations more often than commercial media.

The analysis showed that during the examined period an upward trend of between-year growth in the number of contributions concerning science and research was apparent. As far as absolute numbers were concerned as well as according to the Index effect, Young Front TODAY and public CT 1 devoted the largest space to R&D&I. According to the absolute numbers, public radio station Radio Journal was placed second behind the daily papers and CT 1 television station. Also both NOVA and PRIMA TV commercial stations had a higher Index effect. At comparison of a contributions share with the occurrence of content identifier "science and research support" and "science and research financing", Radio Journal and CT1 public stations showed a lower share of contributions about R&D&I with those identifiers than Frequency I radio station, Economic Newspaper, and Impulse Radio.

The stated hypothesis was not confirmed.

H2: Negative response of contribution is to the significant extent connected with funding the science and by the state policy aimed at science and research support.

On the basis of contributions analysis focused on R&D&I it can be said that for all radio stations, CT 1 television station and for Economic Newspaper, a negative response of contribution about R&D&I in more than 40 % cases was connected with science funding, and science and research support. As for TV Prima and NOVA television stations and Young Front TODAY it was 30 % of cases. Only for Lightning (Blesk) daily paper the share is less than 13 %.

H3: A higher rate of positive response of contributions showed contributions related to foreign countries.

Analysis confirmed this hypothesis only partially. All radio stations and Young Front TODAY and Economic Newspaper presented contributions about R&D&I related to foreign countries with a considerable higher rate of positively sounded contributions than it is with domestic contributions, and CT 1 and TV NOVA stations then with a moderately higher rate only. On the contrary the daily Lightning (Blesk) and PRIMA TV television station preferred a higher share of positively sounded contributions about R&D&I from domestic sources.

H4: During the examined period a share of contributions focused on science popularizing increased.

The analysis confirmed that a share of contributions concerning science popularizing was continuously increasing. The exception was 2012 in which a change in the program structure of Radio Journal and CT 1 public stations affected either the scheme of the program and actual polemic debates or the editing change in printed media. Only further investigation can confirm or disprove whether it was a single deviation or a long-term trend.

H5: Commercial media placed contributions about unique medicine operations relatively more often than public media.

The analysis confirmed that with the exception of Young Front TODAY which devoted the largest space to information on the issues of R&D&I and where unique operations created the lowest share of contributions about R&D&I, all other media referred on unique operations relatively more often than CT 1 and Radio Journal public stations during the analyzed period.

H6: Index effect can influence the results presented in absolute values.

The analysis showed that the rate of reading, the rate of viewing or the rate of listening (ratings) of the media is a parameter that can significantly influence the resulting value of Index effect. The share of other parameters even though they play their certain role is less significant. It should be born in mind that it is a quantitative evaluation and if we need to know also quality, which is what is hidden behind the specified value, it is necessary to use further variables. The analysis, for example, showed actually that the Index effect impacts on Lightning (Blesk) daily paper. At the same time, at closer qualitative searching we can find that a large share of contributions was recruited from one area which principally falls into the specified issues but it is not their key part.

3 Conclusion

Communication of science is a demanding discipline reminding a walk between china of scientific accuracy and intelligibility of media contents (Bartošová, 2014). It is said that scientists are successful in "to communicate science" but the problem can be on the part of the public who is not able of

using accessible and reasonably formulated information. People tend to find such information that further confirms what they already think and ignore information that is in contradiction with that. Goethe once wrote that "our ancestors were holding what they learned in their youth", we must start again every five years if we do not want "to be out" (Mišík, 1990, p. 313). Many people remain indifferent to scientific knowledge. So it was and so it will probably remain. Some experts mean that people "lack" scientific literacy and they say how nice it would be to have a society in which people talk about science as about football. (This, however, is only "a wishful thinking". Science is a demanding discipline and it has not got such clear rules and "results" that could be commented by the majority of society).

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ACTIVE EDUCATION OF THE EMPLOYEES OF THE SMALL AND MEDIUM-SIZED ENTERPRISES

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Abstract: *Small and medium-sized enterprises(SMEs) represent the dominant form of the business organization in the Slovak Republic. They undertake mainly within the areas of activities and sectors with claims for the workforce. Their competitiveness also depends on the ability of workers to meet the new requirements for skills and qualifications. A key problem for SMEs is a need to improve their innovative capacity. In a view of the limited resources they often have issues not only with attracting young employees and keeping them after completion of the training and education, but also with the integration of the older employees. They must deal with the problems arising from the ageing of the workforce and age-related changes in the structure. In this context, there are important measures, as the increase in the employment rate of women and older employees. For this reason, it is needed to use all available knowledge, skills and qualifications, in order to achieve more flexible qualifications, regardless where and how they have been obtained. The aim of the paper is to describe some of the innovative training modules to keep both young people and older employees. The key results should be improved quality of work and the overall performance of the organization, change of mentality and increased confidence. From the point of view of the individual employees there is also important to verify their previous skills and work experience, because it increases their chance on the labour market.*

Keywords: *Small and medium-sized enterprises, Digital Competence, Digital Literacy, Open educational resources, Massive open online courses.*

JEL classification: *I20, J21, J24*

Grant affiliation:

1 Introduction

The global market is characterized by rapidly changing conditions and increase of competitive pressures. This requires a rapid and improved capacity of enterprises to respond to deviations in demand in the economic cycle. The implications of this begin to show up in the first place in small and medium-sized enterprises (hereinafter referred to as SMEs). Such enterprises have the highest share in the jobs creation in the economy of Slovakia, because they employ the crucial part of the work capable force. They create job opportunities in the various areas, often in the labour-intensive

sectors requiring the highly qualified work. There is a growing pressure of competition. Maintaining the position of the enterprise on the market tends to be associated with its ability to offer still new or upgraded products. In a given situation ongoing dialogue is needed. Only in communicating with each other the issues among employees and employers can be instantly solved, and in such way the conditions can be created so that both sides could be more flexible to respond to the requirements raised by the new technologies, innovation, or whether changes in the market. The use of the emerging technology in practice begins to be limited to the high quality and qualified labour force.

The requirements of the labour market response to the new digital technologies and working methods and those to the skilled workforce. The situation is changing so dramatically that some businesses are starting to be threatened by the new production programs. For better application of the workers in the labour market there is increasingly required obtaining of the digital skills, because we meet with the lack of skilled workers and there is a rise in the demand for skilled workers with IT skills. In many EU Member States there is an increase of the proportion of older workers in the labour market. Enterprises offer the work to employees-experts, who had already retired. The current trend of the younger employees there is much more frequent changing of employers than in the past. There is an issue with the child care availability, but also with the care for elderly and the sick people (parents), which complicates the harmonisation of the work and family life.

A big hurdle is becoming so called Digital gap in the digital literacy among different generations. We are getting into a situation, about which (Gemignani, Gemignani, Galentino, & Schuermann, 2015, p. 183) says: "The digital gap in the near future will not be among those who have and those who do not, but among those who know and those who do not know". The digital skills acquired by employees, even in the middle age and below retirement age will allow them to better take advantage of the employment opportunities brought by the advanced digital technologies in the environment of the broadband Internet networks in the context of the transition of the EU to the digital single market, and so called Industry 4.0. Skilled workers with the IT skills are required by a wide range of industries, passing the transformation of their functioning to the Smart Industry.

Employers are therefore being forced to search for the appropriate people in their own company, reaching into the portfolio of their own employees and proceed to their retraining. The necessity of lifelong learning is becoming the top priority. The need for the retraining becomes important because there is growing exponentially the number of jobs, which did not exist during the studies. Immediately, it touches the current the high school and university graduates. Many of them are having their qualifications in the labour market which are not usable. These challenges require a more flexible approach to the further education of employees, who are able to combine the knowledge and skills of their own disciplines with advanced digital literacy and IT skills. Employers, therefore, will have to try to create an educational system in which the retraining based on the current scientific knowledge of the results takes place. Such an educational system should also encourage creativity and reflect the long-term strategy of the company and its competitors in the global market.

2 Theoretical background

The overall value of an enterprise consists of not only the financial and intellectual capital, which is represented by its patents and protected technologies. Competitive advantage of the enterprise, is also currently in the stable and loyal employees. For the business success on the markets there is not

considered only developed and applied high-quality strategy. In many enterprises, they already understand that it has to be an integral part of ensuring the high-quality, skilled workforce (Nordström, & Ridderstråle, 2005). For this reason, enterprises have started to look for the appropriate ways for the effective development of the potential approaches and their own employees. Development of human resources, management, training and performance evaluation are fully described by (Armstrong, & Taylor, 2014). In his work he presents the latest trends and practices in this area.

He draws attention to the fact that the expression of the value of the company becomes a human capital in a higher rate, which is made by its employees. It is just them who give to their enterprise a new dimension and a special character with combination of their intelligence, knowledge and experience. The employees of the enterprise create the specific component, which is able to generate a unique learning, change, innovation, and creativity. All this, with a good motivation, enable education to ensure the long-term survival of the enterprise. It is the capital, which currently represents a significant factor in the prosperity of the business. European policy in general, and therefore also in the field of educational policy, its current orientation is focused on lifelong learning. With its flexibility, mobility and individualism it creates all conditions for normal social inclusion by using specific educational skills.

Through lifelong learning and also education, freedom of choice and needs have become critical, and through them the responsibility moves from the system to the individual. Each individual carries a full responsibility for "updating" his own skills and knowledge. (Kaščák, & Pupala, 2011, p. 12).

The main objective of the employees' education is an increase of the effective performance and the measure of implementation of the aims of the corporate strategy. Koubek analyzes the extent by which an education can increase the intellectual capital of the enterprise and thus contribute to the achievement of the desired objectives. In his work in details he analyzes the advantages but also the disadvantages of the business education (Koubek, 2011). According to the theory of the human capital, it generally belongs to the most risky. In his case there is still the risk of the employee leaving to another employer and the investment in the general human capital becomes ineffective for the enterprise. If the employer wants to prevent the employee's leave, and ensure the return on investment, he must motivate the employee to stay. As mentioned by Šikýř, there are many ways of motivation. From the commonly practised financial motivation until more effective, which are, for example financial promotions, personal growth, etc. (Šikýř, 2014). Equally important is the impact of social and intellectual capital (Spirkova, Caganova, & Bawa, 2015).

3 Methods of education and the teaching process

Effectively realized education is a long-term process. Enterprises frequently provide training of employees through the internal experts (they create their own educational centre). The referred form is used, according to our experience, by already well-established enterprises. They have already precisely identified their needs, defined objectives and clearly defined expectations. Each individual phase of the business education is clearly elaborated in details, for example, in the monograph (Vodák, & Kucharčíková, 2011). New and smaller enterprises most often look for and they usually find a suitable external educative institution. Professional educational institutions, in addition to the actual training, can also provide professional advice and assistance in a given area. In general, the socio-educational process combines the social and educational processes, by which creates a

consistent effect on the individual. The methodology of adult education is a set of steps, a certain guidance for reaching concrete objective of the training. It depends from the target what kind of content the training is going to have, what training methods are chosen, etc. The content of the education is dependent on the aim, but independent of the methods and forms of education. At present, at least in scientific circles (Plaminek, 2014), it applies that in the case of the adult education, there are different patterns and specific processes in comparison to the education of students at universities (Turek, 2014). For this reason, it is not possible to just apply the proven pedagogical procedures applied in the education of students in (methodology) to the target group of adults. Within the scope of this article it is not possible to fully use all the arguments in favour of the adults' education validation, as a currently developing lifelong learning subsystem (Petlák, 2004). Education in this case is the process in which the employee acquires the knowledge, skills and habits. He improves his skills. Theoretically and practically the education is understood in the broad sense as the process of the formation of the personality of a human being. Education, on the difference from growing up (which may be intentional and unintentional), is organized, though not always necessarily formalised process. The didactic process can be likened to the concept of didactic teaching, which includes a set of teaching and management activities of the teacher (lecturer), those are the content of the concept of teaching, as well as training of participants (employees). The teaching process has its structure and its basic elements are all interrelated. The quality of teaching is the intersection of the operation of the objectives of education, its content and teaching. On the other hand, as well as the forms and methods of education and personality of the teacher (lecturer). In the theory of the adults teaching the didactic principles are adapted to the specificities of the adult education. In their principles they create a wider overall social objectives of the formation of the personality of the adult individual. In the whole structure of the didactic principles we will focus on the ones that are most closely associated with the activities of the lecturer in adult education. The contents of adult education belongs to the objective factors that lead to the realization of the objectives of adult education. Just the effectiveness of the training depends on the quality of the content. While creating the content there can occur a lot of problems such as: content does not lead to the goal, the inadequacy of the methods used, miscalculation, too wide range of knowledge, inappropriate choice of topics – low level of knowledge of the problem, etc. There is not only one correct or universal method in adult education. Use of variety of methods depends on the content of learning (sharing the knowledge requires the use of other methods such as influencing the attitudes, values formulations etc.). Each method has its own advantages and disadvantages.

4 The possibility of enhancing efficiency and effectiveness through e-learning

Depending on the changes in the objectives of the training there is logically modified the content. It is updated with the new information, existing information is enriched and refined. This leads to satisfying the specific needs of an adult man. Constantly there is an alignment between the education content with the technical knowledge development. All this leads to the need for continuous innovation of the whole system of adult education, both in terms of content, but with the ever-changing possibilities of digital technologies, as well as in terms of functionality as well as in terms of presentation. One of the most effective methods of identifying the training needs and training techniques in dynamically changing conditions is the procedure that consists in the comparison of the actual and required knowledge profiles. The main advantage of this method is precisely timed and targeted education. Just the current economic situation is forcing entrepreneurs to look for effective and efficient educational systems. Applied information systems used in the

training of employees should gradually move towards the development of the required knowledge, skills and competence. Each euro spent on education should bring the desired effect.

4.1 Digital literacy and digital skills

Professional work and scientific studies that deal with digital technologies and digital skills are designed to highlight their wide application, and use in everyday life, as well as in education. The content of the concept of digital literacy is based on the identification and characteristics of digital competences, which are referred to in the publication of the European Commission DIGCOMP: A Framework for Developing and Understanding Digital Competence in Europe (Ferrari, 2013, p. 11) 5 key areas of digital competencies that defines: "

Information: identify, locate, retrieve, store, organise and analyse digital information, judging its relevance and purpose.

Communication: communicate in digital environments, share resources through online tools, link with others and collaborate through digital tools, interact with and participate in communities and networks, cross-cultural awareness.

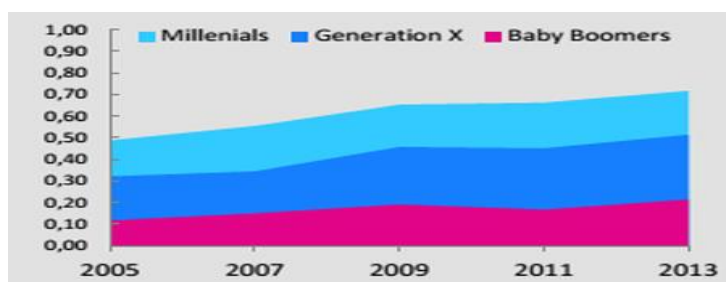
Content-creation: Create and edit new content (from word processing to images and video); integrate and re-elaborate previous knowledge and content; produce creative expressions, media outputs and programming; deal with and apply intellectual property rights and licences.

Safety: personal protection, data protection, digital identity protection, security measures, safe and sustainable use.

Problem-solving: identify digital needs and resources, make informed decisions on most appropriate digital tools according to the purpose or need, solve conceptual problems through digital means, creatively use technologies, solve technical problems, update own and other's competence. "

Research status of digital literacy in Slovakia was carried out by the Institute for Public Affairs (further IVO) by 2014 (Veľšič, 2014). Digital literacy is in this research represented by the index pointer for an overarching instrument of digital literacy (Digital Literacy Index-DLI). Index of digital literacy includes 28 indicators (questions) that measure the level of work with modern digital technologies, as well as with their applications and services. The participants of the survey in each of the 28 questions (i.e. DLI indicators) characterized the level of their digital skills on a scale of 1 to 5 (representing the assessment of the degree of control from very well until do not manage it at all). Indicators of Index of digital literacy are divided into four groups: work control with the hardware, software, work control with the information in the virtual space and the ability to communicate through digital technologies. Quantitative characteristics of the individual indexes of the digital literacy is represented by numeric values for a numerical scale from 0 (digital illiteracy) up to 1 (maximum level of digital literacy).

FIG. 1: Digital literacy index (indexes in points), source: (Velšič, 2014, p. 6)



Research of the Institute for Public Affairs (IVO) has confirmed that the number of digitally literate people in Slovakia has increased. The sample also showed improvement in the General level of observation on the digital skills (see. Fig. 1).

The best place related to digital literacy belongs to the current generation - Millennials, which is significantly different from the previous ones referred to as Digital natives (Prensky, 2001). Young people grow up surrounded by enormous possibilities that currently provide constantly evolving digital technologies (such as Smartphones, wearable technology, fashionable technology, wearable devices, tech togs, electronics, fashion electronics etc.). Digital technologies and related digital skills, therefore, play a big role not only in their everyday life, but also in work or study, also in spending free time and entertainment. Millennials generation already cannot imagine mutual communication, information retrieval, paying in the shops, relax in the leisure time, etc without them. On the basis of the gained experience, Velšič considers the improvement of the detection of the weakest article as significant. In a chain of digital literacy, there are representatives from socially weaker environment, middle and elderly generation, low-educated, retired and working manually. These groups of people stagnated in the long term and have been part of the population, which stood on the edge of the "digital gap"(Velšič, 2014). The digital gap in Slovakia, for the first time since the tracking of issues, has started to improve slightly. "It is possible to track the slight differences even in a regional perspective. There has mitigated the differences between countryside and city. It has also lost the traditional division Bratislava versus the rest of Slovakia "(Velšič, 2013, p. 15). From the above mentioned facts it is seen, that the implementation of the educational programs include information about digital skills of educated as the priority skills.

4.2 The choice of an appropriate form of education

At present, there are many different ways in which we can achieve the set objectives. For most of them, however, it is a necessary a certain degree of digital literacy for the efficiency of SMEs. In choosing the appropriate training techniques we must always know in advance the target group we want to reach. Only then we can fulfill the established expectations. Despite the advanced digital technologies used in education, teaching process is guided by the teacher (tutor). The level of transmission of knowledge depends mainly on the quality of the teacher, the formal page. In the case that he is also the author of the study materials, at the same time affects the quality of the content of the materials. He has a full autonomy in the selection of methods of education. All these facts imply his professionalism, knowledge of the educational skills and principles.

Naturally he must know the needs and level of education of the participants. Experts on education Turek, but also Plamínek, point to the difficulty and blocks of the adult education (Turek, 2014)(Plamínek, 2014). Apart from the teaching of the students it is important to take into account,

that all come into the situation with their own evaluation and perception of the teaching by themselves. When selecting the most appropriate training methods the teacher should know the intellectual skills of the participants and their level of education. In this case, the cooperation is needed, not competition. Lecturers have to assess their practical experience and expectations very quickly. They have a quantity of knowledge from practice, that show them a need for further education. It is necessary to establish these experience and exploit them. It is not necessary to navigate education to the theoretical area, but on a particular problem, with the support of theory and direct application to practical case (case studies, project approach and etc.)

There are appropriate case studies, the resolution of which is immediately touching the issues that are dealt with in practice. We start from the principle that the knowledge gained from the activities is more permanent, they bring the satisfaction from learning and minimize the stress of failure. This procedure has been proved to be very successful in the case of our students of the distance study. Very good experience with this approach, we dealt with in the framework of the research VEGA, we also have in teaching of the economic subjects the students of technical subjects in higher grades of daily study. Technology tools, that we currently have at disposal, offer us possibility for a wide exposure to intense perception of the listeners. However, it is known that it is better to see once, than to hear hundred times. This idea is and will be still current, as it is based on the nature of a man. The only difference is in the media, which is perceived by the listener's eyes.

4.3 Digital technologies and the possibilities of learning in SMEs MOOC

Small and medium sized enterprises do not have a lot of room to invest into the education events, which real economic benefits are very difficult to be measurable and they are highly uncertain. The argument that the method of education is suitable and convenient does not apply any longer. Every euro invested in this direction is periodically evaluated and must be reflected in an increase in the benefits of the business performance. The competent authorities responsible for education are looking for the effective learning.

In practice, currently the SMEs most often use various forms of e-learning. The reason for this is the optimum ratio of price to the performance achieved. In addition to the training and the training of new employees, this kind of training is appropriate in cases where it is necessary to increase the level of knowledge of a specific group of people, which is not concentrated in one place. Precisely for this reason, the e-learning is attractive for globally operating companies that have created learning materials for their affiliates in English without the need for their translation into the national languages. The advantage of e-learning is its adaptation to the operating conditions of the enterprise and work tasks of individual workers.

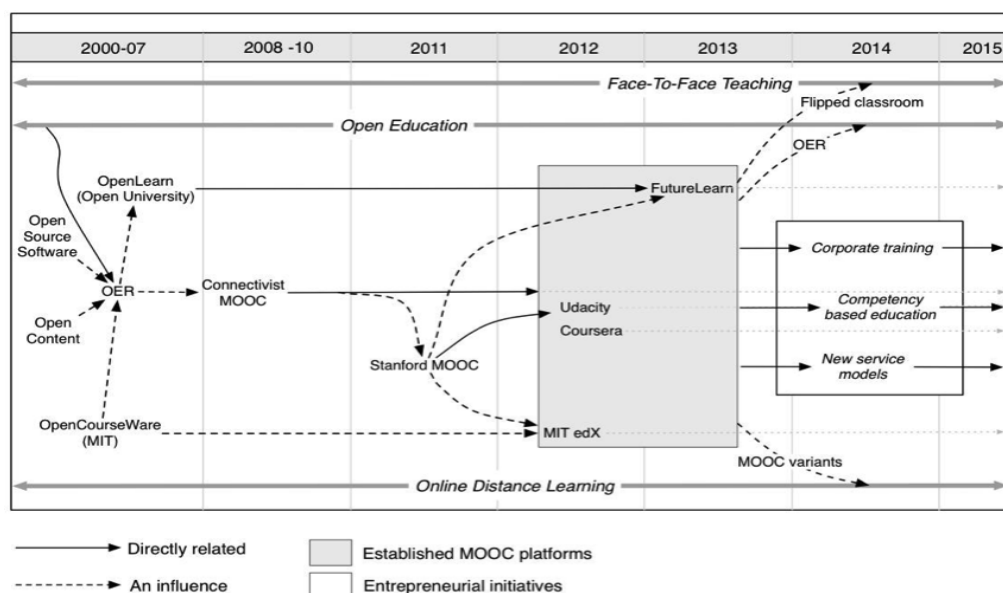
This means that a worker may educate regardless of time and place, where he is currently based. The employee can educate himself in his environment, which he considers the most appropriate for his own education and as an educational tool he can use a digital equipment, which is the most suited to him whether it is a smartphone, tablet, or PC with a larger screen. In connection with the above advantages and with the possibility of choosing, with whom the staff member co-operates in education in cyberspace, web 2.0 and social networks. Equally significant there is an approach focused on the needs of learners, employees. Personal Learning Environment -(PLE) (Van Halle, 2006) (Attwell, 2007) (Fiedler, & Völjätaga, 2011).

For the employees, who will be educated in the case of online training courses is favourable, if they learn from the other sources of information in the online environment in order to better fit with the new information. It is also beneficial for the employee to set his own pace of learning procedure, the possibility of the self-evaluation. Other of the advantages of e-learning is cheap implementation of training and retraining not restricted to the number of employees, or who will be educated. E-learning increases the speed and efficiency of the processes and supports the creation of a corporate culture. By using the e-learning the employee is gradually changed from the recipient of information and educational products to the active searcher.

Some, especially domestic enterprises can be discouraged from the use of any forms of e-learning by higher initial costs. The higher initial investments are related to the security of e-learning technology, most commonly with the creation of appropriate educational materials, formal and also the content page. This problem for SMEs can be solved in the future by using so called Open educational resources (OER) and Massive open online courses (MOOC).

MOOC is the concept of synchronous type, or even the type of teaching that is typically bound to network connection and delivered online. This principle of online open courses was created proximately four years ago. The above phenomenon was largely influenced by the freely available courses from MIT, Open University, and Stanford University. On Fig. 2 there is clearly seen a MOOC trend pointing to a new business model, which can be successfully deployed in the corporate training courses free of charge in SMEs. It is customized training tailored to the needs of small and medium-sized enterprises, from the point of focus or even the costs on education.

FIG. 2: Potential Impact and Trends of MOOC on Education, source: (Yuan, & Powell, 2015, p. 2)



The Slovak and Czech companies can take the advantage of the free but also, in particular, already paid courses aimed at increasing the skills of employees with IT skills. They cover areas such as: Software Engineering, IT Certification, Web Development, Mobile Apps Development, E-Commerce, Programming Languages, Databases, Software Testing, Development Tools, Network & Security, Hardware, Operating Systems. Our SMEs may, however, increase their employees qualification as well as through seminars and training skills in digital form covering the skills in the field of

management and marketing, such as: Finance, Entrepreneurship, Communications, Management, Sales, Strategy, Operations, Project Management, Data Analytics, Human Resources, Productivity, & Industry, Media, Real Estate. From the perspective of SMEs courses of foreign languages may be interesting. Especially for languages from the more exotic countries which are not covered by the terms and conditions in our educational courses. The above staff can help to enhance the competitiveness of the enterprise education in a globalised market.

In some cases, however, it is advantageous for SMEs to dig for digital lectures and seminars created from the formal digital outlines from the study programmes of the world's top universities. These courses are provided through their university professors from the page of the lectures. And after their successful completion, these institutions offer the issue of the certificate for a fee.

MOOC may, however, serve to the companies to search the new employees. At present, there are mainly larger companies such as AT&T, Amazon web services, Cloudera, GitHub, Google, MongoDB, etc., which these options used through Nanodegree Programs (Industry credentials for today's tech job) for example on the Udacity.com. These companies are directly involved in the creation of courses and they offer a job or internship to the participants upon successful completion of the course. In the future SMEs could in a such way reach a part of their employees under specific conditions and, of course, in a more limited range.

5 Conclusion

Learning is an active process, which will take place on the basis of the associations. The teacher acts in this process at the moment as a facilitator of transfer of interconnected knowledge and mutual relations. The use of digital technology, the whole process and character of the adult education becomes more appealing and more accessible. It allows to educate a higher number of the candidates. On the one hand the active involvement of the modern technologies will begin to weak the position of the teacher (lecturer). On the other hand we must not forget the balance and the maintenance of the degree of implementation of digital technologies in the educational process.

It is equally important to think about the future of education across the entire spectrum of the educational system. In this case, the search for answers to the questions is not connected to adults' education only. We live in a vibrant world. Today we try to predict future needs for practice and professional focus of the school graduates, what place there will belong to lifelong learning in the enterprises in all this process, what will be its contents, etc. We are at the beginning of the industrial changes referred to as 4th industrial revolution (Industry 4.0).

Despite the fact that its effects will be fully reflected in the coming decades, we have to count with them already now. Particular concerns are raised by the experts estimates related to the unequal access to the labour market (Bogedan, & Schildman, 2015). Changes in the labour market will be temporarily induced by creating a limited number of original working positions. There will be created new professions and jobs in the new industries. They will require a new professional orientation. We can expect that professions that have guaranteed the material security in the labour market for decades, will gradually lose its importance. So far, we can see only the contours and we do not know the extent of the twisting point in the field of education. However, we must take into account the fact that the changes related with education, are irreversible

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THE APPLICATION OF REAL OPTIONS

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Abstract: *Evaluation of potential investments using real options has been developed from approaches originally used for evaluation of financial options. Classical methods typically consider value of a project at its beginning, which ignores potential changes in its later stages and may lead to its undervaluation and rejection. The possibility of managerial intervention during the lifetime of a project has an additional quantifiable value known as the real option embedded in a project. This article is a case-study of a real estate investment. Real options enable evaluation of expansion and contraction possibilities based on situation on a real estate market.*

Keywords: *financial and real options, real estate investments*

JEL classification: *D92, G13*

Grant affiliation:

1 Introduction

Development of theoretical models of evaluation of financial options enabled their application to investment evaluation. In 1977, economist Stewart Myers defined real options to expand, to contract or to abandon a project based on new information about the development of the situation. The evaluation of investments is based on analogy with financial options. Value of an investment is considered to be a derivative of capital expenditures, expected incomes, time, and uncertainty related with the project. Evaluation of real option embedded in a project is done analogously to evaluation of financial options.

Standard dynamic methods of project evaluation are based on discounting cash flows during lifetime of a project with an interest rate that reflects risks inherent to the project. Value of a project in these methods is considered at its beginning and does not include new information during the lifetime of a project. This lack of consideration can lead to undervaluing and even abandoning the project. Active managerial intervention during the lifetime of a project has additional value – the value of flexibility, also known as value of real option embedded in a project:

$$NPV^* = NPV + \text{option value} \quad (1) \quad (\text{Scholleová, 2007})$$

The most important moment in the application of real options is their identification within the investment decision. A deciding factor influencing the value of real options is volatility, expressed as standard deviation of cash flows under consideration. When deciding under certainty, the value of an option right is reduced to zero. The methodology is utilized primarily in fields with high volatility, e.g. energetics, R&D, biotechnology and pharmaceuticals, natural resources industries, etc.

2 Mathematical model for option pricing

Financial options are future contracts in which the owner of the option has the right but not the obligation, to carry out the agreed operation within some specified period of time. The operation can constitute buying (call option) or selling (put option) of an underlying asset for a previously specified price (called realization price X) at due date T (also known as expiration date), as opposed to actual price (called spot price S). Option is realized only if beneficial for the owner of the option, otherwise the option expires without any compensation. Exercising the right to sell or buy the underlying asset for the realization price is possible either at any time before the due date – in case of so called American options – or only at the due date – in case of European options. The decision of the owner of the option is binding for the issuer of the option. The issuer collects from the buyer an option premium, or simply the price of an option. The price is a sum of the intrinsic value and the time value of the option. The time value of the option at time t reflects the impact of supply and demand and signifies the price the buyer is willing to pay for the increase of intrinsic price by the expiry date of an option. The intrinsic value of an option is the benefit the owner receives, if the option is exercised immediately. For call options, it is expressed by $V_c = \max[(S - X), 0]$, while for put option $V_p = \max[(X - S), 0]$.

Thus, the main factor that influences the option premium is the volatility of the price of the underlying asset – the higher the volatility, the higher the price of the option. Determination of the option premium is done in two ways: universal binomial model that works with discrete distribution of time remaining until the realization of an option, and Black-Scholes model for European options, which assumes continuous development of the price of the underlying asset.

The binomial model assumes that the lifetime of an option T can be divided into a finite number n of equally long periods of time Δt . During each segment there are only two possible states – the asset's price either increases (with a growth index u /up/ and estimated probability p) or falls (with a drop index d /down/ and complementary probability $q = 1 - p$). The indices and probabilities are obtained from:

$$u = e^{\sigma\sqrt{T/n}}, \quad d = e^{-\sigma\sqrt{T/n}}, \quad p = \frac{(1+r)^{T/n} - d}{u - d}, \quad (2)$$

where σ stands for volatility; n – number of periods; r – risk-free interest rate. Calculating the value of a European option for n time segments, that considers cases resulting from repeated branching in each time node, leads to:

$$V = \frac{1}{(1+r)^n} \sum_{i=0}^n \binom{n}{i} \cdot p^i \cdot (1-p)^{n-i} \cdot \max(Q, 0), \quad (3)$$

where Q stands for $Q_C = (S \cdot u^i \cdot d^{n-i} - X)$ in case of call options, and for $Q_P = (X - S \cdot u^i \cdot d^{n-i})$ in case of put options. The value in each node is discounted by the risk-free interest rate r . In case of American options, the values in each node are obtained by recurrent backwards progression. The use of both models is limited by certain conditions detailed in the referenced literature. (Scholleová, 2007)

Given the range of possible applications, the classification of real options is not fixed. Most real options are formed as a combination of basic types (option to wait, option to expand or to contract, option to abandon) interlinked either sequentially or in mutually implicated relation. (Mun, 2006)

TAB. 1: Real option parameters

Parameter	Input variables
S	Present value of expected cash flows
X	Present value of investment required for realizing the project
σ	Volatility of future cash flows
r	Risk-free interest rate
T	Period of possible project realization

3 Evaluation of the investment plan using real options construction

A real-estate company is considering an investment of buying four older flats in Prague, with the intention of renting and later selling them. At the same time, the company analyses the options to alter the project based on the current situation at real-estate market either by expanding the investment by including parking lots or contracting it by selling one of the flats. Four older tower block flats of 2+1 type have been selected, with a total price of 11.7 million CZK. Preliminary plan consists of renting the flats for the next 8 years and then selling the flats. Based on the development on the real-estate market in the next 5 years, the company will either sell one flat for 2.65 million CZK (option to contract) or will invest additional 1 million for garage stands (option to expand).

The prices of residential estates are currently overpriced due to low interest rates and are often the subject of similar investment plans. A change in the situation could plummet the value of estates (Czech National Bank, 2015), which justifies detailed analysis of the project using real options.

3.1 Net present value

The following items were considered for calculation of NPV: monthly rent (not including deposits for energies) – total of 54,000 CZK; costs (flat maintenance, management and collecting rents) – total of 7,000 CZK; taxable profit; accelerated depreciation; unchanged selling price 8 years after purchase (increase of market price compensated by flat depreciation). Using a discount rate of 5% leads to $NPV = \sum_{i=1}^{i=8} \frac{CF_i}{(1+r)^i} - 11,700,000 = -13,000 \text{ CZK}$. NPV is negative and the project could be discarded. The present value of expected cash flows is 11,687,000 CZK.

This situation is suitable for reevaluation of the project using the methodology of real options, as the interventions during the lifetime of the project can have significant value. The investment plan can be viewed as a real American option that includes option to expand (call option – purchasing additional increase of income) and an option to contract (put option) – with a lifetime of 5 years.

Calculation is done using the binomical model. Development of the price of the underlying asset will be analysed in one-year segments.

3.2 Determination of volatility

Flats can be considered a traditional trade commodity, but the uniqueness of each trade and lack of proper historical data, there is a significant level of uncertainty. An estimate can be made based on average bid flat prices for quarterly periods from 2005 to 2015 in Prague. (Czech Statistical Office, 2016) This provides an annualized volatility of 8 %. As recommended in referenced literature this value is used as a lower boundary of an estimate and the resulting price of an option is subjected to sensitivity analysis. (Scholleová, 2007) Positive correlation of renting prices and prices of flats is expected.

3.3 Evaluating option price using MS Excel

Option parameters: spot price $S = 11.687$; lifetime of option in years $T = n = 5$; volatility $\sigma_Y = 15\%$; risk-free interest rate $r = 1\%$; index of increase and decrease: $u = 1.16, d = 0.86$; probabilities of increase $p = 0.53$ and decrease $q = 0.47$. Expected increase in income upon expanding the project with an additional investment of 1 million is 12 %, while selling a flat in case of contraction of the project for 2.65 million will lead to decrease of income by 23 %. Prices are in mils.

FIG. 1: Development of price of the underlying asset

0	1. year	2. year	3. year	4. year	5. year
					24,74 P
			18,33 G	21,30 K	18,33 Q
		15,78 D	13,58 H	15,78 L	13,58 R
11,687 A	13,58 B	11,69 E	10,06 I	11,69 M	10,06 S
	10,06 C	8,66 F	7,45 J	8,66 N	7,45 T
				6,41 M	5,52 U
Price development of the underlying asset					

The resulting value of an option is not a sum of individual options of expansion and contraction, because they are mutually dependent and exclusive.

The main decision objective in each step is maximizing the income of the company. Nodes in the binary tree are named A* to U*. Values of nodes P* to U* (the nodes at the end) are calculated as a maximum of values that express options of the management at a given moment in time (maximum of the three options – original project/expand/contract).

FIG. 2: Development of option price with highlighted optimal choices

0	1. year	2. year	3. year	4. year	5. year
					26,71
				22,86	expand
		16,71	19,55	open	19,53
		open	open	16,68	expand
	14,35	12,30	14,26	open	14,21
12,40	open	open	open	12,16	expand
open	10,73	open	10,62	open	10,40
	open	9,40	open	9,32	contract
The value of option	0,713	open	8,39	contract	8,39
			contract	7,59	contract
				contract	6,90
NPV					contract

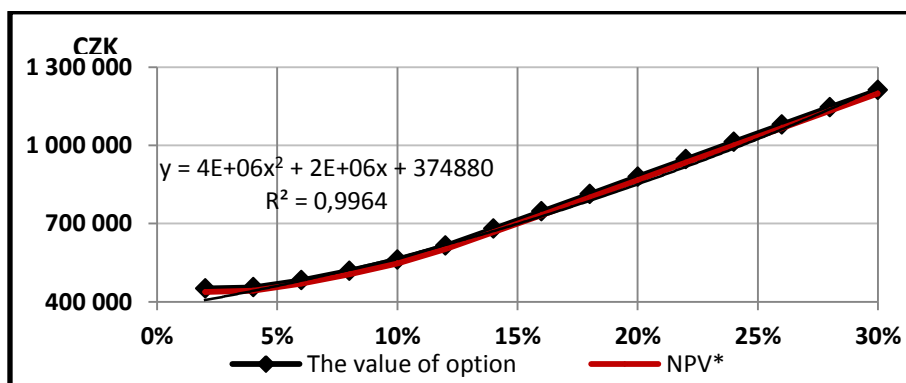
For the other nodes (K^* to A^*) the values of continuing are additionally calculated as a discounted weighted average of future possible values of the option using the probabilities p and q , e.g. for K^* : $\{p \cdot \text{value}(P^*) + q \cdot \text{value}(Q^*)\} \frac{1}{1+r}$.

The final value of a project that includes flexibility contained within is positive and the project can be accepted: $NPV^* = NPV + \text{value of option} = 700\,000 \text{ CZK}$.

3.4 Sensitivity analysis

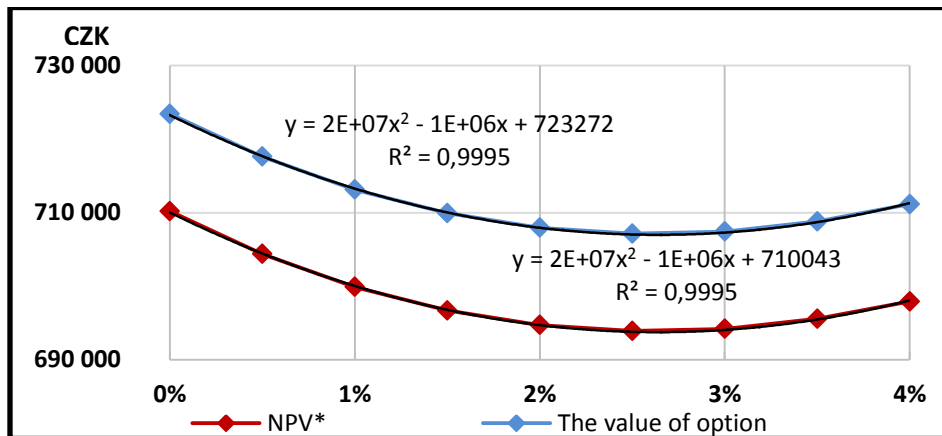
To solidify the conclusion, the effect of varying the estimated value of volatility (with fixed risk-free interest rate of 1 %) or the value of risk-free interest rate (with fixed volatility of 15 %) on the value of the option is desirable.

FIG. 3: The impact of varying volatility value



The value of an option increases with increasing volatility, but is not significantly dependent on the value of risk-free interest rate. Figures 3 and 4 show good quadratic fit (dotted lines) of the value of the option and NPV^* as a function of both parameters.

FIG. 4: The impact of varying risk-free interest



4 Conclusion

The current drop of interest rates increases both the availability and prices of real estate. The fluid situation on the market calls for thorough analysis capable of reflecting the value of flexibility of projects under consideration. A model example based on realistic data was used to demonstrate that the methodology of real options fulfils this requirement, and that the value of flexibility can be substantial. The obtained results complement those obtained from net present value method.

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THE WISDOM OF THE CROWD: THE POTENTIAL OF CROWDSOURCING USE IN PUBLIC MANAGEMENT

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Abstract: *In recent years, online communities have become an important source of knowledge which has received much attention, as public managers discover the power of crowdsourcing. This paper aims at introducing the idea of crowdsourcing and describing how public managers can use it as a tool not only for gathering knowledge but also for building and maintaining strong positive relationship with their citizens. The paper examines the evolution of crowdsourcing use in public management, and it assesses the strategic use of different types of crowdsourcing to assist public managers in determining the appropriate crowdsourcing approach for responding to different kinds of management problems. The paper discusses the potential implications for public management, and the possible emergence of a new social contract that empowers the public to play a far more active role in the functioning of their government.*

Keywords: *Crowdsourcing, public management, problem solving, civic participation.*

JEL classification: H83

Grant affiliation: IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.

1 Introduction

Increasing demands from citizens, together with rare resources and extensive social, economic and environmental challenges, many scholars (Royo & Yetano, 2015), (Collm & Schedler, 2012; Linders, 2012) agree that public managers need to find new and innovative approaches to solving changing problems and fulfilling their duties. One of such approaches is crowdsourcing which could be defined as the use of new technologies in order to take advantage of citizen knowledge to find solutions to municipal problems. Crowdsourcing is an online, distributed problem-solving and production model that has grown in use in the past decade. It is an umbrella term for a variety of approaches that tap into the potential of large and open crowds of people (Geiger, Seedorf, Schulze, Nickerson, & Schader, 2011). This paper demonstrates how crowdsourcing can be applied in the governmental context, and under which conditions. As illustrated with examples, the paper show that

crowdsourcing may generate strong interest among citizens and may serve as a source of new high quality input.

2 Crowdsourcing

The concept of crowdsourcing is not new; the term was coined in an issue of Wired magazine by Jeff Howe (2006) as a mechanism for leveraging collective intelligence of online users toward productive ends. Crowdsourcing refers to the collection of large volumes of data or reports on certain events, by making use of geographical dispersion of people. (Väättäjä et al., 2011). As Bhana et al (2013) state, the dynamic mobility of citizens and their observations and knowledge of their surroundings make them perfect candidates for collecting knowledge on activities occurring in their environment. In this manner, large volumes of data can be collected in a short period of time, and at a low cost. Thanks to citizens' knowledge of their surroundings, Väättäjä et al (2011) had found crowdsourcing to be the most appropriate method for collecting public safety data.

3 The citizens' new role

Citizens have expertise, experience, local knowledge and professional insights, and so can contribute their perspectives as service users or interested participants, widening the circle of knowledge (Royo & Yetano, 2015) to find a solution to a pre-defined problem. Koch et al (2011) state that citizens should not be treated "just as taxpayers" or receivers of public services, but rather as active participants and problem solvers who wish to be involved in public administration.

Linders (2012) even speaks about a new role of citizens who should be regarded as active partners rather than passive consumers in the process of delivering public services.

4 Types of crowdsourcing

Although many different crowdsourcing approaches are available (Schenk & Guittard, 2011), (Doan, Ramakrishnan, & Halevy, 2011), (Corney, Sanchez, Jagadeesan, & Regli, 2009), (Nakatsu, Grossman, & Iacovou, 2014) this article is patterned on Brabham's (2009) four-part typology of crowdsourcing which was first presented in a 2009 white paper (Friedland & Brabham, 2009) and refined in 2013 (Brabham, 2013). This typology is the most cited in the literature, and it distinguishes four types of crowdsourcing: Knowledge Discovery and Management, Distributed Human Intelligence Tasking, Broadcast Search and Peer-Vetted Creative Production.

4.1 Knowledge Discovery and Management

By applying this type of crowdsourcing, public managers can use online crowd as a way to extend its abilities, relying on communities to bring new information into play in efficient ways. This should lead to better decisions and resources allocation. The prerequisite for this type of crowdsourcing is a clear information management task and clear instructions for how the task is to be performed. Thereafter a community of online users responds by finding and reporting that information in the specified format where crowd could report via mobile application or web page.

4.2 Distributed Human Intelligence Tasking

This type of crowdsourcing extends the data-analytic capabilities of government, decomposing and distributing large amount of information to an online crowd that performs small tasks. The most important precondition for success of this type of crowdsourcing is crowd's motivation to report.

That is why public managers generally offer small financial and other rewards to motivate online community.

4.3 Broadcast search

Broadcast search crowdsourcing serve public managers to find solutions to various kinds of difficult ideation problems opening the problem-solving process to an online crowd. In this type of crowdsourcing, public managers announce a problem usually with detailed scientific parameters, and challenge a crowd to solve it. After that, members of online community propose complete original solutions to address the problem. To motivate the crowd, broadcast search crowdsourcing often take the form of competition with prize for winning solutions.

4.4 Peer-Vetted Creative Production

While in previous types of crowdsourcing, public managers are turning to the crowd to gain knowledge, in Peer-Vetted Creative Production crowdsourcing they collaborate with the crowd in much more sophisticated way. In this type of crowdsourcing, the crowdsourcing process is double. In first phase, public managers challenge the crowd to share the knowledge in order to create innovative products and services. Afterwards, the second crowdsourcing challenge is announced and the crowd is challenged to choose the best solution from proposals crowdsourced earlier.

Peer-Vetted Creative Production is convenient for solving the problems without “right” answers. In other words, for all ideation problems requiring subjective taste or public support, this type of crowdsourcing is the most appropriate. With this type of crowdsourcing, problems related to policy, aesthetic, and design could be effectively solved.

5 Conclusion

According to Hilgers & Ihl (2010), crowdsourcing offers new ways of interactive public value creation and citizen co-creations by systematically integrating external actors into governmental and administrative processes. As it has been demonstrated, besides helping to solve public management problems, crowdsourcing offers other benefits for the public administration as a consequence of the new relationship that arise between the public managers and an online community, including the building-up of social capital and a greater sense of local identity on the part of citizens (Collm & Schedler, 2012). What is more, the inclusion of citizens in public management is a key factor in promoting democracy (Aitamurto, 2012). With the rising prominence of the Internet and new technologies, this paper demonstrated how public managers can benefit from integrating citizen-generated data through the crowdsourcing. As it has been showed, crowdsourcing can be used not only to gather external knowledge, but also to promote interaction with citizens due to the possibility of achieving innovation through these interactions (De Souza, Cavalcante, Bermejo, Martins, & Pereira, 2014).

By having analysed the examples on how crowdsourcing can be best used for future policy making, the potential of crowdsourcing for providing more efficient and more effective public policies has been shown. Despite many authors (Seltzer & Mahmoudi, 2013), (Koch, Füller, & Brunswicker, 2011), (Simperl, 2015), (Sowmya & Pyarali, 2014) argue that engaging citizens to address complex issues could save public resources and lead to more legitimate choices, crowdsourcing still has to be considered as a complement rather than a replacement for other citizen involvement initiatives that are still necessary.

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WORK PREFERENCES COMPARISON OF CZECH AND FOREIGN GENERATION Z MEMBERS

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Abstract: *It has been speaking longer time about the entering of the Generation Z to the labour market abroad. About how to get prepared for this generation regarding the lack of talented workers and how to gain and consequently keep the most talented of them. In the Czech Republic the attention is not paid to this questions as far although there are already companies who feel the absence of those workers. The main aim of this paper is to compare the work preferences of czech and foreign members of the Generation Z based on foreign research and question-forms and find out if they have the potential to become talented workers in the future. Further to clear up relevant distinctions in their preferences and to illustrate some examples of strategies of foreign companies which has already started to get ready for the Generation Z.*

Keywords: *Generation Z, work preferences, labour market.*

JEL classification: *J400, J240, j210*

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1 Introduction

At the moment several generations of workers meet at the labour market. At the moment Generation X and Y members are the main players at the labour market. Nevertheless, older generation members, Baby Boomers Generation members, are present as well. Generation Z, the youngest work generation which in these days started entering the labour market, is in some ways specific, as previous generation was too. They considerably differ from previous generations in the following: the ways of looking for work and ways of career building, work preferences, demands, positions, behaviour, work expectations and priorities. Compared to previous generations, we know little about Generation Z. It is illogical but research of this age category is only just starting, even though some of them are already active at the labour market.

Considering the labour market situation, it is necessary for employers to be well and on time ready for the new generation workers so that they can attract the most talented of them and later on keep them in their work teams.

Considering the fact that the new Generation Z is basically not known in the Czech Republic, I in this paper decided to deal with work preferences, priorities and opinions of the Czech Generation Z and to compare them with research of Generation Z members in foreign countries.

2 About Generation Z

Marc McCrindle lists people born between 1995–2009 among the Generation Z members. Conveniently, this generation is named after the last alphabet number. Generation Z arrival means the end of all previously clearly defined roles and traditions which used to be automatically accepted by everybody. Research literature dealing with this generation give Generation Z the following names: Zeds, Zees, Bubble Wrap Kids, The New Millenials, Digital Natives, Wired Generation, Screenagers or iGen (McCrindle, 2014, p. 1270 - 1271).

Generation Z is not a large generation. Looking at actual numbers, there were 1,483,558 Generation Z members born. Compared to the previous generation, Generation Y, it means 600,000 less people born. In the contrary, in the US in total 60,979,918 Generation Z members were born. It means 3,185,701 more born people than in the Generation Y. We can therefore see that in each country, the trend of born Generation Z members is different. We cannot in general say that Generation Z is larger or smaller than Generation Y in all countries.

Generation Z is considered to be the fastest maturing generation of all of them. Based on research, The World Health Organisation announced that this generation goes through more life phases than the previous generation. It also approves that Generation Z members enter the phases earlier; it means they mature much faster (McCrindle, 2014, p. 1270 - 1271).

What else do we know about Generation Z? We know that they were born to much older parents, they are brought up in a different family model a thanks to sufficient financial resources of their parents, they are the most secured generation of all of them (Happen Group Ltd, 2014, p. 8 - 11). We know that Generation Z is on the way to become the most educated generation of them all (Ferincz, 2011, p. 33), the generation members know technology perfectly which influences their creativity and the ability to search for and use necessary information (Sladek, Grabinger, 2012, p. 1 - 2). Thanks to the technology and internet availability, Generation Z members are 24/7 online. Another characteristics is that they are perfectly able to multitask (Happen Group Ltd, 2014, p. 2).

Don Tabscott lists 9 characteristics, which are for this generation specific. These are: freedom, adaptability, co-operation, curiosity, integrity, fun, speed and innovation (Tapscott, 2009, p.368). Generation Z members are natural co-operators who like making new contacts. They seek and relish integrity (loyalty to certain principles such as strong character, loyalty, honesty and so on). They want to have fun during and outside work. Also fast changes are typical of Generation Z. If this generation member is not satisfied with something, they are ready to immediately change the situation. They do not compromise with changes. They take them as a necessity for their development and gaining new experience (Generation Z vs. Millennials, 2015, p. 3-4).

At the moment, Generation Z members are between seven and twenty-one. Therefore, the majority of them are still at primary and secondary schools and only the oldest of them are just starting their university studies. As a consequence, the majority of Generation Z members are still in the process of ongoing studies and are expected to stay at it for a long time.

Cathy N. Davidson in her book "Now you see it" predicts that 65% of children who are now at schools are going to work at positions which do not even exist yet. It is so thanks to the technical advancement and globalisation (Heffernan, 2011).

3 Research

Employers need to know work preferences and behaviour of the new coming generation. Therefore, some research has been carried out in the world. We can list as one of the most important foreign research dealing with Generation Z the following:

Research of the Canadian company Randstad, published under the name: "De Y à Z: Guide sur la prochaine génération d'employés" (Randstad Canada, 2014, p.22). It was carried out by an electronic questionnaire in December 2014. 1200 people of the age 16-34 were asked in Canada.

Millennial Branding and Randstad companies research named: „Gen Y vs. Gen Z Workplace Expectations“ (Gen Y vs. Gen Z, 2014). 1000 people from each generation were asked in ten countries (US, Brazil, Canada, China, Germany, India, Northern Africa, Turkey, Sweden and United Kingdom),

Research of the company Adecco Staffing USA named "Generation Z vs. Millennials" (Generation Z vs. Millennials, 2013) carried out online with 1001 (444 Generation Z members) American secondary schools students who were going to finish their secondary school studies in a few months,

Adrienna Ferincz research named "Changes in the way of work: Generation "Z" at the labour market" (Ferincz, 2011) carried out by asking in person and a following discussion of the authors with 28 students of University of Economics in Hungary and

Singaporean research "Inspiring Your Future Workforce: How to Lead and Engage Gen Y and Z Effectively," (The next Gen Workforce Revolution, 2015). It was carried out by The Centre for Executive Education in the form of an online questionnaire with 304 Singaporean Generations Y and Z members. The received results were then checked during talks in person with the people.

To find out work preferences and the overall view of the future work career of the Czech Generation Z, we are going to use results of IGA_FF_2015_014 research named Continuity and Discontinuity of Economics and Management in the Past and the Presence, DP3: Generation Z entering the labour market, the main author of this research was Doc. Ing. Jaroslava Kubátová, Ph.D., the co-author was Bc. Vendula Hejnová. This research was carried out in the autumn, 2015 in the form of on-line questionnaires. 214 respondents were questioned. They were secondary school and first year university students.

It is necessary to note that all mentioned research is based on information collected during a certain time period and the respondents were in the age when the opinions are still changing. Therefore, for the sake of the information validity, it would be reasonable to retake the research and find out how the Generation Z work preferences changed according to the personal development. A young person

at a secondary school or university first year does not possess a rigid set of values. Their opinions and preferences can easily change.

4 Work preferences of Czech and foreign Generation Z

Based on the list of research mentioned in the previous part, one could notice that in the foreign countries researchers investigate Generation Z much more than in the Czech Republic. It is important to realise that knowing future work preferences of Generation Z members and the ability to predict their work behaviour is crucial not only for foreign but also for Czech employers. For this reason, we are going to compare work preferences of Czech and foreign Generation Z. We will use above mentioned foreign and Czech research.

4.1 Career planning

Foreign research shows that Generation Z members possess advanced future plans and they choose their employer based on whether they can fulfil their career plans and ambitions there (Generation Z vs. Millennials, 2013). Generation Z members are also more entrepreneur like. Research done by an American company EY shows that 62% of Generation Z members asked want to be entrepreneurs after the end of their studies. Only 38% asked want to be employees. (EYGM Limited, 2015, p. 9). The research done among Czech Generation Z members shows the exact opposite. The results tell us that the majority of Czech respondents (76%) want to become employees after the end of their studies and only the minority (24%) of respondents want to become entrepreneurs (Hejnová, 2016, p. 63).

There is also a difference in what Czech and foreign Generations Z imagine as being an entrepreneur. From an online questionnaire we can see that the majority of Czech Generation Z sees the entrepreneur concept as a traditional businessman who starts their business based on a business plan and then follows this incentive (Hejnová, 2016, p. 63). In foreign countries, it is different. At the moment, Generation Z spreads the idea of an entrepreneur as a freelancer (In the Czech Republic self-employed person) who works on various tasks throughout various companies. This idea goes hand in hand with the concept of business as an innovative thinking, creative thinking and finding the own way (Up Work, © 2015 - 2016).

The questionnaire research among Czech Generation Z members shows that 80% of Generation Z members are in their future career plans influenced by parents and 43% considerably by friends (Hejnová, 2016, p. 64). The same is for foreign research. Plans of the foreign Generation Z members change often depending on parents and friends, partners, current place of living and the current life style (Ranstad Canada, 2014, p. 14).

According to foreign researches future Generation Z workers expect that their career would be changing and not easily foreseen in advance. The workplace change does not possess a problem for them. In the contrary this generation seeks for workplace change (Gen Y vs. Gen Z Workplace Expectations, 2014). To the contrary, Czech questionnaire research shows that 55% of Czech Generation Z members wish their job was long-term (they want to spend 6 and more years there) and 43% are not sure about their future plans (Hejnová, 2016, p. 73). Nevertheless, they would be glad to change the job if they were offered a higher salary, more interesting job or if they were dissatisfied with their boss (Hejnová, 2016, p. 74).

4.2 Work preferences

Now we are going to talk about work preferences of Generation Z members. At first we are going to mention the features which are the most important for Generation Z members at work. The questionnaire research found out that Czech Generation Z members list among the five most important things at work the following: salary, work assurance, work satisfaction, work with people with whom they feel good, financial stability (Hejnová, 2016, p. 66). The foreign Generation Z members list as the main work features the following: work satisfaction, positive mood at work, professional development, work stability and the balance between work and personal life (Randstad Canada, 2014, p. 14).

The questionnaire research shows that Czech Generation Z members prefer on-site work at the company to home office or co-working centres (Hejnová, 2016, p. 67). To the contrary foreign Generation Z members tend to prefer on-site work less and they more and more prefer co-working centres (Gen Y vs. Gen Z workplace Expectations, 2014). It goes hand in hand with the ever more popular freelancing in foreign countries.

Work diversity is very important to Generation Z. Questionnaire results show that Generation Z members prefer diversity in the knowledge fields of the workers, gender diversity and culture diversity (Hejnová, 2016, p. 68). The foreign research done by Randstad shows that the most preferred diversity is the profession diversity. Nevertheless, the preferences differ from the Czech Generation Z members in the economic diversity and gender diversity. (Randstad Canada, 2014, p. 6)

Employee benefits of course also fall into the work preferences area. The questionnaire research shows that asked Czech Generation Z members see life insurance, health benefit and flexible working hours as the most important (Hejnová, 2016, p. 68). To the contrary foreign research shows that foreign Generation Z members see as the most important the following: health insurance, training and profession development, paid holiday and flexible working hours (Randstad Canada, 2014, p. 7).

Both Czech (Hejnová, 2016, p. 72) and foreign (Gen Y vs. Gen Z Workplace Expectations, 2014) Generation Z members agree that the most effective communication is face to face communication. Even despite the usage of social and on-line communication.

The questionnaire research shows that Czech Generation Z members use information and communication technologies with the aim to develop their skills (Hejnová, 2016, p. 73). To the contrary foreign Generation Z members with the aim to quickly find the answer (Randstad Canada, 2014, p. 7).

4.3 Work performance

The third area that the researches deal with is the area of work performances of the Generation Z members and the features that influence it. The questionnaire research among Czech Generation Z members show that the incentives of the higher work performance are higher salary, meaningful work and the possibility of profession development (Hejnová, 2016, p. 69). Foreign research shows that the most important incentives for the foreign Generation Z members are the following: development possibility, higher salary and meaningful work (Gen Z vs. Gen Y Workplace Expectations, 2014). We can therefore notice that the most important incentives are the same both with Czech and foreign Generations Z, only the order is different.

Based on the questionnaire research among other work features that could positively influence the work performance of Czech Generation Z members are the following: co-workers, the kind of work, the possibility to adjust the work environment, flexible working hours and unlimited internet access (Hejnová, 2016, p. 70). When we compared the results with foreign researches it showed that co-workers, kind of work and the possibility to adjust the work environment are for the foreign Generation Z members the most important features influencing their work performance. Nevertheless, in other areas the researches differ. For foreign Generation Z the most important features that boost their work performance are the following: co-workers, kind of work, the possibility to adjust the work environment, workplace locality the possibility to listen to music/wear headphones (Gen Z vs. Gen Y Workplace Expectations, 2014).

Among features that influence the work performance is the kind of people that they co-work with. Both Czech (Hejnová, 2016, p. 70) and foreign (Gen Z vs. Gen Y Workplace Expectations, 2014) Generation Z members in the questionnaire research said that the feature that would boost their work performance the most are colleagues that work as hard as them.

Czech (Hejnová, 2016, p. 70) and foreign (Hejnová, 2016, p. 70) Generation Z members listed stress at work and arguments within the work team as features that could lower their work performance.

Not only co-workers but also the leading manager belong to the team so it is necessary to investigate how can the work performance be influenced by the leading manager. The most significant demands of the Czech Generation Z were to receive meaningful work with real life targets and the demand for the leading manager to listen to their ideas (Hejnová, 2016, p. 71). Foreign Generation Z members said for their work performance it is the most important for the leading managers to listen to their ideas and to be good mentors (Gen Z vs. Gen Y Workplace Expectations, 2014).

It is also important to look at what manager qualities Generation Z members see as the most important. Czech Generation Z members said that the most important for them is to have a leader who is able to lead, respect the employees and to be nice, kind and have a good personality (Hejnová, 2016, p. 72). The foreign research Randstad shows that foreign Generation Z members see as the most important features of the manager to have good communication skills, honesty and good self-esteem (Randstad Canada, 2014, p. 7). So in this the Czech and foreign Generations Z members differ considerably.

5 Conclusion

When we consider work preferences of the Czech and foreign Generation Z members based on available research, we can say that there are some areas in which Czech and foreign Generation Z members share the same preferences and there are areas in which they have different ideas. These differences can be caused by many facts. For example, by life conditions, culture in which they are living, genetics, personal characteristics, life experience. All this influence them individually.

For these reasons it is necessary to see Generation Z as a group of people who were born within the same time period and they share some features but they differ in many. It is therefore impossible to say how will all Generation Z members behave. However, based on the research we can expect a possible future way and we can collect useful information which can be used by employers to get familiar with new worker generation before they enter the labour market. Companies should pay

attention to this research. Any competitive advantage that can get talented employees could be useful at the labour market.

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HOW TO USE AN EXPOSÉ AS A MASTER PLAN FOR RESEARCH - A DEVELOPMENT MODEL AND EMPIRICAL FINDINGS

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Abstract: *This article is based on the author's teaching courses in Knowledge Science as well as on empirical research in Knowledge Application. The objectives are 1) WHY to deal with a master plan in researching? 2) WHAT to know about different roles of an exposé in different branches? 3) HOW to develop a model for a scientific exposé, and 4) WHICH empirical findings of scientific exposé's quality were identified? The chapter 5) finds the conclusion and formulated new research challenges.*

Keywords: *Researching Master Plan, Exposé, Modelling and Quality of an Exposé*

JEL classification: *GENERAL ECONOMICS AND TEACHING*

Grant affiliation:

1 WHY to deal with a master plan in researching?

Without scientific research the progress in the maturity of products, processes, documents, and even organizations is unimaginable. And, if we feel new challenges in finding out new solutions of old problems, new ideas for thinking beyond the borders, new stakeholder in our game, than we need resources for overcoming the pressures. "Each journey of a thousand miles begins with a single step", says Confucius (PICT. 1).

PICT. 1: A systematic research starts with a master plan (ownership of the picture: The author)



If we need resources for meeting the new challenges in our life, in the society, in organizations and even in our families, we should deploy a plan for acquiring these resources, using human and financial capacities, responsibly, communicate our ideas with important supporters, and review our progress from time to time.

That is partially like a marriage in the heaven. You know what you wish, but the challenge starts with the first step.

The first step is a decision of the project's target. Such a target could be: An educational certificate, acquiring the financial support of a project, convincing stakeholders for investment etc.. A target for the research project is needed for creating or finding News (PICT. 2), especially for new and better realizations, recognition, data and facts, information, discoveries, knowledge, and even more wisdom.

PICT. 2: Purposes of scientific research (Hertel 2015, based on Hertel 2011)



Before this paper deals with the characteristics of a scientific exposé let us give an overview, where and under which targets different exposés are used.

2 WHAT to know about different roles of an exposé in different branches?

While exposed or exposing means, generally, to lay open or to uncover or to present or to view, to exhibit or display something, to make known, disclose, or reveal intentions e.g., an exposé is a document of these intended activities in all branches (see e.g. Merriam Webster Dictionary). Nevertheless, character, role and legal meaning of the exposé in different branches are different, too (see TAB. 1).

TAB. 1: Typs of Exposé in different Branches

Branch	Architecture / Real Estate	Literature	Film/Arts	Scientific Research	Work Scientific Thesis
Content	Description of an Object (map, area, year of construction, purchase price, energy pass)	Description of the acts of poetical or other literary subjects; Synopsys of episodes	A script for a screenplay (figures, artists, music, scenarios, acts, episodes, ...)	Scientific / applied targets; Research methods; State of the Art; Best practice; Milestones; Resources and Budget; Cooperation	A Masterplan for graduated works; minimal Requirements: Targets; Milestones; Methods; References.
Purpose	For sales meetings of real estate agents	For offering a literary or artist work for sale	For offering a script/ screenplay for film or artist agency	For an application of a scientific project within a company or to a scientific agency	For an application for an approval in a scientific organization by a student
Legal Aspects	The liability of this exposé is disputed, at least limited, but copyrighted	Offering character for a publisher, in every case copyrighted	Offering character for an artist company, in every case copyrighted	Basic step for a scientific project and further steps (approval, budgeting, awards). Copyrighted, but difficultly controllable.	Increasingly a k.o. criterion for the Quality Management Evaluation of scientific organizations; Copyrighted and binding upon the graduated thesis

Especially, an exposé for a scientific thesis has to be deployed as a master plan. In this sense, this master plan is the first and very important document for the research. The more intellect is invested in the creation of the master plan, the easier the scientific thesis can be developed. The thesis, based on a highly intellectual master plan, is target-driven, model-oriented, scientifically clear, and focussed with logic chapters and content list. Redundancies are reduced to the maximum. The thesis would be “as easy as possible, but not easier” (said to have by Albert Einstein). Such an exposé is inherently a document for research approval and a master plan for the thesis’ development (TAB. 2).

TAB. 2: Purpose of a Scientific Exposé for a Scientific Thesis

The Scientific EXPOSÉ for a Scientific Thesis has following functions ... and helps for ...			
Function for Deployment of the Thesis – Help for Orientation ↓	Coordination Function with the Supervisor and other Stakeholder – Help for (Self)-Coordination ↓	Communication Function – Help for Convincing an (Self-) Reflexion ↓	Requirement Engineering – Help to meet the Scientific Organizations' Requirements ↓
Find the theme, the adequate research methodology, define the border of the theme in a systemic manner ↓	Define the research targets by identifying theoretical gaps detecting practical problems defining intended theoretical and practical results ↓	Use experts for clarifying the theme, the targets, the methodology, the resources, cooperations the milestones, and reviewing opportunities ↓	Fulfill the requirements of the scientific organization, and generally (layout, orthographie, etc.), perfectly ↓
Documentation for Approval and Master Plan for the Thesis' development in terms of ...			
System & Systematic	Intellect & Logic	Full- & Completeness	(Self-) Commitment

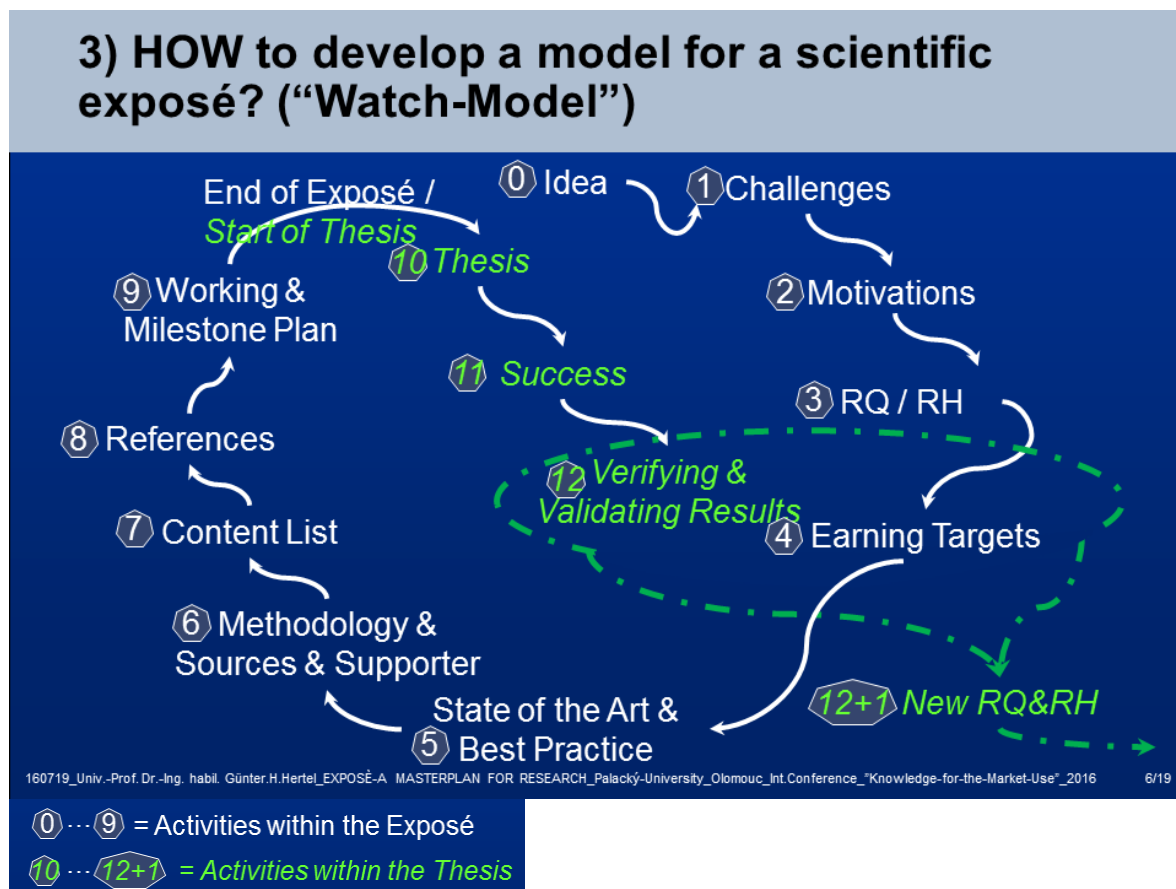
3 HOW to develop a model for a scientific exposé?

A scientific exposé is a master plan for scientific work. As in TAB. 2 introduced this master plan is more than a document. It is a transparent, systemic and systematic, logic and complete plan for the intended thesis. The exposé itself is a result of a scientific work! That means, the exposé needs scientific research!

To develop such a (self) committing document intellectually, it is recommended to use a development model for this exposé. In the literature many hints, recommendations and examples, how to write a scientific exposé are available (see e.g. Leibnitz Institute, University of Vienna, Wilbers).

However, most of the papers use a descriptive form without a sequential time frame. From the author's research and supervision experience it is useful to work in a timeframe-driven manner. The following model (PICT. 3) shows recommended steps while most of the steps should be made simultaneously or sequentially, at least.

PICT. 3: “Watch”-Model for development of a Scientific Exposé (Hertel 2016)



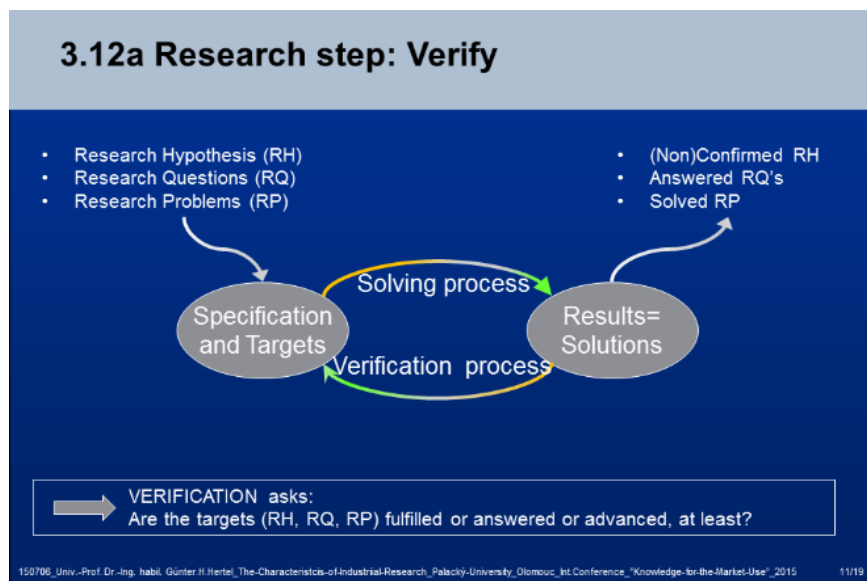
Legend: RQ=Research Question; RH=Research Hypothesis

Besides of formulated challenges (activity 1 in PICT. 3) in terms of a theory gap and/or a real-world problem (Research Problem RP), and clarifying of the intrinsic and extrinsic Motivations (activity 2) by answering the personal and presuming the organizational as well as the stakeholder ones, defining Research Questions (RQ) and/or Research Hypothesis (RH) (activity 3) is the most important activity to start-up into a research project. The formulation should make clearly, that the RQ, RH or RP themselves are specific, measurable, ambitious, realistic and timely (“s-m-a-r-t” characteristics of targets), see Hertel 2015.

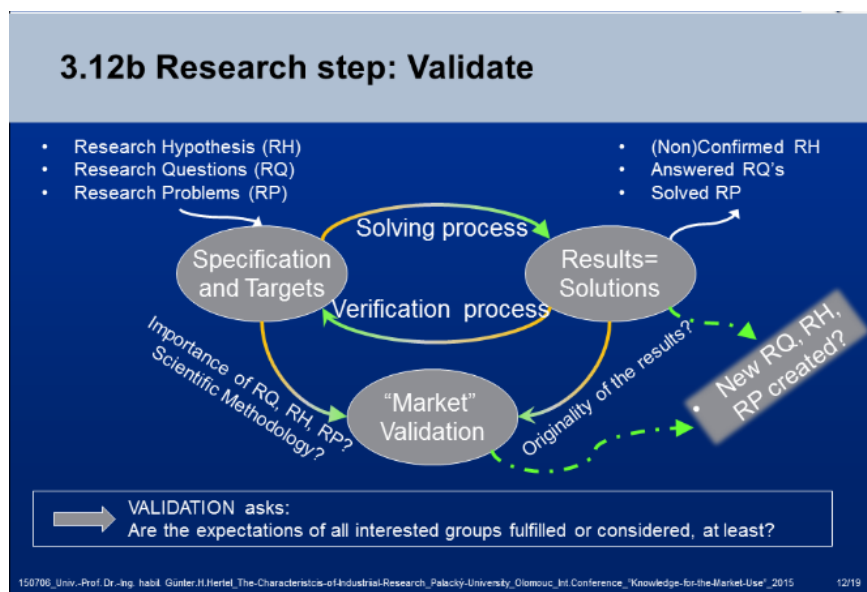
Fixing intended earning targets is in the phase of the exposé very often one of the most challenging requirement, because it needs a retropolating approach (activity 4): Thinking from the end of the thesis instead only thinking in a linear, only extrapolating way. This thinking is called in the industry “Frontloading of something” (see Hertel et al, 2000), here frontloading of the intended results of the thesis by anticipating the expectations of different stakeholder.

Later, at the end of working out the thesis (activity 12, see PICT. 4 and 5), the intended earning targets are the reference for verifying the thesis’ real results. Not to forget the task of validating the real results with the expectations of important stakeholders (see activity 2).

PICT. 4: What verification of research results is?



PICT. 5: What validation of research results is



A scientific exposé has to explain the State of the Art and the Best Practice (activity 5) in a comprehensive manner, using scientific sources, expert’s knowledge as well as organizational and social-media knowledge (especially in the case of dealing with a real-world problem).

On order to assure a scientific approach, one has to allocate the intended scientific methodology to each of the formulated RQ/RH/RP (activity 6). For earning tacit knowledge, one should identify experts, supporter and adequate investigating methods. Using a table for clarifying the allocation between the methods and the RQ/RH/RP would be the best case.

Exposing the intended content list (activity 7), and especially listing the references, intended to study (activity 8), assume intensive pre-studies in order to find out all the relevant literature, organizational resources and experts.

Demonstrating the fixed working and milestone-plan (activity 9) is not only an intention of the researcher, but also a commitment for all stakeholders for the scientific thesis.

Under the assumption of acceptance the scientific exposé (based on the activities 1...9) now the research and investigation on the scientific thesis can start (activities 10, 11, 12); it is not part of this publication.

While a scientific thesis can investigate some questions, can prove some hypothesis, can earn new knowledge, and can solve some problems, it opens new challenges, questions, and problems. Do not forget to formulate these new fields! (Activity 12+1), see e.g. chapter 5 of this publication.

4 WHICH empirical findings of scientific exposé's quality were identified?

During supervisions of PhD-Thesis as well as Master Thesis in different Universities in Czech Republic and in Germany, the following three requirements had to be supported intensively by the author:

- Finding the theme by identifying the needs in theory and/or real-world problem, based on intrinsic and extrinsic motivations,
- Identifying the State of the Art as well as the Best Practice (especially in the case of a real-world problem), and
- Anticipating the intended earning fruits (result targets, type of results, and different usability for different stakeholders).

In 2016 it was possible to supervise and evaluate a population of students in a German University of Applied Science during their study program in Social and Economic Science, especially during the process of creation of a scientific exposé for their further Master Thesis.

The students did know the "Watch Model" (see chapter 3 of this publication) and the general as well as the specific requirements for a written scientific exposé. These requirements were offered in a table with weighted scientific criterions (maximum number of credit points). Three (3) general and nine (9) specific criterions were evaluated for each of the 21 students (the size of population).

As empirical findings could be found (see PICT. 6-8):

- The formal requirements (layout, number of pages, content list, orthography were fulfilled, perfectly (100% level of fulfillment), see PICT. 6.

PICT. 6: Empirical data of the quality of written scientific exposé (here: General requirements and their fulfillment)

4) Findings of using the “Watch-Model” for Creating a Scientific Exposé – Empirical Data (1 of 3)

University XYZ; Course: MOORE, WS 2014						
here: Evaluation of the Scientific Exposé 2016						
Subject: Creation of a Scientific Exposé for the planned Master Thesis						
Achieved Credit Points per Student and Achieved [%] per Criterion						
	Scientific Requirement (Criterion)	Maximum number of Credit-Points	Student 1	...	Student 21	[%] achieved
A	For the whole Exposé required:					
1	Theme is well formulated: Clear, maximal 2 lines, target-oriented (not activity-oriented)	4	4	...	3	75
2	The Exposé is target-(not activity-) oriented structured:	3	2	...	3	83
3	The Exposé fulfills the formal requirements of the Guidelines for Scientific Works in the University XYZ:	2	2	...	2	100

1st empirical study 2016:
Size of population n=21 students of Social & Economic Science

Well done

160719_Univ.-Prof. Dr.-Ing. habil. Günter H. Hertel_EXPOSÉ-A. MASTERPLAN FOR RESEARCH_Palacký-University_Olomouc_Int.Conference_“Knowledge-for-the-Market-Use”_2016 14/19

- The formulation of the scientific and/or practical challenges (see activity 3 in the “Watch”-Model, chapter 3), based on a Gap in the Theory or/and a Real-World-Problem, seems to be an extreme problem for the students. To give support in a very early phase of the study program could be the consequence in the curriculum (see PICT. 7).

PICT. 7: Empirical data of the quality of written scientific exposé (here: Single requirements 1...4)

4) Findings of using the “Watch-Model” for Creating a Scientific Exposé – Empirical Data (2 of 3)

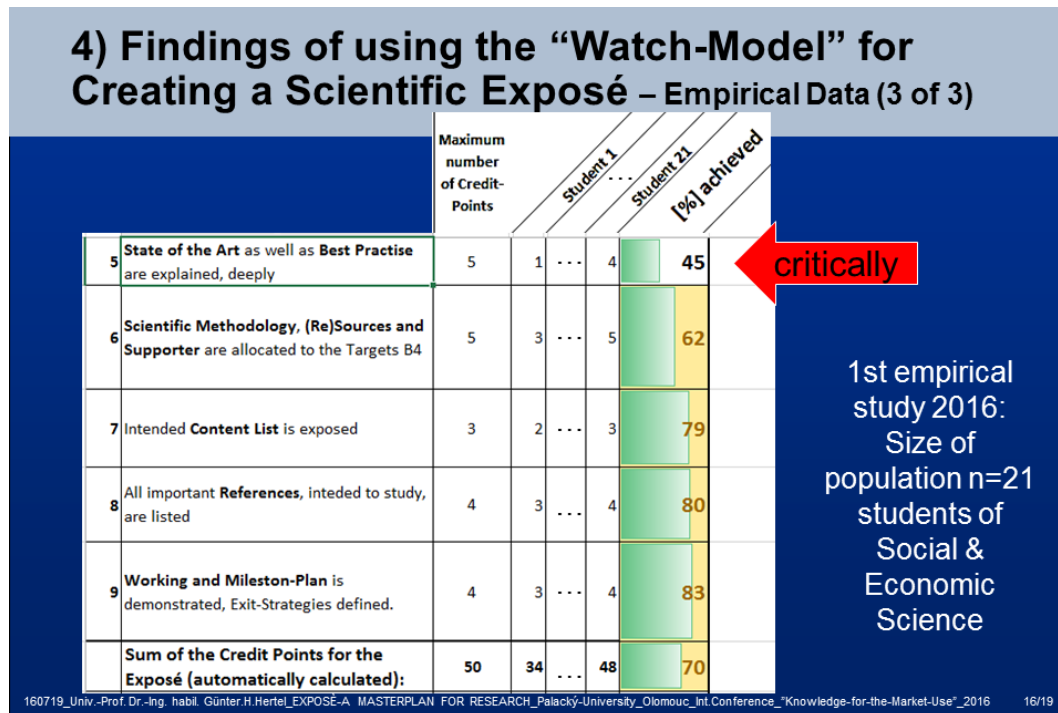
		Maximum number of Credit-Points	Student 1	...	Student 21	[%] achieved
B	Single requirements for the Exposé:					
1	The Challenges are formulated: Theory Gap to be closed (Target: "Better Science") OR Real-World Problem to be solved (target: "Better World")	7	5	...	7	59
2	The Motivation of the theme is clarified: Personally, Organizationally and/or interests of Stakeholder	3	3	...	3	78
3	The Research Question(s) and/or Research Hypotheses are clearly, challenging, provable, and ambitious formulated	5	4	...	5	68
4	Earning Targets well defined: s-m-a-r-t = specific, measurable, ambitious, realistic, time-related	5	2	...	5	68

critically

1st empirical study 2016:
Size of population n=21 students of Social & Economic Science

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PICT. 8: Empirical data of the quality of written scientific exposé (here: Single requirements 5...9 and their fulfillment)



- Explaining the State of the Art and the Best Practice (especially in the case of a real-world-problem) (see activity 5 in the “Watch”-Modell, chapter 3) seems to be a huge challenge for the students. The reasons, especially in social science atmosphere, seems to be the tendency of ideological argumentation instead of comparing and evaluating the literature. A second reason is in the case of the authors universities the relatively late dealing with research projects, may be conditioned by the heavy curriculum of the Master Studies (see PIC. 8).

5 Conclusions and new Research Questions

While an exposé plays different tasks and roles in different branches, a scientific exposé has to fulfill some clearly defined roles as the documentation and Master Plan for a Thesis Development.

This Master Plan should show a systematic and systemic approach to the theme, should base on an intellectual logic, should be comprehensive and complete, and is a (self-) commitment of the researcher and for the stakeholder.

A scientific exposé for a Master- or PhD-Thesis can be developed by a “Watch”-model based on defined activities, to be executed synchronously and/or sequentially.

In order to find out, how useful this model is and what the most challenging activities are, the author has investigated the quality of written scientific exposés of a comparable population of students.

While formal requirements were perfectly fulfilled, the more creative requirements made some difficulties. The most difficult requirements were:

- The formulation of the scientific and/or practical challenges, and

- Explaining the State of the Art and the Best Practice.

Although the author has some experience with different disciplines of studies in different faculties of higher education organizations (HEI), he recommends deeper studies on

- The causes and reasons of these mentioned difficulties of students in social and economic science,

- The difficulties of creating a scientific exposé in other scientific disciplines, and

- Consequences for curricula and supervisors/supervising processes in HEI (see Hertel 2014).

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NATIONALISM, INTERNET AND GLOCALITY: INDIVIDUALS, IDENTITIES AND NETWORKS IN SPACELESS SPACE

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Abstract: *In Ernest Gellner's words, nationalism is understood as an ideology requiring that the state and national borders must be identical. However, if nationalism can boost in the era of new media, including internet, which creates mostly spatially unlimited social networks, is Gellner's requirement still valid? And what that means to us? As nationalism is very much increasing in contemporary world, we should question what its role really is. Can nationalism be understood as international, interconnecting and global or as national, dividing and local? The paper focuses on how nationalism uses the internet to enhance its impact, how this utilization of internet makes local and global glocal, and whether these processes leads to interconnectivity among nationalisms.*

Keywords: *glocality, spacelessness, internet, identity, nationalism.*

JEL classification:

Grant affiliation:

1 Introduction

In recent years we can face a significant increase in nationalism all over the world. On everyday basis we are subjected to “events” which are usually labeled (but often not correctly) as ethnic, national or nationalistic. But do we really understand what these terms mean to us and what they really stand for? Is the contemporary world in the process of nationalization? What is the reason people still use concepts of nation and nationalism to justify and defend the values of their own identity? What is the role of new media in these processes – do they support and help to promote nationalistic thinking and behavior or do they take down the borders and walls between nations? Many scholars try to answer these questions. In the following text I will try to answer the last one in a specific way using discourses of most eminent scholars on nationalism such as Ernest Gellner, Fredrik Barth and Thomas H. Eriksen and examining them on current issues. As a result of the paper I come to the conclusion that nationalism and nations are definitely not death as many scholars excepted as a result of new media take-over. The nations did not disappear; they just have become spaceless in

some way – the major discourse has been relocated to the cyberspace. But as the current development even in Europe shows, the space did not diminish completely, it was just reassessed and got a new form and role within current political and social discourse.

2 Glocal nationalism versus spaceless identity and community

According to Ernest Gellner (1983), nationalism is an ideology that demands the compatibility of ethnic and political borders. This definition of what actually nationalism is about sounds very simple to the point when we subject the components to a closer scrutiny. Border is considered a lineal division between two parts. In case of states and their political borders we can assume this concept actually works and it is a prerequisite for the political integrity and the rule of law within state borders.

However, in the case of communities such concept does not work. Already Fredrik Barth in his *Introduction to Ethnic Groups and Boundaries* (1969) pointed out that when considering social borders, we should rather talk about borderlands. From social scientific perspective there is no borderline, but only fuzzy and transcending area of exchanges where one society and culture interferes, contacts, negotiates and struggles with others. We also could apply the core and periphery concept by Wallerstein to some extent. The core is the center of the nation with all its symbols and “pure” culture whereas in the periphery the “purity” of the national culture is fragmented by neighboring cultures. Still, we have two distinct concepts which cannot become identical or compatible by their nature. States can hardly accept the concept of fuzzy borderlands as transiting regions where more laws are in charge and interfere to each other. At the same time the ethnic groups can hardly become so isolated and indifferent so that a clear line between them can be drawn (of course in history and in present we can find some isolated cases such as North Korea).

It follows that nationalism as unification ideology of ethnic and political borders can never be finished and therefore it is everlasting. In other words, the process of creating a nation cannot be finished, it is always and constantly challenged by “disturbing” ethnic and cultural contacts. Moreover, it develops and reproduces from inside simultaneously (e.g. by generational exchange). Therefore, the identification with culture or ethnic group must be understood as individual, fluid, and contextual whereas ideology of nation is rigid, space-based (the homeland symbol), collective (us versus them) and stable (the antiquity of nations). This distinction is mostly visible when contrasting the political and scholarly discourse on the topic. Whereas the first one is definitely primordial, the second is much more into contextuality.

Above that, individual identities are space-independent whereas national ideologies are space-dependent. One can remain being Czech even when not residing in Czechia, especially in present. New media such as Facebook, Twitter, E-mail, and internet as a whole enable us to remain in close contact on day-to-day, audiovisual and intimate basis. Therefore, being Czech is not dependent on the place of residence, citizenship, job etc. Czech emigrants can feel more Czech today, after decades in hosting country, thanks the modern technology which can enrich and nurture their original ethnic identity. However, the same does not apply on state perspective. In order to be in control of territory, taxes, enforceable law, and security, states and their national ideologies very much reject such perspectives and even make such behavior illegal or at least less approachable.

These approaches contrary to each other are the source of what is called glocality of nationalism. Roland Robertson (1995) understands glocalization as a process combining universal and particular values and symbols when global phenomenon gets local variables and local specificity becomes globalized. Glocalization is understood to be the result of predominantly economic activities where the capital is the most fluid and globally universal commodity. Glocalization in the beginning was mostly used to describe the local adaptation of universal products made by trans-national corporations (e.g. McDonald's). With new media this concept was applied also to values, information, and symbols. Such symbols, including those of the EU's free movement of the people and goods, democracy, equality, etc. are shared but at the same time accustomed by each national society. But in global dimension, the nationalism and the idea of modern nation is a similar case.

3 Space-based or space-less nations

Modern nations are usually considered as a result of industrialization of Europe and as predominantly European political program (e.g. Gellner 1983, Eriksen 2007, Hroch 2004). However, as we can see, most of current states in world consider themselves as national. The concept of nation was absorbed by most societies and at the same time it was readjusted to the local needs – glocalized. Through colonization, both by power (e.g. United Kingdom, France) as well as by ideology (e.g. USSR), the concepts of nations became genuinely universal but still there are local differences in content.

Nationalism in its core political program is to form a nation, therefore to distinct the local or regional community from its neighbors. However, at the same time through its ideology it can be said that it is nationalism and idea of nations which creates universal national values, comparable and understandable globally. Internet and other forms of new media were usually considered as a threat to the nationalism and modern nations. Their border-free and spaceless essentiality was seen as the thin end of the wedge of the wane of nations. But it was Eriksen (2007) who pointed out that internet is no enemy of nations and that in contrary it can be utilized for the national benefit.

Let's imagine nationalism and nations as a good on the "world's stocks exchange". Being national is a great label, trade mark and globally marketable logo. Being national company, nation's biggest producer, inter-national trusts, sponsors of national events and so on is a way of generate huge incomes, support and security either by making more profits or becoming "too national to fail". It is obvious that many trans-national companies create specific national strategies through sponsorships, glocalized assortment of products (national brands) or by using the inter-national differences in taxes, laws and restrictions. Despite the fact most liberal economists consider states as an obstacle for genuine global free market, I rather argue that it is the nation which creates a huge and prosperous environment for global trade – not only of goods, but also of values, ideas, information.

There is no better way to address such huge audiences as nations than by internet and new media. Even rigid traditional national institutions like royal households use Facebook, Instagram, Twitter. As Kubátová (2012) points out, new media contribute to the historical rearrangement of global society. Internet became the international spaceless space for addressing and communization of nations, religious groups, political parties, and even terrorists. It became a genuine international "battlefield" of values where each and every national symbols can be challenged and diminished or strengthened and improved. In any case, the internet took the role of the border – the space of interaction. And the nation in the cyberspace of internet became both the dividing and the unifying ideology. We are

subjected to enormous and unprecedented advertisement of nationalism through private companies, political parties, NGOs and media. Just imagine how many information we get every day are presented in the nationalistic rhetoric – from the threat of terrorism to the genuinely national car industry (owned by foreign transnational corporation), national hockey team (where often only few members really were born in the national state), national TV channel (serving more foreign news and movies than the home one) etc. When considering these objects as national we simultaneously accept their content as national as well. By doing so we automatically reshape the meaning and content of the national and make the national more international, globally understandable and comparable, still glocally different.

4 Conclusion

Nations and nationalism are still very powerful. They can address a vast audience, have emotional content and are easy to reach (at least for in-born members). To manage their societies, nations create borders to protect their territory, values and symbols. On the other hand, nations create an inter-national environment, especially in virtual space. The internet became a new spaceless border where nations interact and meet on day-to-day basis. Nation's values and symbols became marketable, transferable and border-free. In conclusion, nationalism is both, diving and interconnecting. Nationalism and internet use each other to strengthen their positions. The cyberspace became the space where territory lost its importance but at the same time the cyberspace became the borderland where nations interact to each other. The rise of nationalism in present is not in contradiction with the rise of new media and nationalism became more a trademark rather than an ideology in the space of new media.

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SLOW TRAVEL AND ITS PERCEPTION IN THE CZECH REPUBLIC

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Abstract: *The importance of responsible behavior, sustainability and prioritizing quality over quantity are topics, which are being gradually more discussed in our society and are related to many aspects of our lives. Hand in hand with the debate on sustainable development goes also the desire to slow down our hasty way of living. This led to establishment movements such as the Slow Food Movement, which later introduced a new trend in tourism, so called Slow Travel / Tourism. This paper represents the concept of this phenomenon, which brings different means and goals of traveling, stressing the need to learn about the destination and its people. The second part of this paper provides analysis and results of a survey conducted among Czech people in order to find out their preference and awareness of this trend.*

Keywords: *slow tourism, slow travel, sustainable tourism, Czech tourist*

JEL classification: *Z30, L83*

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1 Introduction

Definition of Slow tourism used by Dickinson and Lumdson (2010) says that it is “conceptual framework that involves people, who ‘travel to destinations slowly overland, stay longer and travel less’, and who incorporate travel to a destination as an experience and, once at the destination, engage with local transport options and ‘slow food and beverage,’ take time to explore local history and culture, and support the environment” (Haemoon, Assaf & Baloglu, 2014). In simpler terms, ST is described by authors of Slowtravel website, who give visitors advice on how to travel slowly: “Spend a week in a vacation rental and see what is near. Immerse yourself in the local culture and avoid the rushing from one guidebook “must-see” place to the next.”

This new phenomenon has evolved from the movement established in the 80s as a reaction to spreading fast food chains in Roma by participants, who wanted to support traditional way of dining

and local restaurants (Georgica, 2015). Movements such as Cittaslow, Slow Money or Slow Travel then followed (Lacková, Rogovská, 2015).

2 Why is ST sustainable way of traveling?

Recently new trends in sustainable tourism, e.g. ecotourism, green tourism, health tourism or slow tourism (Haemoon, Assaf & Baloglu, 2014) are emerging. According to Sustainable Development of Tourism, a sustainable way of traveling is: "Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities", and which helps conserve natural and cultural heritage, biodiversity and brings benefits to all stakeholders involved. Looking at ST concept, most of its aspects meet sustainable tourism requirement, e.g. preferring walking, cycling or trains over air transport. Staying longer at one place, rather than traveling from one touristic spot to another is a crucial part of ST as well. Tourists also often choose vacation rentals instead of hotels, not increasing the demand for new recreation centers. Slow tourists try to live similarly to locals and support local farmers by buying regional food. They also want to get to know the traditions and people better. According to Burns and Bigging (2009), ST can possibly elevate the global pressure on climate change by initiating modal shift in transport to the least polluting systems (Vacková & Rogovská, 2015).

2.1 Slow tourist profile

There is no limitation in terms of tourist age or education; everyone can become slow tourist. However, Pajmová (2013) describes two types of slow tourist: one lives in a hectic way and through ST can escape from his stressful life. The other has different traveling aim compared to mass tourism – he wants to get to know one place as much as possible, meet locals, learn their culture and enrich himself.

3 Research Methodology

In order to obtain information about Czech tourists' perception of Slow tourism, online questionnaire was conducted. In 2013 first similar survey was published in the Czech Republic, however that research focused on finding out whether Czech tourists are suitable candidates for slow tourism or not. In our questionnaire, main hypotheses were the following: 1. Awareness of ST is low. 2. The change in travel habits among Czechs will be registered. 3. Change in travel habits is similar to the slow travel change. 4. Czech tourists care about the environment when traveling. According to some statistics, Czech people are seen as environmentally conscious (Tabery, 2012)

3.1 Sample

For analysis, 191 responses were collected both from women and men in wide age range. Demographic details are described in Table below.

TAB. 1: Demographic details

Woman	Man	Under 18	18-30	Above 30	Elementary	Secondary	University
69 %	32 %	3 %	72 %	26 %	4 %	44 %	52 %

Source: based on research

3.2 Results

As expected, most respondents have never heard of Slow travel, however nearly 10 % stated that they know something about it and from this group, 6 % even travel as a slow tourist. To question what does slow travel means, they either answered they have no idea, or they mostly used phrases such as traveling without hurry, while getting to know the place, traveling by foot, getting to know local culture, avoiding 'Asian' style of tourism, which is based on visiting as many tourist sites as possible. Nevertheless, as it was online questionnaire, it can be assumed that some of the respondents searched on the internet for answer. For some of surveyed, the questionnaire played an educational role and incentivised respondents to find out more about ST or even to try it out firsthand as some of them reported.

One of the goals of slow travel is to reach highest possible levels of relaxation when traveling, thus escaping the everyday life. 11 % stated they often come back more tired from their vacation and full 60% claimed they sometimes feel more tired. Reasons given were an exhausting journey to the destination itself or actively spent vacation.

Slow tourist's primary goal isn't to visit as many tourist spots as possible, but rather to prioritize less visited attractions to get to know them better. In the survey, most of the respondents (65 %) said that while traveling they want to see as much as possible, but this heavily depends on the destination, while 17 % plan to have such vacation every time, whereas 13 % could be regarded as Slow tourists because they wish to get familiar with local culture, cuisine and people. Whole 84 % stated that while they like to visit main touristic spots, they also gladly visit their less famous and less crowded counterparts. 7 % are trying to avoid touristic sites altogether and for 10 % favourite touristic spots represent big part of their itinerary.

In terms of getting closer to local culture, slow tourists also like to connect with the local people through learning basic phrases in their language, etc. To question whether they want to meet locals, 67 % stated that if there is an opportunity, they like to get to know local people. 18 % actively seek out this activity and 16 % do prefer not getting in touch with local people.

Tab. 2 show what kind of vacation would respondents prefer.

TAB. 2: Type of vacation

Beach	Eurotrips	Staying at Italian countryside	Active Vacation	Other
35 %	19 %	24 %	36 %	16 %

Source: based on research

According to respondents when choosing the right type of vacation, 33 % stated that in recent years their traveling preferences have changed. This suggests some people shifted their preference towards ST without realizing it.

One of the most interesting findings is that only 10 % have ever heard of Slow tourism, however nearly 30% of respondents' travel preferences were close to the way of ST. Most frequent answers were the following: no travel agency, lower interest in beach type vacation, planning the trip on your own, Asia, traveling with children, desire to get to know local people and culture, no excessive planning, less organized trips, active holidays, preferring Czech Republic.

According to research conducted in the Czech Republic regarding ecological behavior (Tabery, 2012) we can conclude that Czechs are thinking ecologically, (i.e. two thirds of respondents are interested in being environmentally friendly, 82 % recycle, 26 % buy ecological products). However only 21 % stated they care whether their way of traveling is ecologically friendly.

3.3 Concluding remarks

From available foreign literature is obvious that just like Slow Food Movement and Cittaslow, Slow Travel is gradually getting more attention and support, and its concept, considered more of a state of mind, than precise rules for traveling, opens new possibilities in traveling. There aren't many studies for the Czech Republic published yet, and as supported by the survey, Czechs have little knowledge of ST. However, it is important to mention that some of them slow-travel without knowing it.

Due to the number of respondents it is difficult to safely reach an objective conclusion, but seeing most prevalent group among surveyed were 18-30 year old women with university degree, it is possible to establish concluding remarks at least for them: when they travel, they are interested both in main touristic spots and hidden places, they like to meet locals, they don't pay much attention to extent of ecological influence on our environment, and in one-third of answers, there has been measurable shift in their preference of vacation, especially traveling on their own without using travel agency services, preferring actively spent holidays and getting to know local culture, cuisine and people.

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SUSTAINABLE PROCESS OF FINANCIAL CONTROLLING IMPLEMENTATION

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Abstract: *The process of financial controlling implementation is a very complex project. It requires coordination of many activities from various spheres such as: financial and management accounting, organization management, informatics and education. During its implementation one should involve people representing key areas of the company from many departments. Not only employees of the company but also external consultants should be engaged in that process. The aim of the article is to identify methods of measuring the correctness of financial controlling according to the concept of sustainable development. In the paper there will be presented stages of controlling system implementation with some suggestions who and how should one perform them. Methods of cost evaluation and the amount of necessary time to realize it will be determined. This article is based on a case study on the data obtained during practical implementation of the controlling system in the enterprise. The methodology described in this paper may be implemented in various projects from different areas.*

Keywords: *financial controlling, sustainable development, management*

JEL classification: G30, M21

Grant affiliation:

1 The idea of a balanced financial controlling implementation

Due to the multidimensional scope of implementation it is important to maintain appropriate sequence of the tasks. It is not desirable to carry out most of the tasks by one group of people at the same time. Sustainable implementation process should therefore be analyzed in the following areas:

- 1) people performing tasks,
- 2) the scope of implementation,
- 3) the intensity of works.

Implementation should be carried out by both company's employees where the system is implemented and external consultants. If the works are conducted by the people from the company there may occur the lack of knowledge of best practices in controlling. On the other hand external consultants may not have enough knowledge about the specifics of the business (Rusek 209, p. 7). It is therefore very important to define precisely the tasks to be performed by external consultants and company's employees. Within these tasks there should be determined the amount of work performed by particular people. One should balance the tasks performed by the following groups:

- 1) financial controllers,
- 2) managers of responsibility centers,
- 3) external consultants.

The result of the simultaneous performance of specific tasks by many people is that they can verify the implementation by other participants as each of them is highly qualified in a specific area. In order to benefit from controlling the system should not be implemented only partially. There is no need to implement all potential systems and tools during one year. On the other hand too limited scope of implementation should be avoided as it can cause a conduction of limited tasks. Such a situation is usually justified by the lack of resources or the time. For example, the work can focus exclusively on the budgeting tools. One will neglect the education tasks and adaptation to the needs of financial accounting within the controlling system (Chalastra 2015, pp. 246-254).

TAB. 1: The principle of sustainable financial controlling implementation - tasks and people responsible for its implementing

Group of synthetic tasks	Entities performing tasks					
	External controlling consultant		External controlling consultant		External controlling consultant	
Developing the concept of substantive controlling system	Providing the knowledge about best controlling practices and variant suggestions to design specific tools taking into account the requirements of the specifics of the company	Developing the concept of substantive controlling system	Providing the knowledge about best controlling practices and variant suggestions to design specific tools taking into account the requirements of the specifics of the company	Developing the concept of substantive controlling system	Providing the knowledge about best controlling practices and variant suggestions to design specific tools taking into account the requirements of the specifics of the company	Developing the concept of substantive controlling system

The implementation of the concept to the specific functioning of the unit	Giving opinions about adopted specific solutions for their compliance with good practice controlling	The implementation of the concept to the specific functioning of the unit	Giving opinions about adopted specific solutions for their compliance with good practice controlling	The implementation of the concept to the specific functioning of the unit	Giving opinions about adopted specific solutions for their compliance with good practice controlling	The implementation of the concept to the specific functioning of the unit
Preparation of the IT concept	Giving opinions on the concept of information in terms of its compliance with the best practices of controlling	Preparation of the IT concept	Giving opinions on the concept of information in terms of its compliance with the best practices of controlling	Preparation of the IT concept	Giving opinions on the concept of information in terms of its compliance with the best practices of controlling	Preparation of the IT concept
Implementation of the IT system	Consultations	Implementation of the IT system	Consultations	Implementation of the IT system	Consultations	Implementation of the IT system
Education	Trainings in controlling department in the field of the substantive concept	Education	Trainings in controlling department in the field of the substantive concept	Education	Trainings in controlling department in the field of the substantive concept	Education
Practical system testing	Consultations on the adaptation of tools specifying to the company's need	Practical system testing	Consultations on the adaptation of tools specifying to the company's need	Practical system testing	Consultations on the adaptation of tools specifying to the company's need	Practical system testing

2 Measuring the sustainable financial controlling implementation

Due to the multidimensional scope of financial controlling functioning it is essential to determine the appropriate measures for its sustainable implementation. This process requires multiple tasks from various spheres. Each of them specificity differently and have individual measures. Thus, the most recommended measures in order to compare them would be costs and the time of their

implementation. Both positions resulting from the use of own resources as well as foreign ones should be classified as costs. Measuring the costs of foreign resources and purchases of equipment or software is a relatively simple task. It is easy to plan these costs in a budget. The actual data would be available directly from the accounting system of a company (Bender 208, p.18). The costs of using internal resources can be determined through the use of Activity Based Costing (ABC). The value of these costs will be determined by the calculation mechanism. For this reason, the calculation assumptions may be affected by the amount of this group of costs. It is particularly important to determine the time needed for individual tasks by employees. Comparing the costs of individual tasks broken down into two categories mentioned above may not give the correct result. The costs of the works performed by foreign entities would be higher than those realized by the company itself. Due to the facts that there are differences in rates per work hour of foreign consultants and company's own employees. Analyzing the costs data one can come into wrong conclusions about the degree of sustainable implementation. These data can demonstrate the majority of works carried out by foreign sources. For this reason, it is worthwhile to analyze the execution time of each task. In this case, the situation should be reversed. Increased number of works would be performed by its own employees. This is due to the fact that external consultants should be involved mainly into conceptual tasks. Any laborious and reconstructive operations should be performed by company's own employees. To sum up the measurement of sustainability implementation controlling system should be performed simultaneously with the analysis of the costs and time. In terms of costs it is expected to lead the tasks performed by foreign entities. In the case, the situation should be reversed.

TAB. 2: Measurement of financial controlling sustainability implementation on the basis of the realized costs and following stages of the tasks

Cost category		Tasks / stages of implementation			
		1	2	3..	Total
External resources costs	IT costs				
	Trainings				
	Consulting				
	Total				
Internal resources costs	Controlling department employees				
	Other departments employees				
	Total				
Total costs of controlling system implementation					

TAB. 3: Measurement of financial controlling sustainability implementation on the basis of the time of realizing the tasks and its stages

Group of people carrying out the tasks	Tasks / stages of implementation			
	1	2	3..	Total
External consultants				
Company's employees				
Total				

3 Conclusions

The implementation process of the controlling system due to its multidimensional character should be implemented according to the principles of the sustainable development. This should allow to avoid a lot of the mentioned in the article problems that could potentially occur during the lack of this balance. This method can also contribute to the successful implementation of such projects. The presented method measuring the degree of sustainability controlling implementation should be applied both during the process and its final calculations. It is especially important during the planning because allows to determine appropriately the intensity of specific tasks. The usage of this method in practice may be associated with a lack of accurate data. The external resources costs can be only exactly estimated. The time of realizing the tasks and the internal resources costs may be difficult to determine that is why the measurement of these parameters can be mistaken. In these case one should expect significant differences between analysed positions with targets and actual data. The main purpose of this calculation is not the pursuit of the perfect execution of the plan without deviation. The main task is to assist in planning without any deviations. In the implementation phase of the project implementation it is important to control whether the process is implemented in accordance with sustainable implementation rule. Its main task is to assist in planning the intensity of tasks and responsible people to realize them.

In every case the relationship between specific parameters should be established individually. Their level should be measured taking into consideration particular factors. There is no reference level for them.

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IMPORTANCE OF MANAGEMENT ACCOUNTING KNOWLEDGE IN DECISION MAKING

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Abstract: *The worldwide trend in building a world-class enterprise is focused on reduction of costs in the business and the usage of modern methods for successful business management. The executive management must use comprehensive information on the activities of the enterprise in its management work, which is provided by the official accounting (financial). This information, although being relatively comprehensive, is mostly not sufficient enough. Therefore, in practice, enterprises have developed management accounting designation, as an indication of the complex information needed for successful work of the managers. The success of businesses is decided not only by the field which it operates in, but also by the tools and methods of management being used.*

Keywords: *Activity Based Costing, Management Accounting, modern methods management.*

JEL classification: 031,032

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1 Introduction

Managerial accounting in terms of company management affects strategy development, planning and control functions, decision-making, optimization of assets, presentation of main indicators to company employees and the protection and development of resources. A requirement for efficient functioning of managerial accounting in a company is the existence of defined SMART goals (Specific, Measurable, Assignable, Realistic, Time-related), strategic and operative planning, system of asset and financial management, downward revision, measurable goal achieving and a system of managerial audit. Thus a managerial accountant has to focus on the future of a company using analysis, predictive models and outputs of financial accounting and make recommendations for the upper levels of management so that a company can achieve its goals.

The growing trend in costs is forcing companies to pay more attention to this issue and therefore managers are looking for different methods and tools to reduce the cost of the enterprise, and by this to ensure the competitiveness of enterprise. The area of management accounting gives

managers the scope for the application of various modern methods since this form of accounting is not limited by legislation. The main drawback, however, is the problem of the applicability of modern approaches and methods, since their introduction in enterprises requires mainly substantial financial resources, behavioral change in the organization and a change of attitude and motivation of the staff in terms of continuous improvement. However, the underdevelopment of certain companies does not make a space for the implementation of these methods. The worldwide trend in building a world-class enterprise is focused on increasing the quality of products, reducing company costs, increasing productivity, reducing the time between order and delivery, increasing flexibility to respond to market needs, etc. Concepts for building a world-class enterprise and the tools being used to gain a competitive advantage are specific to each area and can be applied at different stages of corporate governance in terms of quality, cost and time. The most important step in any enterprise is the willingness to change the thinking of the human factor and accept new options and new trends in the enterprise which can mean a path for achieving world-class business performance.

2 Modern methods the managerial Accounting

Global trends of building world-class companies is from the standpoint of management accounting focused on the reduction of expenses and finding means and ways to optimize expense types. Using modern methods creates space for the optimization of three basic factors: optimizing quality, costs and time. This growing trend in the cost department forces companies to put more focus on this problem and that is why managers are looking for various tools and methods to cut the companies expenses and thus increase the ability to compete on the market (Chodasová, Jacková 2011). Management accounting gives managers the space to apply various new methods, because this form of accounting is not hindered by the law. The main problem however is the application of modern methods and approaches, as the introduction of these requires a significant time investment, a change in company policies, change of employee spirit and the motivation for constant improvements. Some companies however are too old-fashioned for these new methods. The concepts of building a world class company and the means for gaining and advantage over the competition are specific for every field and can be applied at any stage of development considering the time and, quality and costs. The main step however is the willingness to change and allow new options, new trends in the company, which can lead the company to achieving the efficiencies of world-class companies. Famous and daily applied methods are amongst other Activity Based Costing (ABC), Target Costing (TC), Kaizen Costing (KC), Quality Costing (QC), Environmental Management Accounting (EMA) and Cost Controlling (CC) (Jacková,Chodasová 2011).

Activity Based Costing (ABC) - calculation of expenses based on partial activities. The ABC method monitors the need for expenses in specific products in relation to individual company activities. The goal of this calculation is to describe activities in detail, sort them into sub-activities, processes, assigning resources to individual assets and allocating funds to these resources. The method allocates indirect costs to individual activities. The ABC method gives information on product costs, services, clients, regions, distributive channels, and so on. Target Costing (TC) - method of managing target costs is a modern method focused on the market, which uses cost accounting as a means of defining the target costs. This method is mainly used on newly introduced products with a high expected production volume (Tekulova,Chodasová 2012).

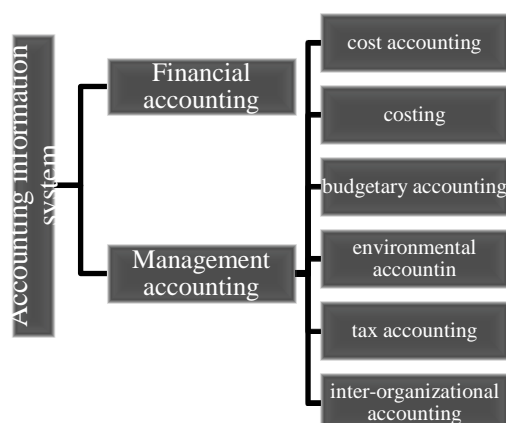
Kaizen Costing (KC) - continuous improvement is a system based on identifying and removing waste in the manufacturing process. Constant improvement is realized by innovative steps in the form of smallest details, while the fundamental idea is to identify the place where a given process should improve. The impact of this method is reflected in the minimization of company production costs. Quality Costing (QC) - is a managerial and regulatory activity focused on the monitoring and evaluating of quality costs. These entail product quality from in terms of fulfilling customer expectations. Main goal of this approach is the optimization of quality costs in order to fully satisfy customer needs, reduce failed products and refunds. Environmental Management Accounting (EMA) - system of environmental accounting aimed at the gathering, recording, monitoring and evaluating environmental expenses of a company, which were a result of manufacturing activity. The goal of EMA is to optimize environmental costs via reduction of the negative on the environment and reduction of energy and resource consumption. Cost Controlling (CC) - is a system focused on the monitoring and evaluating of company costs, revealing imperfections in their calculation, budgeting, analysis and evaluation.

This method allows for the reduction of costs and exploration of cost-saving options on all levels of management in all company activities (Tokarčíková, 2011). Benefits of these methods have a broad impact, as every one of the aforementioned has a specific application and use in manufacturing companies. Integration of modern trends is noticeable primarily in cost management and its optimization, as the main contribution of each of these methods is the decrease in different cost types . Objective tools for managers are these aforementioned trends based on information in forms of indicators, functions and parameters. Economists and field experts recommend the application of these methods, as they see their true potential (Kucharčíkova, 2011) .

3 The position of managerial Accounting in a companies Accounting informational system

Accounting informational system is an important part tool in the framework of managing a company as a whole, its individual systems and managing processes. In terms of market economies it's divided into financial and managerial accounting. Managerial accounting is treated as a subsystem of information systems and merges different information that is important for effective conduct of a company FIG. 1.

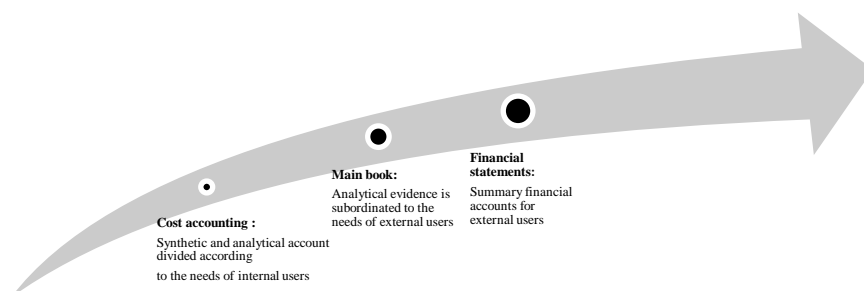
FIG. 1: Position management accounting in accounting information systems



Management accounting involves cost accounting, calculations, budgeting, company accounting, tax accounting and environmental management accounting . Management tools are based on the

evaluation of information and data relevant to the decision-making, planning, organizing, leading and control, i.e. management. Fundamentally management tools consist of information gathering and evaluation [3]. The degree to which information is evaluated depends on the needs of specific levels of management. The basis of management tools is standardized information systems. Accounting is one of them. Data collection in accounting is formalized based on the legislatives in accounting, but other guidelines as well FIG. 2. These can sometimes even be internal company guidelines (Kral, 2010).

FIG. 2: Dual circuit organization of a financial and management accounting



Accounting is used in company management, but it does not provide a transparent information for bigger companies with a structured portfolio and complex process map. Big and middle-sized companies use accounting in operative management. Even from this perspective it is mostly considered a specific form of management and not operative financial management. Tools used in management accounting are an extension of accounting. They provide management with information about aggregated variables, financial indicators and in some specific calculations managers have access to accounting information but assigned to individual products and clients. Management accounting is an important tool of tactical decision-making and provides a method of measuring the progress in plans, leading up to strategic goals. Similarly to how accounting enters into management accounting and completes and interprets the information for the decision-maker, management accounting enters other management methods. (Čechová, 2006). One example of these methods is Balanced Scorecard, which adds the client relations to accounting. Balanced Scorecard is a tactical decision-making tool, but also monitors plan progress, be it tactical or strategic. In order to strategically manage a company, it is necessary to enrich the levels of analysis of internal relationships in a company from financial accounting, management accounting and Balanced Scorecard with an analysis of external fields with an impact on the company.

4 Conclusion

With the Slovak Republic entering the European Union our companies can feel the pressure of globalization ever so greatly. They are perceiving globalization as a microeconomic phenomenon, which they are adjusting their mission and strategy to. The spotlight is on the newest means of communication and information as well as more successful and environmentally friendly technologies. Companies are becoming aware of the possibilities of a free market, glowing competition, shifting focus on human resources, their knowledge, wisdom and skills. Generally speaking there are two ways of dealing with these changes. They can either choose to passively adjust, or to actively take part in the globalization process. The first approach is typical for smaller companies without the means of expanding abroad. The second approach is characteristic for bigger companies with access to greater financial resources. They don't perceive globalization as a threat,

but as an opportunity. Management represents individual activities with the purpose of defining and reaching goals. The success of management is based on the use of every available resource leading to that goal. This knowledge concerns the information gained from management accounting amongst others.

While perfecting management it is necessary to take a look at the managerial approach, realized by the manager on the company level or the level of an internal department. It seems easy, but it isn't. First it is necessary to realize, that management is not a monotonous activity, but a constantly shifting process, affecting other shifting processes, with their own logic and goal. If management fails to realize this, it leads to an internal conflict caused by the collision from wasted energy. That is why it is necessary to realize, that management is a focused effort towards a goal with the least amount of energy being wasted. It consists of several partial activities defined and partial managerial activities. The most important and most significant partial activity is decision-making. A decision is made whenever it is necessary to choose one of several options. In order for this to happen, information is required. Processing information transcends throughout all managerial activities. One might say that information is the nervous system of management. Information is encountered on every level of management and they need to be constantly worked with. Some companies prove that their success is based on superior information system, which main part is a management oriented accounting. Some companies are becoming aware that their only chance to survive against their competition, is to efficiently manage factors contributing to the profitability of their assets and economic standing. That is the reason they have decided to implement such a system into their company.

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CULTURAL AND SOCIAL ASPECTS OF DRINKING ALCOHOL IN CHINA AND THEIR IMPACT ON NATIONAL WINE MARKET

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Abstract: *As the People's Republic of China is the most populous country and, additionally to this fact, it is the second biggest economy in the world, it attracts many foreign companies to enter its enormous market. At the same time, this market is inevitably facing difficulties resulting from cultural differences which influence consumers' needs and Chinese products perception. The aim of this paper is to describe cultural and social aspects of drinking alcohol in China and, more specifically, their impact on local grape wine market. Describing and analysing the methods of previous researches is used to specify consumers' behaviour on the Chinese wine market.*

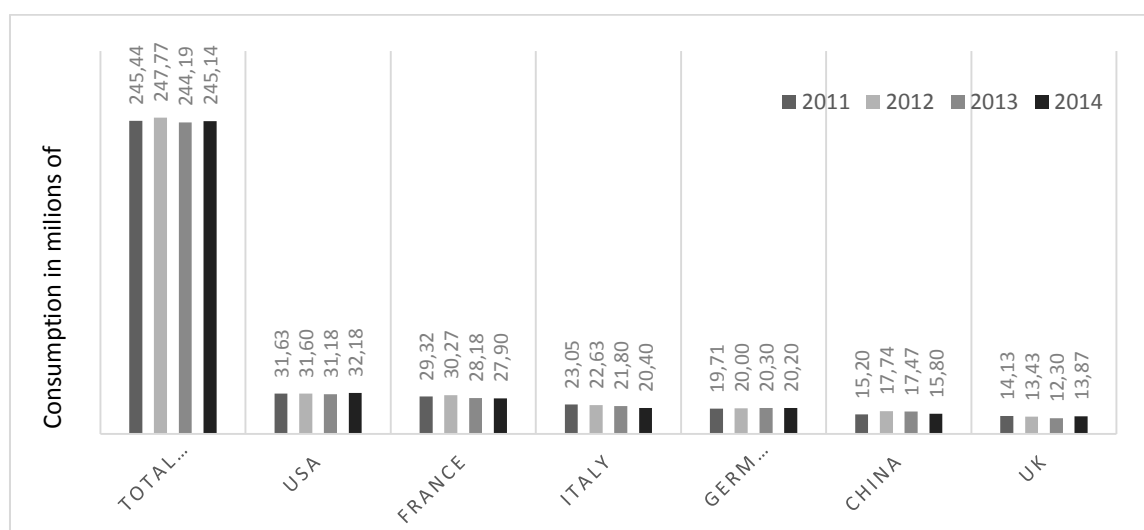
Keywords: *People's Republic of China, wine market, drinking culture, consumers' behaviour*

JEL classification: *L66, M31, Q13*

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1 Market description

FIG. 1: World Wine Consumption 2011–2014

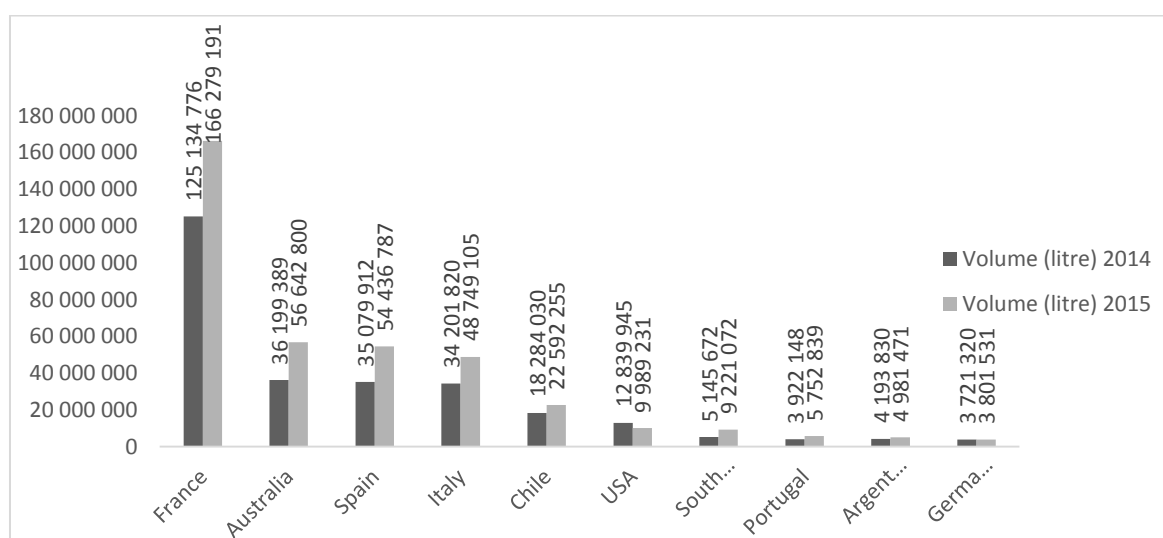


Source: Author's elaboration based on trade data and analysis (2014)

While wine consumption slowed down in Europe, the Chinese market started attracting many foreign exporters. Figure 1 shows that China is ranked the 5th position in wine consumption worldwide with 1.15 litres per capita.

On the other hand, according to Trade Data and Analysis from 2014, wine consumption in China decreased by 9.56% between 2013 and 2014. Such a slowdown in the annual growth and a government program by president Xi Jinping who in 2013 cut government officials' luxury expenses, expensive wines included, are generally considered as the main forces of the current transformation of the Chinese wine market (Donovan, 2014). Regarding the future years, increasing income and individual consumption could be significant drivers for the wine industry.

FIG. 2: Wine imports to China in years 2014 and 2015



Source: Author's elaboration based on Decanter China data (2016)

Wine consumption in China is dominated by domestic brands. Foreign winemakers stand for approximately 14.8% of the total number of sellers on the Chinese wine market, (New Zealand Trade and Enterprise Market Research, 2015). Still, it is noteworthy that the prices of imported bottled wines have recently fallen to the average price 4.7 USD (Decanter China, 2016), and the importers are able to compete directly with Chinese domestic leader brands, e.g. Great Wall and Changyu. Figure 2 showing the volumes of wine imported to China indicates that France is the major country of origin. Still, the importance of France as the main importer is expected to be diminished due to the import of New World Wines, i.e. the products from the countries that signed the Free Trade Agreement (FTA).

2 Wine consumers in China

Wine Intelligence (2014), characterizes a typical consumer as a "person represented by younger group predominantly living in Tier 1 cities such as Shanghai and Guangzhou, but increasingly found in vibrant, growing Tier 2 cities such as Shenzhen, Hangzhou, Shenyang and a slew of other cities with 500,000–1 million inhabitants (especially in the south of the country)".

Besides these geographical factors, consumers' behaviour and shopping patterns are influenced significantly by the social factors, namely the age and the social status. Qlu and Zhao (2011) divide the typical consumers into four groups:

The first group is represented by retired employees of government and state owned enterprises and institutions born before 1960. Within this group, lower price sensitivity and higher expectation for the quality (especially for healthcare products) are evident.

The second group, the consumers at the age of 40–50, stands between traditions and new trends. It is characterized by saving large proportion of the income to sustain the family, and highly respecting familial piety as a traditional Confucian value. A part of this group is represented by company owners or top management of state owned or foreigner companies willing to pay for premium products.

The group of thirty years old wine consumers is well educated and grew up in already opened economy, using internet and online shopping. This group spends more, but assesses the quality of products not only by their price but the information available.

Last, the forthcoming generation of twenty years old is expected to be more individual, familiar with western products, developing their personalities through the products and to be influenced mainly by social media (Qlu & Zhao, 2011).

Each social group has different motivations to consume and possess the wine. Wang (2013) in his research lays stress on strong hierarchy conflict between traditional and modern values, influence of materialistic culture in contrast with traditional Confucius values. Confucianism traditionally put emphasis on social order in the world with a premise that an individual is not isolated (Ma, 2015).

At the same time, according to business tradition the alcohol plays an important role in forming new partnerships. Business negotiations are customarily made during the meals and in the case it is hosted, alcohol would be offered to guests. Avoid drinking during the formal dinner would be understand as rude and such a person evaluated as untrustworthy (Ma, 2015). Drinking is important rite to give face (mianzi) to participants.

Mianzi means sociological manifestation of a desire to retain social stability, hierarchy, and respect, a need to be respected by others (Hwang, Ang, & Francesco, 2002). Mianzi is shown by toasting, the rite regulated by specific social rules. Chinese wine (baijiu) is preferred, followed by red wine offered usually as alternative alcohol drink to foreigners. Another manner how to give face is offering the gift, and in this situation imported wines are preferred, especially French premium wines which take advantage of traditionally good reputation of this country of origin (Agnoli, 2014).

3 Consumer's decision

According to Holbrook and Corfman (1985), the quality is a relatively global value judgment. Lutz (1986) in his publication emphasizes experience as the factor in value judgement for non-durable goods. Maynes (1976) extends the theory of quality evaluation which is made within the set of goods which would serve to consumers in the same general purpose (Zeithaml, 1988). Jacoby (1974) describes intrinsic and extrinsic cues having impact on consumer behaviour (Intrinsic cues include physical composition, in this particular case flavour, colour, texture, smell, taste, while extrinsic cues consist of anything unrelated to physical products, that is price, brand name and level of advertising. Provided the market is immature the extrinsic cues dominate in the decision process, whereas on the mature market consumers develop their capacity in discovering quality of product through intrinsic cues and experience attitudes.

Customarily, Chinese tend to drink red wine called hongjiu. Wine experts explain this phenomenon in different ways. The most cited fact is the symbolism of the red colour presenting power, happiness, success, passion and colour of China's flag. Chinese consumers traditionally drink beverages of warm temperature because cold drinks are traditionally seen as unhealthy (Boyce, 2015).

Chinese consumers' preferences are widening, and white, rose and sparkling wines gain their position on the market. This shows new consumer trends searching for differentiation which also means growing importance of special wines as ice wine or fruit wines. Additionally, new substitutes on alcoholic beverage market as rum, tequila, whiskey and cocktails are getting popular as drinks of socializing (Pingali, 2011).

Chinese may feel insecure and uninformed if they are to choose a particular brand for special occasions. Without any previous knowledge Chinese consumer had been used to avoid risk by selecting wine according to brand, price and recommendation of retailer (Zhengping, 2011). If a consumer cannot afford premium product, the packaging would be evaluated as the key attribute in his decision.

Step by step, Chinese consumers are breaking lack of understanding wine, which also means increasing attractiveness of wine education. Currently, Chinese consumers are familiar with mobile applications providing information for each wine with comments and recommendations of other users. Chinese buyers are namely interested in e-shops or other kinds of online platforms which facilitate comparison of different brands.

To facilitate the communication, a very useful tool would be to invite a key opinion leader to influence others, since Chinese people admire personalities in sport or culture. As the baijiu, traditional Chinese spirit, has become recently considered as unhealthy, a campaign presenting a glass of grape wine as a daily portion of health would be helpful (Olivier, 2013).

4 Conclusions

Based on the current analysis, the character of Chinese wine market is dynamically changing and becoming complex, with highly competitive environment. In the last two decades, PRC's wine market has been mainly influenced by foreign exporters putting emphasis on French premium wines. As the result of political and economic changes in last two years, market has started developing and transforming to a new type of market driven by consumers. With the steadily growing income of upper and middle class, extending consumer base and accessibility of necessary information via mobile applications, a gap in consumer's knowledge is reducing.

The Free Trade Agreements between PRC and main wine exporters such as Australia, Chile and New Zealand represents direct competition for local wine industry. The situation is expected to be substantially changed in next five years when under FTAs the import tariffs would be abolished.

New incomers to the Chinese wine market should decide which strategy they need to adopt according to a group of wine consumer they want to aim to. Importers and distributors need to adapt to this wine market transformation by extending product portfolio, develop communication channels and educate retailers to succeed in the growing competition on the market.

The countries which are not generally known for their wine production could build their reputation under national brands, which would be gainful for all participants. Following consumer trends, e.g. the great perception of healthy products, and offering niche products, e.g. fortified, ice and authentic wines could be an effective strategy to gain the position in the market.

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THE APPLICATION OF KNOWLEDGE MANAGEMENT IN SECURITY MANAGEMENT

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Abstract: *The influence of social changes and the increasing level of threat is reflected in the need for greater efficiency of the work of state security forces. One of the areas, where the effort is concentrated, is security management and within it the management and utilization of knowledge in the security forces. The contribution presents the results of the partial research task "Management System of State Organizations, its Character and Fundamental Problems" which has been conducted at the Police Academy of the Czech Republic in Prague. It focuses on the impact of climate, the informal and the formal structures in organizations on knowledge transfer in the Police of the Czech Republic. It identifies the specifics of knowledge management in the security forces and mapping its value and current status.*

Keywords: *knowledge management, security management, structures*

JEL classification: *M12, M19*

Grant affiliation: *Management System of State Organizations, its Character and Fundamental Problems*

1 Introduction

In recent decades we are witnessing discontinuous changes in the areas of engineering, technology and power politics and at the same time there is a substantial increase in their frequency and in possibility of their global transfer. These changes do not necessarily have to be beneficial for the mankind but also create new forms of threats which must be timely addressed in an adequate and appropriate manner.

Security science comprises crisis, police and military management, civil protection, information security management, occupational health and safety management and management of the integrated rescue system (2012). The overlap of the above-mentioned areas is the security management whose primary goal is to create a managerial system which would guarantee security in the defined territory.

2 Knowledge management

The transfer of knowledge among organization employees is of key importance. There are in particular two reasons why knowledge transfer is so important. The first reason is knowledge dissemination to other employees in the organization to enable them to use it to accomplish organization goals.

Beazley (2002) characterises this transfer as a horizontal process within the same employee generation. The second reason is the preservation of knowledge, in particular of tacit knowledge, by the organization. This transfer is characterised by Beazley (2002) as a vertical process. It has been found that tacit knowledge has a greater impact on the success of the organization than explicit knowledge.

It has been also identified that organizational structures influence tacit knowledge transfer in two ways – indirectly and directly (Gold, 2001). The indirect impact is a mediated effect of the given organizational structure on tacit knowledge transfer through organization culture and within this frame on the organization climate, which is a kind of transfer catalyst. Simultaneously, without a suitable organization culture there would not be any direct impact of the organizational structure. Organizational structure (Gold, 2001) is a combination of these knowledge management structural dimensions, an organization's formal organizational structure, and incentive systems that make up an organization's overall knowledge management structure.

3 Goal and methods

In the first phase the research in the field of security management focused on the area of police management. The attention was directed towards the knowledge management at the Police of the Czech Republic and the paper presents the results in the field of knowledge transfer in relation to the organizational structure. There were formulated the following hypotheses with the aim to corroborate whether:

1. the present organization structure of the Police of the Czech Republic provides conditions for knowledge transfer (H1),
2. organizational structure of the Police of the Czech Republic helps: a) the horizontal (among currently serving officers) knowledge transfer (H2); b) vertical (among generations of officers) knowledge transfer (H3),
3. within the framework of police units informal meetings of employees are frequently organized (H4).

Furthermore, the aim was to assess which methods of tacit knowledge transfer according to the schemes of Krishnaveni and Sujatha (2012) should be more applied in activities of the Police of the Czech Republic. From the proposed twelve methods of tacit knowledge transfer the respondents were supposed to select three which should be used more at police work and link them with numbers 1-3, according to the level of their importance. For the assessment the weighted arithmetic mean was used while the first place was given three points, the second two points and the third place one point.

Applying the method of questionnaire survey 150 respondents were addressed. Response rate was 97%. The final sample constitutes 146 respondents out of which: 29 hold senior managerial positions, 117 respondents hold junior posts, 108 were men and 38 women. According to the number of years of service 116 respondents were serving more than 6 years and the average length of service or the average number of years of service was 11.2 years.

In the second phase there was carried out a qualitative research in the form of semi-structured interviews with high-ranking officers during which the questionnaire survey results were further clarified.

4 Outcomes

Regarding the results of the literal review the hypothesis No. 1 was verified by means of the following four statements: 1. Within the Police of the Czech Republic there are conditions made to allow frequent personal relationships between police officers; 2. Police of the Czech Republic have to prevent the development of barriers between particular places of work; 3. Police of the Czech Republic require a team cooperation (especially when dealing with ill structured problems); 4. Police of the Czech Republic have a positive impact on the creation of a workplace climate (characterized by mutual trust, space for participation in determining the organization goals and willingness to subordinate personal interests and goals to common goals and interests).

TAB. 1: Absolute frequency of responses to the hypothesis "The present organization structure of the Police of the Czech Republic provides conditions for knowledge transfer"

Responses	No.1	No. 2	No. 3	No. 4	Total
Definitely YES	8	4	35	1	48
Rather YES	49	20	60	18	147
Do not know	28	48	18	18	112
Rather NO	56	65	30	85	236
Definitely NO	5	8	3	24	40

Hypothesis No. 1 "The present organization structure of the Police of the Czech Republic provides conditions for knowledge transfer" was not corroborated. Out of the total number of responses 195 responses, i.e. 33%, were positive ones (in category: Definitely YES: 48, i.e. 8%, in category: Rather YES: 147, i.e. 25%); 112 responses, i.e. 19%, were neutral (in category: Do not know) and 276 of all responses, i.e. 48%, were negative (in category: Rather NO: 236, i.e. 41%, in category: Definitely NO: 40, i.e. 7%). Most positive responses were allotted to statement No. 3 "Police of the Czech Republic require a team cooperation (especially when dealing with ill structured problems)" and least positive responses were allotted to statement No. 4 "Police of the Czech Republic have a positive impact on the creation of a workplace climate".

According to the questionnaire survey the present organizational structure does not correspond either to the horizontal (52, i.e. 36%, of positive responses; 43, i.e. 29%, of neutral; 50, i.e. 34%, of

negative) or vertical transfer of knowledge (33, i.e. 23%, of positive responses; 43, i.e. 29% of neutral; 70, i.e. 48% of negative). Hypotheses No.2 and No. 3 "Organizational structure of the Police of the Czech Republic helps the horizontal/vertical knowledge transfer" were not corroborated.

On the other hand the questionnaire survey corroborated that Czech police officers spend their off-duty time together with their colleagues (75, i.e. 51%, of positive responses; 4, i.e. 3%, of neutral, 67, i.e. 46% of negative) and that within the framework of police units informal meetings of employees are organized (103, i.e. 71%, of positive responses; 4, i.e. 3%, of neutral; 39, i.e. 26%, of negative). Hypothesis No. 4 "Within the framework of police units informal meetings of employees are frequently organized" was corroborated.

To find out which methods of tacit knowledge transfer should be more utilized in police practice the respondents were choosing out of the following twelve possibilities: E-learning, intranet, mentoring, informal meetings, business meetings, case studies, social networks, shadowing, occupational training, team cooperation, use of metaphors and analogies, a professional magazine. The placings in the first half, or more precisely, first six placings are the following: 1. business meetings (weighted sum: 321); 2. training (weighted sum: 180); 3. team cooperation (weighted sum: 129); 4. informal meetings (weighted sum: 88); 5. Internet (weighted sum:87) and 6. case studies (weighted sum: 74).

5 Conclusion

The research performed at the Police Academy of the Czech Republic proved that the formal organizational structure is not formed purposefully to create conditions and overall climate suitable for knowledge transfer. This fact is further reflected in the practice when the success of the organization departments depends on the "knowledge" individual. Knowledge transfer is carried out through informal structures, mostly inside the particular departments. Knowledge transfer is applied mostly at meetings followed by common educational activities and later through team work.

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AGE MANAGEMENT - WHO IS THE OLDER WORKER?

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Abstract: *The population ageing and the employment of older workers is one of the most discussed issues of recent times. But who is the older employee? What determines the difference between whether a worker is still young or already belongs to the category of older employees? The employment of older people is associated with a number of stereotypes. The aim of the paper is to evaluate respondents' view of who is an older employee. Respondents were asked what are the factors based on which they consider a person as an older. The obtained data are processed through a grounded theory method. The research sample consists of 520 respondents who are divided into 3 age groups. The results of a questionnaire survey of ageing factors are discussed.*

Keywords: *age management, types of age, population ageing*

JEL classification: J11

Grant affiliation: IGA SP1160061 PEF_DP_2016019

1 Introduction

Ageing is a natural process of life for everyone, it is considered as the final stage of human development and it should be viewed as a part of a continuous transformation. It is not easy to determine accurately where it ends the period of middle age and the period of old age begins. Any evolution and involution changes which are related to the process of development and ageing, whether at the level of biological, psychological or social, are appearing at each person differently - at different ages, in different quality and different level (Langmeier, Krejčířová, 1998).

The knowledge and skills that individuals have during youth and adulthood obtained, can very well work till old age. Older people have huge advantage - life experience, compared to their younger colleagues (Mühlpachr, 2009).

There are many factors involving the nature of age, eg. health status, lifestyle, the socio-economic and psychological factors - the signs of ageing can be both physical and mental. The age amount can be determined based on several criteria:

Chronological age is the age that is given by date of birth and can be therefore clearly defined. Chronological age is very clear, it is easy to identify and easy to compare. Chronological age does not reflect the morphological and functional condition of the organism (Ďoubal, 1997; Kalvach et al., 2004). Chronological age is perceived as a presentable age, as we all are getting older in time at the same rate. But ageing is highly individual process, because no two people are getting old the same way.

Biological age represents the ageing rate of the body of an individual. Biological age is defined depending on the physical signs of ageing (Dean, 1988). Biological age is not categorized, but there is a correlation, whether biological age correspond with the chronological age. Biological age is influenced by the burdening of the individual and it is not unusual, that individuals of the same chronological age tend to have considerably different biological age. In terms of biological age, the ageing is an irreversible process (Alan, 1989).

Social age expresses how should an individual by a certain chronological age behave according to social conventions - thus includes all the social aspects of our lives. It is associated with changes in social roles, ways of life and the economic hedge of man (Havlík, 2015).

Psychological age is a consequence of functional changes during ageing, individual personality traits and subjective age. Psychological age is the answer to the questions - How are you feeling? How old do we look like? Psychological age is therefore strictly subjective and is also significantly influenced by our relationship to its own understanding of health and age (Hrozenská, Dvořáčková, 2013).

The aspects of ageing do not concern itself just an individual but also operates in a broader social scale. The ageing population as a phenomenon brings to the society many challenges which will need to be respond appropriately. In the work environment we encounter issues such as employment of older people, the labor market status of individuals aged 50+, ageism etc. A concept that has the potential to solve the current issues of ageing and appropriately respond to the consequences that entails, is the Age Management. In the work environment it represents a systematic way of managing human resources, which in their measures take into consideration the age and individuality of employees (Rašticová, Kolářová, 2015).

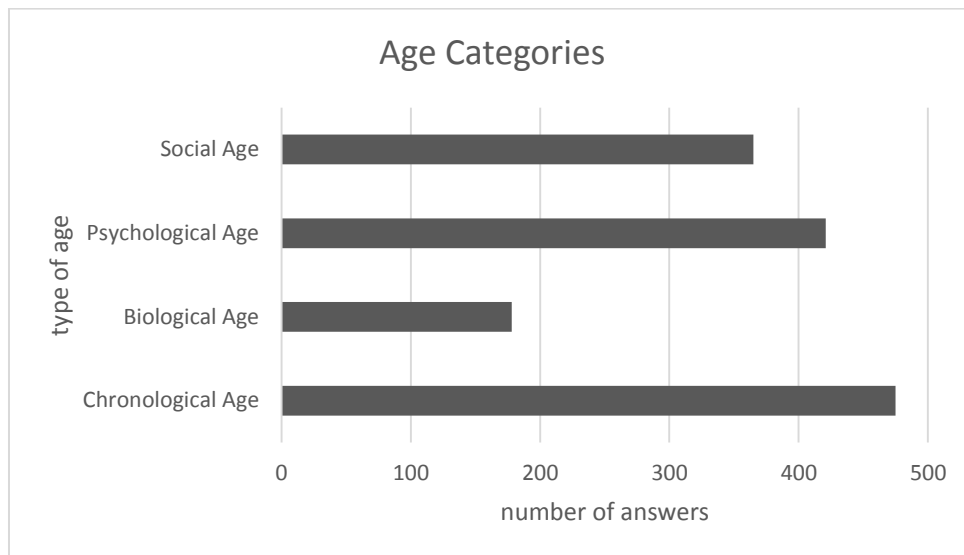
2 Methodology

Based on the literature evidence the aim of the paper was formulated which is to evaluate respondents' view of who is an older employee. The research was realized in the Czech Republic at Mendel University in Brno. Respondents were asked what are the factors based on which they consider a person as an older. The research sample consists of 520 respondents, from which 21 answers were not relevant. The obtained data of 499 respondents were divided into 3 age groups: 18–25 years old (66 respondents), 26–64 years old (121 respondents) and 65+ years old (312 respondents). The research sample consists of 40,96 % men and 59,04 % women. The obtained data were processed through a grounded theory method. These data were divided into 4 major categories and 9 subcategories. The results of answers are presented in the next figures.

3 Research results

Figure 1 shows what type of age the respondents take into account, if they judge whether a person is old. The chronological age was mentioned 475 times during the questionnaire survey - proved so that most respondents deem an older person, a person who reaches higher age than they do. The second category with the highest number of responses (421 positive answers) is psychological age. Within this category were investigated four subcategories dealing with the mental age of an older person - feelings of inferiority, isolation and non acceptance by the society; life approach; adaptation to modern times and appearance. Social age, when forming an opinion on the age, scored 365 points. Social perceptions of age according to social age is divided into three subcategories - life experience and wisdom; work experience, family and recognition and experience with other regimes of society. Within the biological age the research dealt with physical problems and dependency of elderly on others. Biological age as an indicator of age received 178 positive responses.

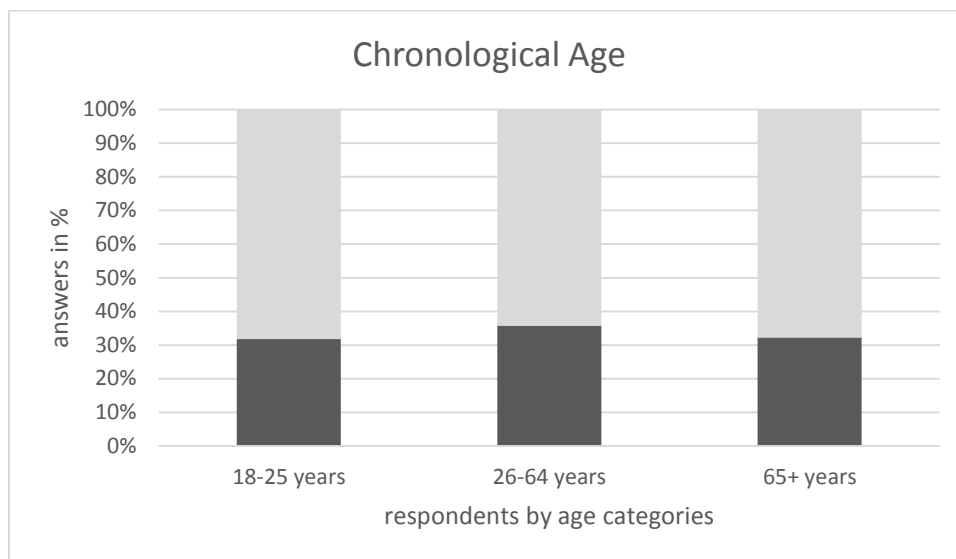
FIG. 1: Age Categories



Source: authors

Figure 2 shows how were the different age groups answering related to chronological age. According to the results of the questionnaire it showed up, that the most important is the chronological age for respondents in age group 26 – 64 years. The answers that the older person is a person who achieves a higher age formed in this age category of 35,8 %. According to respondents' answers is the limit, from which people can be considered as an older, 58 years in average. In the age group 18-25 years accounted chronological age as an important indicator of age 31,8 % of answers. The average age for an older person was for respondents in this age group 52 years in average. In the category 65+ chronological age played a role in a 32,3 % response rate. The age limit increased for this age group up to 66,5 years in average.

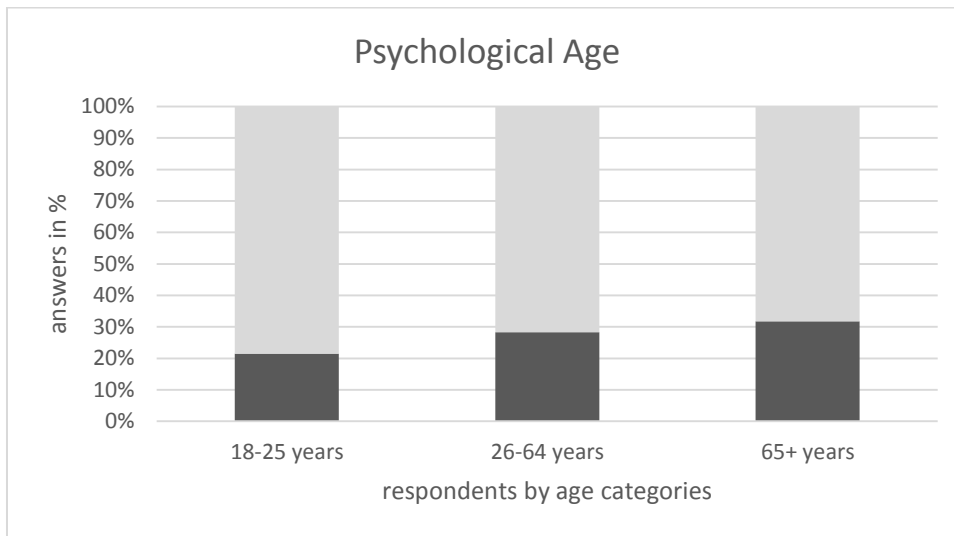
FIG. 2: Chronological Age



Source: authors

In the figure 3 it is shown how the respondents answered within the category of psychological age. Psychological age covered 21,5 % of positive answers in the age category 18-25 years, 28,4 % in the age group 26-64 years and 31,8 % in the age group 65+. The category psychological age was split into 4 subcategories. As an indicator of psychological age is by respondents most commonly mentioned: feeling of older people that they are invisible and overlooked by society, lack of job opportunities and living alone (subcategory feelings of inferiority, isolation and non acceptance by the society); conservative opinions, moodiness and grumpiness, thinking of themselves as old, forgetfulness, pessimism, inactive life, patience, complaining about the younger generation, inability to relax, dissatisfaction, criticism and negativity (subcategory life approach); disinterest about the future, dissatisfaction with the current times, no new ideas, no effort to learn new things, inability to use new technologies, inflexibility, displeasure regarding changes (subcategory adaptation to modern times); gray hair, wrinkles, unfashionable clothes, walking with a cane, odor, disheveled appearance (subcategory appearance).

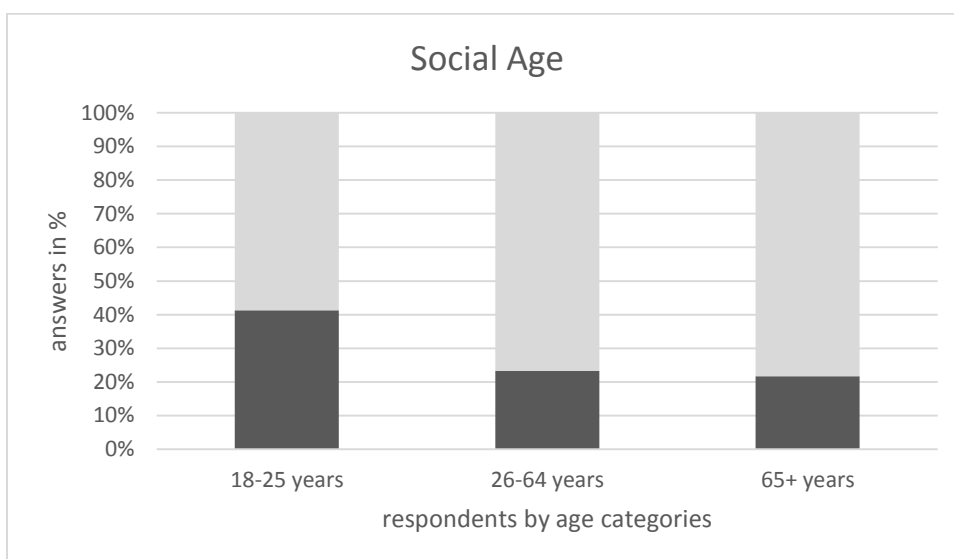
FIG. 3: Psychological Age



Source: authors

Figure 4 shows respondents' answers regarding the category social age. The answers of the respondents in the age group 18-25 years featured 41,3 % of total responses in this category, 23,3 % of respondents in the age category 26-64 and 21, 7 % in the age category 65+. As an older man respondents consider someone who lived through a lot, has a lot of experience, acts and behaves like an adult, has a general overview and detached views, understands to the others (subcategory life experience and wisdom); is industrious, has grown children - cares only of themselves, is an independent, is natural authority, has a good job and proved a lot in their life (subcategory work experience, family and recognition); they have survived the second world war, lived under communism, they return often to the past in their minds and compare (subcategory experience with other regimes of society).

FIG. 4: Social Age

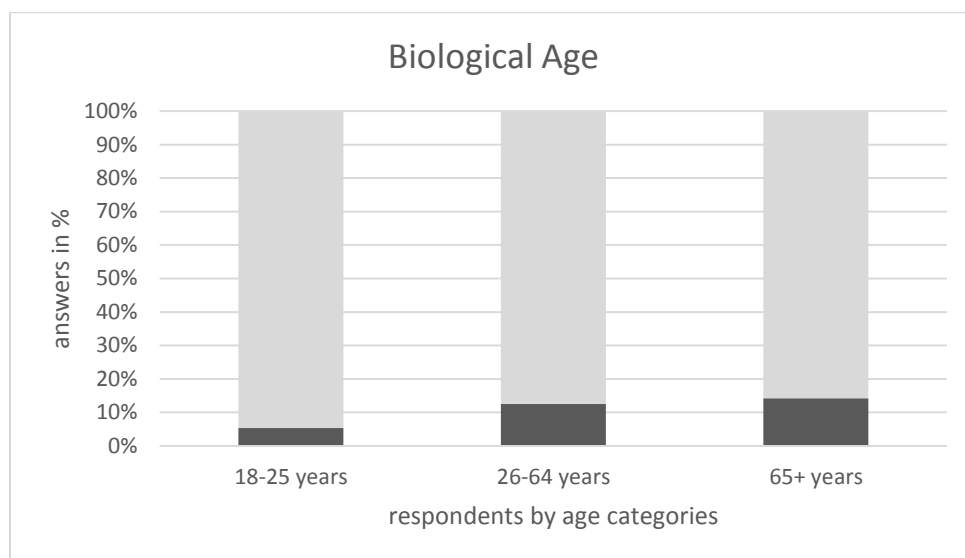


Source: authors

Within the category of biological age, respondents focused mainly on the physical condition of the elderly and their dependence on the other people. As an older man, respondents identify people who need help with everyday activities, do not have a good health, spend a lot of time in the hospital and is not an independent, self-sufficient and less vital.

How respondents answered within this category is shown in the figure 5 - in the age group 18-25 years was the biological age as an important indicator of age for 5,4 % of responses in the age group 26-64 years, 12,5 % of respondents and in the age category 65+, 14,3 % of the responses.

FIG. 5: Biological Age



Source: authors

4 Discussion and conclusions

The present paper discusses, how differently the ages categories perceive, what characterizes a man as an older. There are some limits of the research, e.g. inconsistent number of respondents in the age categories. Respondents in the age category 18-25 consider as the main indicators of ageing factors that belongs to the category of social age, second place goes to factors related to chronological age, third place is for psychological age and the last place for biological age. Respondents in the age group 26-64 years answered in order: chronological age, psychological age, social age and biological age. In the same order, answered the respondents 65+ years. According to the results of the survey it is possible to see, that the smallest focus in the perception of older people represents biological age. People, who belong to the older age groups (26-64 years and 65+ years), attach the greatest importance to chronological age, but respondents who belong to the younger age group (18-25 years), do not perceive chronological age as much important as the social age. This result shows that young people consider it important to cooperate and learn from older colleagues, who have extensive experience. The differences among people represent benefits for the company if the diversity of employees is perceived positively and the employees are allowed to use their full potential.

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SIGNIFICANCE OF CORPORATE IDENTITY FOR NEW COMPANY

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Abstract: *The work aims to find out the current situation and the importance of corporate identity for the company starting in the Czech environment, namely, using literature review on the issue of corporate identity, or articles on this topic in the context of business economics. Simultaneously based on the survey in selected companies on the Czech market. The article points out that the issue of corporate identity no longer be taken only as part of a corporate marketing or above standard, but rather as a comprehensive concept within the company philosophy, which is reflected in the complex functioning of the company itself and in the current competitive environment. It also emphasizes the fact that each firm enters the market with a mission that should permeate all components of the company not only to customers and suppliers, as well as corporate hierarchies, and should be reflected in corporate values. Part will also a comparison with selected foreign firms in similar industries which are selected from the examined companies on the Czech market. The result of which is to determine other possible areas for scientific exploration of the issue.*

Keywords: *Corporate identity, business economics, corporate culture, company life cycle, competitive environment.*

JEL classification: L2, L31

Grant affiliation: IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.

1 Introduction

In 1972 published an economist Greiner two basic definitions in the life cycle of an enterprise - evolution and revolution. Evolution is the time of development of the company itself, which would, however, make no fundamental changes in the functioning and in the process, while the revolution is characterized by substantial shocks in the organizational structure and its functioning. It depends on various factors such as age or size of the enterprise. On this basis, after the growth phase of enterprise divided into several sub-parts, at the very beginning but in phase one, the so called creativity, "Creative evolution". And in this phase Greiner writes that "the founders are usually technically or entrepreneurially oriented and their physical and mental energy is focused on one thing - to create and sell a new product." At the same time communication across the company

hierarchy is casual and intense. (Greiner, 1972) Although this article came out a few decades, we can say that even today it is not far from the truth, and in the case of start-ups, it may be primarily about creativity in terms of production and sales of the product. But the involvement of the initial hierarchy, respectively nearly all workers in this process can also be a positive benefit already in the beginning, not only but in terms of the actual sales and growth.

The research on the model of growth of SMEs in 2006 in the Czech Republic has identified six stages of growth, and the first one is the concept stage. We can say that this stage is also the stage issues as founder or founders it solves the issue of cooperation spaces, conditions, but also the very goals. And, although, crucial aim (business idea) is rather long, it is necessary at that stage to take into account mainly short-term goals, which are closely linked with the available information and charged, whether legislative in nature, or commercial nature. Resolves therefore primarily purpose and meaning to our existence (Kubálková, 2006). For this reason, already beginning to be in start-ups certainly a form of belonging and not just on the level of the founders. At the beginning is even more appropriate to say, with respect to the following text, it is difficult to say whether if it is of importance for small, medium or large company. Since all companies without exception should at least beginning to ask these four questions: who are we?, what are we aiming?, why are we here?, how do we want to be perceived? (Blažková, 2007)

2 Corporate identity and its point of view

So why deal with corporate identity at the stage of starting up a business and addressing the above issues? Because corporate identity is considered part of corporate strategy and depends on the process of its formation. Another concept of corporate identity is the one that comes in terms of corporate culture, but for our practical use, we will work with the former. (Vysekalová, 2009)

Herbst (2006) stated some of the reasons that confirm the significance and importance of corporate identity, beyond the initial stages of development and that e.g. the rapid rise, changes in management, and also for changes in the social environment and public opinion etc. Important here is, that corporate identity is directly related to and has an impact on the overall development of the life cycle of the company. Škarabelová (2007), another Czech author, defines corporate identity as "the personification summary derived from the organization's philosophy, history, culture, strategies, modes of management behaviour to partners." If we simplify the aforementioned into practical terms and definitions of basic motivation of business i.e. to find a gap in the market, we can deduce that each company should be unique and original. It is perhaps a very general statement, but in the last decade, the number of new companies and dynamically growing economy entered a phase where companies not only that they are looking for the gap in the market, but some also constitute in themselves a whole new market. If we are more specific and based on the press release of the consulting company Bisnode in 2015 was founded 26,953 new companies in the Czech Republic. This is the highest number from the pre-crisis year 2007. (Bisnode, 2016)

This coin has two sides, however, and the other is that meanwhile most companies disappeared in the last four years (this is only a statistic called capital companies). Analyst from the same company commented that follows: "The emergence and demise of firms reflects the state of the economy. The more they rotate the wheels of the economy, the more the formation of new companies. Another conclusive phenomenon among emerging economies and companies is also an increased rate of extinction of companies. With the rapidly increasing number of firms is increasing competitive

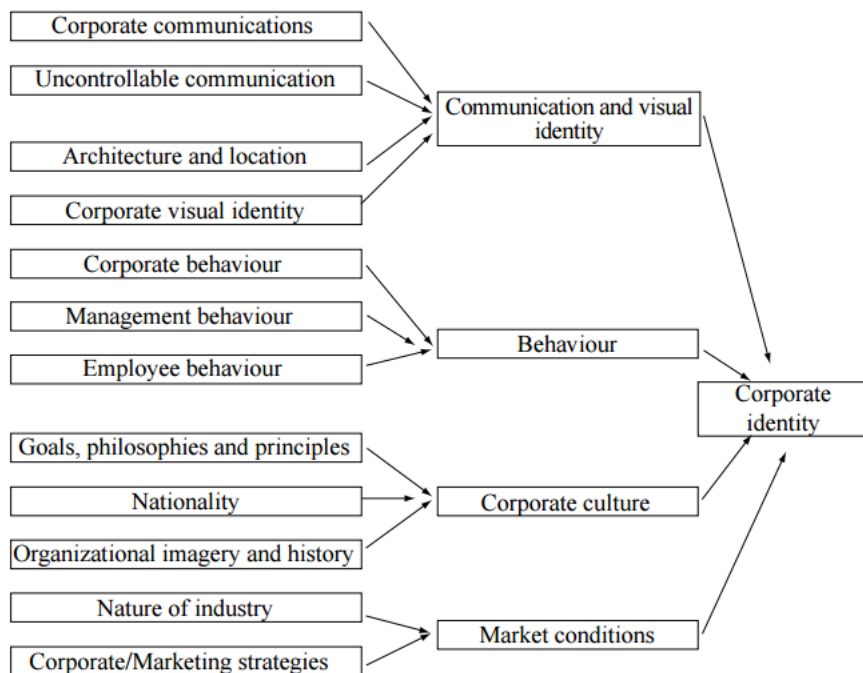
pressure and dysfunctional and outdated operators leaving the market. This phenomenon is not immediate but gradual. Given that in recent years the total number of firms in the country continuously increases, the extinction of old firms is only a matter of time. "(Bisnode, 2016).

It will be difficult to argue over the reasons of the dying companies, a crucial communication is that, however, emerging companies "go" straight to a very competitive and dynamic environment. And mentioned the originality and uniqueness of know-how in the form of competitive advantage is so crucial. To make it is so essential that the organization has established and maintained its uniqueness definitely specifics that cannot be imitated by competitors (Janonis & Virvilaitė, 2007). In the last two decades there has been increasing attention to corporate identity management as a source of competitive advantage (Lauring & Thomsen, 2009).

One of the major problems in the area of the research of corporate identity is a lack of consensus on the basic concepts and its very definition. It is often seen only as a visual form, or rather tends to issues of corporate culture. (Kyriakidou & Millward, 2000). Some authors like Balmer (1995), in contrast, states that corporate identity is more than just a symbol or a mark on the basis that the company recognize, but also refers to a specific way of organizing how the market operates and how it is perceived from the perspective of the outside world or from inside your organization. The purpose and unity are in fact two fundamental aspects of corporate identity and as such is logically necessary cooperation across the corporate spectrum. The identity of the terms of cooperation must be clearly stated and the criteria are not only products but also services and behaviour. It follows that the identity cannot be merely visual character, it is simultaneously also that "palpable and tangible", simply put any product and company activity is an imprint of her identity.

Due to the collision of these two views of tangible and intangible adds Allesandri (2001), her division, firstly in terms of the abstract, the corporate identity she sees as a strategic and planned presentation of the company itself in order to obtain a positive image in the eyes of the public. Corporate identity is based on gaining favour over time. Secondly, in terms of operating when corporate identity is represented by all possible measurable elements of what the company is offering, reflected the complex visual presentations. Melewar and Jenkins (2002) for a better overview and a comprehensive breakdown of the concept created called Model corporate identity, which is divided into four main areas: communication and visual identity, behaviour, corporate culture and market conditions. Given the diverse and often complex definition, it is this model provides a distinct division of the concept. However, as shown, using many ingredients, which themselves also provides space for a detailed discussion.

PICT. 1: Model of corporate identity (Melewar and Jenkins, 2002)



3 The significance of corporate identity for new companies

Although defining the corporate identity varies across different authors, in an increasingly globalized world, gaining corporate identity importance, both in the world of business and academia. Companies realize that their strong identity helps them in many ways, whether it was in the market competition, but perhaps also from the position of attractiveness for potential investors and talented people in the labour market (Schmidt, 1995). The fact that there is a close correlation between a positive perception of your corporate identity and increasing production rates within market standards, proves Siömes and Dibb's research (2002).

So based on the hypothesis that the goal is to get positive perceptions across internal and external stakeholders, which in the longer term could prove crucial to maintain or increase their market position. These positive reputation and image can significantly reduce risks, and increase market share. It is important to stress the importance of corporate identity from an internal perspective, specifically in relation to the employees.

Indeed, it may seem that corporate identity is predominantly external nature and its manifestations impacting the surrounding environment only visually, moreover, currently, the media and visualization reaches a peak of importance in the business world, when perhaps more than ever before is deducted for using various tools fight for every customer, rather, of each group of customers. Although, as a general proposition that every customer is different and based on defined models can describe what processes and factors that influence consumer behaviour. The most widely used include fairly complex model that customers' behaviour and decision making describe five stages, of which the essential within the context of the article is the last fifth and that is the stage

where in the end customers evaluate their decisions, whether done well or badly, how will the future of this decision modify or vice versa repeat (Foret, 2003).

Crucial will be the perception of a product or brand as such and of course quality. Not surprisingly then, many studies confirm that the quality of products and services can greatly affect the perception of the company and at the same time it creates. Quality itself, however, is merely a measure of customer satisfaction.

As a result, but it would not have worked without significant fact, if companies had not built from the beginning and had not developed their own identity just as well inside their organizations. Indeed, employees and partners are the ones who create the final product or service of the company and regardless of the position in the hierarchy. Through corporate identity management can bring companies to their employees their advantages and vice versa. Corporate identity allows employees to more easily adopt the organizational culture and acts as an interface within the hierarchy (Melewar, 2003). Currently and increasingly, the staff are bearers of the company values not only during working hours but also outside it. Togetherness becomes a very crucial element for the life cycle of the company, almost literally it is a spine.

Corporate identity is undoubtedly currently essential for the development of the company and its sustainable development and growth. As the business would not be a question of short-term character exceptions and carries with it in the early stage of planning or considerable expenses should start-ups this fact into account since the very beginning of all activities. Its basic outlines should be reflected in the mission of each company and developed into concrete activities. Although corporate identity is increasingly perceived as a graphic concept of individual organizations, it is a far more complex issue involving the management, employees, any other interest group, which has a major impact on the company's position within its competitive environment.

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DILEMMAS RELATED TO THE INCOME TAXATION OF INDIVIDUAL FARMS IN POLAND

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Abstract: *In Poland, the agricultural industry, including individual farms is taxed of agricultural tax and they are released from income tax. The exception is income from special branches of agricultural production. The amount of agricultural tax depends on the size of the farm, its location and the type of land. In 2016 there was the first attempt to tax agricultural activities since the beginning of transformation in Poland. Sales revenues of processed plant and animal products, derived from self-cultivation, rearing or breeding, in a manner other than the industrial, have been taxed. The income taxation of agricultural in the European Union is common, so it can be assumed that such system will be introduced also in Poland. In the paper are presented and critically analyzed current solutions in the field of income taxation of individual farms, and submitted recommendations concerning the taxation.*

Keywords: *Individual farms, income tax, agricultural*

JEL classification: *H24, H31, Q14*

Grant affiliation:

1 Introduction

In Poland, the agricultural industry, including individual farms is taxed according to the rules specified in the Act of 15th November 1984 on the Agricultural Tax. The amount of this tax depends solely on the size of the farm, its location and the type of land.

At the same time, farms are exempt from the income tax (except for the income from special branches of agricultural production). Income tax in agricultural sector is commonly charged in the European Union countries, so it should be assumed that in the future such a system will be introduced in Poland.

The impose of partial taxation of agricultural activity should be considered as a manifestation of the abovementioned changes. Revenues from sales of processed (in a different than industrial way) plant and animal products, originating from own cultivation, breeding or rearing processes were taxed. It should be emphasized that, until the new legislation took effect, manufacturing and sale of such

products were regarded as economic activities and therefore, it was necessary to have them registered. At the same time, taking into consideration the provisions of the Act on Personal Income Tax (The Act, 1991), the income tax must have been charged.

To sum up, it must be acknowledged that the new act is the first step towards comprehensive taxation of agricultural activity, including individual farms.

The aim of this article is to make an attempt to answer the question, whether in the light of applicable provisions, it is possible to indicate the optimal income taxation of individual farms.

Implementation of the aim requires presentation and submission of critical analysis of current arrangements regarding taxation of individual farm income tax. The descriptive-analytic method was used in this article.

2 Agricultural Tax

As mentioned in the introduction, agricultural activity in Poland is still taxed according to the rules specified in the Act on the Agricultural Tax.

This tax is paid per each hectare of agricultural land on the farm, even if it is used for purposes other than agricultural production. According to the art. 6 paragraph 1 of the act, the tax rate is equal to the average price of 2.5 quintals of rye per 1 ha.

Taking into consideration the fact that fewer and fewer fields are sowed with rye in Poland, and cultivation of this cereal has a rather small share in the income of Polish farmers, such tax does not significantly influence the actual income earned by the farmers.

The common income taxation of citizens and companies was introduced in 1992, in accordance with the Individual Income Tax Act and the Corporate Income Tax Act (The Act, 1992). However, pursuant to art. 2 paragraph 1 point 1 of both acts, agricultural activity with exception for special branches of agricultural production was decided to be excluded.

Income earned by individuals in the special sectors of agricultural production (including partnerships) is determined on the basis of its tax revenue and expense ledger or account books. It is also possible to use estimated standards of income, which are subject to individual income taxation based on general principles, ie. according to initial tax table or with the 19% tax rate, but the 19% tax rate can only be selected by those taxpayers who keep accounting books.

3 New legislation

In 2016, a limited attempt to tax agricultural activities was made. This year on January 1st, the Act of 9th April 2015 was introduced, amending the Act on Individual Income Tax and certain other acts. This act regulates the rules for taxation of income earned in the sale of processed (in a different than industrial way) plant and animal products, originating from cultivation, breeding or rearing.

Under the new regulations, the revenues from the sale of plant and animal products, processed in a different than industrial way, originating from own cultivation, breeding or rearing, are classified as income obtained from other sources, rather than from non-agricultural activities. In addition, they must meet the following conditions:

- 1) sale cannot be done to legal entities, organizational units without legal personality or to individuals for the purpose pursued in non-agricultural activities;
- 2) processing plant and animal products; their sale cannot be conducted by people hired on the basis of employment contracts, order contracts or contracts for specific work, or any other similar contracts;
- 3) sale can be conducted only in places where these products have been produced, or on the markets, which should be understood as any place appropriate for trading, with the exception of sales performed in the buildings or parts thereof;
- 4) the sales records must be kept (The Act on the Individual Income Tax, 1991, Art. 20, section 1c).

It should be emphasized that the abovementioned activity, in accordance with art. 3 pt. 4 of the Act of 2nd July 2004 on freedom of business activity, is not considered as a business activity, and it is not subject to register in the Central Registration and Information on Business. It is not also regarded as a business activity within the meaning of the regulations on taxes and local fees (The Act on Taxation and Local Fees, 1991, Art. 1a, section 2, point 3) and thus does not result in any increase of the property tax.

Under the new legislation, farmers who want to sell their produced and processed food have to choose the form of the income taxation. They can choose to be taxed on a general scale (18 and 32%), or opt for a flat-rate income tax in the amount of 2%.

According to the Act on registered income without deductible costs tax (The Act, 1998) it is possible to pay the lump-sum tax if the revenues in the previous year did not exceed the equivalent of 150000 euro. It should be noted that this condition is met for each person starting a business, so this also applies to farmers who opt for this form of taxation. Exceeding this limit in the tax year, results in transition on tax revenue and expense ledger or account books in the next year.

The tax base in this case will be the income. It is worth noting that in this case, farmers will be able to take advantage of the tax-free amount, which in Poland is PLN 3 091, as well as tax reliefs for the taxpayers who account according to the tax rates, e.g. pro-family relief (currently it is: PLN 1112.04 for the first child and PLN 2000.04 for the second child, and PLN 2700.00 for the third, fourth and next).

Unfortunately, the information obtained from the Ministry of Finance show that farmers are not really interested in the new legislation, and until mid March 2016 there were only thirty farmers who wanted to develop their knowledge on the subject of the income taxation of processed products (Ministry of Finance, 2016). One of the reasons might be the fear of the farmers regarding the obligation to keep records of their business activities. Farmers in Poland do not have experience or knowledge of recording business transactions, therefore the introduction of new regulations should be preceded with the basic training in this area.

4 Conclusions and recommendations

Bearing in mind the fact that in most EU countries, agriculture is subject to the income tax, it should be introduced in Poland as well. However, first of all, the accounting principles must be implemented in the agricultural activity. Clear accounting rules, taking into consideration the specific nature of

agricultural activity, will allow to calculate the income, expenses and also the revenue of Polish farms. Only then it will be acceptable to normalize the taxation rules of agricultural activity in Poland, and consequently it will be possible to introduce the income tax, which all the farmers will be obliged to pay.

The starting point should be to increase the tax-free amount in agricultural activities. Then the smallest farms so called 'social', of which the main objective is to provide for the family, due to the high costs of incomings and revenue not exceeding the tax-free amount, would not pay the income tax.

An alternative form of taxation would be the wealth tax, similar in structure to the agricultural tax. The amount of this tax should be, however, dependent not only on the number of hectares, but also on the manner of the land use.

Other farms should be taxed on general principles. Up to EUR 150 000 of revenue there would be a choice between the lump-sum tax and the income tax. Above that amount, the income would stand for the tax base with up to EUR 1 200 000 of revenue, farmers could keep simplified accounting in the form of tax revenue and expense ledger.

It is worth reiterating that any reforms performed in the taxation of agricultural activity should be preceded with training of farmers in this area.

Summing up, in the agricultural tax reform the main objective should be to offer a basic tool (complete, consistent and transparent system of accounting) to the farmers, which would allow them effective performance of their business activities.

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CREATIVE INDUSTRY WITHIN THE EUROPEAN REGIONAL POLICY - EFFECTS AND BENEFITS

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Abstract: *The meaning of creative industry within the European Union Regional policy structure is more and more actual because it contributes to the European prosperity and European economy is depended on the vitality of its regions. The aim of the European regional policy is to contribute to the development of backward regions in particular, the restructuring of declining industrial areas, and revitalization of deprived neighborhoods. The paper deals with the relation of creative industry and its position in current European Union Regional policy, where in the long-term run it plays determining role within the regional competitiveness enhancement. The goal of this study is by means of the EU Regional policy analysis to figure out the utilization rate of its current efficiency regarding the creative industry issue, in the way of further possible increasing of the EU regional competitiveness along with the significant role of regions relating to the overall socio-economic development of the EU.*

Keywords: *regional competitiveness enhancement, international economics, technology and innovation, social and economic development.*

JEL classification: O19, F63, F68

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1 Introduction

EU regional policy is an investment policy. It supports the job creation, competitiveness, economic growth, quality of life and sustainable development. Regional policy is an expression of the EU solidarity with less developed countries and regions. It is used for concentration of resources in the areas and sectors where investments have maximum impact. Regional policy is designed to reduce the significant economic, social and territorial disparities that still exist between European regions (Fojtíková, Lebieczik, 2008). Their persistence would undermine some of the EU cornerstones, such as single market and common currency the EURO. Hitiris (2003) argues that Union funding helps, for

example, to improve transport and internet connection in remote regions, support small and medium-sized enterprises in disadvantaged areas, invest in a cleaner environment and improve education and training. The financial resources of the European Union will also flow into innovation, development of new products and new production methods, energy efficiency increasing and combating climate change and mostly into creative industries.

This paper will discuss how the creative industries are implemented into EU Regional policy processes by assessing their synergies and parallels, how important role it plays to assure sustainable economic growth in the European Communities, enhance the EU regional competitiveness and limit regional discrepancies within the EU as well as international economics environment. By means of analysis, comparative analysis methods followed by logical deduction the main goal of this paper is to figure out how and in what way the creative industries within the technology and innovation implementation processes in EU Regional policy can affect the sustainable economic growth and regional competitiveness in terms of the promotion measurements for social and economic development and regional discrepancies limitation. Use APA citation style for both in-text citations and well as a reference list. For every in-text citation there should be a full citation in the reference list and vice (see <https://www.library.cornell.edu/research/citation/apa>). Footnotes are not allowed. Tables (TAB. X:), figures (FIG. X:), pictures (PICT. X) and other graphic elements should be numbered and identified:

2 EU Regional policy as regional development enhancement tool

Regional Policy can be characterized as the EU's main investment policy. Regional Policy targets all regions and cities in the European Union in order to support job creation, business competitiveness, economic growth, sustainable development, and improve citizens' quality of life. According to European Commission (2016) in order to reach these goals and address the diverse development needs in all EU regions, € 351.8 billion – almost a third of the total EU budget – has been set aside for Cohesion Policy for 2014-2020.

Regarding the funding management EU Regional Policy is delivered through three main funds: the European Regional Development Fund (ERDF) and the Cohesion Fund (CF) and the European Social Fund (ESF) (McDonald, Dearden, 2005). Together with the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF), they make up the European Structural and Investment (ESI) Funds (Baldwin, Wyplosz, 2009). Overall financial impact has been lead through Cohesion Policy as a catalyst for further public and private funding, not only because it obliges Member States to co-finance from the national budget, but since it also creates investor confidence. According to Eurostat Press Office. (2016) taking into account national contributions and other private investment, the impact of Cohesion Policy for 2014-2020 is expected to be about € 450 billion.

We need to highlight that Regional Policy underpins European solidarity. As Larry (2007) points out the bulk of Cohesion Policy funding is concentrated on less developed European countries and regions in order to help them to catch up and to reduce the economic, social and territorial disparities that still exist in the EU.

The important issue is that Regional Policy cushioned Europe's regions and cities from the worst effects of the crisis. By supporting public investment and deploying EU investments flexibly, for

example through the reprogramming of funds or by raising the co-financing rate in countries like Cyprus, Greece, Hungary, Ireland, Portugal and Romania, regional policy mitigated the impact of the financial crisis which started in 2008 (Cihelkova, Hnat, 2008). Also at a time of sustained fiscal consolidation EU Regional Policy has become of critical importance. Without Cohesion Policy, much needed public investment in the less developed Member States would have collapsed by an additional 45% during the crisis (Fojtikova, Kovarova, 2014).

Nowadays the strongest link has emerged between the EU Regional Policy and Europe 2020 Strategy. This is the way how regional policy is adjusted to the current situation and reflects the important issues necessary to be taken into account and to be assessed at present times. Regional Policy has a strong impact in many fields. Its investments help to deliver many EU policy objectives and complements EU policies such as those dealing with education, employment, energy, the environment, the single market, research and innovation (Haviernikova, Strunz, 2014). In particular Regional Policy provides the necessary investment framework to meet the goals of the Europe 2020 Strategy for smart, sustainable and inclusive growth in the European Union by 2020.

There are five targets for the EU Regional Policy in 2020 reflected in the Strategy 2020. Firstly it is Employment with the goal of 75% of the 20-64 year-olds to be employed. Secondly, Research & Development with 3% of the EU's GDP to be invested in R&D (European Commission, 2016). Thirdly, Climate change and energy sustainability with the issues such as: greenhouse gas emissions 20% (or even 30%, if the conditions are right), 20% of energy from renewable sources and 20 % increase of energy efficiency. The fourth target is Education aiming at reducing the rates of early school leavers below 10% and at least 20 million fewer people in or at risk of poverty and social exclusion (Eurostat Press Office, 2016). Finally the last target is about Fighting poverty and social exclusion highlighting at least 20 million fewer people in or at risk of poverty and social exclusion. Of course, each Member State has adopted its own national targets in these areas (Ivanova, 2014).

3 Creative industries as a new emerging phenomenon

Essential to understand the creative economy is the definition of two terms such as cultural industries and creative industries. Of course firstly it is necessary to clarify what the term creativity means. There are many definitions to define this term and it is difficult to agree on one particular one because there are a number of characteristics by which we can conclude that:

- artistic creativity involves imagination and the ability to generate new ideas and ways of presentations by means of various texts, images and sounds
- scientific creativity - there are two key features - curiosity and willingness to experiment and constantly seek and invent new ways of solving problems and obstacles
- economic creativity is a process that determines the direction to innovation, technology, various business practices, marketing, management and other economic activities (Hamilton, Wepster, 2009).

Fojtikova (2011) argues that creative industry is a replacement term for the concept of cultural industry. Currently, the term creative industry is treated differently and that's because it is not acting purely in a negative sense, but also in a positive one. A neutral approach is predominant. Regarding the history of creative industries the term was mentioned for the first time in 1994 in Australia in

Creative Nation Report. Three years later a Specific group for Creative industries at the Department for Culture, Media and Sport was established in UK. During next years there was a number of models trying to understand and define the concept of creative industries. In 1998 UNESCO report raised following four models (Lipkova, 2012).

As a first one it is a Model of the Ministry of Culture, Media and Sport of UK according to which the creative industry requires creativity, skills, talent, and also includes intellectual property rights of workers. It includes sectors such as architecture, fashion, design, crafts, advertising, arts and crafts market, movies and video, video and computer games, music, TV and radio, software, publishing of books, newspapers and magazines, performing arts (Krajňáková, Vojtovič, 2012).

Another one is a Symbolic Text Model - this model is focused more on popular culture and because it is understood as a political and social elite. Creative industries in this case include following sectors: the key ones (film, internet, video and computer games, advertising, publishing of books and magazines), the peripheral cultural ones (creative arts), and the marginal cultural ones (sport, software, fashion, consumer economics).

In terms of the Concentric Circles Model, the definition of creative industries is a cultural value of goods and services being provided and produced naturally. The principal idea is based on so-called creative arts where sound, text and image are the final products. This model serves as the basis for industry and includes: key creative arts (visual arts, literature, music, performing arts), other key cultural sectors (museums and libraries, film), wider cultural sectors (television and radio, video and computer games, publishing of books and magazines, sound recordings, services of "heritage"), related sectors (fashion, architecture, design, advertising) (Haviernikova, 2012).

Finally, there is the WIPO Model, the abbreviation of the World Intellectual Property Organization. This model is focused on copyright, because it contains sectors involved in creation, production, broadcasting and dissemination of works. There are distinguished sectors which produce only intellectual property and those which simply disseminate their products (Strunz, Vojtovic, 2014). In a nutshell there are the ones in which copyrights cover only a smaller part: Intellectual property key sectors (music, television and radio, advertising, software, visual and graphic arts, performing arts, organization management of copyright protection, visual and graphic arts, publishing of books and magazines), Intellectual property dependent sectors (paper, photocopying and photographic equipment, musical instruments, consumer electronics, blank recording materials), Intellectual property partially sectors (clothing, packaging, architecture, fashion, design, toys, household goods).

According to UNCTAD (United Nations Conference on Trade and Development) creative industries are characterized by fifth characteristics:

- a) it enables the cycle of creation, production and distribution of goods and services that use creativity and intellectual capacity as a primary input.
- b) it represents a set of knowledge-based activities, which are focused on, but not limited to, art, when potentially the earn revenue comes from the copyright sale,
- c) it consists of tangible and intangible intellectual or artistic products or services, economic value and market facilities,

d) it is at the intersection of art, services and industry.

e) it is a new and dynamic sector of world trade (Jovanović, 2014).

4 Findings and Discussion

The synergy of creative industries issue and EU Regional policy must show how technology refers to ideas and knowledge that business can exploit commercially and assure the world economy sustainable development. The sources of new ideas on which companies can call are many and varied, ranging from universities and research institutes to competitors, customers and suppliers, and to employees. The EU economies are following a long-established trend of restructuring away from the primary and secondary sectors and towards services and high value-added products. But manufacturing is still an important economic sector of the Community for production, trade and employment. In recent years the industry has operated against a background of slow growth of demand, rising unemployment, increasing international competition and rapid changes brought about by technological progress. Although these are problems which to some extent are shared by all members of the Community, cluster policy still remains largely a national responsibility. The Community has taken steps to ensure that, in accordance with a system of open and competitive markets, the conditions and the legal framework necessary for speeding up the structural adjustment and competitiveness of European creative industry will develop. The Community's regional policy in particular regions consists of policies aimed at improving the business environment, by working towards integrating the European market, promoting the necessary changes in industry's structure, and coordinating the activities of the member states. We can reason that the complex mechanism of the EU regional policy fundamental principles and objectives is set to use them to eliminate regional disparities, to increase socio-economic development of the regions and then states, which will complete this process by increasing the EU competitiveness as a subject of international economics.

By discussing the issue we can say that Culture and Creative Sectors in times of crisis are more resistant to external economic influences. Creative industries attract more young people and women and their connection to their information technology enhanced good results. Penetration of information technology, creativity, design and digital media got ahead of all other areas and has lured young professionals who prefer a less formal working environment (Mitchel, Muysken, Van Veen, 2006). They are mostly employed in small and medium-sized enterprises or are self-employed. The issue of creative industries support is more and more being shifted into the virtual world. Along with the advantage of digital single market a lot of new possibilities are opening up for creative artists. However, they are faced with new challenges, such as internet piracy. A copyright reform in Europe has thus become one of the key elements of a digital single market strategy. Union's primary objective is to ensure that legal protection of intellectual property holders should be increased in parallel with the commercial availability of their products.

Cultural and creative industries (CCIs) are, at the dawn of the 21st century, undergoing considerable change as a result of increased digital technologies, the economic crisis of the past several years, and considerable changes in the regulatory framework. Support to CCIs has, likewise, evolved rapidly, witnessing core changes in intellectual property law, increased support through state aid, and a greater recognition of their potential contribution to the economy. Despite the considerable potential of CCIs, estimated to be responsible for over 3% of the EU's gross domestic product and jobs, they remain undervalued and unrecognized, especially in terms of their ability to access start-up

capital and financing (Tauser, Arltova, Zamborsky, 2015). The challenges facing CCI are compounded by a lack of clear evidence and information in the sector, which further limits the ability of financial backers to recognize their potential, as well as other legislative hurdles, such as intellectual property rights, varying tax regimes, and mobility issues. CCI need support to enable them to properly represent their interests and raise their concerns, as well as to create cross-border networks and platforms to help structure and strengthen the sector. In line with the Europe 2020 strategy and EU Industry policy for growth and jobs, the European Commission's role is, in general, to ensure that the culture sector is able to increasingly contribute to employment and growth across Europe (Balaz 2013). Specifically, this involves the provision of direct financial and technical support, whether in the form of grants or the establishment of networks and platforms to support the sector.

When it comes to the strategy for a new approach to industrial policy within the creative industries the Commission's priorities in the field of CCI include activities such as responding to changing skills needs by promoting innovation in education; supporting the mobility of artists; coordinating with Member States to reform regulatory environments and developing policies and initiatives to promote market access for and investment in CCI. These are complemented through a variety of actions and initiatives, as well as the Creative Europe Program, and funding from other Commission sources. Brakman (2006) states that specific activities undertaken recently include following issues a pilot project on the economy of cultural diversity; the publication of a green paper on the potential of cultural and creative industries and the work and reports of the expert groups under the Open Method of Coordination.

Considering the role of creative industry in Slovak industry conditions we need to highlight that the concept of creative industries and creative economy in Slovakia has not yet been settled, but it is an important part of the Slovak economy. Creative industries as a part of national economy have the potential to contribute to the creation of GDP, new jobs and to the competitiveness enhancement of Slovakia in international economics. Creative industries run into more economic activities relating to production, use of information and knowledge.

5 Conclusion

The paper was dealing with the relation of creative industry and its position in current European Union Industry policy, where in long-term run it plays determining role within the industry structure of European Communities countries. The meaning of creative industry within the European Union Industry policy structure is more and more actual because it contributes to the European prosperity and European economy is depended on the vitality of its industry. European Union Industry policy includes the set of activities what is the means of how the EU tries to affect the efficiency of processing and services sectors, it is an area on what depends the development and competitiveness of EU member states in addition to as a whole is focused on structural adaptation process which goal is to gain comparative advantages of EU economy in the world economy environment.

Based on our findings it can be implied that technological advance, knowledge based production, innovation implemented into new technologies are the outputs of effective synergy how the EU cluster policy can be involved in the EU Regional policy. Those are the tools leading to increasing economic growth, sustainable social and economic development and higher quality of life of European Communities inhabitants.

We have arrived to the conclusion that creative industry within the industry structure in overall concept of European Union Industry policy will play important significant role because it is an innovative sector with a great deal of added value, big new patent development potential, intellectual property content, sector creating new values while complementing and accompanying sophisticated services sector. In a new period of information society based on information and communication technologies usage, investments support into the knowledge economy and tacit knowledge, the support and measure of creative industry and creative economy usage in overall production within the GDP share formation of particular economies besides industry and services sectors will play a key role in the process of economy competitiveness enhancement in terms of economy environment of international economics system and international division of labor.

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MANAGEMENT ACCOUNTING IN HOSPITALS, ITS SCOPE AND INSTRUMENTS

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Abstract: *The aim of this article is to present selected instruments of management accounting which are used in hospital management. In general, management accounting is to provide the managers with the information needed for their decision-making regarding, for example, planning, controlling and appraising the achieved results. To this purpose suitably selected instruments of management accounting are used, such as budget, profit and loss statement, and the appropriately constructed in-house plan of accounts, as well as the cost calculation charts for diagnostic services and a chart calculating the cost of a patient's treatment. All the listed instruments have to be suitably constructed, and consequently the hospital costs account as such. The article presents the informational scope of the selected instruments of management accounting used in hospital management.*

Keywords: *hospital, instruments of management accounting.*

JEL classification: *accounting*

Grant affiliation: *The Wrocław University of Economics, The University of Gdańsk.*

1 Introduction

The instruments of management accounting have been extensively described in the specialist literature, among those fundamental ones we can include (subjectively) a budget, profit and loss statement, cost calculation charts for services and an in-house plan of accounts. The aim of this article is to present basic instruments of management accounting used in hospital management. The article presents informational scope of the selected instruments of management accounting applied in hospital management. It also presents the effects of implementing in public hospitals such instruments as budget, profit and loss statement, cost calculation charts for the provided services and in-house plan of accounts. The abovementioned instruments have to be mutually compatible, which is clearly highlighted in the article.

2 Hospital budget

Every subject has to plan its income and expenditure, revenue and the costs of its activity. A good instrument to that effect is a suitably constructed hospital's operational budget. A budget is a valuable instrument of management, providing that it is appropriately designed and implemented.

The operational budget of a hospital has to include relevant centres of responsibility, cost centres and processes. Within an operational budget we can distinguish also partial budgets which refer to particular areas of hospital's activities. There can be partial budgets regarding, among others:

- hospital wards,
- specialist health centres,
- organizational units,
- medical infrastructure, i.e. operating theatres, equipment and medical apparatus, e.g. tomography,
- general infrastructure, e.g. individual buildings,
- relevant processes which influence the functioning of a hospital.

The actual partial budgets of a hospital will depend on the scope and organization of the hospital, its specialization and the catchment area. In one of the district hospitals in Poland there were differentiated 23 partial budgets regarding its costs.

3 Profit and loss statement

Each hospital should have its individual compilation of financial statements, one of which will be naturally a profit and loss statement, but as was mentioned before it is not useful in management as such, but is usually prepared merely to satisfy the demands of statutory financial reporting. Hence to serve the needs of managing a hospital a compilation of financial statements has to include both income and costs as in a classic profit and loss statement, but also include the areas of its activity related to its operational specifics. Depending on the size of a hospital and its activities, such a compilation may include at least:

- hospital's financial statement,
- financial statement of a hospital ward,
- financial statement of admissions ward,
- financial statement of specialist health centre,
- financial statement of diagnostic laboratory.

Each of these financial statements has to respect the operational specifics of a given area of a hospital's activity. This regards, among others, the way each unit is organized and its operational area, technological processes, type of revenue and the cost of particular processes.

4 Calculating cost of services

Calculating the cost of treating a patient is not so simple. Treating a patient requires using resources and evaluating them. It also requires combining specialist knowledge of medicine and economics. Where medical knowledge is concerned, one needs to present the whole process of treating a patient and determining the resources required to conduct the whole process. On the part of the calculation of costs of the medical treatment one needs to determine unit costs of the individual operations and processes constituting the entire process of a patient's treatment. In particular, these refer to:

- identifying actions and processes indispensable for treating a patient,
- determining medication and medical materials required in treating a patient,
- determining timescale of realizing individual actions in the process of treating a patient,
- calculating labour costs for doctors and nursing staff including the resources used,
- calculating unit costs regarding the use of medical equipment and apparatus in the process of treating a patient,
- providing the rules for calculating general costs of a hospital ward per cost of treating a patient.

Hence a hospital must have the prepared procedures for calculating patient's treatment in the form of a calculation chart of cost of treating a patient. As a result, this will also require preparing the charts for calculating the cost of individual services, such as USG, X-Ray, or the use of an operating theatre.

Most frequently the costs of hospital's diagnostic laboratories are calculated per hospital ward using a calculation method. At the same time all the costs of the activities of diagnostic laboratories are calculated, no matter what their use is. It can happen that diagnostic laboratories use only part of their productive potential, however the cost of their operating are completely 'tied up' with a patient. This is not a correct way of calculating the cost of activity since in consequence we have an (illusory) increase in the cost of treating a patient. In the case of including the underused productive potential of diagnostic laboratories in the cost of diagnostic examination, the real cost of treating a patient will be certainly lower.

Thus we face the problem of what services should a public hospital be actually paid for by the paymaster, whether just and only for treating a patient, the conducted examination, the performed operation or for maintaining a hospital in the state of readiness. The necessity of maintaining the readiness of a hospital and, at the same time, bearing the cost of it is expressed in for example:

- appropriate number of hospital beds,
- underused potential such as diagnostic laboratories, buildings, etc.,
- additional personnel kept on duty,
- additional systems of providing electricity,

- resources available in case of natural disasters, etc.

All these elements should be considered when calculating the cost of the services, but also for settlements with the paymaster. However, this is a broader issue regarding the settlements of a public hospital with the paymaster.

5 In-house plan of accounts

The fundamental source of information about the cost of hospital's activity are the records in the financial and accounting system. As a result of implementing the systems of budgeting and controlling, and other instruments of management accounting e.g. financial statements, there have been changes in the in-house plans of accounts regarding the interpretation and calculating costs. These referred to, among others, the increased number of distinguished cost centres, for example instead of the costs of a hospital ward the determined costs of treating a patient within the ward, the cost of maintaining equipment and medical apparatus, the cost of human resources and the general cost of a hospital ward. The result of a different interpretation of costs was the change in calculating the costs of diagnostic laboratories or an operating theatre.

6 Conclusions

Costs of treating a patient depend on several factors, among them there are organizational factors, hospital equipment, the correct way of managing human resources and the hospital as a whole, but also the assumed model of calculating costs of the individual elements constituting the cost of treatment.

The abovementioned processes are aided by implementing the instruments of management accounting, among them the suitably designed and implemented: budgets, financial statements, calculation charts of patient treatment costs and the cost of individual services, and the in-house plan of accounts. All these instruments must be mutually compatible. Their appropriate design demands the cooperation of doctors, nursing staff and finance specialists. As was already said, it needs also medical knowledge without which it is impossible in practice to prepare and implement the instruments of management accounting discussed in this article. One should not forget either to prepare the relevant documents – the instructions for compiling a budget, the principles of calculating cost of services and medical procedures as well as accounting policy.

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ESTIMATION OF THE YIELD CURVE BY NELSON-SIEGEL MODEL AND ITS GENERALIZATION - EXPERIENCE FROM THE CZECH BOND MARKET

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Abstract: *The yield curve represents graphically the term structure of the interest rates. The interest rate structure is widely seen as the best source of information about the shape of economics, i.e. it can predict inflation, consumption growth or recession. This paper introduces the most broadly used parametric Nelson-Siegel model for estimation of the term structure and its Svensson generalization. The models are applied to monthly data about the Czech government bonds with different maturities. The paper compares the quality of the estimates made by both methods.*

Keywords: *Term structure of the interest rate, yield curve, Nelson-Siegel model, Nelson-Siegel-Svensson model*

JEL classification: *C500, C02, G100.*

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1 Introduction

A yield curve can be characterized as a curve that plots the interest rates and maturities of certain bonds. The curve shows the relation between the interest rate and the time to maturity, known as the term, of the debt in a given currency. More formal mathematical descriptions of this relation are often called the term structure of interest rates.

The most widely used models of the yield curve are the Nelson-Siegel model (Nelson & Siegel, 1987) and its extension introduced by Svensson (Svensson, 1994). The mentioned methods are broadly used by central banks and other market participants to model the term structure of the interest rates (Gimeona & Nave, 2009, BIS, 2005). The review of the models applied in some countries is displayed in table 1. How stated in (Diebold & Li, 2006) the model can also serve as a tool for forecasting the term structure.

TAB. 1: Yield curve models used by central banks

Central bank	Model	Central bank	Model
Belgium	Nelson-Siegel, Svensson	Canada	Svensson
Finland	Nelson Siegel	France	Nelson-Siegel,Svensson
Germany	Svensson	Italy	Nelson Siegel
Japan	spline	Norway	Svensson
Spain	Svensson	Sweden	Spline, before Svensson
Switzerland	Svensson	U.K.	Spline
U.S.A.	spline	E.U.	Svensson

Source: Pereda, 2009.

In this paper are calculated the yield curves on the Czech financial market. The computations are made on the monthly basis in the time period from the 1-st January 2014 until the 1-st May 2016. here are used both, the Nelson-Siegel and Nelson-Siegel-Svensson model and the results are compared in order to ascertain the best fitting model for evaluation of the yield curve on the Czech financial market.

The first part of the paper summarizes some theoretical knowledge about the yield curve and explains both mentioned yield curve models. The second part brings calculations of the yield curves followed by their empirical test.

2 Estimation of the term structure

2.1 Bonds and the yield curve

The term structure of the interest rates cannot be observed directly. We are able to observe only the market prices of the bonds and calculate the corresponding yields to maturity for simple bonds. If we denote the price of the bond j as P_j , the bond bears N cash flows $F_i, i = 1, \dots, n$, that takes place after t_i periods, then the bond price equals the net present value of the cash flows:

$$P_j = \sum_{i=1}^N \frac{F_i}{(1 + r_j)^{t_i}}.$$

Such value r_j , that solves the above equation is said to be the yield to maturity. The cash flows that follows from the bond usually consist of two parts, the coupon payments and the final repayment of the face value of the bond. In order to normalize the different payment structure we usually speak about the spot rates that corresponds to yields to maturity on zero coupon bonds.

Let us now consider the situation, when we hold a zero coupon bond maturing at time $t - 1$ in the future and we want to increase the investment horizon from $t - 1$ to t . Here are two ways, how to accomplish this investment. The first choice consists of selling the current bond and buying a new one that matures in the time t . The second option represents keeping the current bond and buy a new contract for a rest period from $t - 1$ to t . By the principle of the no arbitrage opportunities, both investments must be equivalent, we get the following equation:

$$(1 + r_{t-1})^{t-1} \cdot (1 + f_{t-1,t}) = (1 + r_t)^t,$$

where we denoted as $f_{t-1,t}$ the forward rate between the periods $t - 1$ and t . Reducing the above equation we get the expression for the forward interest rate in the form

$$f_{t-1,t} = \frac{(1 + r_t)^t - (1 + r_{t-1})^{t-1}}{(1 + r_{t-1})^{t-1}}.$$

So we see, that the forward rate is an interest rate determined for some investment, which begins in the future (so-called settlement date) and that ends further in the future (maturity date). If the difference between settlement and maturity dates approaches zero, we get the so-called instantaneous forward rate. The instantaneous forward rate represents the marginal increase in the rate of return. Observing the corresponding limiting process in the forward rate, we easily see, that the spot rate $s(j)$ at the maturity j is the average of the forward rates:

$$s(j) = \frac{1}{j} \int_0^j f(t) dt,$$

where $f(t)$ means the instantaneous forward rate.

2.2 Nelson-Siegel model

The traditional approach to model the yield curve was based on various spline methods explained for example in (Shea, 1985, Vasicek & Fong 1982 or Fisher, Nychka & Zervos, 1995). In order to minimize the number of parameters, which is necessary to estimate introduced Nelson and Siegel (Nelson & Siegel, 1987) a new model. It is based on the assumption, that the instantaneous forward rate is a solution of the second-order linear differential equation with constant coefficients whose characteristic equations has real and equal roots. From the theory of the ordinary differential equations it is well known that in such case the instantaneous forward rate at maturity m can be written in the form:

$$f(m) = \beta_0 + \beta_1 \exp\left(-\frac{m}{\tau}\right) + \beta_2 \frac{m}{\tau} \exp\left(-\frac{m}{\tau}\right),$$

where τ is time constant associated with the equation and β_0 , β_1 and β_2 are determined by initial conditions. These parameters are estimated in practice. Integrating the previous formula we get the spot interest rate at maturity m in the form:

$$s(m) = \beta_0 + (\beta_1 + \beta_2) \frac{1 - \exp\left(-\frac{m}{\tau}\right)}{\frac{m}{\tau}} - \beta_2 \exp\left(-\frac{m}{\tau}\right).$$

This model consists of three parts reflecting three factors - a constant, an exponential decay function and a Laguerre function. The constant $\lim_{m \rightarrow \infty} f(m) = \lim_{m \rightarrow \infty} s(m) = \beta_0$ corresponds to the long-term interest rate level. The exponent decay function reflects a downward ($\beta_1 < 0$) or upward ($\beta_1 > 0$) slope. It has also intuitive asymptotic property $\lim_{m \rightarrow 0} f(m) = \lim_{m \rightarrow 0} s(m) = \beta_0 + \beta_1$. This value corresponds to the short-term interest rate. The Laguerre function in the form of xe^{-x} , which is the product of the exponential and polynomial functions was chosen by Nelson and Siegel to generate a hump ($\beta_2 > 0$) or a trough ($\beta_2 < 0$). Moreover, the higher absolute value of the parameter β_2 leads to the more pronounced hump or trough. The last parameter τ determines the steepness of the slope as well the location of the maximum of the Laguerre function.

2.3 Svensson extension

Here was given some criticisms of the Nelson/Siegel model concerned in its insufficient flexibility to describe all detailed shapes of the yield curves. Therefore a number of extensions have been

investigated. We mention the extension introduced in (Svensson, 1994). This method considers two time parameters τ_1 and τ_2 and supposes the instantaneous forward rate at maturity m in the form:

$$f(m) = \beta_0 + \beta_1 \exp\left(-\frac{m}{\tau_1}\right) + \beta_2 \frac{m}{\tau_1} \exp\left(-\frac{m}{\tau_1}\right) + \beta_3 \frac{m}{\tau_2} \exp\left(-\frac{m}{\tau_2}\right).$$

Integrating we again obtain the corresponding spot rate at maturity m as:

$$s(m) = \beta_0 + (\beta_1 + \beta_2) \frac{1 - \exp\left(-\frac{m}{\tau_1}\right)}{\frac{m}{\tau_1}} - \beta_2 \exp\left(-\frac{m}{\tau_1}\right) + \beta_3 \left(\frac{1 - \exp\left(-\frac{m}{\tau_2}\right)}{\frac{m}{\tau_2}} - \exp\left(-\frac{m}{\tau_2}\right) \right).$$

We see, that we have to estimate six instead of four parameters to get the higher flexibility of the model. It naturally increases the computational complexity. In the next chapters we, therefore, test on the empirical data if the increase in the complexity leads to an adequate increase in the accuracy of the model and its prediction abilities.

3 Data and computations

The Nelson-Siegel and extended Nelson-Siegel-Svensson have been applied on the Czech government bonds. Our dataset consists of 29 monthly records of the yields to maturity for Czech government bonds with different maturities. As a data source was used the investing.com portal, which provides daily data about the yields of the government bonds for maturities from 3 months until 50 years. For purposes of this research were chosen the short term maturities of 3, 6 and 12 months and further bonds with maturities 2,3 and 4 years. From the set of intermediate maturities were selected bonds with maturities 5,6,7,9 and 10 years. Finally for the long term maturities were chosen two bonds with maturities 15 and 50 years.

To fill the model it is necessary to estimate the parameters β_0 , β_1 , β_2 and τ for the Nelson-Siegel model and β_0 , β_1 , β_2 , β_3 , τ_1 and τ_2 for the Nelson-Siegel-Svensson extended model. This parameter estimation using the least square method is in the general difficult non-linear problem and has to be solved by specific numerical methods. Therefore was applied the GNUMERIC solver in combination with the external tool lpp solver, which are both free open source tools.

The results obtained by the computation are summarized in the table 2. All obtained values are here rounded to the three decimal places. The corresponding yield curves are then depicted in figures 1 and 2. Figure 1 illustrates the curves given by the Nelson- Siegel model, while figure 2 illustrates the yield curves generated by the extended Nelson-Siegel-Svensson model.

Here are more methods how to evaluate the goodness of the fit. One of them is the coefficient of determination, usually assigned as R^2 , which indicates the portion of the volatility that is explained by the model. Beside R^2 the root mean squared error is frequently used as the measure of the accuracy of the predicted values when compared with the exact values in the sample. Both these parameters were computed for all 27 samples.

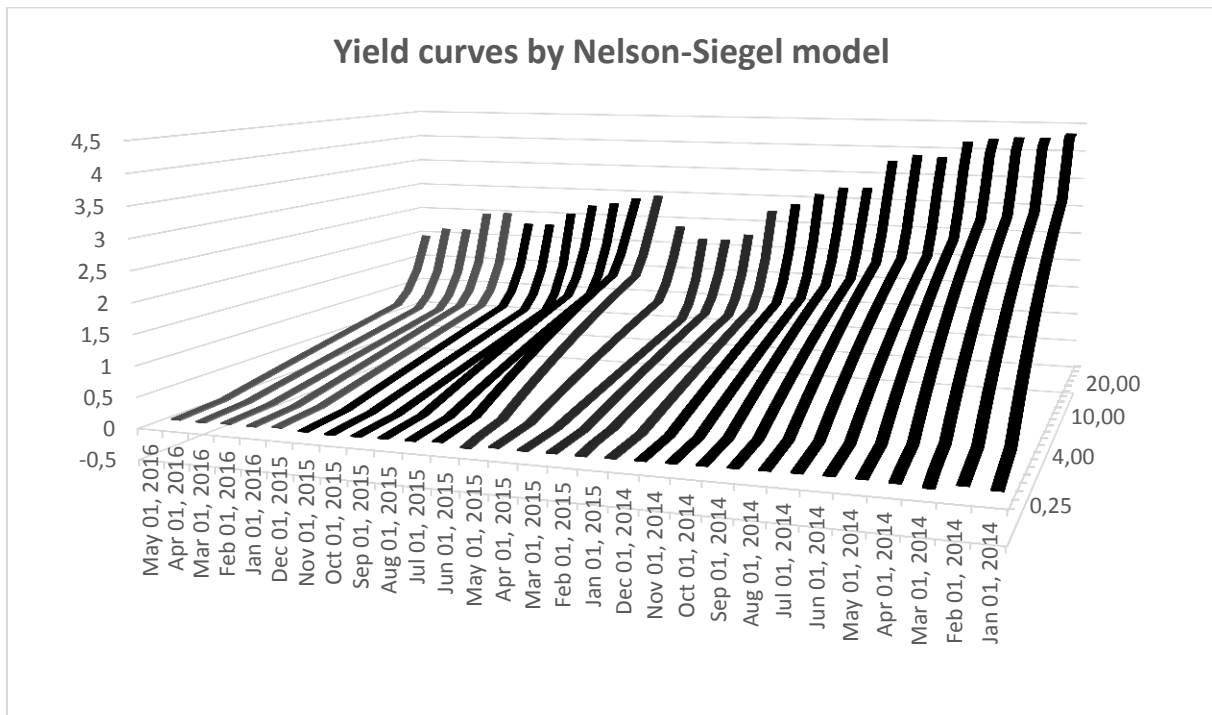
TAB 2: Parameters of the Nelson-Siegel and Nelson-Siegel-Svensson models of the yield curve computed by the least squares method using GNUMERIC and lpp solver.

Date	Nelson - Siegel				Nelson - Siegel-Svensson					
	β_0	β_1	β_2	τ	β_0	β_1	β_2	β_3	τ_1	τ_2
Jan 01, 2014	0,000	0,000	14,784	22,002	0,043	0,000	5,941	8,929	21,445	21,252
Feb 01, 2014	0,004	0,000	14,302	23,540	0,203	0,002	5,719	8,552	23,821	23,954
Mar 01, 2014	0,066	0,001	14,013	24,769	0,156	0,003	5,628	8,534	25,093	25,410
Apr 01, 2014	0,000	0,000	14,077	25,222	0,189	0,000	12,876	1,326	23,645	20,678
May 01, 2014	0,000	0,000	13,867	30,297	0,161	0,000	3,960	9,893	28,205	27,852
Jun 01, 2014	0,000	0,000	13,027	33,751	0,119	0,000	5,324	7,635	31,981	31,685
Jul 01, 2014	0,000	0,000	13,297	36,185	0,181	0,000	5,378	7,748	32,728	32,202
Aug 01, 2014	0,000	0,000	12,972	37,644	0,145	0,000	5,267	7,531	34,630	34,206
Sep 01, 2014	0,000	0,000	11,296	39,413	0,171	0,000	3,552	7,499	34,903	34,386
Oct 01, 2014	0,000	0,000	11,973	47,965	0,210	0,000	4,728	6,589	39,162	38,287
Nov 01, 2014	0,000	0,000	13,765	70,938	0,179	0,000	4,986	7,170	54,427	53,605
Dec 01, 2014	0,000	0,000	13,430	77,034	0,056	0,000	4,875	7,630	67,423	67,075
Jan 01, 2015	0,000	0,000	15,420	103,268	0,006	0,000	5,904	9,352	101,622	101,595
Feb 01, 2015	0,079	0,000	12,877	110,957	0,006	0,000	3,186	5,507	56,227	56,123
Mar 01, 2015	0,000	0,000	9,372	69,287	0,006	0,000	3,256	5,748	63,976	63,758
Apr 01, 2015	0,000	0,000	16,267	155,494	0,122	0,000	5,972	6,293	105,352	104,652
May 01, 2015	0,000	0,000	9,117	53,557	0,132	0,000	3,257	5,171	42,310	41,430
Jun 01, 2015	0,000	0,000	10,255	39,077	0,099	0,000	4,417	5,597	33,831	33,059
Jul 01, 2015	0,000	0,000	9,941	37,871	0,165	0,000	4,304	5,449	33,309	32,618
Aug 01, 2015	0,000	0,000	12,361	71,149	0,178	0,000	4,508	5,909	48,338	47,056
Sep 01, 2015	0,000	0,000	12,886	79,516	0,194	0,000	4,346	5,963	49,718	48,291
Oct 01, 2015	0,000	0,000	134,957	1305,590	0,188	0,000	5,861	9,684	109,868	107,990
Nov 01, 2015	0,000	0,000	27,796	270,264	0,164	0,000	4,446	6,272	74,645	72,823
Dec 01, 2015	0,000	0,000	18,505	166,982	0,195	0,000	4,120	5,638	63,066	61,215
Jan 01, 2016	0,029	0,000	132,780	1323,083	0,168	0,000	3,877	4,863	48,505	47,085
Feb 01, 2016	0,000	0,000	132,780	1323,083	0,141	0,000	4,164	5,259	59,648	58,265
Mar 01, 2016	0,007	0,000	122,225	1425,021	0,141	0,000	5,825	7,095	116,549	115,630
Apr 01, 2016	0,007	0,000	122,225	1425,021	0,096	0,000	3,357	5,026	63,182	62,015
May 01, 2016	0,000	0,000	13,031	130,696	0,118	0,000	3,554	5,369	72,760	71,626

Source: Own processing the data from www.investing.com.

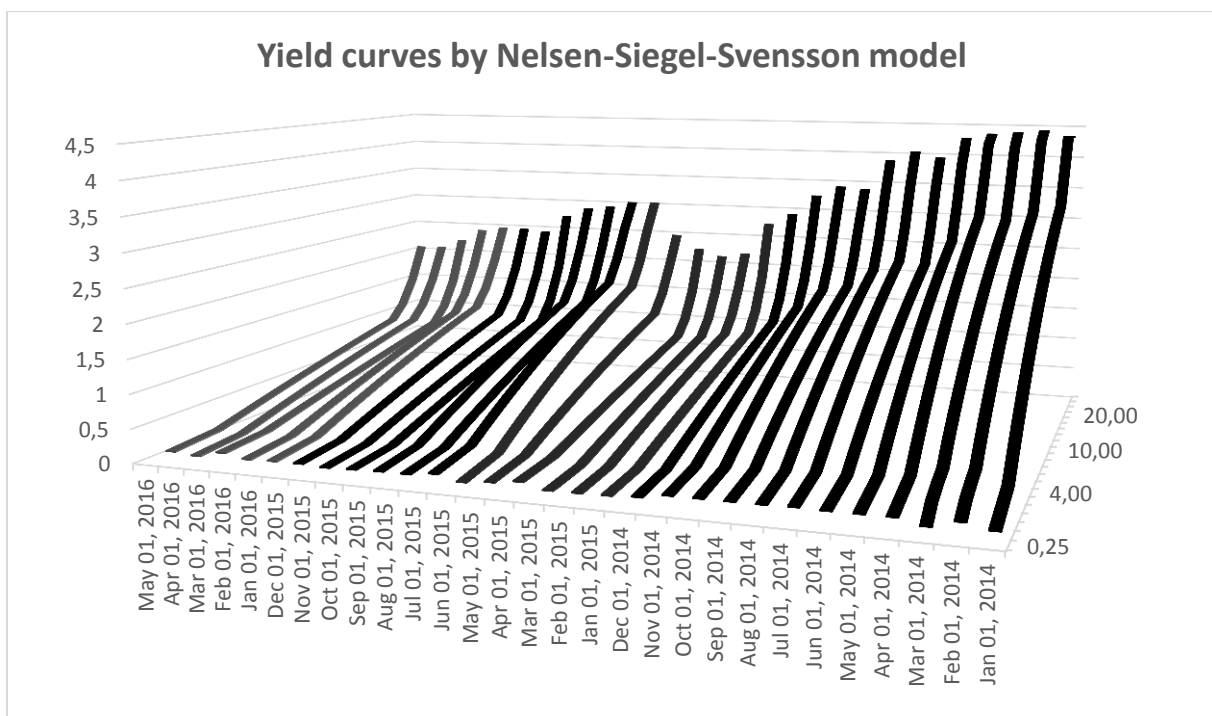
When computing the values of the coefficient of determination, we get values from 0.9368 up to 0.9958 in the case of the Nelson - Siegel model. It means that Nelson - Siegel model explains from 93.68 % up to 99.58 % of total variation in interest rates. Similarly, the Nelson - Siegel - Svensson model, with respect to the coefficient of determination, explains from 95.92 % up to 99.85 % of total variation in the interest rates. The average values of the coefficients of determination are 0.975 for the Nelson - Siegel model and 0.983 for the Nelson - Siegel - Svensson model. Throughout these values seem to be very close, when computing the value of the corresponding t -statistics we obtain $t=2.132$. This value enables to reject the null hypothesis about equality of the average coefficient of determination at the confidence level of 95 %. Different results we get, when comparing the root mean squared errors for both models. Their average values are 0.108 and 0.090 and for the corresponding t -statistics we get value $t=-0.289$, so we are not able to reject the null hypothesis.

FIG 1: Yields curves generated by the Nelson -Siegel model.



(Source: own processing)

FIG 2: Yields curves generated by the Nelson -Siegel - Svensson model.



(Source: own processing)

4 Conclusions

Two most frequently used parametric models for estimation of the yield curve were theoretically reviewed in this paper and they were also empirically tested on the dataset of interest rates on the

Czech financial market. When comparing the results, we have seen that Nelson - Siegel - Svensson explains a more significant portion of the interest rates volatility. On the other hand, the prediction ability of the models is very similar, when comparing the accuracy of the estimates. The results are in both models very similar and predict relatively flat interest rates for short-term maturities and increase in the rates for intermediate and long-term maturities.

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FINANCIAL LITERACY IN SELECTED GROUPS OF THE UNIVERSITY STUDENTS

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Abstract: *The financial literacy belongs to the most important competencies of the individuals living in the modern global society. The present article brings results of the questionnaire research of the financial literacy among the university students. The research was realized at the faculty that has study programs for the IT specialists and as well for managers. It analyses several areas of the financial literacy as the time value of money, inflation, annuities etc. That enables to compare the competencies between two, relatively different groups of students. The results of the research create a good basis for changes in the subjects concerned in the financial education and development of financial and economic thinking.*

Keywords: *financial literacy, financial education, questionnaire survey, statistical analysis.*

JEL classification: *A20, A22, A23.*

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1 Introduction

Unstoppable development of technology requires continuous updating of knowledge and competencies for a certain level of quality, not only in the case of young people. Therefore, the financial literacy and financial education are ongoing issues. Financial literacy is not an isolated literacy; it is related to a range of soft skills and others literacies such as mathematical literacy. Results of the mathematical literacy analysis during the last ten years and stating the causes of the negative trends in mathematical education in Slovakia were published in the works. (Kozubík & Kozubíková, 2015; Kozubíková & Kozubík, 2015).

The financial literacy, how taught in schools, aims to help young people understand financial matters since it is just the young generation, which will even more come into the contact with increasingly complex financial products and services. When we observe the progress in information technology and still more complex financial products, we can realize that young people will be more likely to support greater financial risk than their parents.

Financial literacy can be seen from different aspects. The European Commission defines financial literacy as "the capability of consumers and small business owners to understand retail financial products with a view to making informed financial decisions" (Habschick et al., 2007). According to Mandell, it is "the ability to evaluate the new and complex financial instruments and make informed judgments about both: choices of instruments and extent of use that would be in their own best long-run interests" (Mandell, 2007). For the purposes of this research, we will accept the OECD definition: "Financial literacy is a combination of understanding, knowledge, skills, attitudes and behavioral patterns necessary to make the right financial decisions and, ultimately, to achieve personal financial well-being." (OECD & INFE, 2011).

The research of Slovak Academy of Sciences Institute and Focus agency shows that many Slovaks still have problems to orientate in basic financial terminology. The lower level of knowledge was noticed in understanding the interest mechanisms, inflation, and risk diversification. Below-average financial literacy was detected among young population (high school students) and as well among the people aged over 65 years. Furthermore, the research has confirmed the impact of educational attainment on the individual's level of financial literacy (Baláž, 2012). According to the PISA (OECD, 2014), Slovakia is among the best countries in creating learning opportunities concerning with financial literacy in schools, but the results are far weaker.

Other international research studies have confirmed that the most important factor influencing the differences in financial literacy is the level of attained education (Fornero & Monticone, 2011; Lusardi & Mitchell, 2011). Worldwide financial education has become an important tool to surmount the growing complexity of financial decisions, especially in the life of the last generation (Lusardi & Mitchell 2007b). Especially, the last generation is the most confronted with for example new types of mortgages, availability of credit, the possibility of early repayment, execution of the property. It is also a consequence of consumer way of life, which has become too complicated and many nations even 25 years ago has not used this mode of life. The education system and the universities are confronted with an important challenge: improve the financial literacy of the young generation by the financial education. If we want to improve the financial literacy of young people, we need at first to find out the current state.

This article focuses on the issue of financial literacy at universities. The aim of the study is to ascertain the state of financial literacy of students during their study at university. We conducted the research on the faculty, whose study programs are oriented on informatics and management science. That enables to compare the competencies between two, relatively different groups of students. The results of the research create a good basis for changes in the subjects concerned with the financial education and development of financial and economic thinking.

2 Methodology and data

The financial literacy has been verified through a questionnaire research. A pilot research was conducted on a sample of 180 students. The structure of the questionnaire consisted of three blocks of questions. In the first block, we obtained some personal characteristics of respondents, such as age, gender, level of education and so on. In the second block of questions, we found information about the actual state of education and respondent's personal relation to this topic and self-assessment questions. In the third, the largest one we verified subsequently their competency in financial decision. The questions were focused on the following elements of financial literacy:

- simple interest and the time value of money,
- relations, interest rates and inflation,
- annuities and amortization of debt,
- financial and investment decisions.

The results of the questionnaire research were then evaluated by statistical methods.

The number of the computer science students was 87 and the number of the management science students was 93. To make an examination, we used research methods: questionnaire and statistical methods. The questionnaire was used to find the highest level of education, current study and the final grade in mathematics. According to the research of PISA, the reached level of mathematical skills has an impact on financial literacy. Study programs focused on IT include more mathematical subjects than managerial subjects, therefore we expect that this fact will also reflect on the results of the testing of financial literacy.

In the framework of the research, it was distributed 250 questionnaires. Unfilled or partially filled returned 33, that represents 86.8 % level of return. High school students have filled 37 questionnaires of the remaining 217 pieces. For purposes of this research, we consider the rate of this group statistically insignificant and therefore it is not included in the evaluation and research. The pilot research is based on the evaluation of the questionnaires completed by 180 students of our faculty. It represents approximately one third of the students from one branch of study of the bachelor's degree. In this group, there were 87 students of the "Computer science" and 93 students of the "Management science".

3 Results and discussion

As the first, we have evaluated questions concerned with the student's previous education in financial literacy and type of verification of their competencies. The results are graphically presented in Figures 1 and 2. Figure 1 shows the rate of response to a question about the process of education in financial literacy while figure 2 illustrates the rate of responses about the knowledge verification process.

How shows Figure 1, 63 % of management science students were not systematically educated in financial literacy compared with 55 % of computer science students. An adequate education as a separate subject, or in the form of a continuous block in another subject received only 37 % of students of management and 45 % of students of computer science.

When asked how was verified their financial literacy competencies, 34 % of management students and 23 % of computer science students reported that they regularly solved problems related to the financial decision-making and passed written tests. The answer sporadically or by a single comprehensive test, marked 34 % of management students and 40 % of computer science students.

Approximately 32 % of management students and 37 % of computer science students answered that their financial literacy was not systematically verified. The results are depicted in a detailed way in Figure 2.

FIG. 1: Parts of the respondents according to the method of teaching financial literacy. Management science students on the left, computer science students on the right. Source: own processing.

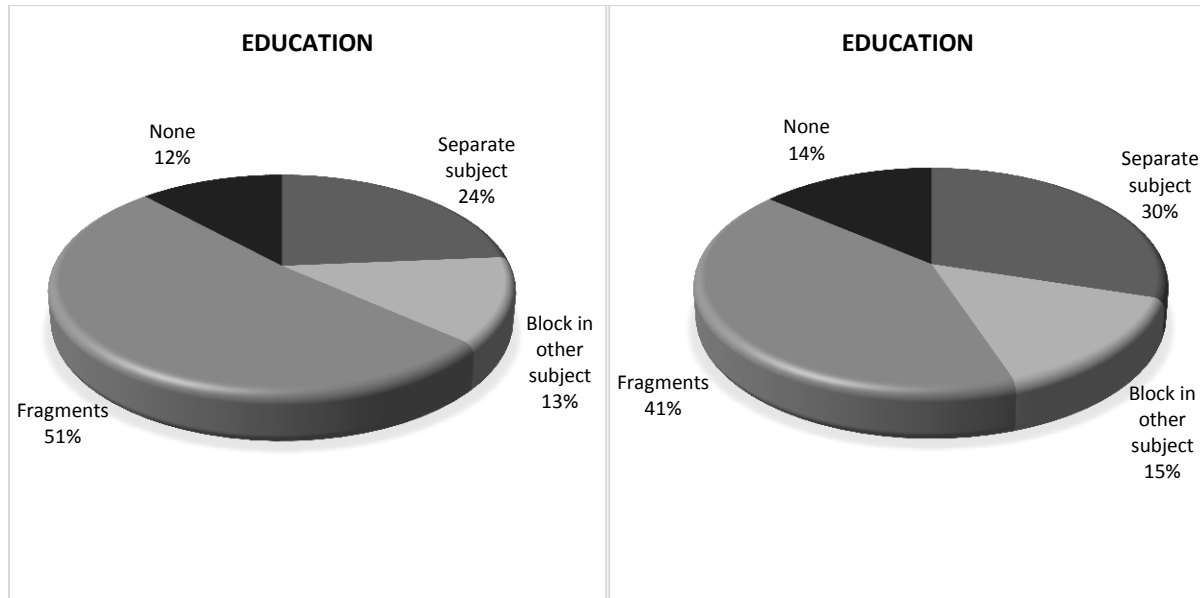
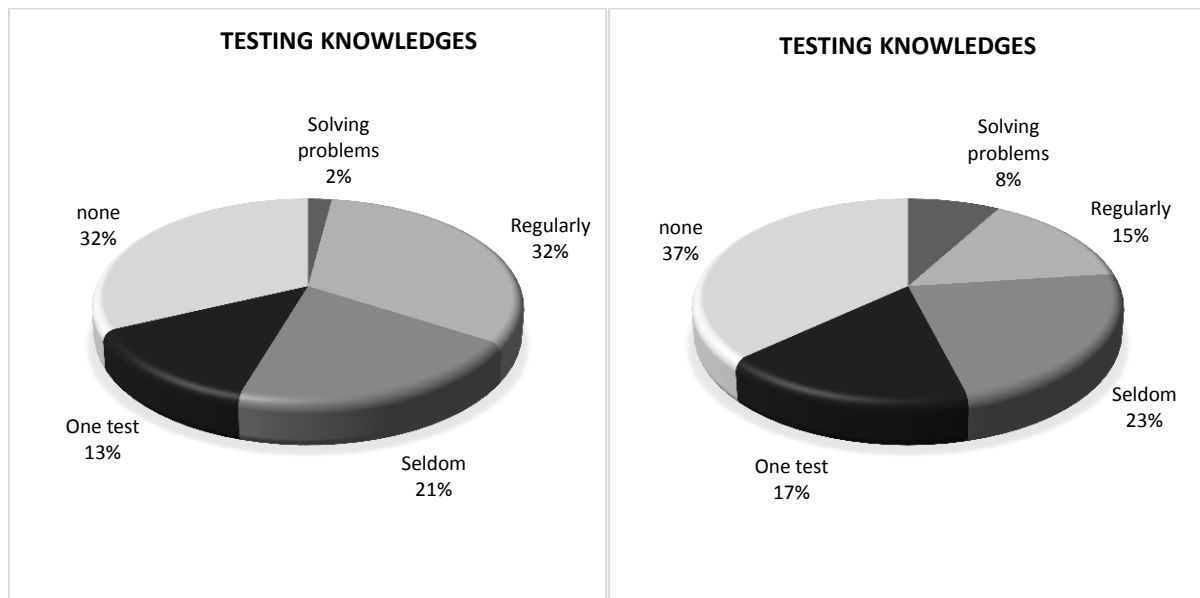


FIG. 2: Shares of respondents by way of verifying the competence of financial literacy. Management science students on the left, computer science students on the right. Source: own processing



It was also found that 37 % of computer science students and 39 % of management science students considered themselves financially literate and reported that in most cases they would make the right decision. Those who self-assessed their financial literacy as average or below average were 61 % in the case of management science students and 63 % in the case of computer science students. The results of both compared groups are illustrated in Figure 3.

From the perspective of the pilot research, we were interested in the attitudes of respondents to the importance of financial literacy. As very important, consider financial literacy 71 % of management science students and 50 % of computer science students. The financial literacy is viewed as less important by 29 % of management science students and 50 % of computer science students. More detailed data about the perception of the importance of the financial literacy are depicted in Figure 4.

FIG. 3: Share of students by self-appraisal of their financial literacy. Management science students on the left, computer science students on the right. Source: own processing

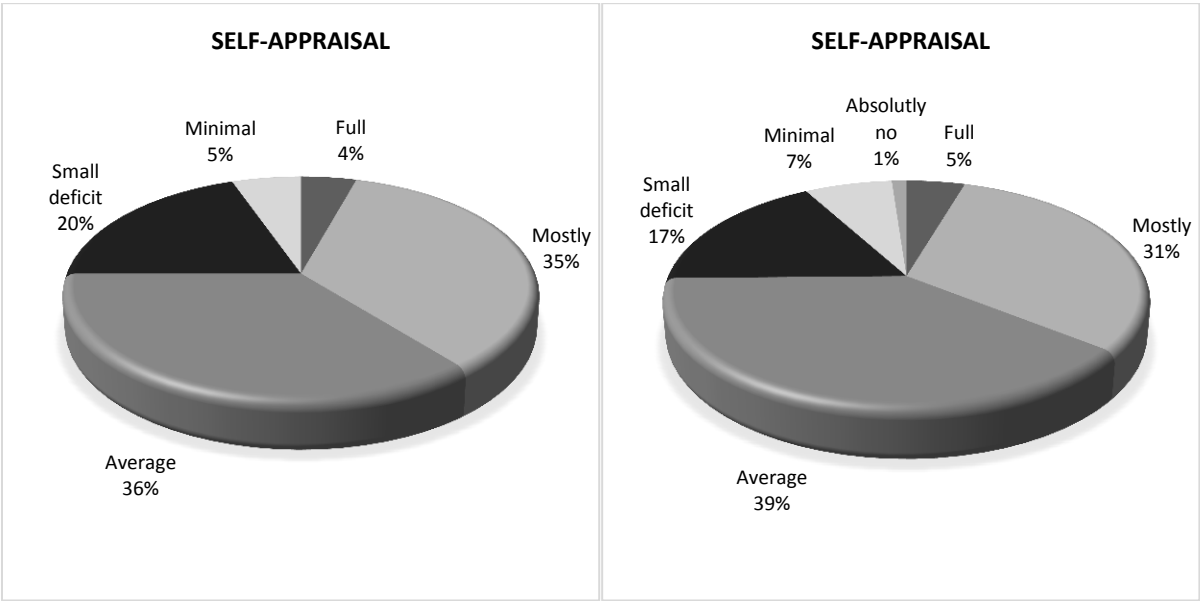
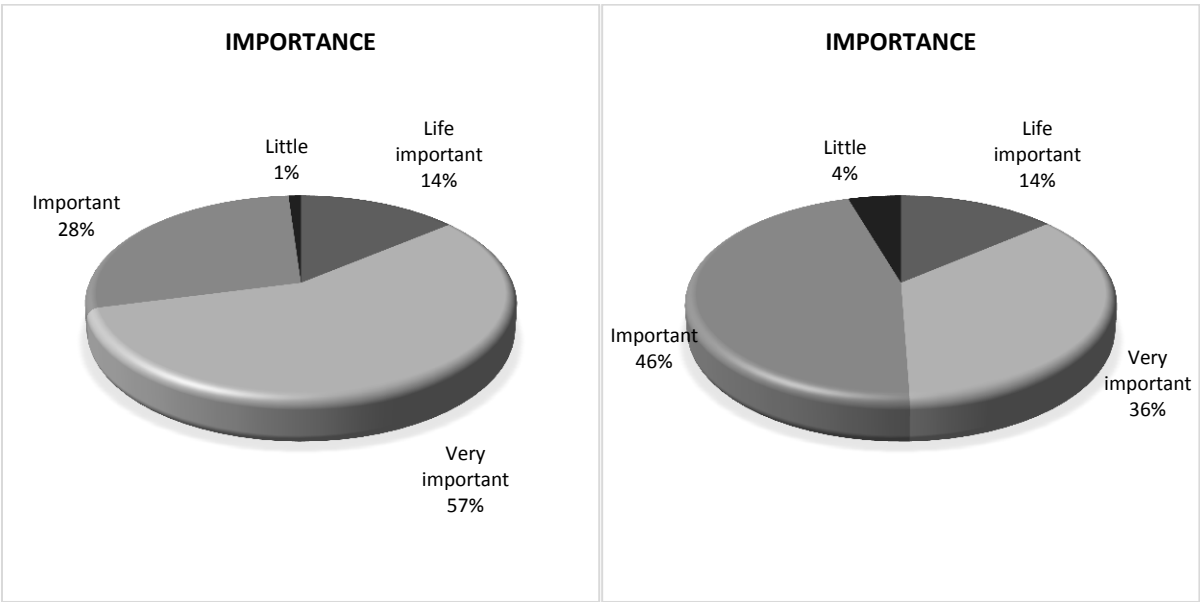


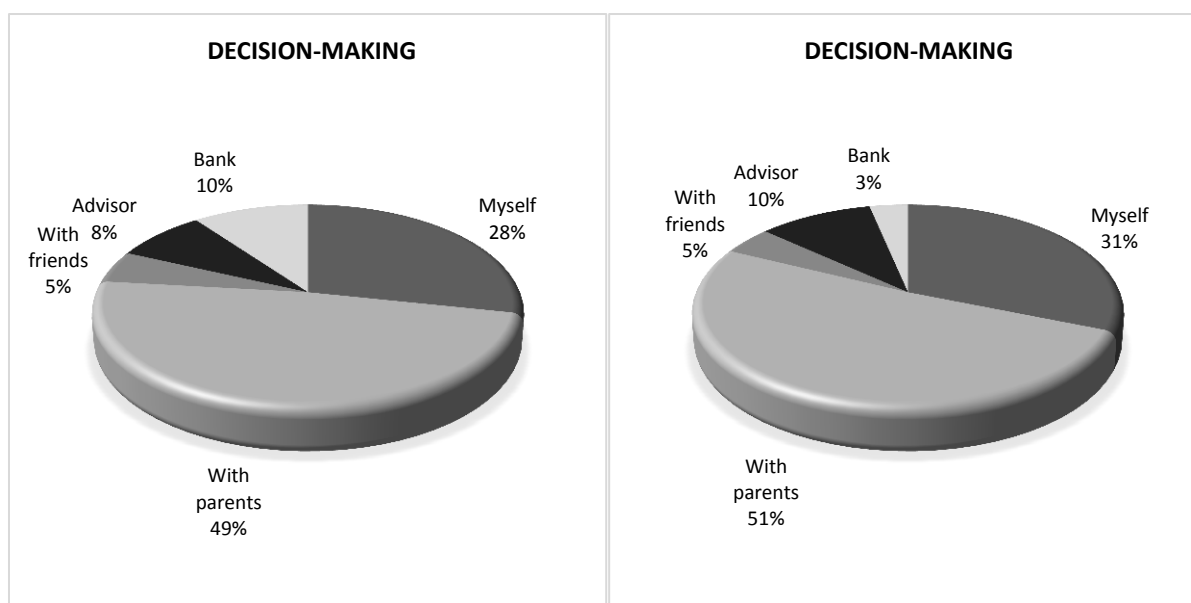
FIG. 4: Shares of respondents according to given importance of financial literacy. Management science students on the left, computer science students on the right. Source: own processing



The last question referred to the personal relation of respondents with financial literacy. It was principally focused on the way of decision. Approximately 28 % of management science students and 31 % of computer science students think they are able to make an important financial decision alone. About 49 % of management students and 51 % of computer science students prefer to consult their decision with parents. The others possibilities consultation with friends and advisor in the bank would choose 23 % of management students and 18 % of computer science students. The results are graphically presented in Figure 5.

To compare the average percentages of management science and computer science students we applied the Student's t -test for null hypothesis $H_0: \mu_{INF} = \mu_{MAN}$ against the one-sided alternative $H_1: \mu_{INF} > \mu_{MAN}$. The test statistic value equals 1.19 that allows us to reject H_0 at a confidence level of 88 %. It appeared, therefore, that the students of the informatics averaged significantly better results than students of the management science.

FIG. 5: Shares of respondents according to the method of decision. Management students on the left, computer science students on the right. Source: own processing.



Furthermore, we have verified the impact of the importance of financial literacy perception on the result achieved. As very important it was assigned by 109 respondents and as less important or non-important by 71 respondents. The first group has reached average score 43.47 % while the percentage of the second group was 40.74 %. After performing the t -test for comparison of average percentages, we proved that we can reject the hypothesis that both groups achieved the same result on the confidence level of 85 %. Therefore, we can with 85% confidence argue that the importance perception of financial literacy has a positive effect on the result achieved.

How it was declared in the second paragraph, the question was divided into four disjoint groups that are associated with different components of the financial literacy. In order to recognize the competencies of the respondents in each of the categories, we have summarized the results in table 1. From the results, we can conclude that the participants have reached significantly better performance in "Amortization and annuities" than in "Time value and inflation" and as well better than in "Investments". The hypothesis about the equal performance can be rejected on the

confidence level of 99 %. The same is true for the category “Financial decision-making”. The hypothesis about the equal performance in “Time value and inflation” and “Investments” can be rejected on the confidence level of 99 %. On the other hand, the hypotheses about equal performance among “Time value and inflation” and “Investments” or “Amortization and annuities” and “Financial decision-making” could not be rejected.

Our next aim was the performance comparison between the students of the management science and computer science. Processing is most clearly in the form of table 2. Our comparison is again based on the statistical hypotheses testing. Our null hypothesis is, that the performance is in each of the categories the same for both groups of students.

TAB. 1: Results of the statistical tests for the average percentages of the correct answers in the simple categories. Source: Own processing.

Categories compared	Percentages	Test statistics	p-value
Time value and inflation vs. Amortization and annuities	36.78 % 53.33 %	5.3721	0.999
Time value and inflation vs. Financial decision-making	36.78 % 52.41 %	5.8284	0.999
Time value and inflation vs. Investments	36.78 % 34.44 %	0.8971	0.8152
Amortization and annuities vs. Financial decision-making	53.33 % 52.41 %	0.2727	0.6074
Amortization and annuities vs. Investments	53.33 % 34.44 %	5.6707	0.999
Financial decision-making vs. Investments	52.41 % 34.44 %	6.0552	0.999

TAB. 2: Testing the hypotheses about the equal performance of two groups of the students in each of financial literacy categories. Source: Own processing.

Time value and inflation			
Management science	Computer science	t-statistics	p-value
34.84 %	38.85 %	1.247427511	0.893879608
Amortization and annuities			
Management science	Computer science	t-statistics	p-value
53.23 %	53.45 %	0.042281734	0.516862947
Financial decision-making			
Management science	Computer science	t-statistics	p-value
50.54 %	54.41 %	0.900290748	0.816017228
Investments			
Management science	Computer science	t-statistics	p-value
33.33 %	35.63 %	0.561655628	0.712824664

Despite we see in table 2 some differences in performance, we are mostly not able to reject the null hypothesis. Only in the “Time value and inflation” we can reject the null hypothesis on the confidence level almost 90 % and declare, that computer science students achieved significantly better results than the students of the management science.

An interesting finding is also the fact, that question assigned by the students as the easiest question has got the worst average performance. This question was associated with the simple interest and time value of money and it was correctly answered only by two students. On the other hand, the question focused on the annuities was assigned as the most difficult. Throughout the average performance was over 33 %. It suggests underestimation some elementary components of financial literacy.

4 Conclusion

Our research has shown some surprising results. We have seen, that the previous education in the financial literacy has not got a significant influence on the competencies and skills of the students. Despite this result may seem to be surprising, it corresponds with the statements of the worldwide study (Fernandes, Lynch, & Netemeyer, 2014). We have also shown that more significant impact has the importance perception of the financial literacy by the students. That indicates that the education must, first of all, explain how the financial literacy is important for the common life. This obviously leads to a better positive motivation for studying of these problems.

The key finding for the educational process is the need to pay more attention to the base elements of the financial literacy. We have seen, that the elementary components that are in general considered to be very easy and clear have led to the worst results. Only good orientation in the elementary problems can lead to the full comprehension of the more complex problems and any underestimation of them is very dangerous for the future education.

The last but not the least conclusion is, that a great deal of the students cooperates in the important financial decisions with the parents. It confirms, that the impact of the family is not negligible and the literacy of the students corresponds frequently with the financial literacy of their parents. Therefore, it is also important to work on courses for all age categories, not only for the generation of school age.

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INNOVATION - THE SOURCE OF COMPETITIVENESS

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Abstract: *SMEs are a unique source of innovative business ideas, provide jobs and contribute significantly to the creation of a healthy competitive environment. Innovation is an essential part of a well-functioning business and in particular competitiveness companies. Economic and social importance of SMEs makes it necessary to create the business conditions under which the companies would be able to continuously develop their business. It becomes necessary creating an environment that encourages in particular the development of innovation activities of enterprises as a source competitiveness companies and the economy as a whole. The aim of our paper is to analyse the current state of innovation activities of small and medium-sized businesses and levels of support to innovation.*

Keywords: *innovation, small and medium-size enterprises, competitiveness*

JEL classification: *M13 O 17 O31*

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1 Introduction

Innovations are now part of a successful each and well-functioning company, as customer demands are constantly increasing. Innovations are a key factor and have essential to the development of SMEs. Innovations setting the pace rate of growth of any enterprise, determines the percentage successful of business in the market, increase competitiveness of each enterprise. Effective implementation of innovations in enterprise ensures optimal overall growth, improving the status of the enterprise market, especially increasing competitiveness. Being competitive, means to capitalize on the opportunities that the market offers and to turn them to their advantage through correctly chosen competitive strategy to gain a competitive advantage. For the first time the concept of innovation was used with an American scientist Schumpeter. The Innovation was defined as a change, which exploits new kinds of consumer goods, and new production vehicles, new markets and forms of organization of production and services (Schumpeter, 1935).

It follows that innovation is to targeted proposed change, the essence of which is to put something new into production processes, management and organization processes in the company. Every innovation should have a practical application and result of innovation should be changing the current situation in the company. Also, according to the Association of Innovation Entrepreneurship in Czech Republic innovation are a series of scientific, technical, organizational, financial and other activities aimed at creation of a new or significantly improved product (product, technology or service) effectively placed on the market. Innovation performance of enterprises is largely determined by the effective functioning of a complex system of innovation support in Slovakia republic. We can conclude that the inefficient functioning innovation system is a barrier to innovation activities of small and medium-sized enterprises. Innovative processes are specific instrument business with high added value and a source of competitiveness of enterprises. To develop the innovation activities of SMEs must be at the businesses created favourable conditions in financial terms, staffed, material and technical support, after a consulting site and also be provided with contacts for domestic and international bodies active in the development and research. When processing paper were an essential source of information on enterprise innovation activity data obtained from the database of the Statistical Office, Eurostat and the Slovak Business Agency, the National Bank of Slovakia. An important source of information were the reports and summaries of important Slovak and European institutions such as the Business Alliance of Slovakia, Slovak Business Agency, a European Commission report. When processing of paper was used standard methods of scientific investigation. The paper based on the definition of SMEs according to the EU, according to which this category includes all companies with 0-250 employees and an annual turnover not exceeding € 50 million and / or annual balance sheet total not exceeding € 43 million. In defining innovations come out from the definition of innovation within the meaning of the Act no. 172/2005 Coll. on organization of state support for research and development. As innovation active enterprises refer to enterprises that have experienced at least one of innovation activities during the period. Among the innovations we have included the technological and non-technological innovation. Technological innovations are product innovation, ie. new or significantly improved product (product, service) marketing or innovation process, ie. new or significantly improved process introduced within the company. Non-technological innovations include organizational innovation and marketing innovation.

2 Innovative activities of SMEs

SMEs due to their simple organizational structure and a willingness to accept higher risks are able to implement innovative activities. Despite this innovative businesses with high growth potential make up only a small proportion of the total number of SMEs. Of this amount, small and medium enterprises only less than one percent consist of innovative leaders and even so, have these companies a huge impact on potential economic growth and increasing competitiveness. At the end of 2013 from the total number of enterprises 96.8% micro, 2,6% small and medium-sized enterprises 0.5%. The share of large enterprises amounted to 0.1%. The share of SMEs in total employment in the national economy reached 59.5%, added value creation in the non-financial sector and 55.1% share in making a profit before tax was 53.4%. The share of SMEs in the total number of enterprises with innovation activity is of 79.6%.

TAB. 1: The number of businesses in Slovakia / share in the number of enterprises in %

	The number of businesses in Slovakia / share in the number of enterprises in %				
Year	2008	2009	2010	2011	2012
small businesses	11 881 / 2,1 %	17 968 / 3,2 %	13 121 / 2,4%	14 898 / 2,6%	14 158 / 2,5 %
medium-sized enterprises	2 806 / 0,5 %	2 874 / 0,5 %	2 653 / 0,5 %	2744 / 0,5 %	2 753 / 0,5 %
large companies	584 / 0,1 %	598 / 0,1%	615 / 0,1 %	626 / 0,1 %	628 / 0,1 %

According to a study Annual Report on small and medium-sized enterprises in the EU 2013/14 there is a positive relationship between innovation in SMEs and SMEs' capacity to generate growth and employment. And due to these characteristics of SMEs is their importance in driving innovation indispensable. We can generally say that SMEs are more innovative than large enterprises. However, the role of SMEs in the innovation process differs significantly from that of large enterprises. The impact of innovation that bring only minor improvements to existing products and processes is small, but cumulatively are of great importance.

TAB. 2: The share of enterprises with innovation activities in the total number of enterprises in % (industry and services together)

Year	2004	2006	2008	2010	2012
small businesses	16,3	19,2	31,5	29,3	29,8
medium-sized enterprises	34,8	34,4	48,7	43,6	40,0
large companies	58,0	56,0	67,6	65,1	62,1

TAB. 3: Innovation intensity in % (percentage of innovation spending from sales of innovation enterprises in industry and services together)

Year	2004	2006	2008	2010	2012
small businesses	9,5	9,4	3,3	6,6	4,3
medium-sized enterprises	5,5	14,0	3,9	4,2	2,8
large companies	8,6	4,6	2,1	1,7	1,8

The Slovak Republic is a long time in international comparisons to belong between EU states which the innovation performance lagged behind the EU average and belongs to the group of moderate innovators. It also shows the Table. 4, which shows the evolution of the summary innovation index compared to the EU average. If based on an indicator sigma convergence, we can evaluate the development of the innovation indicator as converging, thus gradually approached the EU average. We cannot be satisfied with the situation. In the Slovak republic enterprise innovation conducted 21.8% of SMEs and the EU average was 31.8% of the SMEs. We have constantly high levels of weaknesses in the categories of innovation activities with the EU average:

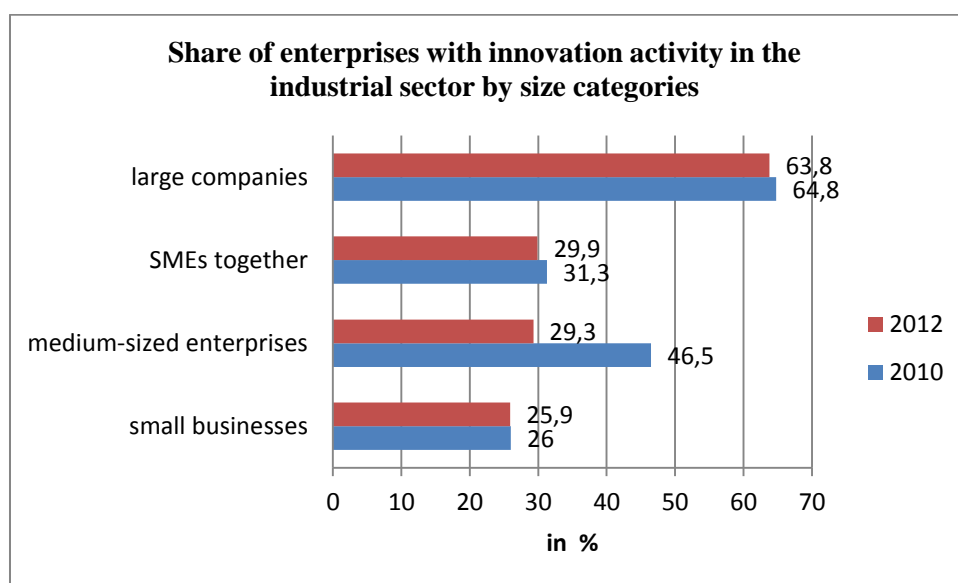
- we lagged in the Protection of Industrial Property,
- we have Low corporate spending on research and development,

- the lack of cooperation between the public and private sectors,
- we have low number of innovative businesses

TAB. 4: Summary Innovation Index (SII) (in%)

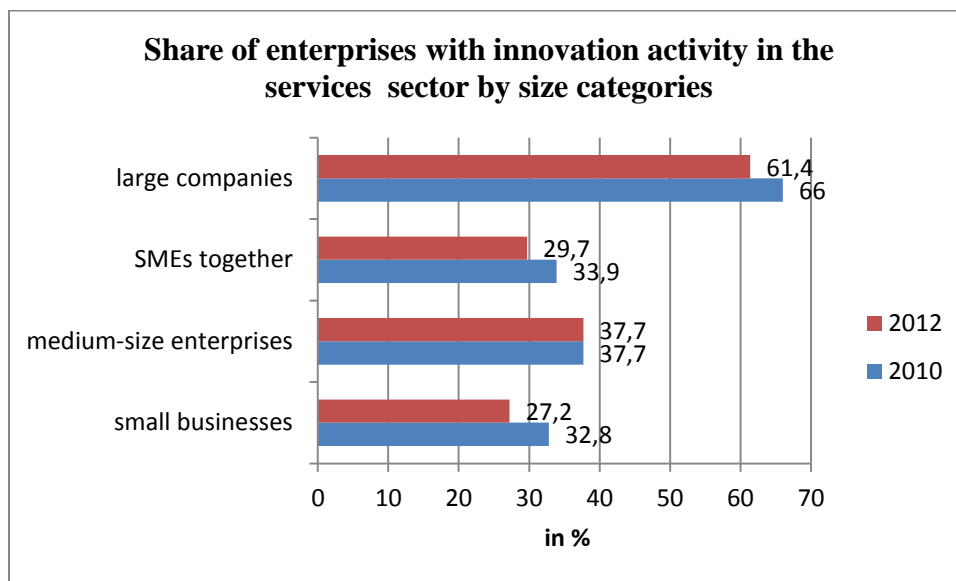
Summary Innovation Index (SII) (in%)								
Year	2008	2009	2010	2011	2012	2013	2014	2015
EU 28	0,495	0,502	0,511	0,514	0,519	0,521	0,523	0,521
SK	0,318	0,329	0,338	0,325	0,313	0,346	0,354	0,35
coefficient of variation	0,416	0,424	0,433	0,43	0,428	0,442	0,446	0,443
sigma convergence	0,412	0,401	0,391	0,401	0,4409	0,382	0,375	0,379
standard of deviation	0,511	0,511	0,51	0,512	0,515	0,51	0,509	0,509

FIG. 1



Based on the analysed data obtained from Eurostat, the Statistical Office of the Slovak Republic we can say that since 2004 had innovation activities of businesses in Slovakia upward trend. This trend was maintained until 2009, when it began to show economic crisis and the constraints of innovation activities of enterprises. During this period, Slovakia recorded a decline in innovation activity of SMEs. From 2013 slight increase innovative activities of SMEs. According to these data (Figure 1 and 2) it is clear that the highest levels of innovation activities are characterized by SMEs (10-249) operating in the industrial sector (29.3%), services sector (37.7%) and lowest innovation activities of SMEs reported in construction (15.7%). Slovak SME innovation activity in the comparison with other EU countries shows no signs of substantial improvement. Slovakia still ranks among the countries with below average innovation activity of SMEs.

FIG. 2:



The low level of innovation activities of SMEs in the Slovak Republic in comparison with EU countries is caused by a number of barriers that limit the innovation activities of enterprises. The Innovative barriers in Slovak enterprises are mainly cost, market factors and knowledge factors. For barriers, which to greatest extent preventing their innovation activities in the Slovak companies belong to the costs factors . Specifically, the lack of own resources to fund innovation, lack of finance from sources outside the enterprise. Other barriers to innovative SMEs can include:

- Lack of qualified personnel
- Lack of information on markets
- Difficulty finding partners for innovation
- Uncertain demand for innovative products or services.

To improve the innovation performance of enterprises and the whole economy is important removing barriers to innovation. Some of the barriers can be removed at the enterprise level through innovative management, most of them but the whole society needs a solution at the state level. Support for innovation activities of SMEs by the state will contribute to the growth of competitiveness of the economy and welfare of the people.

3 Conclusion

Given the important role of SMEs in the economic development of the country's is needs of innovation in the business sector important. Research and innovation of small and medium-sized enterprises are an important factor for economic growth and job creation. Due to the significant innovation potential is essential to promote innovative activities of SMEs. Innovation of small and medium-sized enterprises are the foundation them of survival, improvement, and thereby gaining a competitive advantage over other businesses in the domestic but also in foreign market. Growth of competitiveness of small and medium-sized enterprises, contributes to improving the economic results of the state, but also to improve the social and living conditions of the population. Prevents

SMEs in achieving higher levels of innovation activities a number of problems, including lack of financial resources and access to finance, lack of skills in the management of innovation, deficiencies in building contacts and cooperation with external entities and the insufficient use of public procurement to boosted innovation in SMEs. It is necessary that the state increasingly participated in the creation of the necessary support mechanisms to strengthen the innovation capacity of SMEs. The state should systematic to create conditions for effective tools and incentive funds.

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CRISIS RESOLUTION MECHANISMS AND BOND PURCHASES AS A POSSIBLE SOLUTION TO THE DEBT CRISIS IN THE EURO AREA

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Abstract: *This paper deals with the creation and functions of so called eurozone crisis resolution mechanisms, which include European Financial Stabilization Mechanism, European Financial Stability Facility, European Stability Mechanism, and also with the unorthodox steps of European Central Bank in the form of purchases of government bonds of some member states. The aim of this paper is to outline some of the problems and risks associated with the activation of these measures whose purpose is to solve debt problems and ensure the credibility of the eurozone. In conclusion the author's own opinion on the effectiveness of these measures is given. The author uses methods of research and analysis.*

Keywords: *debt crisis, crisis resolution mechanisms, bonds, European Central Bank, moral hazard*

JEL classification: *H 63*

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1 The debt crisis in the euro area and strategies for resolving it

The debt crisis in the euro area that started in 2010 and still cannot be considered finished forced the authorities and institutions of the EU as well as the member states of the area to take a number of disputable or even controversial measures that should have helped with resolving the debt problems of some member states of the euro area. It should be noted that some were preventive measures; for instance, the creation of the Banking Union the aim of which was to stop the financing of banking crisis from public budgets. There was a strong resistance of experts as well as lay public in many member states against the measures that were not preventive and the aim of which was to stop the occurring problems. The legitimacy of these measures was even discussed in court proceedings. The crisis resolution mechanisms of the euro area, mainly the European Stability Mechanism and the decision of the European Central Bank to purchase government bonds from the member states of the euro area belong, in my opinion, among such measures and therefore are the focus of my paper.

2 The crisis resolution mechanisms in the euro area

The high level of public debt of some member states of the euro area necessitated the creation of crisis resolution mechanisms that were supposed to mitigate the crisis and also support the credibility of the euro area as a whole through financial assistance.

First, in May 2010, the European Financial Stabilisation Mechanism (EFSM) was established by Council Regulation (EU) No 407/2010. Its focus was not directed only at the states of the euro area but also at other member states of the EU and the budget of the EU served as a guarantee for the liabilities of the EFSM. At the same time, it was agreed that the EFSM would be able to arrange loans on the financial markets in a total volume of €60 billion.

A month later, in June 2010, another crisis resolution mechanism, the European Financial Stability Facility (EFSF), was established. In order to obtain the means for providing financial assistance, the EFSF issued bonds and other debt instruments in the capital markets. Very prominent was the cooperation between EFSF and the International Monetary Fund that guaranteed an increase in funds the EFSF used for providing financial assistance to selected countries.

Most important was, however, the European Stability Mechanism (ESM), which was established in 2012. Its establishment was accompanied by many disputes, especially in Germany, the core of the euro area, where the disputes regarding the ratification of this mechanism had to be settled by the Constitutional Court. Unlike the mechanisms mentioned before, the ESM was established as a permanent mechanism that replaced the previous, temporary mechanisms, even though the operation of the EFSF was still not ended. One of the treaties establishing the EU - the Treaty on the Functioning of the European Union - had to be amended when establishing the ESM. The amendment authorizes the establishment of a permanent mechanism that should be activated in cases when financial stability of the euro area needs to be secured.

The ESM raises funds not only by issuing debt instruments but also by paid-in capital of the member states of the euro area among which it is split depending on a key for determination of the national central banks' share of the capital of the European Central Bank. The key is influenced by two indicators - the share of the total population of the EU and its GDP. The maximum lending capacity of ESM was set to 500 bn euro.

All three mechanisms were actually used for providing financial assistance for states that were having debt problems. EFSM was activated in 2011 for Ireland and Portugal, EFSF provided financial assistance not only for these two states but also for Greece in 2012. Since 2015, Greece has also been drawing funds from the permanent ESM. Spain and Cyprus needed assistance from ESM as well.

The following table shows the total volume of financial assistance provided for the states mentioned above from EFSM, EFSF and ESM.

TAB. 2: The total volume of financial assistance provided for states in the euro area from the crisis resolution mechanisms (in bn euro)

State	The total volume of financial assistance
Portugal	50,3
Ireland	40,2

Greece	229,6
Spain	41,3
Cyprus	8,97

Source: (European Commission, European Financial Stability Facility, European Stability Mechanism, 2016)

Each country naturally used the provided financial assistance differently, for instance while Spain needed to revive mainly the banking sector, Greece's main problem was the public debt created by the government.

3 The purchase of bonds by the European Central Bank

The European Central Bank, unlike the crisis resolution mechanisms described in the previous chapter that provided direct financial assistance, focused on indirect financial assistance through the purchase of government bonds of the states of the euro area that were most significantly affected by the debt crisis. The aim was to decrease the bond yield and thus also reduce financing of national debt.

Making these steps, the ECB left the field of monetary policy to some extent and went over to the field of fiscal policy. However, this caused even bigger outrage in economical and political circles than the introduction of crisis resolution mechanisms. In 2015, the government bond purchase was even brought to the Court of Justice of the European Union. The court, however, said that it does not contravene the EU treaties. It should be also noted that the primary objective of the ECB according to the Treaty on the Functioning of the European Union is to maintain price stability. The Treaty also states that the ECB is not allowed to grant credits to governments of member states as well as to directly purchase their debt instruments (Treaty on the Functioning of the European Union, 2012). It seems that the phrase 'direct purchase' became decisive because the ECB announced bond purchase in secondary market within the OMT programme (that will be discussed later on).

The bond purchase programme (the OMT - Outright Monetary Transaction), announced by ECB in 2012, is a programme under which the bank makes purchases in secondary markets where it can purchase bonds that mature in 1 to 3 years without any limit for buying. At the same time, the states whose bonds will be purchased must ask for assistance from the crisis funds. Such assistance means also strict supervision over the states in question and pressure on implementing the necessary reforms (ECB, 2012). ECB, however, started to purchase government bonds already in 2010 within the SMP programme (Securities Market Programme). At that time, the ECB was buying mainly Greek bonds.

Even today the ECB still continues to purchase government bonds. In March 2015, a new, vast bond purchase programme amounting to 60 bn euro a month started.

4 Possible risks resulting from the operation of the crisis resolution mechanisms and steps of the European Central Bank

One of the risks of making the unorthodox steps mentioned above was the breach of the founding treaties of the EU. This issue was also discussed in the previous chapter when speaking of the purchase of bonds by the ECB and the conclusion is similar when speaking of crisis resolution mechanisms. As stated in the Maastricht Treaty, according to the no bail-out clause, neither the

Union nor the member states are responsible for the liabilities of other governments and they do not take over such liabilities. Since providing financial assistance in the form of a loan cannot be considered as taking over the liabilities, even the crisis resolution mechanisms do not contravene the founding treaties.

There is, however, the risk of the so-called moral hazard. It means that the governments of individual states are motivated to behave dangerously (i. e., to have an irresponsible fiscal policy in this case) since they "feel safe" thanks to the possibility of financial assistance provided by crisis resolution mechanisms and support from the ECB. The risk of moral hazard is naturally mitigated by the need to repay the borrowed funds and also implement strict remedies but it is not totally eliminated.

Ironically, the remedies in the form of structural reforms that always accompany the financial assistance are the next threat to the member states since the reforms are implemented within a short period of time at the expense of economical growth. This fact can be illustrated with the example of Greece. Greece managed to keep the structural deficit figures relatively favourable in recent years but an economic downturn occurred in 2015 according to the latest Eurostat data. The following table shows the development of the structural deficit of Greece.

TAB. 2: The structural deficit of Greece between 2012 and 2015 (in relation to potential GDP)

State	2012	2013	2014	2015
Greece	-0,2	2,3	1,3	-0,6

Source: (European Commission, 2015)

5 Conclusions

The debt crisis forced the euro area to adopt a number of unconventional resolutions that should have helped with resolving the problems of some member states and strengthen the credibility of the euro area as a whole. These steps brought about several risks, such as the threat of moral hazard and economic downturn in connection with the necessary implementation of strict reforms mentioned in this paper. Even though these unorthodox measures were activated several years ago, the debt situation of the member states in the euro area is not improving, as we can see in table 3.

TAB. 3: Public debt development of selected states of the euro area between 2010 and 2014 (in relation to GDP)

State	2010	2011	2012	2013	2014
Greece	146,2	172	159,4	177	178,6
Spain	60,1	69,5	85,4	93,7	99,3
Ireland	86,8	109,3	120,2	120	107,5
Portugal	96,2	111,4	126,2	129,0	130,2
Cyprus	56,3	65,8	79,3	102,5	108,2

Source: (Eurostat, 2014)

The table shows that the public debt (in relation to GDP) of all the states that were or are drawing financial assistance from safety mechanisms considerably increased in comparison to the beginning of the debt crisis. More favourable is the indicator of the public debt in absolute figure, which shows an improvement for Greece and Ireland when comparing the years 2013 and 2014.

The evaluation of the success rate of the crisis resolution mechanisms based on the public debt amount might be somewhat misleading because the loans to individual states are reflected in it. The potential economic downturn connected with the reforms implemented, especially in Greece and Portugal, thus poses a greater threat. However, the real effect of these measures will be visible only within the next few years.

If another harsh phase of the debt crisis comes, similar to the year 2010, it will be most probably impossible for the euro area to remain unchanged. This raises a question whether it is acceptable to have a common currency in such a situation. This would be, however, a topic for another paper.

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THE IMPORTANCE OF HIGH-GROWTH ENTERPRISES FOR JOB CREATION IN SERVICE INDUSTRY OF OECD COUNTRIES

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Abstract: *High-growth enterprises (HGE) generate at least 20% increase in employment or turnover for three consecutive years, and according to OECD (2015) represent on average 10% of business entities in the category of companies with more than 10 employees. In this context, their importance for job creation is evident, and thus for economic growth of member countries as well. This paper compares HGE existence in the sectoral structure of selected countries (employment criterion) and the aim of the paper is to identify the sector with crucial importance for the existence of these business entities. The analysis provided in the article verifies prevalent representation of dynamic businesses in the service industry of selected economies (ranging from 55-80%) and therefore its important influence on the acceleration of new jobs in this sector.*

Keywords: *High-growth enterprises, HGE, services, employment, measurement of growth*

JEL classification: L25, L 26, M13

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1 Introduction

Business entities represent important elements of national economies. Enterprises have an essential role in further development of countries with developed market economy. They create competition in many cases, and help address the economic crisis. Their business activities contribute to the formation of national income, gross production, sales and exports. They reduce unemployment by creating new jobs and also provide revenue to the state budget from taxes. They can respond quickly to innovation in information technology, training and development activities, they adapt flexibly to market requirements, and especially in demand. According to the statistics from OECD (2015), up to 90% of the businesses belong to the category of small and medium-sized enterprises (SMEs), which provide jobs for more than 60% of the working population. Significant numbers were reached by

these businesses also in the formation of gross domestic product; these values are in the range of 50-70%. Quite significant segment of these business entities are high-growth enterprises (the HGE).

A characteristic feature of the modern economy is the predominance of demand for services in overall demand, which is reflected in the economic output and employment. (Michalová et al., 2013, Michalová & Krošlák, 2014). Creation of new jobs concentrates heavily on the service sector. In the context of this paper, the main objective is to identify the presence and action of high-growth enterprises in the branch structure of selected economies in OECD countries, including the Slovak and the Czech Republic, focusing on their existence and creation of jobs in the tertiary sector – services.

2 Methodology and Data

The high-growth enterprises are the object of examination in this paper. Because of the lack of statistical records and data pertaining to the issue in most countries, we are only focusing on selected OECD countries for which these data are available: Czech Republic, Slovak Republic, Luxembourg, Slovenia, Estonia, Romania, Denmark, New Zealand, Portugal, Hungary, Spain, Italy, Netherlands, France, Canada, and United Kingdom. The data from the OECD statistical database (the latest available data were for 2013, published in 2015) were the main source of statistical data we have used for this purpose. As concerns the focus of this paper on job creation, the criterion of employment has been selected for the purposes of comparison. In order to reach the appointed goal, we have used several methods. During the adaptation of starting-point theoretical-methodological basis we have used the method of content analysis of secondary sources knowledge in domestic and foreign literature. Comparison method and quantitative methods are covered by statistical research based on secondary quantitative data. These methods were used to identify and compare HGE action in the sectoral structure of selected economies and subsequent identification of sector with dominant scope of the enterprises. The results of quantitative survey were then displayed by means of graphic representation. By systematization we have developed a comprehensive database in order to demonstrate the irreplaceable role of dynamic businesses in employment creation of the services sector.

3 Literature review

Authors Petersen and Ahmad (2007) recommend defining high-growth enterprises (HGE) as all enterprises with average annualized growth greater than 20% per annum, over a three year period. According to the European Commission definition (2007) and according to the Manual on Business Demography Statistics (2007), growth can be measured by the criteria number of employees or by turnover criteria. To avoid the small size class bias that such definitions inevitably contain, the definitions include further qualification that enterprises should have at least 10 employees at the start of any observation period and this threshold applies to both, the employment and turnover based measures (Petersen & Ahmad, 2007). Representation of HGE is then expressed as a percentage of the population of enterprises with ten or more employees (OECD, 2014). According to current OECD report (2015), HGE constitute 3-6% of all enterprises by employment criterion and up to 8-12% if the condition is evaluated according to the criterion of turnover of all the enterprises. Young high-growth enterprises called "Gazelles" are an important subgroup of HGE; they make up about a fifth of HGE (Krošlák et al., 2015). These are high-growth enterprises, born five or less years before the end of the three-year observation period (Eurostat - OECD, 2007; OECD, 2015).

While small companies are overrepresented in the population of HGE, large companies may also be important creators of job opportunities in the HGE group, in particular the subgroup of so-called "super-gazelles", which are in some other studies also referred to as "gorillas" and are basically only bigger enterprises. "Gorillas" enterprises are defined as high-growth organizations (based on the OECD definition of high growth) that are less than 10 years old, with a physical presence in at least 3 countries and employing over 500 employees in total (BERR, 2008). A share of HGE is also formed by high-growth innovative enterprises (HGIEs) operating in innovative sectors (Kolar, 2014).

Independently of HGE function and their Gazelle subgroup in individual economy industries, they are very important and interesting for business and society, because they create a great number of all new jobs (Birch, 1979 Barkham et al., 1996; Zumburan, 2009; Henrekson & Johansson, 2008; 2010; Mote, 2012; Krošlákova et al. 2015). Generating employment is one of the primary contributions by high-growth enterprises (Amat et al., 2014). According to the authors Henrekson and Johansson (2010), Masson and Brown (2014), and the team of authors led by Bled et al. (2013), a small amount of firms in question can generate a disproportionately large share of all new jobs compared to other companies, which do not belong to the group of high-growth enterprises. This is a "clear-cut result". The OECD report (2014) also highlighted that the age of enterprises could be more relevant than their size in determining their eventual contribution to employment growth. HGE are also the main creators of revenue growth and a vibrant, competitive economy (Pšenický et al., 2014) and according to the authors Mitusch and Schimke (2011), these enterprises are important for economic competitiveness and development. According to Henrekson and Johansson (2008) and Acs et al. (2008), high-growth enterprises can be of all size. Across all industries, employee-size segments, and periods of analysis, high impact companies generate more revenue with the same share of human capital inputs than all other companies (Tracy, 2011), and represent an important engine of regional restructuring and regional dynamism (Henrekson & Johansson, 2008). Notably, such businesses return high yields to investors (Acs et al., 2008). Napier et al. (2012) reported that high-growth enterprises are also considered an important driver of innovation, which is reflected in new services, products and economic models. Colin Masson (2011) stated in his lecture that the enterprises in question reach above-average productivity growth and export-orientation. They also have important spill-over effects, that are beneficial to the growth of other firms in the same locality (Mason et al., 2009; Masson & Brown, 2013; Kolar, 2014) and industrial cluster (Feldman et al., 2005).

4 The Existence of high-growth enterprises in the sectoral structure of OECD countries

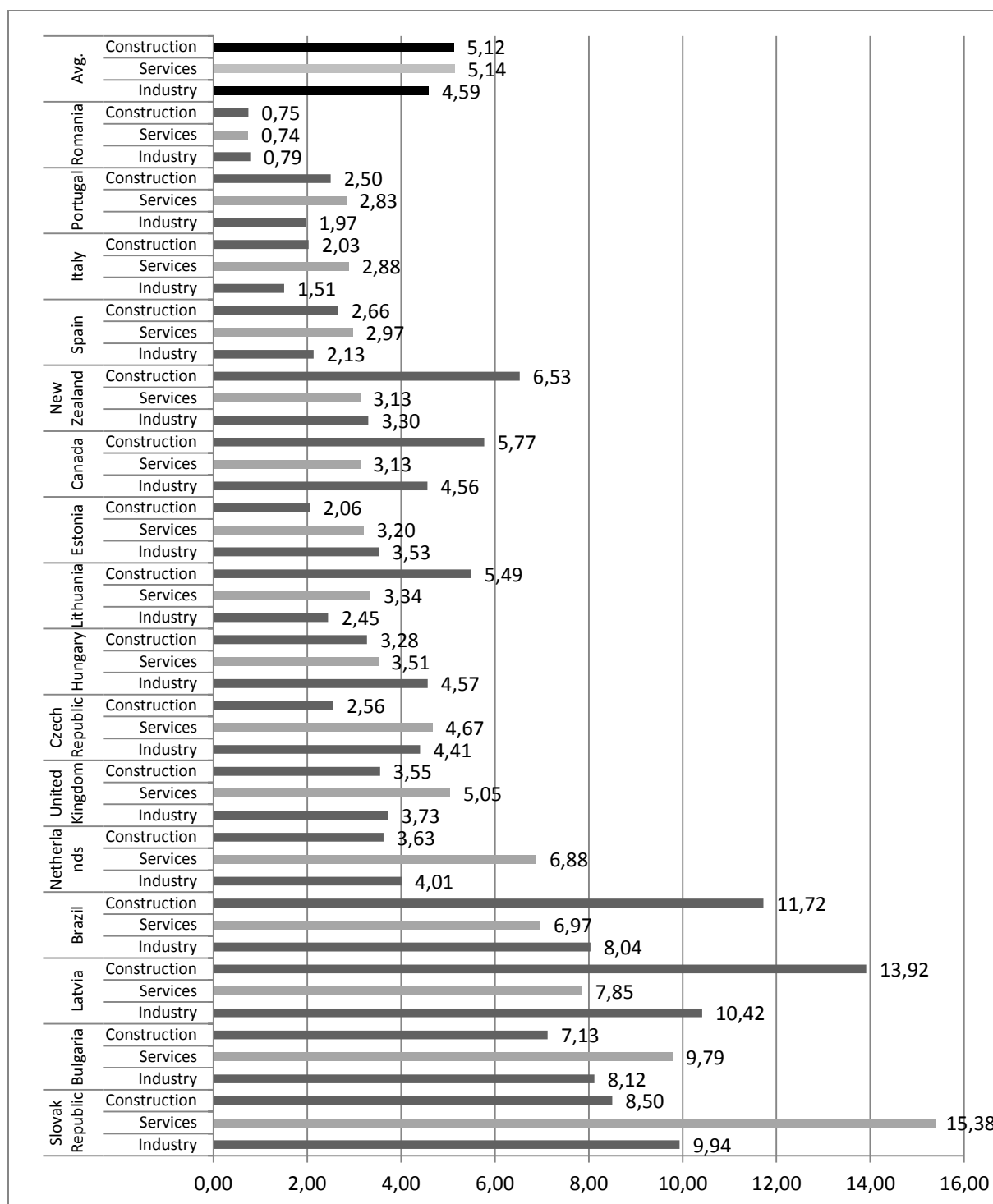
Reviews for the operation of high-growth enterprises in the sector structure are different. According to some authors (Acs et al., 2008; Autio et al., 2000; Henrekson & Johansson, 2008; Parker et al., 2010; Mitusch & Schimke, 2011), there is no specific sector, in which the enterprises in question would be represented more significantly and these report that overall they can be found in all industries and sectors. Koehler and Moller (1998) state in their analysis that, for example manufacturing and wholesale are the main industries where these enterprises operate. Authors Mason and Brown (2013) also incline to the opinion that the dominant industry of HGE operation is manufacturing. Based on observations made by the collective of authors led by Birch (1997), overall almost 30% of all HGE and gazelles are in wholesale and retail trade (service sector). Authors Henrekson and Johansson (2008; 2010) also reported that, for example, young high-growth companies, which are an important subgroup of HGE are overrepresented in services. This fact applied to young high-growth enterprises was also confirmed by the team of authors Krošlákova et

al. 2015, namely that the young, dynamic companies operate mainly in the tertiary sector, which generates a significant amount of jobs. Authors Mason and Brown (2013) reported that in particular the technology sector is the major area of HGE activity, due to the technology – based firms, which have a high propensity for growth, and also that these companies are mainly created from start-ups. This corresponds with the opinions of Miles et al. (1995) stating that services generate a huge amount of innovations. We assume that the presence of HGE in the economy is related to great amount of innovations.

Every sector of economy affects employment in different ways and intensity. The economy contains sectors that show a strong positive impact on employment in the industry during the economic growth in the industry, but also sectors, which do not need to engage new workforce in their growth. Sectors with a lower impact on employment are agriculture and industry. The services sector is one of the sectors in economy that positively influences employment in the sector during its growth. For the purposes of observing the existence of dynamic businesses and their impact on employment in the sector structure of the observed economies, we have selected the following respected evaluation: employment increase (the employment criterion). At the same time, subjects fulfil given criterion: they achieve above-average employee increase, annually over 20% during a 3-year observation period. Key indicator of HGE's position in economy is their share in number of enterprises with more than 10 employees.

Share of HGE in the group of active enterprises with more than 10 employees was approximately the same in all selected economies in 2013, in all sectors it oscillated around 5-10% of OECD countries when measured on average employment growth. Transparent representation of dynamic businesses in the group of businesses operating within a particular sector of selected countries is demonstrated in the chart below.

FIG. 1: High-growth enterprises rate in the population of active enterprises by main sectors (measured by employment growth) in the selected OECD countries, 2013



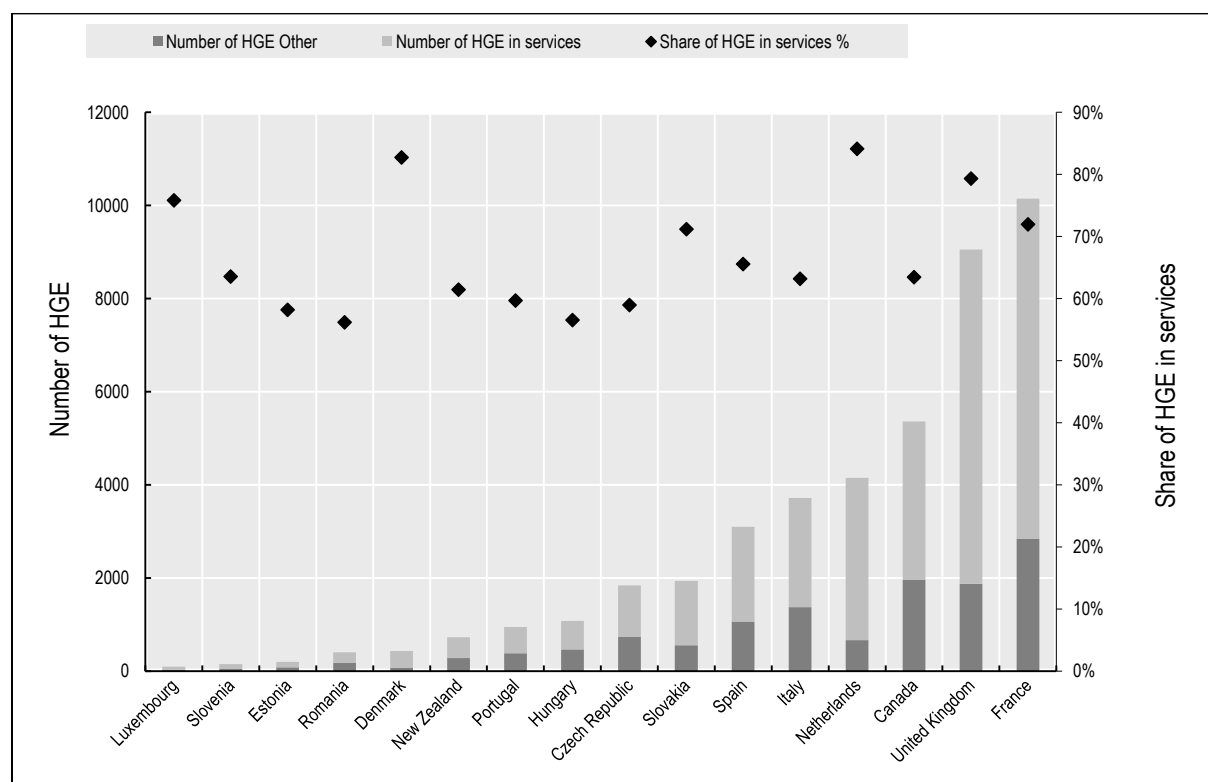
Source: Own processing according to the OECD, 2015

There is no distinctive economy sector, where these dynamic businesses would be significantly more present in the group of all enterprises of the sector. It can be stated that some countries have higher HGE representation within business enterprises of individual sectors (construction, services, industry) than the average of selected countries in all sectors (Slovak Republic, Bulgaria, Latvia, Brazil), while in some countries the achieved average values are significantly lower (New Zealand except

construction, Spain, Italy, Portugal, and this group is closed by the lowest proportions of HGE in all sectors in Romania). A special feature is the appearance of the HGE share in individual sectors in the context of other companies within the observed countries; it fluctuates around roughly the same percentages of each country, so that if the country's low representation of HGE is among the other companies, the same applies in all sectors and if there are high proportions of HGE, then the country achieves approximately the same values in all sectors of the economy. None of the 16 observed countries reached above average high values of HGE share values in the population of active enterprises in one sector and vice versa under average low values in another sector. In 2013, in Romania, Slovenia, Lithuania, the Czech Republic, Estonia and Hungary, high-growth enterprises were more prevalent in the services sector than in the rest of the market economy, apart from Latvia, where the highest percentage of high-growth enterprises was in the manufacturing and construction sector. The monitored values can be evaluated so that the reaction of employment sectors in all countries is positive as expected, but the differences between the countries are in the intensity of employment reactions. One of the reasons is the more industrial orientation of these countries, which was already reflected in the sectoral analysis of countries in the secondary sector.

In order to identify the most important sector of HGE existence, we have subsequently focused our observations on the sector structure, specifically only within the group of high-growth enterprises. The picture of mutual representation of dynamic businesses in the sectoral structure of the undertakings with regard to their weight in the services sector is presented in the chart below.

FIG. 2: The sectoral structure of dynamic enterprises (employment criterion) in OECD countries, 2013



Source: Own processing according to OECD, 2015

In the structure of sectors, only the HGE of all countries achieved the greatest weight of the sector services, and the existence of HGE just in the tertiary sector is apparent in all observed economies (see data on the share of HE and these generate shares of HGE of more than 56% of all HGE in the tertiary sector, in particular values even above 80% (Netherlands 84.8%, Denmark 82.3%, United Kingdom 79.3%) and the countries with values below 60% in the service sector – Romania 56.16%, Hungary 56.5%, Estonia 58.1%, Portugal 59.6%. The Slovak and the Czech Republic also generate high representation of HGE in the service sector – 71.2% SK and 59% CZ.

The analysis provided in the article confirmed the dominance of high-growth enterprises in the service industry of all observed countries (according to the criteria of the increase in employment), and in this context it may be stated that the tertiary sector, which is a major point of action for the existence of the enterprises, for this reason markedly contributes to the creation of new jobs and consequently to the economic growth of selected economies. In general we can say, that high-growth enterprises are companies which, although generally represent a small part of the businesses within the group, among the other businesses around 10% by its extraordinary growth in the context of the criteria which must be met by them in order to be identified as high-growth enterprises (growth of employment 20% over a period of three years), contribute the most to the creation of new jobs exactly in the tertiary sector of all observed economies. In connection with the growth of services weight in individual economies and promotion of service economy principles, the tertiary sector is a sector where according to our findings new jobs are primarily created by high-growth enterprises. In the context of generating new jobs, these enterprises can be classified as one of the key attributes in supporting the acceleration of economic growth in selected economies.

5 Discussion and Conclusions

It is important to know how the labour market responds to economic incentives, but even more important is to know which sectors in the economy are able to create jobs to a greater extent during their growth. The results of our observation clearly show:

- There are countries with greater presence of HGE between business enterprises operating in the particular sector (this group also includes Slovakia), and vice versa lower presence of HGE (Romania, Portugal). The Czech Republic reached the average share values of HGE in the population of active enterprises in all sectors. The proportion of HGE representation among other companies operating in a particular sector of the observed economies oscillate in each country roughly around the same values of each sector of the economies in question, i.e. none of the countries has a higher proportion of HGE representation in a specific sector in the structure of all businesses operating in the sector, and vice versa low in another sector.
- All observed countries have prevalent representation of enterprises in question within the HGE group in the services sector, namely approximately within the range of 50-70% (HGE in industry and construction only reach 30-50% of the total for both sectors), and therefore we can state that the tertiary sector is the dominant sector of action for the existence of dynamic enterprises in all economies.

This fact could be caused by structural changes in economy that were mentioned by an American sociologist, Daniel Bell (1973), in his theory about the post-industrial society. Structural changes have

led to the enforcement of services sector significance and caused transfer from manufacturing to services economy.

Since the creation of jobs is one of the main benefits of dynamic enterprises, during the period in which many countries face high unemployment, development of economic activities of these businesses can stimulate the creation of new jobs in this sector. Therefore, the individual economies face the challenge to create conditions for the establishment and growth of dynamic enterprises, including gazelles, especially in the services sector. In this context, we can mention the Europe 2020 strategy, which defines the "vital services sector" as the strength of the European economy; individual economies therefore face a challenge to create conditions for foundation and growth of dynamic enterprises in the services sector. As stated in the report by Nesta (2011), high-growth enterprises remain vital to the economy, despite the recession, and the government's policy for fostering economic growth needs to have high-growth enterprises and their particular needs at its heart. Therefore, targeted support of HGE with the intention to support the growth of the services sector has the potential to improve the response of employment to economic growth, and thus can accelerate the convergence of Slovakia, the Czech Republic and less developed economies to western countries.

Finally, it must be stated that there is a significant lack of comprehensive data covering statistics of mentioned companies in the most countries of the world, and as numerous studies in the past have demonstrated the important function of these enterprises for individual economies, we propose to focus statistical monitoring in detail to these important businesses. Given that, the existence of high-growth enterprises is undoubtedly beneficial for both national and regional economies. It is also important to implement efficient tools in order to promote the emergence and growth of these objects. The identification of effective tools requires thorough research in the area. The research should be focused mainly on the analysis of conditions for the establishment of companies in question in the social and economic system of the country.

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YOGA AND WORK-RELATED STRESS AMONG HEALTH CARE PROFESSIONALS

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Abstract: *Work-related stress is a significant socio-economic problem and is widely discussed in developed countries today. Health care professionals are among the professionals who experience a high level of stress. It is because of long workdays, high case loads, working under time pressure, high expectations from others and a low tolerance to error. According to the American Psychological Association, yoga is one of the activities helping manage work-related stress. This classic Eastern approach seems to be very useful in dealing with our modern Western problem. There are many papers on the role of yoga in stress management, but only few studies exploring the effect of yoga on stress among health care professionals. We would like to present the results of our single arm pilot study at Military Hospital in Olomouc. They could serve as a basis for a larger randomized control trial among health care professionals in the Czech Republic.*

Keywords: *Work-related stress, yoga*

JEL classification: *I120*

Grant affiliation:

1 Introduction

According to Work related stress, anxiety and depression statistics in Great Britain in 2014/15, stress accounted for 35% of all work related ill health cases and 43% of all working days lost due to ill health (Health and Safety Executive, n.d.).

Stress can be conceptualized as the physiological and psychological response as a result of encountering stressors, interpreting them, and making judgments about controlling or influencing the outcomes of these events (Sharma, 2014).

The daily work of nurses in a hospital setting is inherently stressful. Long workdays, high case loads, time pressures, high expectations from others and low tolerance of error contribute to the well-documented manifestation of prolonged stress (e.g. burnout, job dissatisfaction, workplace fatigue).

The consequences of these characteristics may include decreased patient satisfaction, diminished care quality, and increased rates of medical errors (Rutledge et al., 2009).

Additionally research indicates strong links between stress and such conditions as anxiety and depression, heart disease, back pain, headaches, and gastrointestinal disturbances (Hartfiel, Havenhand, Khalsa, Clarke, & Krayner, 2011). The association of physical and psychosocial demands of work with low back pain studied Kerr et al. (2001) and found them to be independent risk factors for low back pain. He suggests the primary prevention of low back pain focuses on both biomechanical and psychosocial aspects of work. Support in managing stress should be thus one of the main interests of employers in the care of their employees.

The American Psychological Association states seven steps on how to manage work-related stress. One of them is any form of physical activity in which yoga is named at first place. The others are techniques such as meditation, deep breathing exercises and mindfulness - a state of active observation of present experiences and thoughts without judging them (American Psychological Association, n.d.)

A systematic review on yoga and stress management evaluates 17 studies published from 2011 to May 2013. The conclusion is, that 12 studies were able to find positive effects in psychological or physiological outcome measures related to stress. The main limitations of some studies were not using a randomized controlled design, having smaller sample sizes, having non standardized yoga interventions and having varying length of interventions. In spite of the limitations yoga could be one of the approaches to stress reduction (Sharma, 2014).

2 Methods

In our preliminary study we used a controlled before-and-after design. The participants were self-selected employees who took part in a 12-week yoga course at their workplace at the Military Hospital Olomouc between October 2015 and January 2016, one 90-minute lesson per week. Each yoga lesson included an opening of relaxation (with concentration on particular parts of the body), a short breathing exercise (full yoga breathing), a preparatory exercise (mostly the spinal twists and “cat/cow” exercises), yoga asanas (shoulderstand - sarvangasana, fish pose - matsyasana, back-stretched out - paschimottanasana, boat pose - navasana, bridge pose - kandharasana, half fish lord pose - ardha matsyendrasana, thunderbolt pose - vajrasana, gate pose - parighasana, tree pose - vrksasana) and a final relaxation.

The participants voluntarily completed two questionnaires at the beginning of the first yoga lesson and at the end of the last lesson. We used the N-5 questionnaire for the rating of neurasthenic, vegetative, depressive and anxious disorders, and the Oswestry disability index (ODI) questionnaire for the rating of disability caused by back pain. For evaluating the pre and post intervention changes in mean scores of both questionnaires we used one-sample t-test.

The scale of the N-5 questionnaire is from 0 to 99 points, 0-12 points means a normal state, 13-19 points means mild neurotic tendencies, 20-31 points means severe neurotic tendencies and more than 32 points means very severe neurotic tendencies (Hlávková, n.d.).

The scale of the ODI questionnaire is from 0 to 100 points, 0-20 points means minimal disability, 21-40 points means moderate disability, 41-60 points means severe disability, 61-80 points means crippled and 81-100 points means bed-bound patients (Savre & Fairbank, 2011).

3 Results

Of the 36 participants, only 13 completed both the baseline and end-program questionnaires. All of the 13 total respondents were women, the mean age was 49.3 and 10 of them were nurses, two were physicians and one was an administrator.

The average score of N5 at the baseline was 20.1, and at the end 8.2, which shows a shift from the borderline between severe and mild neurotic tendencies to a normal state. It is both a clinically and statistically significant difference (with $p < 0.001$). The results of the N-5 test are shown in table 1.

TAB. 1: The results of the N-5 test

	Mean	Standard error	Number of respondents	Difference	Standard error of difference	p
N-5 start	20.07	9.57				
N-5 end	8.23	6.11	13	11.84	4.58	0.000001

The average score of ODI at the baseline was 9.1, and at the end 5.1, which shows the disability due to low back pain was very low before as well as after the yoga course, but the difference is statistically significant (with $p < 0.001$). The results of the ODI questionnaire are shown in table 2.

TAB. 2: The results of the ODI questionnaire

	Mean	Standard error	Number of respondents	Difference	Standard error of difference	p
ODI start	9.07	4.51				
ODI end	5.07	5.33	13	4.00	2.58	0.0001

4 Discussion

The primary aim of our study was to check the effectiveness of yoga for alleviating stress and back pain. In this case the results of our small one arm study indicate significant reduction in neurotic tendencies and reduction in disability for low back pain among health care workers after a 12-week yoga program. These results are consistent with the other published studies (Büssing, Michalsen, Khalsa, Telles, & Sherman, 2012).

The secondary aim was to test the approach of health care workers to yoga when a yoga program is delivered for them free of charge at their workplace. The Military Hospital Olomouc has about 450 employees. Attendance to the first two lessons was about 35 participants, 32 women and 3 men. The average attendance between the 3rd and 9th lesson was about 20 participants, but by the end of the study and completion of our questionnaires only 13 participants finished. It indicates a high initial interest in yoga among employees, medium to relatively high attendance in the yoga course and

relatively low endurance in practicing yoga. This can be caused by many factors on the side of employer, participants or yoga instructor and it could be the object of other qualitative research.

To explore the motivation for practicing yoga, 36 participants completed an entry multiple choice motivational questionnaire before the yoga course began. The main purpose of participation in the yoga course according to the questionnaire was improvement of body flexibility and mobility (28x). The other purposes were alleviating stress (22x), to be in good shape (19x), alleviating health problems in general (16x), improvement of the strength of muscles (6x) and weight reduction (3x). It indicates a relatively good notion among participants about the possible effects of yoga in comparison to literature. According to Büssing et al. (2012) the observed effects of yoga besides other things are: physical flexibility and endurance, relaxation response and stress reduction, vagal afferent activity, emotional regulation, mindfulness and self-efficacy.

5 Conclusion

This classic Eastern approach seems to be very useful in dealing with our modern Western problem. The limitations of our study were the small sample size, self-selection of the participants, no controlled and thus no randomized study design and limited measure parameters. But it verified the results of previous published studies and the feasibility to conduct similar studies of the effects of yoga in the Czech Republic. This preliminary study may provide an impulse for larger randomized controlled trials.

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ORGANIZATIONAL BEHAVIOR IN EASTERN CULTURES - EXAMPLE OF CHINA

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Abstract: *With the growing interconnection of economies Western workers and managers have to be aware of differences between organizational behavior in Western and Eastern cultures. This paper deals with organizational behavior in China. Not only is China a world leading economy, but they have also introduced an initiative New Silk Road – One Belt, One Road. Massive global cooperation has been planned within this initiative. Also for this reason it is necessary to gain knowledge in the specifics of Chinese organizational behavior.*

Keywords: *Organizational behavior, traditional Chinese thinking and values*

JEL classification: *M12, Z1*

Grant affiliation: *IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.*

1 Introduction

With the increasing economic importance of China in the current global economy, and considering China's new Silk Road Initiative which, if successful, could be the largest economic development scheme on the face of the earth (Wang, 2016), knowledge in differences between Western and Eastern ways of thinking is of growing importance. In this paper we deal with the ways of traditional Chinese thinking and core values. These values and their reflection in Chinese thinking strongly influence organizational behavior in Chinese companies. The ways of management and human resource management in China can be confusing for an unprepared worker or manager from a Western culture.

The most important specifics of Chinese thinking are introduced below and the core values are briefly explained. In the next part of the paper a comparison between the Chinese and Western ways of human resource management is presented. We conclude that Western companies which want to cooperate with China successfully have to incorporate this knowledge into their employee training and development.

2 Organizational behavior and human resource management

Organizational behavior (OB) is "the study of human behavior in organizational settings, the interface between human behavior and the organization, and the organization itself." (Moorhead and Griffin, 1995, p. 4)

OB can be divided into three levels (Wagner and Hollenbeck, 2010):

Individuals in organizations (micro-level)

Work groups (meso-level)

How organizations behave (macro-level)

In this paper we deal mainly with the micro-level of OB in China. There is a strong relation between OB and human resource management (HRM) as HRM can be used as a tool for shaping OB. One of the factors of OB is the attitude of employees toward each other, ranging from the communication of management to employees, communication between the various levels of employees, and communication between employees. Employees are more productive in an atmosphere where they feel they can thrive.

For much of the literature on HRM, a recommended HRM model contains elements that are drawn from practices in a number of Western countries, especially the United States (Storey, 1992). Different HRM models and systems are presented in Western scientific and managerial literature. For example, Armstrong, a recognized Western expert, suggests following areas of HRM system: Organization, People resourcing, Learning and development, Reward management and Employee relations. Each of these main areas has several subareas (Armstrong and Taylor, 2014, p. 37). However, as Warner (1993) argues the theories and models of HRM may not be comprehensively applied outside the cultural context in which they developed.

HRM in China has some unique characteristics because the process of its formation has been marked by some ingrained factors related to the deep-rooted traditional culture and value systems (Warner, 2008). In order to understand HRM in Chinese organizations, it is necessary to study Chinese traditional thinking and core values which underpins Chinese culture.

Organizations seek to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behavior in the larger social system of which they are a part (Dowling and Pfeffer, 1975). Thus apparently social values strongly influence organizational behavior. Core values are the fundamental beliefs of a person or organization. They refer to desirable goals that move action and also serve as standards or criteria. They guide the selection or evaluation of actions, policies, people and events (Schwartz, 2012).

3 Traditional Chinese thinking and core values

The managerial practices of present day China are influenced by the ideas of China's early rulers, philosophers and military strategist whose teachings are embedded in the Chinese psyche. As China becomes increasingly important to the global economy, it becomes increasingly important to understand the mindset of the Chinese (Rarick, 2009). The Chinese belief-system is able to synthesize what often appear to be competing, paradoxical or even contradictory notions (Warner, 2009).

There are three features of traditional Chinese thinking: (1) holistic and naive thinking, (2) fuzzy and processual thinking, and (3) indirect and long-term thinking. These three features respectively correspond to the Western (1) abstract and scientific thinking, (2) binary and static thinking, and (3) direct and short-term thinking (Yuan, 2013).

The three above mentioned features of Chinese thinking manifest themselves in terms of five core social values, which are: (1) Harmony (He), (2) Doctrine of mean (Zhongyong), (3) Hierarchy, seniority and loyalty, (4) Personal connections and relationship, favor (Guanxi and Renqing), and (5) Face (Mianzi and Lian). Based on these values the Chinese stress the maintenance of the collective and the continuation of harmonious relationships between members within it, rather than the interests of the individual.

Naive thinking refers to a way of thinking which is not detached, atomistic and abstract. It is rather subjective, relational and concrete. Western thinking has a strong tendency to focus on the measurable, bivalent terms of foundational 'Truth' and is less concerned with the holistic and plurivalent phenomena. By contrast, the Chinese have no concept of 'Truth'. Chinese thinking emphasizes holistic harmony, simplicity and dialectic change (Hansen, 1985).

Unlike Western logical, binary and static thinking, the Chinese use fuzzy and changing thinking to understand the nature of the human being and the world. Chinese traditional thinking, especially Taoism (for example, the concept of yin and yang), involves a multivalent, multi-valued, nonlinear worldview and fuzzy shade of gray between black and white that sees paradox and contradiction as normal, valuable, experiential, coherent common sense (Lowe, 2003). Chinese fuzzy thinking stresses not only that everything is unfixed, temporary and there are always manifold possibilities, but also that the process of change is immanent and everything is in the process of changing (Chia, 2003). Chinese holistic, fuzzy and processual thinking, which lays stress on the unfixed and everlasting changing experience of realization and takes every bit of experience as a node of the whole life chain, together with the indirect and reserved living wisdom, accounts for the long-term orientation.

Indirectness is a special propensity of the Chinese way of expression and a feature of Chinese traditional thinking. The Chinese have an innate aversion to direct confrontation and engagement. Indirectness is seen as an appropriate way of expressing one's idea. Chinese culture is a high-context culture in which implicit, indirect language in which words and phrases derive their meanings from contextual clues (Ma, 2006).

The Chinese stress the maintenance of the collective and the continuation of harmonious relationships between members within it, rather than the interests of the individual. He in Chinese refers both to the harmony between human beings and nature and the harmony within human society. Confucian harmony is the basic and overlapping goal of familial, organizational, communal, and political lives (Ip, 2009).

Doctrine of mean, Zhongyong, is a more practical value that is closely related to harmony. It represents all the features of Chinese holistic, indirect, changing and fuzzy thinking. Zhongyong suggests the fundamental Confucian ideal of balance, moderation and appropriateness (Liu, 2013). The principle of Zhongyong significantly affects Chinese management style as well as the relationship between employees and managers and among employees.

The Confucian social hierarchical order provided the philosophical basis for the maintenance of the social structure (Redding, 1993). The Chinese have a strong sense of vertical order in their behavior and attitudes. In Chinese organizations, managers want clear distinctions between themselves and subordinates (Lockett, 1988) and employees show respect for hierarchy and accept the hierarchical nature of the superior– subordinate relationship (Jiang and Cheng, 2008).

Since there is no ultimate authority, such as a supra-mundane God in Chinese society, the piety of the Chinese is rather towards specific people, especially those in close proximity (Redding, 1993). The self of a Chinese is embedded in social relationships and the social web is part of the person. This fact is reflected in the phenomena of Guanxi and Renqing, and Face (Mianzi and Lian).

Guanxi, which is a kind of reciprocal obligation and mutual assurance, guides relational exchange behaviors. In Chinese organizations the overlap between a formal relationship and an informal relationship, Guanxi, is much more pervasive than in the West (Chen, 2004).

Guanxi is cultivated, maintained and strengthened through the exchange of Renqing. Renqing has three meanings in Chinese culture (Hwang, 1998). First, Renqing refers to the emotional response when one is confronting the various situations of daily life. Second, Renqing indicates a resource that can be used as a gift in the course of social exchange. Renqing can have material forms, such as money or it can be invisible and abstract, it could be an activity, procedure or spiritual support. Third, Renqing represents certain social norms or behavioral rules, which should be obeyed when people associate with each other. Even though Chinese Guanxi and Western social networking share some basic characteristics it is necessary to understand that they have quite different underlying mechanisms.

For Chinese Face is both a goal to achieve noble personhood and a means to ensure the harmony of interpersonal relationships and the proper social order. Face largely influences the communication between superior and subordinate, and the maintenance of one's face within a group (Jia, 1998). The general concept of Chinese Face has two specific meanings: Mianzi and Lian. Mianzi, social face, stands for prestige or reputation which can be achieved through social status and success. Lian, moral face, is the respect of the group for a man with a good reputation. Chinese may give up the Mianzi but losing Lian, is a real dread affecting the nervous system more strongly than physical fear (Hsu, 1971).

4 The influence of the Chinese ways of thinking and core values on HRM

Considering the unique ways of thinking and core social values in China the HRM system as it is known in the West is hardly applicable. Even though many Chinese managers have Western education and Western models of management are taught at Chinese universities the practice of management is strongly influenced by the Chinese value judgement. Li Yuan in his book *Traditional Chinese Thinking on HRM Practices* (Yuan, 2013) analyses the main managerial implications of Chinese traditional thinking and core values. His findings are briefly summarized in table 1.

TAB. 1: The main managerial implications of Chinese traditional thinking and core values (Yuan, 2013; author)

Chinese traditional thinking	Core values	Implication for HRM
Holistic, naive	Harmony (He)	Steady organization development strategies, mild approach to personnel reforms, harmonious interpersonal relationships, nominal performance appraisal systems, leadership as a role model
Fuzzy, holistic, processual, indirect	Zhongyong	Preference for modest people in selection, harmonious relationship between superiors and subordinates, lenient leadership style, conflict-free way of communication a negotiation
Holistic, long-term	Hierarchy, seniority, loyalty	Clear distinctions between superiors and subordinates, paternalistic and authoritative role of the leader, promotion and opportunities for training and development based on seniority and loyalty
Fuzzy, holistic, long-term	Guanxi and Renqing	Overlap between formal and informal relationships, blurred line between work and personal life, intervention into recruitment and selection, promotion and reward systems, performance appraisal and training and development
Holistic and indirect	Face (Mianzi and Lian)	Indirect communication, mild criticism, relationships are maintained by giving and saving Face, on the other hand Face work can be used in dismissal and punishment

Some of the managerial practices in China can be very surprising for Westerners. They can even ask if some of them are not unethical or corrupt. However, Easterners and Westerners do behave in ways that are qualitatively distinct (Nisbet, 2003) and it would be ethnocentric to judge another culture solely by the values and standards of one's own culture. However, it is also important to mention that similar confrontation between different ethical concepts can be found within multiethnic Chinese society where different ethic concepts based on different religions, ethnicity, historical political organizations and social developments were in longitudinal struggle (Horálek, 2013).

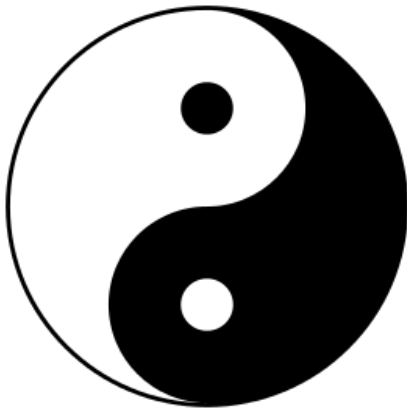
5 Conclusion

Chinese traditional thinking is manifested and preserved through the above described set of core values. By exploring the origins of these values, their apparent constancy and tenacity and their particular relevance to current organizational life can be understood (Yuan, 2013, p. 154). Recent comparative survey suggests that there is still widespread adherence to Confucian ethics in China, even though young people identify with it much less (Lin and Ho, 2009).

We strongly agree with Tai P. Ng (2007, pp. xv-xvi) who compares the Western and Eastern cultures with the ancient Taoist Yin-Yang symbol (FIG. 1). This symbol depicts the Eastern belief system that accepts contradictions. According to Tai P. Ng Western culture descending from Greece and Mesopotamia and invigorated by the Renaissance, industrial revolution and capitalism manifests strong characteristics of Yang. Chinese culture on the other hand embodying Confucianism, Taoism and Buddhism tends to thrive on the suave moderations of Yin. Yin and Yang form a unity. If we are able to learn from each other harmony and prosperity will grow in the whole society. It will be

definitely beneficial for Western companies to include the specifics of the Chinese ways of thinking and the core values in their employees' intercultural training.

FIG. 1 The Yin-Yang symbol (Yin/Yang Symbol, 2009)



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THE APPLICATION OF IMPORTANCE-PERFORMANCE ANALYSIS (IPA) IN EVALUATING RETAIL SERVICES

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Abstract: *The goal of our paper is threefold: 1) to identify the attributes with positive and negative impact upon food shopping experience in older consumer segment during their food procurement process, 2) to reveal attributes with greatest impact on the overall perceived satisfaction in the segment of older shoppers, 3) based on the importance-performance analysis (IPA) to propose some recommendations for retail management aiming at better consideration and meeting the expectations of the older people. To achieve the goals a three-step methodology was applied, starting with identification of attributes that impact the food shopping satisfaction in seniors' segment. Second step is devoted to the detection of performance-importance data (attribute's measures) and final part includes development of an IPA grid and strategies recommended for particular attributes. The findings presented here can assist in translating results into action. Using the derived IPA method, the retail management can focus on the critical points in follow-up strategy actions.*

Keywords: *shopping satisfaction, satisfaction attributes, food shopping, seniors.*

JEL classification: M 30

Grant affiliation: VEGA 1/0612/15 "Consumer behaviour and individual consumption in the periods of unemployment and relative deprivation: implications for decision taking bodies and business". .

1 Introduction

The emphasis on customer satisfaction in recent years is not only a consequence of increasing market competition, but predominantly the goal of the whole business (Schiffman, 2010). It has been documented that customer satisfaction is an important factor with positive impact on word of mouth, repurchase rate and loyalty (Giese, 2000). Several authors (Goodwin, 1999) define customer satisfaction as the ability of an organisation to provide a service performance that exceeds the customer expectations. In order to satisfy consumers, retailers not only need to understand the particular attributes of satisfaction (Peterson, 1992), but also to understand the complex relationships among overall satisfaction rating and individual performance attributes (Cronin, 2000). Building satisfaction is extraordinarily important in the retail sector (Hayley, 2008).

Our research of shopping satisfaction is focused on the seniors' age group. The retail behaviour of older consumers differs somewhat from that of their younger counterparts. Moschis et al. (Moschis G. C., 2004) have specified such differences, which include: expecting personal help, advice and special services, perceiving brand and retailer reputation, taking longer time in purchase decision-making, increased store loyalty, etc. With advancing age seniors experience a decline in appetite, food intake and dietary adequacy, decreasing ability to taste and smell and chewing difficulties (Pettigrew, 2005). Given the range of noted differences, retailers need to use them to differentiate their services and to adapt to the needs of this particular consumer segment.

2 Goals and Methods

The goal of the paper is threefold: to identify the attributes with positive and negative impact upon food shopping experience in older customers' segment during their food procurement process; to reveal attributes with greatest impact on the overall perceived satisfaction and to propose some recommendations for retail management.

The key method used in our research is importance-performance analysis (IPA). Our research involves modification of traditional IPA analysis, which is based on replacing the self-stated importance (as it is used in traditional importance-performance analysis) by more reliable indicators.

In our paper we use the association tests between two rank order variables, that is „attribute performance" and „degree of overall satisfaction“. To quantify the attribute's impact on the overall satisfaction, we use the Cramer's V coefficient, which measures the power of an attribute. Cramer's V is computed for the contingency table corresponding with the attribute. It is based on the value of the chi square statistic for a table with 5 rows and 5 columns and for a given number of respondents n ($n = 466$). Interpretation and subsequent strategy plans are based on the placement of attributes in the quadrants determined by the grid (Mount, 1997), which are: quadrant I: Concentrate here (high importance, low performance), quadrant II: Keep up the good work (high importance, high performance), quadrant III: Possible overkill (low importance, high performance) and quadrant IV: Low priority (low importance, low performance).

The data for the empirical research were generated by use of questionnaire which was distributed to 466 respondents (seniors aged 65+) and consisted of 2 parts. The core part of the questionnaire was respondents' assessment of the performance of individual satisfaction attributes. On a five-point scale respondents rated their satisfaction with 20 individual attributes. In the second part of the questionnaire seniors rated their overall satisfaction with a store (summary measure). Finally, the Cramer's V coefficient was calculated and used as a derived importance measure for each attribute.

3 Results and Discussion

Satisfaction analysis aims to identify company performance on a set of criteria (Moschis G. , 2003). By combining the performance and importance scores in an IPA matrix, areas with a different impact on overall customer satisfaction can be revealed.

Performance rating of individual attributes of customer satisfaction with the particular store indicates that most of the product related attributes were rated as satisfying. The majority of older people expressed satisfaction with the range and variety (81 %) and quality (80 %) of products. Participants were mostly dissatisfied with price-related aspects and personnel attributes.

A significant percentage indicates that friendly approach (46,4 %) and politeness (42,5 %) are often disappointing. Unlike to our expectations, store location which is frequently cited in the literature to be a critical factor influencing store choice, was rated in our research positively.

The lowest performing items and the weakest points are: complaint system (3,42); frequent discounts / bargains in store (3,62); lower prices / cheaper products (3,72); efficient staff assistance (3,90) and practical shelf lay-out (3,91). The items that display the highest impact on the overall satisfaction and that are considered as important and relevant to concentrate on, have been identified by calculating Cramer's V coefficient (Table 1). The highest importance on seniors' shopping satisfaction displayed two attribute areas: AA2 and AA4. Price is recognised to be the decisive factor to older people. Seniors obviously perceive the price of foods to be high not only because of their low pensions, but also because of high tax-level on foods in the country. Even though the staff and service are crucial and highly important in ensuring satisfaction among customers, the retailer staff were reported with less than half of respondents as satisfactory.

TAB. 1: Derived importance-performance analysis (DIPA)

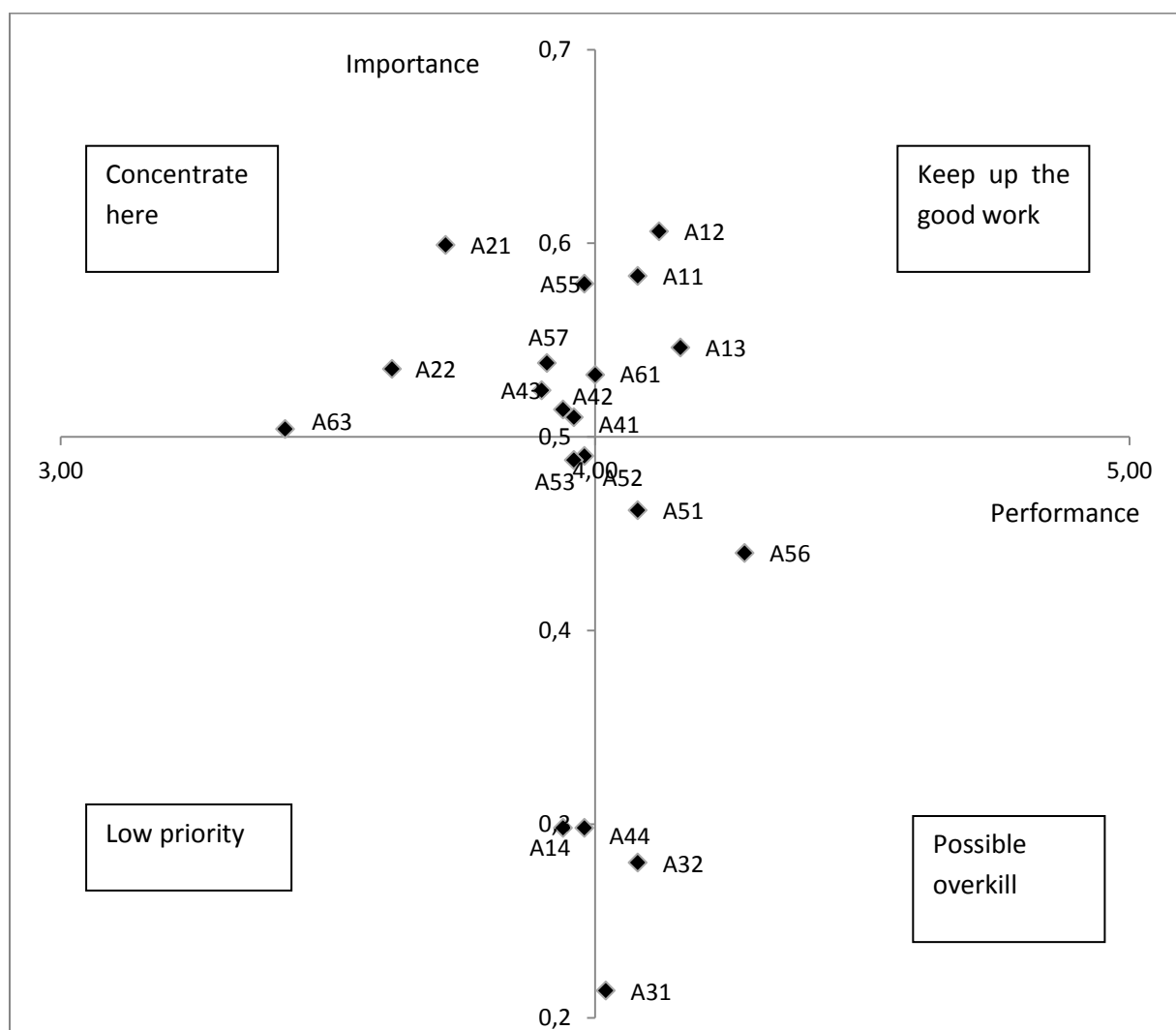
Attr. code	Satisfaction attributes	Performance Mean	Cramer's V
	Product - AA1		
A11	Freshness of products	4,08	0,583
A12	High quality products	4,12	0,606
A13	Large product variety	4,16	0,546
A14	Practical packaging	3,94	0,298
	Price – AA2		
A21	Lower prices, cheaper products	3,72	0,599
A22	Frequent discounts / sales	3,62	0,535
	Promotion – AA3		
A31	Regular promotions / demonstrations	4,02	0,214
A32	Regular advertising	4,08	0,280
	Personnel –AA4		
A41	Friendly staff with commitment	3,96	0,510
A42	Knowledgeable and professional staff	3,94	0,514
A43	Efficient staff assistance	3,90	0,524
A44	Staff uniform	3,98	0,298
	Physical Store Environment –AA5		
A51	Convenient store location	4,08	0,462
A52	Comfortable and clean trolleys	3,98	0,490
A53	Pleasant environment	3,96	0,488
A55	Well-organised store design / layout	3,98	0,579
A56	Store cleanliness	4,28	0,440
A57	Practical shelf layout	3,91	0,538
	Processes and services – AA6		
A61	Short queues at cashiers	4,00	0,532
A63	Complaint system	3,42	0,504
	Summary item		
SI	Overall satisfaction with the store	4,04	

Source: own calculation

In order to develop the IPA matrix, the importance values of an attribute will be represented by the V coefficients corresponding with that attribute (on the axis y). The performance coordinate (axis x) of an attribute is given by the value of individual attribute performance. Point of intersection for performance axis x is value 4 (according to the requirements of retail managers) and for importance axis y it is the value of $C > 0,5$.

In our exploration adding the derived importance measure C to the mean performance of individual attributes resulted in a matrix presentation shown in Figure 1. There are eight attributes that fall into the „Concentrate here" quadrant. An analysis that follows strict interpretation would concentrate on these eight items. Seniors perceive these attributes as very important, but the perceptions of performance levels are below acceptable level. Therefore, serious improvement efforts should be concentrated here.

FIG. 3: Derived importance-performance grid



Source: own calculation

The attributes, where the retail should keep its good position, are situated in quadrant II „Keep up the good work“. These are the strengths of the stores and should be retained, as otherwise, these benefits might risk falling into the „Concentrate here" quadrant.

Low impact of the promotion attributes such as regular advertising or demonstrations, on the overall satisfaction should be taken into account, when considering allocation of resources. (quadrant III „Possible overkill“).

Four items were located in the „Low priority" quadrant, with low values of performance and importance impact: practical packaging, staff uniform, pleasant external environment and comfortable and clean trolleys. Attributes falling into this quadrant have low importance value and pose no threat to the store.

An analysis using the derived importance-performance method suggests that the issues that are most critical for follow-up retail strategy actions are: price policy; personnel policy and effective design of the store.

4 Conclusion

In the presented paper the impact of individual store attributes on the overall satisfaction was explored. A modification of traditional IPA to derived IPA method was applied improving the satisfaction analysis and revealing in which way particular attributes affect overall consumer satisfaction in seniors' segment. The research was able to distinguish between items that add value to the overall satisfaction and the items that are perceived by seniors to be deficient. Measuring satisfaction attributes by applying the DIPA tells managers where to focus their efforts.

Personnel policy and price policy can be identified as crucial in terms of customer satisfaction. A significant correlation of competent and helpful staff and value for money (price relative to quality) with overall store satisfaction indicates the importance of affordability in conjunction with the need for a well organised service.

The findings presented here can assist in translating results into action. Using the research results, the retail management can focus on the critical points in follow-up actions as well as on items which are lower-rated in DIPA and thus improve the service benefits.

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THE ANALYSIS OF POSSIBLE SOURCES OF FINANCING THE EURO CAMP PROGRAMME

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Abstract: *The EuroCamp programme is a student's exchange programme that provides to youngsters to travel in Europe, have a taste of new cultures and improve their language skills thanks to international meetings of other young people from partner countries. This programme is financed by various grant programmes, sponsors gifts and last but not least by European projects of mobility. The paper is oriented on analysing of financial possibilities for the next season. Firstly will be analysed local companies for possible sponsor gifts, because of the location of organizing Civic association that has its company address in Moravian- Silesian Region. Afterwards the paper would research different grants for the next season financed by government. The big attention is given to European mobility programme of exchanging the youths that is opened from October 2016 for requests for the next season. Regarding the grant programmes financed by the city Frýdek- Místek that is an organising city of Eurocamps, there is possible to ask for an individual subvention without pre-announced programme. Thereafter the paper would combine and study different possibilities of financing by private grants and programmes of enterprises that provides these types of grants repeatedly. One of these possibilities is for example ČEZ a. s. with its programme of European territorial cooperation. The conclusion of the paper will compare and evaluate particular financing possibilities and choose the best one.*

Keywords: *Eurocamp, financing programmes, sponsoring, grants, European Union.*

JEL classification: *I20*

Grant affiliation: *IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.*

1 Introduction

The Eurocamp exchange programme is a student's exchange programme for youngsters from mostly Moravian- Silesian region of the Czech Republic. The programme is concerned for young people from 15 to 20 years, who wants to travel around Europe, meet new people and improve their language skills. Eurocamps take place in many European countries as the Great Britain, Italy, Germany, Spain, and Sweden and so on. In every Eurocamp there are at least three different nations so that means that it's about international multicultural stays. The main organisation of Eurocamp programme in

the Czech Republic is the Civic Organisation Babylonie founded in February 2011. These types of exchange programmes are often financed by private sources of home organisations. The Civic Organisation Babylonie is trying to finance its aims by founding various grants, sponsors gifts, European programmes and last but not least government programmes supporting the mobility of youngsters. Because of increasing number of organisations providing international activities for young people, it becomes more and more difficult to win the tenders of government and non-government organisations. The paper is trying to look for financial sources across all the possibilities that are offered for Civic organisations, organisations oriented on the mobility of people, work with youngsters, increasing international cooperation and finally improving language skills of students mostly from Moravian-Silesian region.

2 External sources of funding

As was already said, the Babylonie organisation is trying to get its financial subventions from all the possible sources that are offering various grants, sponsors gifts and list applications for supporting programmes of mobility of the people.

2.1 Sponzoring

Nowadays the Babylonie association providing Eurocamps is financed basically by the sponsor's gifts given to the organisation by mostly local enterprises locating near the hometown of Babylonie, Frýdek- Místek. In last six years Babylonie was cooperating with the DIY store Simon, Huisman Equipment B.V. concerned to manufacturing heavy construction equipment and E-Expert, spol. s r.o that is focused on services in the field of energy and ecology.

2.2 Future possible cooperation

In the following years, there is a possibility of establishing the cooperation with many others enterprises located also in Frýdek-Místek and its surroundings. Because of the aim of Babylonie, to make the youngsters travel and make new international friendships, they are organising Eurocamps also in the Czech Republic. Strictly speaking the Eurocamp is situated in a residence Mostař nearby the Žermanice dam. The people coming there could use the pedal boats or surfboards for free. This offer will help the organisational team to make an interesting programme for participants. Secondly a big attractiveness is given to the presents for participants that makes them to come back the next season. That means that the sponsor gift don't have to be necessarily in the financial form but also in a form of material gifts helping the participants during the Eurocamp. A really big attention is given to the sponsor's gifts provided by information centres of Frýdek-Místek and Moravian-Silesian region, which are meant advertising and promotion objects. On the other hand Babylonie can address its potential sponsors in the area of sport shops or big shopping chains.

2.3 Government grants

Nowadays the Babylonie Association cooperates with mostly smaller grants provided by region or exact city but it can be also possible to ask for financial support of European Union thorough Regional subvention. A useful possibility of a grant could be regional programme "Support of the activities in the area of leisure time for children and youths, life- long education of people with disabilities and support of youth's miniprojects". This grant is intended for non- government non-profit organisations which major intention is the area of children leisure time. For the next period Ostrava city has opened the support for children activities in the territory of Ostrava that have not include sports and professional cultural activities. This subvention programme is oriented only on the

whole year activities which serve to direct connection of children and youths to regular and meaningful activity in their leisure time. So that means that for our Eurocamp project is purposeless to ask for this grant.

2.4 European mobility programme

Due to considerable developing of European grants, there is a big part of Eurocamps financed by the European projects. Nowadays there is a possibility to ask for a subvention covered by the field of mobility and exchange of youths. The European programme of mobility is divided into three parts, included the exchange of youths, European volunteer service and the mobility of workers with children. For our project Eurocamp, there is possible to use the first support- exchange of the youths. The duration of the project has to take from three to twenty four months and the deadline for requests is on 4 October 2016. These programmes are opened for non-government non-profit organisations and the partnership has to be only with the member states of European Union. The grant funds are combined of the travel costs and the costs for the organisation of mobility, so that means 32 euros per participant per day. The biggest condition is to add a logo and declare a publicity of a project to every publication, advertisement, object and so on.

2.5 Private grants and programmes

As regards the private and undeclared possibilities of getting financial support, the statutory city Frýdek- Místek has its own possibility of individual financial subvention beyond the announced subsidy programme. The possibility to ask for individual subvention could be used during the whole period of Eurocamps and the amount of offered money is not given so that means that every non-government and non-profit organisation could ask for it apart from dotation period. The possibility to get the financial support could be done through the official website of statutory city Frýdek- Místek.

3 Comparison and conclusion

To gain the sufficient amount of financial as well as non-financial sources to create and organise a good Eurocamp, the civic organisation Babylonie has to fill in a lot of projects and answer a lot of calls. There are a lot of possibilities to obtain money but every option has its own conditions, deadlines and so on. The projects on national level as well as European projects are open during certain season in a year and it is not possible to include all the possibilities. Nevertheless the biggest source of finances in last and also future years will be regional producers and theirs sponsors gifts. The volunteer activities and supporting of that important part of nation as youths is good opportunity to show goodwill and the interest with events in Moravian- Silesian region. Also the voluntary help of each leader of each Eurocamp is a certain type of sponsor gift. The leaders have their responsibility of the participants and they are giving a non-material support to the organisation. As for the local producers and enterprises concerning to sport equipment can also help the association to make the best. The financial support is no less important part of Eurocamp. The regional, local grants and European subventions are giving to youths better options to learn a new language by international meetings of children. Nowadays the biggest and the most certain way to get some money for organisation is to ask for the European mobility of youths. The amount of offered sources and opened announces gives to Babylonie a big chance to gain the project also for next seasons. The regional subventions are not so sure to obtain because of number of applicants as well as basically short period of opened announces for future projects.

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F. A. HAYEK'S UTOPIA ON THE MONOPOLY OF THE CENTRAL BANK?

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Abstract: *Currently we cannot imagine the functioning of economy without existence of monopoly on currency issue in the country. There are economists who reject the principle of central banking model as well as the European Monetary Union and the ECB. They also include F. A. Hayek, a representative of the Austrian school. The starting point of Hayek's concept is the claim that money is not different from other goods. The supply of money could be better ensured by private entities which would issue private money and thus compete with the money issued by the state. Hayek was against the creation of a single currency in the EU. According to him, individual national currencies are the better one, which could be used freely in the EU. Each country would issue only the amount of money that would ensure its stability. Experience has shown that the central banks cannot always ensure internal and external stability of the currency and of the whole economy as well. Therefore, the problems which are currently faced by the EU and the euro area are confronted with the views of Hayek and are the subject for further scientific discussion.*

Keywords: *F. A. Hayek, central bank, private money*

JEL classification: *E2, E24*

Grant affiliation: *Project VEGA No. 1/0246/16 Efficiency of fiscal and monetary policy during the economic cycle.*

Introduction

F. A. Hayek, the Nobel Prize winner for Economics, has already started currently ongoing discussions on these issues in 1976. He stated that “governments should be deprived of their monopoly on money issue, which would open the most fascinating theoretical vistas and showed the possibility of arrangements which have never been considered. As soon as one succeeds in freeing oneself of the universally but tacitly accepted creed that a country must be supplied by its government with its own distinctive and exclusive currency, all sorts of interesting questions arise which have never been examined” (Hayek, 1976, p.13). “The idea of depriving government altogether of its age-old prerogative of monopolising money is still too unfamiliar and even alarming to most people to have any chance of being adopted in the near future” (Hayek, 1976, p. 18). “I strongly feel that the chief

task of the economic theorist and political philosophers should be to operate on public opinion to make politically possible what today may be politically impossible" (Hayek, 1978, p. 17).

1 Revolutionary Hayek's ideas about privatization of money

The starting point of Hayek's concept is the claim that money is not different from other goods. It would be better supplied by private issuers because the private interest is the most effective incentive to achieve the best results. Hayek considers that the governments used to fail to supply money in the past, fail and will continue to fail. This shortcoming can be removed by mutually competing private money and the abolition of the government monopoly of issuing money. Hayek believes that it is quite possible that the existence of the contemporary generally accepted and almost unchallenged government monopoly of issuing money is not needed at all and even that it does not bring any benefits at all. History of Money is a long course of inflation, usually caused by inflations controlled by the government. According to Hayek, one of the arguments against the abolition of state monopoly on money is a concept of "legal tender", which means that the creditor must accept in discharge of debt money issued by the government. If the government has a monopoly on the issuance of money and uses it for the single currency, it should also have the power to say that all money must be "legal tender". Negative impacts in the monetary system can be by removed in such a way that private entities are allowed to issue their own money, which could compete with the money issued by the state.

Hayek makes the assumption that it would be possible to establish a number of institutions ("banks of issue") in various parts of the world which would be entitled to issue notes in competition. He further assumes that the name or denomination, which the banks choose for their issue will be protected like a brand name or trade mark against unauthorised use and that there will be the same protection against forgery as against that of any other document.

Money issued by various banks should have a different denomination whose relative values may fluctuate against one another. People faced with the existence of various competing currencies notice if their value is maintained at a stable level. They will choose, of course, the currency which is the most stable and least affected by inflation. Except the fact it may change its relative value, money of different banks can differ in their degree of acceptability among various groups of people, in their liquidity and etc. The public wish to have a currency of a particular bank is therefore an important factor which determines its value. Issuing bank is interested to maintain a stable price level in terms of its currency relative to a certain basket of commodities. In order to guarantee the stable value of its money, it can issue only as much money as the public is willing to hold and accept and it shall not increase the amount of a given currency because this would cause a rise in the price level of commodities in units of emitted currency. The bank would also not permit a drop in the supply of its currency below the level what the public wishes to hold, to avoid having to cut spending which would cause a decrease in commodity prices in the given currency. Important information for the issuing banks would be the exchange rate of a given bank against other currencies. The banks would respond to the need to decrease or increase the amount of their money in circulation either through lending or selling their currency. The fast and immediate operations with immediate effects would be implemented by buying or selling currencies on the stock market. The operations with the long-term effects should be carried out by the changes in lending policy. Hayek points out that a stable value of money can be secured only by suitable regulation of the amount of money circulating in the

economy. The amount of money in circulation depends in turn on the wishes of the public to keep money of a given bank and not on the demand for loans. The irresponsible increase of the money supply could cause that reverse flow of money to the bank will be faster than the public demand to hold money. Banks would issue money covered by assets protecting their stability and the competition would prevent the issuing of an excessive amount of money.

Analysing the problem, which sort of currency the public would select, Hayek assumes that people always select from a number of competing private currencies a better currency than governments provide. There are four kinds of uses of money that would decisively determine the choice of individual entities among available kinds of currency (Hayek, 1999). (i) Money serves as a means of exchange for cash purchases of goods and services. People prefer such currency in which they can carry out their daily purchases and that they find prices everywhere indicated in the currency they use. At the same time, if traders are convinced that they can immediately exchange one currency against any other currency at a known rate of exchange, they would be willing to accept payment in any currency at the exchange rate corresponding to the price. (ii) Money serves as a reserve (store of value) for future payments. The greatest demand for holding money will be most likely for the currency in which people are going to repay debts. (iii) Money represents a standard of deferred payment. In this case, the interests of both parties would be opposite. Lenders prefer an appreciating currency and borrowers prefer a depreciating currency. (iv) The money is used as a unit of account. Therefore, a decisive factor that would determine a general preference of a currency stable in value would be the fact that only in the stable currency is a realistic calculation possible and comparison of the prices, costs and profits. It affects the long-term choice of people between alternative currencies. Only through a long-term stable currency can be objectively measured and compared the inputs and outputs of production, as well as the results of their activities with other entities.

The main advantage of the abolition of government monopoly on money lies in the fact that in terms of competing issuers, subjects who have an immediate economic interest to affect the amount of money in order to be most advantageous for users, take the responsibility for the amount of money, its value and stability.

Hayek was aware that the proposals on the free issue of private competing currencies would be the cause of strong opposition of politicians, governments, established bankers as well as many economists - theoreticians and practitioners. An implementation of such radical new monetary system requires far-reaching political and institutional changes. The reforms proposed by Hayek are complementary: the monetary system (private competing currencies) can be realized only in terms of reduction of government interventions in the economy, which can be reduced by abolishing the state monopoly of issuing money. The strong opposition to the abolition of the state monopoly on money can be expected on the part of bankers brought up in the prevailing routine of banking, central banks and many leaders from the banking who will not be able to imagine how the monetary system of private competing currencies could work and therefore will describe these ideas as impossible and impracticable. Despite such strong opposition to private money, Hayek will not give up and argue passionately in favour of the abolition of state monopoly on money and in favour of private competing currencies. He proposes to abolish the state monopoly in this area also because the governments crudely abused their position during the entire history and thereby significantly disrupted the automatic functioning of the market mechanism.

The introduction of several concurrent currencies would give people an alternative, while it would not mean necessary any change in their habitual use of money. Experience would teach them how to improve their situation by switching to other kinds of money. According to Hayek, introducing competing currencies and abolishing the state monopoly must be done at once and not gradually. For the successful implementation of this proposal it is necessary to establish free competition between the issuing banks and full freedom of all movements of currencies and capital across frontiers. People would trust the new money only if they were confident it was completely exempt from any state control. Only if the private banks were under the strict control of competition, it could be expected to keep a stable value of their money. Only if people could freely choose which currency to use for their different purposes, only then there would be a general spread of good and stable money. Only if the stock exchanges worked well and flexibly, the banks would be warned to take the required measures in time. Only if there was a free movement of money and capital abroad, there would be assurance of no cartels and collusion between the local banks to abuse the relevant currency. And only if there were free commodity markets, then the stable average commodity prices would mean that the adjustment process of supply and demand was functioning (Hayek, 1990).

Conclusion

Hayek believes that the competition would create new, previously unknown possibilities in the monetary area (Hayek, 1995). As soon as the new monetary system had established, the competition would eliminate unsuccessful enterprises and there would remain several extensively used currencies in the free system. In some major regions of the world, one or two currencies would have a dominant position, but these regions would have no precisely defined limits of their use. Naturally, if the money issued by the state was recognized and stable, people would likely continue to favour just this state money. But the pressure of competing private currencies would help to stabilize the price level and would keep the inflationary pressures under control.

It is interesting that Hayek was against the creation of the single currency within the EU and he considered that the single currency would not be better than the individual national currencies. He suggested using the individual national currencies freely without restrictions and release banking business in the territory of all EU Member States. The existing monetary and financial institutions could achieve such discipline and responsibility that would ensure to issue reliable and stable money. Each country would issue only the amount of money that would ensure its stability. The governments would therefore not abuse the emission of money to cover deficits and the “solution” of other problems.

Therefore, according to Hayek, “introducing of the new European currency which would ultimately have an effect on more deeply entrenching the source and root of all evil coming from the government monopoly on the issue money ... Though I strongly sympathise with the desire to complete the economic unification of Europe by completely freeing the flow of money between individual countries, I have grave doubts about the desirability of doing so by creating a new European currency managed by any sort of supra-national authority. It seems highly unlikely, that a single currency would be administered better than the present national currencies. And if it is not better run, a single international currency is in many respects not better but worse than a national currency. The countries with more developed money markets will inevitably be exposed to many prejudices that affect the decisions of the others. The aim of an international authority should be

mainly to protect a member state from the harmful measures of others, not to force it to join in their mistakes” (Hayek, 1999, p. 29).

The problems which are currently faced by the EU and the Eurozone are confronted with the views of F. A. Hayek (Hayek, 1990; Butler, 1996) and are the subject for further scientific discussion of economists and politicians.

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REMITTANCES AND MIGRATION IN EUROPE

ALEŠ LOKAJ

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Abstract: *More than 247 million people, who represent 3.4 percent of the world population, live outside their countries of birth. Most of these people are economic migrants, who send money back to home country (remittances). According to statistics of the World Bank, in 2015, worldwide remittance flows are estimated to have exceeded \$601 billion. Of that amount, developing countries are estimated to receive about \$441 billion, nearly three times the amount of official development assistance. European countries (e.g. Russia, Switzerland, and Germany) are among the main source of remittances. But between the top recipient countries of recorded remittances are many of European countries too (especially the Balkan countries, but also France). Paper is focused on importance of remittances in various European countries.*

Keywords: *Remittances, Migration, Europe.*

JEL classification: *F22, F24, J61*

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1 Link between migration and remittances

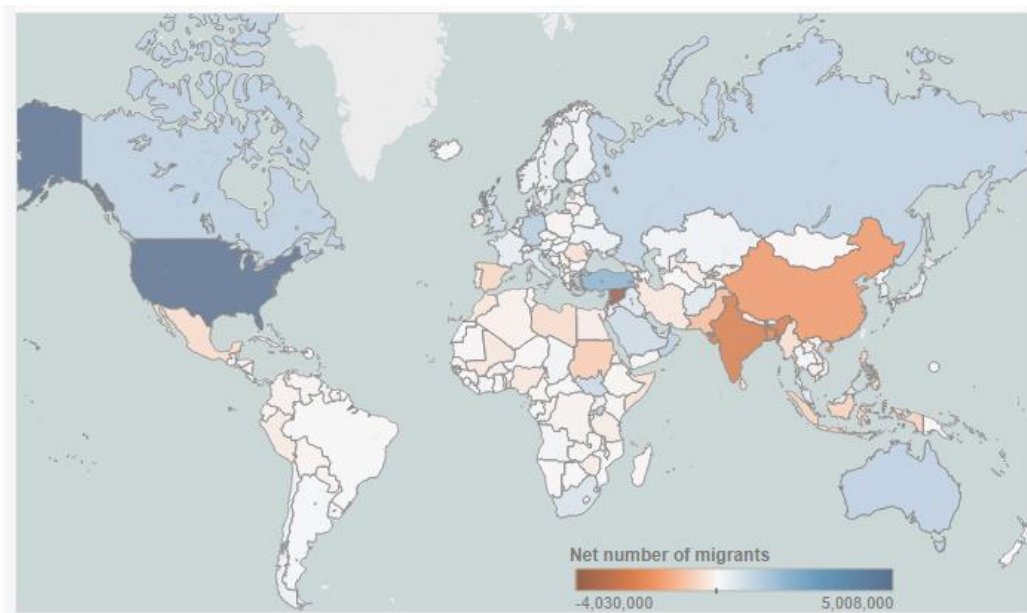
Migration is currently a very sensitive problem, especially in Europe. People migrate for a number of reasons. These reasons are also known as "push" or "pull" factors. In the case of push factors (wars, persecute, political intolerance, etc.), residents are usually looking for the first safe area (which may be a neighbouring state), where he tries to find asylum. These people hope that the situation will change and they will be able to go back soon to their country. People looking for a better life, standard of living, better job and money (Pull factors), try to get to one of the developed countries, usually with relatively well-developed social system (Harris, 2014). These people usually travel alone and after settling in the country their family arrive too. Until the family arrives, they send them part of their earnings (remittances). Remittances can be characterized as a transfer of money by a foreign worker to an individual in his or her home country. Remittances are not only linked with the migration of population. Remittances are also from a daily commute to work, internships, assembly

etc. Usually when people settle with their family in the country, flows of remittances by these individuals significantly decrease or completely disappear.

2 Migration in Europe

If we look to migration from a global perspective, we can see that European countries (like Germany, Great Britain, Greece, etc.) are currently preferred destination for migrants, but these countries are not the top destinations. As you can see on picture 1, most people still migrate (during 2010 - 2015 period) to the United States - about 5 mil. people (Migration Policy Institute [MPI], 2016). Due to the war and instability in Syria and Iraq, is currently the Turkey and Lebanon other top destination for migrants. There are approximately 2 mil. migrants in Turkey and 1.25 mil. migrants in Lebanon. Similar number of migrants come to Germany, around one million net migrants come to Canada, Russia, Australia, the United Kingdom, but also Oman (MPI, 2016).

PICT. 4: Net number of Migrants by Country during 2010 - 2015 period



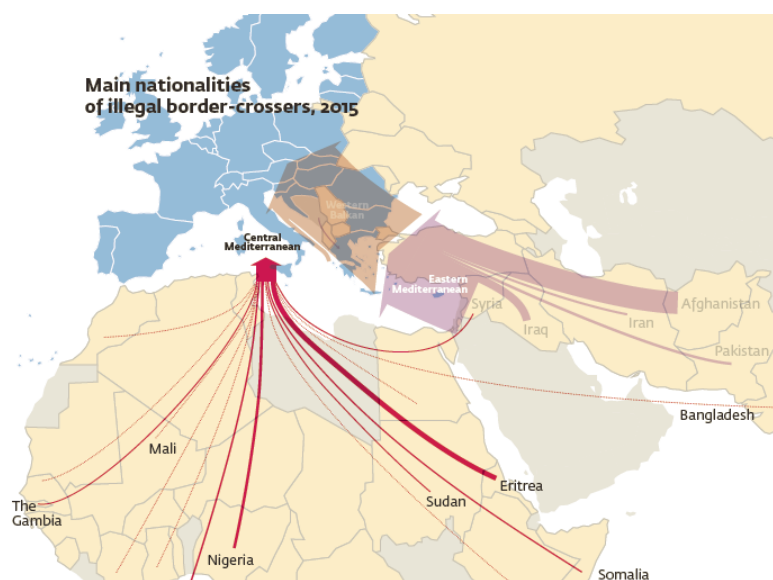
Source: Migration Policy Institute (2016)

Most of the net emigrants are logically from Syria. During 2010 - 2015 period, emigrated from the country more than 4 million inhabitants. Most of these people found refuge in their neighbours (Turkey, Lebanon, Jordan). Other countries with a significant decrease of inhabitants are India, China, Indonesia and Sudan. To these countries with high out-migration we have to also include Spain - almost 600 000 people emigrate (MPI, 2016), which is struggling with very high unemployment (especially among young people - the unemployment rate is almost 50%).

If we focus on European Union, we can see that that negative amount of migrants (decrease of population) are in 11 countries and positive amount of migrants (increase of population) are in 17 countries (MPI, 2016). The overall balance of the EU's 28 is approximately 2.8 mil. immigrants during 2010 - 2015 period. If these numbers are compared with Frontex agency (2016), which keeps statistics of migrants who have crossed the border illegally, we find that in 2015 crossed the European border illegally 1 822 337 people (there were approximately 586 000 people from Syria). Number of migrants increased 6 times compared to 2014 - there were about 282 962 people

(Frontex, 2016). There were usually around 100 000 migrants in 2011 - 2013 period. If we sum this "normal" illegal migration (from 2014) with number of refugees from the affected areas of Syria and Iraq, we would get around 900 000 migrants. How we can see above, real number is twice higher. Thanks to online information, media, social networks etc., more people on the world have had information about migration wave and many people took advantage to get into Europe (mainly from Afghanistan, Eritrea, Nigeria etc.). The main route of illegal migration to Europe, shows picture 2.

PICT. 2: The main route of illegal migration to Europe



Source: FRONTEX, Risk Analysis for 2016 (2016)

Despite the fact that these people seeking a better life, living conditions, facilities and social security, in most cases do not get their dream goals. They usually live on the margins of society, have problem to find a job (due to their low qualification) and that's why the gap between their lives and the lives of residents is very large and visible, which for most of these migrant are frustrating.

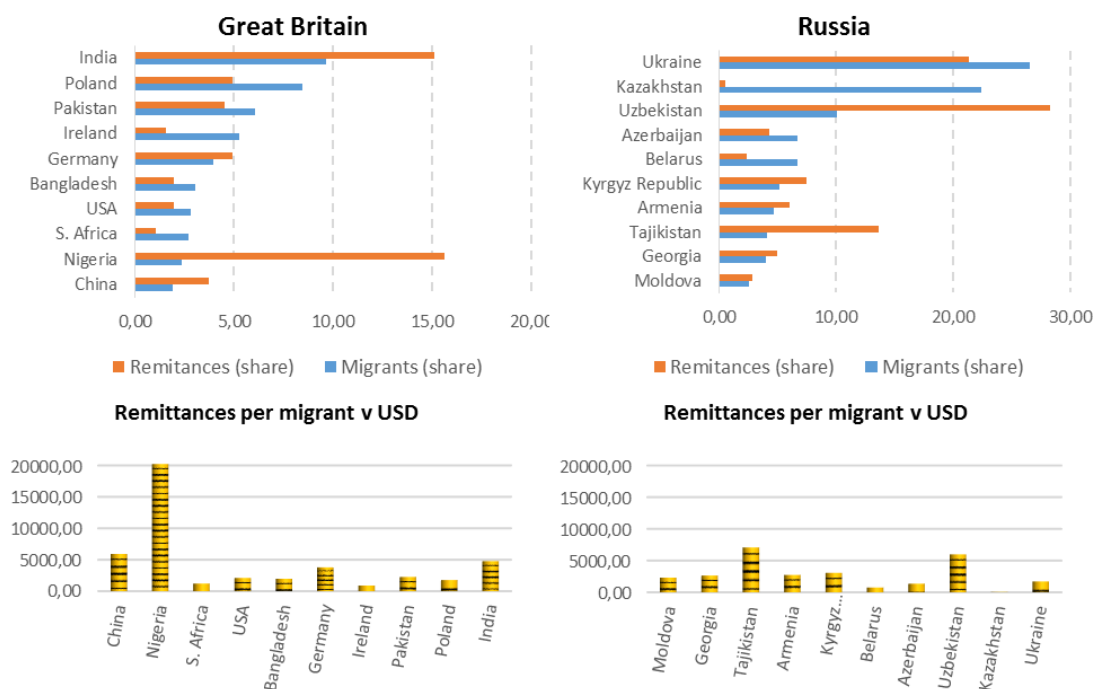
3 Remittances and Migration in Europe

The top countries for migrants in Europe are Germany, Great Britain, Russian federation and France. These countries were selected for analysis of the relation between migration and remittances. The analysis is performed on data and numbers of migrants and their remittances in 2013 (because the data for the years 2014 and 2015 is still only estimated). The data are taken from the World Bank (2016), from bilateral matrix, which shows the number of migrants or remittances from individual countries. These data represent the number of migrants or remittances at the end of 2013. Migrant (in this statistic) is a person who have at least a short-term (3 months) residence in the country (World Bank, 2016).

For each country (Germany, Great Britain, Russia and France) were always selected 10 countries that contribute the most on migration to Germany, Great Britain, Russia and France. To each selected country is assigned the amount of remittances. Each number (for migrants and remittances) are given as a proportion of the total amount, i.e the resulting value is a percentage of total.

Most migrants came to Great Britain from India (see figure 1). Other migrants came from Poland, Pakistan and Ireland. But if we look at the outflow of remittances from Great Britain to countries of migrant's origin we can see that most money send home people from Nigeria, approximately 17 % of the total amount of remittances. The bar graph below represents sum of money which theoretically send one migrant to home country. In the case of the UK, we can see that the largest amount sent home citizens of Nigeria. This amount is around 20 thousand. USD per person and year. For other countries, we see that this amount is lower, up to 5 thousand. USD.

FIG. 1: The main route of illegal migration to Europe



Source: own calculation; data of World Bank (2016)

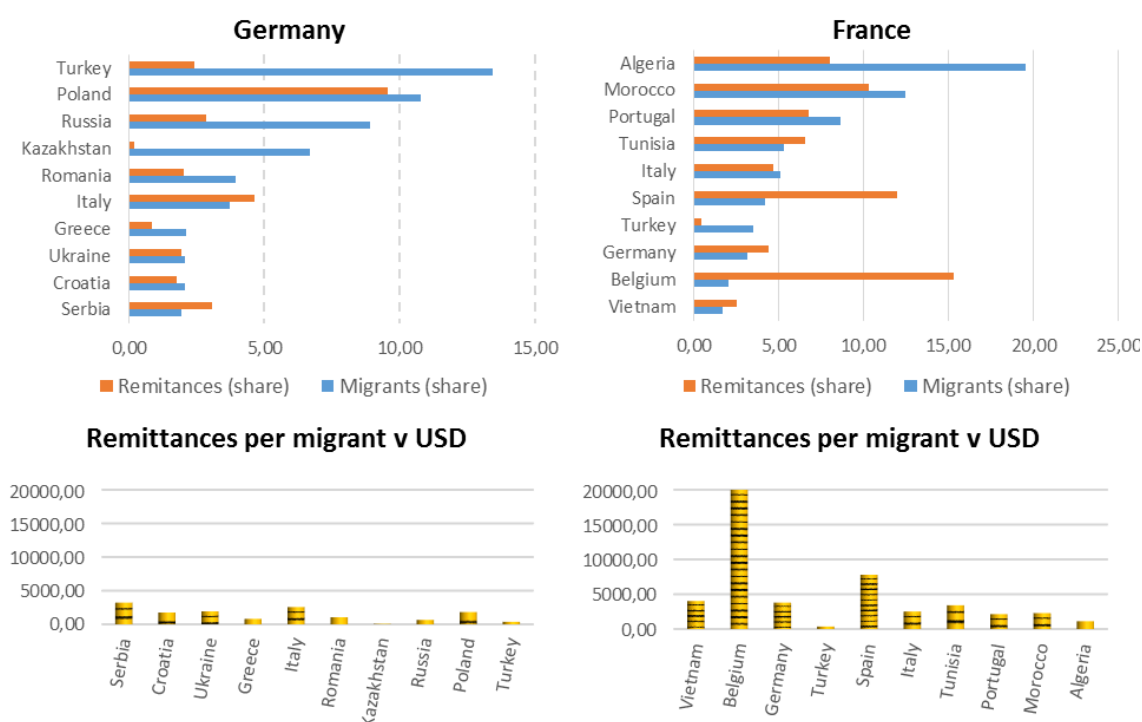
Although the number of Remittances per migrant in USD is not too methodically correct, because remittances include transfer of money by foreign workers who travel to work every day from home country, or money from workers who are abroad for short periods (for internship or assembly). These people are not migrants, but they "produce" remittances. Anyway, this number may indicate the nations which rather come to foreign country to find a job or they have a problem to get a permit for longer stay (the amount of remittances per migrant is very high) and, conversely, the people from states which are try to permanent migration (the amount of remittances per migrant is not very high). In the case of Great Britain can see that big amount of money send people from Nigeria, India or China.

Residents of Ukraine and Kazakhstan dominate in migration in Russian Federation. While the people of Ukraine send (or transfer) relatively big portion of their income back to home country. Residents of Kazakhstan seeks mainly permanent migration. The largest remittances per migrant have residents of Uzbekistan (involved almost 30 % of the total amount of remittances from Russian federation). People from Tajikistan transfer a lot of money too.

The approximate amount of money that theoretically a migrant sends home is in Germany less than 3 thousands USD per year (see figure 2). The graph shows that most immigrants in Germany are from Turkey, Poland, Russia and, surprisingly, also from Kazakhstan. But most money transfer back to their home country the neighbouring Poles, Italians and Serbs. These nations are relatively close to Germany.

France is an example of a country with very high remittances per migrant. These money transfer to home country mainly people from Belgium, Spain and Germany. Most migrants come to France from Maghreb countries namely Algeria, Morocco and Tunisia, due to lower language barrier. Most of these people want to stay in France permanently.

FIG. 2: The main route of illegal migration to Europe



Source: own calculation; data of World Bank (2016)

4 Conclusion

The current global interconnectivity and globalization can also be seen on problematic of migration. We have seen a radical increase migration to Europe, because of "positive" information for refugees published through social networks and media. With refugees from war-affected Syria and Iraq, came many other migrants from Afghanistan and from many countries in Africa. So they take advantage of some EU unpreparedness for such a high wave of migration. Despite the fact that these people came to Europe (fulfilled their dream) - usually live on the margins of society and their prospects for a better life are often not very optimistic. Thanks to this situation, population (society) in receiving countries is much more divided then before. The aim of migrants come to the country can estimate from amount of remittances. If the migrants do not send too much money back to their countries of origin, usually they try to stay forever in the country (the example of Germany and Russia). Conversely, the amount of remittances sent to the country of origin is high, if the workers live in

neighbouring countries or if it is difficult to obtain permission for long-term stay (or it is very difficult to obtain permission for migrant family stay).

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EMPLOYEES' BENEFITS AND THEIR CONTRIBUTIONS TO BOTH EMPLOYERS AND EMPLOYEES

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Abstract: *Employees are a source of income for their company. Employees look for work according to various criteria – whether they are enough professionally prepared and whether they will be remunerated sufficiently. Their decisions are influenced by company perks – a car, non-limited phone tariffs, social benefits, health insurance, extra holiday. A standard motivational tool is a provision of catering. To obtain something extra equals a basic salary offer. This paper presents the most frequent forms of employees' benefits, it also analyzes the advantages for employees and savings for employers.*

Keywords: *employees' benefits, motivation, tax savings, meal tickets*

JEL classification: *B26, D31, M52*

Grant affiliation:

1 Introduction

There exist mutual relations between the company management and their employees. One of the most relevant conditions of a functional system should be mutual satisfaction. Employers gain required and qualified performance from their employees, and employees obtain their remuneration. To recruit an employee in the current conditions of unemployment is less demanding than to keep a motivated and dedicated employee to their employer's strategy. This can be succeeded through higher productivity and interest in mutual goals. The aim of this contribution is to point out the advantages that are beneficial for employees and to show how they positively influence the company management.

2 Benefits as Motivation

A concept of the employee's benefit generally represents an advantage provided by an employer to an employee beyond their regular remuneration (Macháček, 2010). Particular forms of advantages have become stable. Employees are offered advantages as a form of a stable element. We can observe this trend especially with the groups of middle and higher managerial positions, in the field

of finance and accountancy, sales and marketing. To attract a qualified employee has been, for a quite long period of time, the most complicated process in technical fields and information technologies. Advantages are perceived as a tool for creation of permanent working teams that are more competitive. To make the system of benefits functional the company management has to take care of its employees, communicate with them and create the company culture. An employee who is proud of the company brand will be motivated and interested in the company prosperity.

An employer has to monitor current trends in the labor market. A company should offer adequate remuneration that should correspond with the level of company wages and should be comparable with other companies. It is important to consider a tangible performance of individual employees when setting the wage level. Apart for a competitive wage the company can offer its interesting benefits. The most frequent benefits are the company catering provisions either on the company premises or in a form of meal tickets. Various vouchers for purchase of services and goods, or a company car (including its private use), language and qualification courses, above-standard medical care belong among the favorite benefits. Other advantages can be contributions to children's camps, extra holidays, pension and life insurance, etc.

We can distinguish special levels of benefits impact on employees. Stabilizing benefits - employers offer a wide range of them. It is necessary to sophisticatedly pursue the quality of benefits. If a competitive company offers a higher value of meal tickets, employees will not leave the company if they like their working team and their job. Motivation benefits are aimed at both higher and above standard performances and are related to particular positions. Completion of a qualification or a language course may be a strong impulse. These benefits are clear and directly aimed at a particular group of employees. Packages, advantages that are linked with a particular job position reflect the employee's status. Status packages include company cars, entitlement to a particular product brand, a top quality notebook or telephone, an entrance to designated areas, etc. These advantages are based on an individual approach to a particular employee. At present employees uniquely consider an extra week holiday as a favorable advantage. Flexible working hours have become popular, too. Flexibility is important not only for young mothers, but also for senior employees' free time activities.

3 Benefits and Tax Advantages

Employees' benefits may be offered both in (non)-monetary forms. We deal with an advantage above the employee's wage. The selection of the most suitable variant should suit both the employee and employer (Pelc, 2011). Table 4 (source: author's own, Employees' benefits, 2016) compares four variants of monetary benefits, namely, how much the company will have to spend on monetary funds in case that the provided advantage increases the net employee's income by 1,000 Czech crowns. The advantage of a particular benefit depends on the employee's duty to pay the income tax, social and health insurance. On the employer's part it is decisive that the tax payment is regulated and the benefit decreases the company tax duty as of a legal person.

TAB. 5: Taxation of benefits. (Source: self-elaborated)

Variant	Increase in net income	Employee's income tax	Employee's insurance	Non-tax expense	Tax expense	Total expense
I.	+ 1000	yes	yes	yes	no	+ 1851
II.	+ 1000	yes	yes	no	yes	+ 1576
III.	+ 1000	no	no	yes	no	+ 1000

IV.	+ 1000	no	no	no	yes	+ 810
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Valid norms were used to calculate social and health insurance of an employee from a super gross wage. Tax prepayment is regulated by Law No 586/1992 Collection of Laws, Income tax. The least advantageous is the benefit offer that is due to income tax and insurance for an employee. It is not an eligible expenditure for an employer. The most convenient benefit is the tax-exempt benefit which is a tax deductible expenditure for an employer, see the fourth variant.

Employees' advantages have to be convenient for both employees and employers. An employee prefers a higher wage, an employer participates in the costs savings process. The mutual connection is presented in table 2.

TAB. 2: Tax advantages of benefits. (Source: self-elaborated)

Type of benefit	Taxation of employee	Tax, validated expense of employer	Note Required conditions for validation
Protective aids, clothes, shoe-ware	no	yes	Protect employees against risks, do not impede in performance
Protective beverages	no	yes	Regulated by government No 361/2007 Coll.
Company preventive medical care	no	yes	Preventive, commencement, regular, extra, periodical, final medical exam
Professional growth, requalification	no	yes	Courses, training, study connected with company activities
Catering provided by other subjects, by employer	no	yes	Tax expense due to catering establishment, not food-staff price. Tax, expense-contribution to catering provided by other subjects up to 55% of meal ticket value.
Compensation of travel expenses	no	yes	Depends on employment performance regulated by collective contract up to regulations settled in Labor Code, compensation for company car use.
Insurance, supplementary insurance, savings	no	yes	Up to level settled in collective agreement, labor contract. For employee max. 30,000 Czech crowns
Temporary accommodation outside employee's	no	yes	For employee non-tax and non cash income, max. 3,500

permanent accommodation			Czech crowns/month, for employer regulated by collective contract or internal rules.
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If particular legal norms are abided, provisions are settled in a collective contract an employer can increase their employees' income in a non-monetary form. An employer gains a tax saving through a tax base decrease calculation of a legal person's income tax. The most frequent benefit is a provision of meal tickets for employees provided by an external subject. This advantage system is demonstrated in table 3.

TAB. 3: Meal tickets for employees. (Source: self-elaborated)

	Wage	Wage + financial remuneration	Wage + Meal tickets
Number of shifts	21	21	21
Nominal value of a meal ticket		100	100
Value of a financial remuneration/meal ticket (55%)		1155	1155
Gross income	22 000	23 155	22 000
Employee's insurance (SI 6.5 + HI 4,5 %)*	2420	2548	2420
Employer's insurance (SI 25 + HI 9 %)*	7480	7873	7480
Tax base	29480	31028	29480
Advance tax	4422	4655	4422
Tax rebate	2070	2070	2070
Net wage	17228	18022	18383
Employee's monthly profitability		794	1155
Employer's annual profitability		9528	13860

Similar situation occurs on the employer's part. Financial operations management has to deal with payment of meal tickets of 55% its nominal value. It is considered a tax admitted cost. An employer considers the rest of 45% as employees' participation in the system of catering.

TAB. 4: Meal tickets accounting. (Source: self-elaborated)

Operation	Czech crowns	Debit credit	Paid
Meal tickets purchase in cash	3000	213 – meal tickets	211cash register
Meal tickets provided to employees (55% value)	1650	527 – legal social cost (tax)	213 meal tickets
(45 % value)	1350	528 – other social costs	213 meal tickets
Employees paid adequate amount	1350	211-cash register	648-other operating yield
VAT duty (15%) included	202.50	211 register	

Thanks to tax benefit of meal tickets as an investment into employees by a half (about 48%) is more favorable than investments into wages. Catering services contributions are the most frequent benefits. According to Sodexo Gastro Pass Company there are 1.3 million employees in the Czech Republic who are provided meal tickets by their employers. The tickets can be used in more than 30,000 catering establishments in the whole country. Almost 66% employees, who prefer healthy diet succeed more efficient performance.

4 Discussion

There exist lots of benefits. One of the most favorable remuneration for employees is a cafeteria system. Diners can choose what they like considering their budget limits. We talk about coupons used for different activities, sports, education, cultural events, travelling, etc. Employees receive benefits according to their fulfillment of duties. Employers do not have to pay either social or health insurance. The administration system is simple. When purchasing tickets for different events we can use the system of volume discounts. The coupons system is beneficial for employees too. They do not have to pay insurance, their choice depends on their own decision.

Employees of small companies can also receive a lot of benefits. It is easier to spot employees' needs and new job applicants' wishes. Closer relations between the company management and their employees can become a positive phenomenon. Moreover, small and medium-sized companies can offer home office work, flexible working hours, and also paid sick days. These advantages can strongly motivate employees. Young mothers welcome them, they would not lose their contacts with the employer, they can take needed care of their children. In principle, provided benefits do not burden the company's budget too much.

5 Conclusion

The labor market has recorded various changes recently. According to 2016 predictions a number of different specialists in various fields, especially those who specialize in technical fields, will be missing. Applicants prefer companies that provide home office system, flexible working hours, other advantages are taken for granted. HR managers will have to respect this trend. Employees' benefits belong to one of the forms of advantages. Advantages surround us everywhere in our life, they have become a common marketing strategy of companies. Employers support their employees' satisfaction through provisions of different benefits. Employers' main aim is to reach maximum performance from their employees.

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EXPLORING COMPETITIVE ADVANTAGE IN AN EMERGING BUSINESS IN THE FOOD INDUSTRY

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Abstract: *Almost 99.9% of the Slovak business environment is created by SMEs. We place the emphasis primarily on their growth and innovation potential, which significantly impacts on increasing of competitiveness of different sectors. Start-ups and emerging businesses are an integral component of a dynamic and complex business environment in each country. Many of them contribute to the development of the sector in which they operate high added value and development of competitiveness primarily at regional and global levels. In the paper we explore the competitive advantage of an emerging business in the food industry. The object of this research is also to highlight the impact of factors from external but also internal environments. They lead, with a considerable degree, to the achievement of competitive advantages of enterprises, to their retrieval and affect the growth of competitiveness in selected sectors.*

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1 Introduction

Strategic management has been getting on the top of corporate management nowadays while bringing new and better ways into the strategic work.

Given the complexity and volatility of the business environment many authors report that strategic management evolves in an evolutionary way while changing its focal point and identity. Its challenge is to look for answers to questions dealing with discipline. Finding them will enable achieving the understanding of the issues in strategic areas which are still justified even today. Start-ups, current and emerging businesses must constantly deal with issues of their future development.

Strategic management represents an important area that helps businesses to reach the expected results. Like this it can predict the consequences of their future development. The focus is mainly on the external environment of the business. However, we should not definitely state that this area completely bypasses the internal environment. Factors arising from the internal environment also play a key role in right strategic decision making.

In general we can say that strategic management contributes to the achievement of competitive advantages of businesses and the improvement of their competitiveness.

By these aspects we refer to the production and economical assumptions based on the selection of the appropriate business strategy that affects the competitiveness of a chosen sector and the possibilities of product realization on the local and foreign markets.

The main objective of this contribution is to understand the basic terminology with regards to the importance and formation of the business strategy and competitive advantages that represents the heart of all business strategies. We characterize these concepts through the acquisition of theoretical knowledge from renowned authors. This theoretical knowledge was gained by studying mostly foreign but also domestic literature investigating the field of strategic management. We also point out the aspects of how to increase competitiveness of selected businesses operating in the food industry of Slovak Republic.

2 Theoretical base of knowledge

2.1 Business strategy – the nature and the process of its creation

The circumstances that current businesses are facing are lead by the business strategy which has a particularly high priority. Its importance is closely linked with the structure of resources in business entities. At the end, it is their effective usage in the business environment.

Finding new competitive advantages in businesses regardless of their size in a complex and constantly changing business environment is a conclusion offered by business strategies. Why do business strategies arise? The answer to this question is clear. It is the effect of numerous factors, like the formation of new surprises in strategic management or the strong competition on the domestic and foreign markets.

The strategy, in order to gain competitive advantage, can focus on performance or effectiveness. The higher the need for performance, the bigger the addiction to centralization is. This is connected to the control of the costs. The higher the need for efficiency, the bigger the likeliness of decentralization is. (Hrebiniak, 2013)

Some of the authors consider that „the focus point of strategic management in the successful small- and medium sized businesses is shifted to the research and evaluation of the global perception of the environment and comparison with the competition in order to either find but mainly to create dynamic comparative advantages thanks to which the business will gain competitive superiority.“ (Lesakova, 2008)

Business strategy is formed in order to meaningfully describe the direction that a business should take to achieve the desired results. Business strategy stands for a series of managerial decisions aimed at market information, insights about products or services. Equally an emphasis is put on the corporate

culture which develops the business objectives, processes of decision making and success measuring. If the business strategy is outlined in such a manner, the result has a power to encourage, makes an impression that is characterized by dynamism and meaningfulness. Often we think about questions like 'why does the dominant part of the business seem to be forced, confused and stagnate?' (Ingle, 2013)

The theoretical knowledge makes it clear that the process of corporate strategy creation is primarily influenced by the size of the business, description of business activities and relevant characteristics resulting from the business environment – to what extent this environment is stable and how strong the competition is.

2.2 Competitive advantage – the aspect of increasing the economic assumptions of competitiveness

The competitive advantage is the most important concept of strategic management. The simplest definition of competitive advantage is the ability of generating higher profit margins compared to the average of existing industry. Some authors do not agree with this definition of competitive advantage. This statement, however, has two sides. The first one refers to the fact that it is recognized by a number of strategies. The second one is a reference to the fact that it is a simple verification used for measuring the competition. (Fontaine & Ahmad, 2013)

The term competitive advantage describes the ability of a company doing business in one or several areas better than its competitors. The conditions of the environment or internal resources are characterized as a potential source for the development of a competitive advantage. The concept of the competitive advantage should be understood as a relative advantage of the business over the company's competitors. For this reason it is important to establish a comparison of the given business to its competitors. Like this we can determine if the real potential bringing success is suitable for gaining competitive advantage or not. The important fact is that the competitive advantage is never absolute. (Beinrauch, 2012)

We basically have potential sources of the competitive advantage everywhere. Each department, unit, branch or other organizational unit has its own functional role that needs to be defined and understood. Many individual activities executed by a business also serve as a source for competitive advantage when designing, producing, presenting, supplying and supporting its own product. (Mišún & Mišún, 2006)

Explanations of the competitive advantage that mainly rely on the location of a company in a sector or introduction of organizational resources through relations with the competition relatively lost their importance. Recent studies continue to focus their attention on industry structure. Researches integrate their insights at the organizational knowledge with industry or competitor views. Empirical findings shown that the differences among organizations may represent a greater variance in the company's performance than the differences among industries. Although important sectorial actions may be present, differences at an organizational level are actually considered as a critical source of variability in the company's performance beyond sectorial differences. (Argote & Ingram, 2000)

A maintainable competitive advantage is dependent on the compatibility between actions, compromise and the company's position. (Porter, 1996) Achieving a competitive advantage and

a competitive strategy can make it difficult for the competitors in terms of imitation of the same set of activities. In such case it is possible to maintain this competitive advantage. (Javaid, 2013)

„The company is said to have a sustainable competitive advantage when implementing a strategy of value creation that is not implemented simultaneously by any current or potential competitors, and where those other businesses can not duplicate benefits of this strategy.“ (Barney, 1991)

The question of how companies can gain a sustainable competitive advantage to overcome their competitors and survive in the long run, is the basis for strategic management. One of the most important of the theories of strategic management is the theory of sources, that is considered to be as a source of sustainable competitive advantage in the existence of strategic options. A group of authors (Barney, 1991; Amit & Schoemaker, 1993; Makadok, 2001) claim that strategical options of a business are represented by specific organizational processes ensuring a sustainable advantage by their value, rarity, inimitability and irreplaceability. (Stix, 2010)

Business entity that fails to clearly define the uniqueness of its market and competitive advantages can not exist on a market for a long term. It is important to point out the fact that it is not enough to define a business' originality. It is also important to know how to sustain, develop and recover this originality in any situations.

The essence of business decisions on a strategic level is to know how to do things in a different way. Those are decisions that will bring a sustainable competitive advantage if the company is able to maintain a significant difference compared to competitors. At a time when the strategic movement is completed and how these decisions at a strategic level differ from those involving problems at the operational level will not only be understood but also highly respected in a completely different way. (Gopinath & Siciliano, 2013)

The term competitive advantage can also be read as "getting ahead because the market is referred to a product or service that competitors can not provide with similar parameters or cannot provide at all." (Hučka, 2005) A group of authors say that a competitive advantage can also be obtained in a manner that "increases the usefulness of a product, which is intended for the final consumer." (Carothers & Adams, 1991) "Competitive advantage may appear in businesses where achievements are clearly reached." (South, 1981)

During the examination of competitive advantage in strategic management we realized the frequent reproduction of the concept of "value chain." (Porter, 1994) The essence is in a set of activities engaged in various businesses. Insights about competitive advantages inform us about the fact that the competitive advantage of a business entity can only pass by a smaller number of activities that are business critical. The essence of competitive advantage is joining one activity with another.

With regards to competitive advantage it is recently mentioned that it may also depend on the managers of a business. But for reaching the given assumptions these managers have to be competent enough. There exist hundreds of definitions of the competence in literature that also cause that competence in management is not sufficiently supervised in practice and it is limited to insufficient knowledge and application skills, but ignores social maturity of the individual. (Porvazník & Mišún, 2013)

3 Case study of the creation of business strategy and sustainability of competitive advantage in the food industry

Examination of the production and economical assumptions that increase competitiveness in the food industry is illustrated in business start-ups operating in the Slovak market. The mission of the company is to make awareness of the quality ingredients and fair handicraft in the production of apple cider. Cider, apple cider in Slovak, comes from Spain, it is known from England, consumed in a French manner and it started to be produced in Slovakia at the turn of 2012 and 2013. Sajder or cider is not a beer or radler. It is a sparkling drink of an apple flavor and it is an alcoholic apple cider drink. The name remained faithful to Slovakia not only because it was the first Slovak sajder but also because it is produced for the domestic market by trying to get closer to the people. It is made from the juice of apples grown in Slovak-own apple orchards. Like this, founders can supervise and guarantee the quality of raw materials from cultivation until it gets on the shelves of supermarkets. The idea of starting producing an unknown commodity in Slovakia – the cider, came from England in 2012, where one of the founders tasted cider for the first time. He liked it so much that after returning back to Slovakia he literally became a cider-fan and he also found out that no local producers have existed so far. There were just few points of sales where people could buy the English or the French version of the drink. Later he met the future co-founders of the company and during a table football match they decided about the production strategies.

The vision of the company is to become the best producer of apple cider in Slovakia and providing its customers a 100% natural product from Slovak apples with no preservatives, minimum use of sulphites, unpasteurized, semi-sweet and without added sweeteners. The aim of the company is to make people perceive the production of cider not only through the apple but mainly that in this product they can find quality.

The Slovak cider market was established in early 2013. The two biggest Slovak breweries – Heineken Slovensko and Pivovar Topvar – introduced a new product category called Strongbow cider and Kingswood that is available in stores in Slovakia. Both new and so far the only producers of this product believe in cider production and that is why they invest a lot of time and money in its development. The illustrated company is a small business that started the apple cider-production but it is not that famous like Heineken or Topvar and sells its products to smaller customers, since it has no capacity to produce large quantities that would be enough for the Slovak market. Cider market is slowly but surely becoming more dynamic, but so far there are only few producers of this commodity.

Slovakia started to manufacture apple cider based on the model from neighboring countries in Europe, but originally coming from North America. Most ciders are consumed in Great Britain and Ireland. This drink is well known on an international level therefore foreign producers are more popular in this industry.

The competition in cider industry of Slovakia is so far very small. The interest for this drink has been growing in the whole world as well as in Slovakia, especially among the small producers who enriched the market of ciders by different flavors and delicious tastes. Similarly is growing more popular domestic production. For the analyzed company's largest competitors cider Strongbow and Kingswood, who came to Slovakia in early 2015. With regard to competition in Slovakia in small domestic companies, the largest competitor is Sigelsberg from Štiavnicke Bane, which produces a

family business according to recipes grandfather and also we They just could not find in any store. Other brands of cider it rests. It was founded by brothers Oprendeikovci of Budimir near Kosice. They are promising that their cider is a 100% natural product without preservatives or sulphites, self-made and packaged, which is very similar to our illustrative examples. Our competitors are also Czech producers of cider, because they are harmful to him. Producer of Kladno describes its drink F. H. Prager as lightly sparkling, golden also drink from 100% apple juice. It has its own recipe inspired by the British and Spanish domestic cider Sidra and produces it from apples, but also pears and organic fruit. Cidrerie of Všenory is the French sounding cider and is produced near Prague. It is also produced from domestic apples, is maturing first in barrels and then in bottles, is unfiltered, unpasteurized and non-carbonated. It is inspired by the earlier version of the traditional French drink.

Competitive advantage as well as added value for consumers is that organic products are producing in Slovakia. Compared cider offered in retail is that this one is real healthier and better design. Price is based on the prices of competing products. Product can not find in retail or wholesale trade, but only in underground bars that are adapted to hipster style, for people this age. It is also sold in the traditional markets, fairs and festivals.

Strategy of analyzed company is affecting by the segment, which we may call the emerging sector. The emerging company come on the Slovak market first and began producing cider and subsequently sold to local traders. Emerging segment is fragmented, yet started to build their operations, is looking for appropriate associate. It must also handle a number of technical, production and marketing problems. Company in such cases may be under the uncertainty and this for two reasons. Technical uncertainties had not, since from beginning of the business they knew what exactly will be the subject of their business. In the inquired company is strategic uncertainty, because they can not predetermine exactly promising exceptional skills and the kind of successful strategies. As the first company in the industry to improve the quality and the performance of the product in order to retain customer loyalty and goodwill. At the same time respects the basis of its strategy and quality, creating a barrier against imitations.

Company management have to pay attention to changes in the environment and make sure that a corporate strategy is still actual, or it needs to be changed or adapted to the current situation. Upon the occurrence of certain events which occur randomly and spontaneously, it is important that the company is able to respond flexibly and eliminate damages that might occur. Therefore, it is important that the starting company be able to respond to new trends, which might come with new competitors on the market. The company has to go forward with technology, promotion, marketing and other elements. Quick reaction from company ensures the lowest possible losses, as well as continuous operation continued without undue halt production or change in strategy. For example, at the beginning of co-workers faced the problem that the word cider the Law knew, and therefore could not be incorporated into any line of business. At present, the situation is different and the word cider is not the problem now for businesses.

Current is the major problem in the agriculture. People are limiting the amount of agricultural land, because they want used to build infrastructure or buildings later. The land is now contaminated and for manufacturer is a big decision of choice farmers, which will supply the raw materials for the company. Apple production in Slovakia decreases, both for climate change and global warming.

Unfortunately, when it will continue like this, it is possible that in the future will not be sufficient production of apples, respectively apples more costly that businesses will have to change the foundation of your business.

4 Conclusion

In this contribution we put emphasis on exploring the competitive advantage, a core business strategy for start-ups active in the food industry, which, during its existence, has been exposed to a turbulent and complex business environment. It was a newly established business that has a high potential in becoming a big and successful company in the future. After evaluating all the facts gained during the analytical part of this work we showed the production and economical aspects that act to increase the competitiveness of the food industry.

The apple cider market of Slovakia is still in its early stages slowly getting represented by local producers and international suppliers. In the domestic market, the company should focus on the offer their future drinks to be included in current portfolio companies. The portfolio should be larger annually by at least three to four new products. Our Business should relocate in the near future and produce more hectoliters of cider, in order to supply a bigger part of the market. Solution for increased visibility start-ups for a small domestic producer, we see in the introduction of online orders via the e-shop. It should bring more training for employees, to increase their motivation to work in the company. In the future the company should expand to greater foreign markets, mainly in the Czech Republic and Poland, which has a high potential for the customer, but at first, they have to produce more.

In the turbulent and complex business climate existing businesses are making efforts to maintain in this environment and protect themselves. Not afraid to take risks, despite they constantly searched for new sources of value for customers, and investigated how it will affect them and their business. The opposite of such enterprises are starting businesses. This is the type of business where risk is unidentifiable. It can not be modeled or predicted.

Great idea to continue developing on many levels is the beginning of each business. It is identical also in start-ups companies. Trends of the enterprises from the origin of great idea to the moment, when it becomes a full-fledged business are unique processes. Start-ups and emerging businesses as already existing business entities, based on a clear manual - from the business model in a difficult business environment they face. They are also creating new competitive advantages in the industry.

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ACADEMIC ENVIRONMENT FROM THE PERSPECTIVE OF GENERATION Z STUDENTS

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Abstract: *The paper discusses results of survey on academic experience of generation Z students studying at the Faculty of Business Administration, University of Economics Prague. This generation starts with people born around 1990 till early 2000s. Various researches indicate that generation Z people are specific as they grew surrounded by advanced ICT technologies. Our previous researches on generation Z students were focused on their style of learning and learning habits. The survey we would like to present in this article is researching academic experience of this generation of students. In our survey we try to find out what academic environment means for our generation Z students, how it participates in their personal development, what they like and dislike on academic environment, what they miss there and how they see the role of the teacher in university education.*

Keywords: *Generation Z, personal development, teacher, university education, academic experience.*

JEL classification: A22

Grant affiliation:

1 Introduction

The paper discusses results of survey on academic experience of generation Z students studying at the Faculty of Business Administration, University of Economics Prague. The time of birth of generation Z is not precisely stated in the literature but generally said, this generation starts with people born around 1990 till early 2000s. Students currently studying in bachelor and master programs at the University of Economics Prague can therefore be classified as generation Z.

Various researches and our personal experience show that generation Z people are specific probably because they grew surrounded by advanced ICT technologies. ICT technologies influence the way how they work with data and many other factors. They are good in using modern communication devices and use to be on-line all the time. Some authors think that generation Z people are smarter, able to process information faster than previous generations. On the other hand they are perceived to be more individualistic and self-oriented, worse team players. From our own experience with this generation we know that they have problem to work with printed materials, read longer and more

complex text, focus and pay attention and that they prefer simple materials and concepts to complicated ones. It is perceived that generation Z students are different than previous generations of students.

Our previous researches on generation Z students focused on their style of learning and learning habits. The survey we would like to present in this article is oriented at academic experience of this generation of students. In our survey we try to find out what academic environment means for our generation Z students, what it gives them and what they want it to give them, how it participates in their personal development, what they like and dislike on academic environment, what they miss there and how they see the role of the teacher in university education.

2 Generation Z

Different authors define generation Z in different way. For example, Geck (2007) sees generation Z as people born in or after 1990. Schroer (2004) writes that generation Z are people born between 1995-2012. Rowlands et. al. (2008) calls generation Z a Google generation and sees them as a generation of people born after 1993. Posnick-Goodwin (2010) date generation Z to 1990s and the early 2000s.

Generation Z is a specific generation that is unlike other generation ever seen before. It is the first truly global generation (Bolser, & Gosciej, 2015). Geck (2007) writes that generation Z people are perceived to be unique because their birth coincides with the introduction of the graphical web that resembles the internet today. From infancy, these teenagers grew up in an environment surrounded by and using graphical web browsers, laptops, cell phones, instant messenger services, broadband, wireless, video games. These adolescents have been exposed to many high-tech influences, and today's high-speed digital devices enable them to always be connected to the Internet, their friends, and others. This connectivity permits teens to communicate and collaborate in real-time regardless of physical location; to access a wealth of diverse information, including vast digital collections; and to author or contribute content instantaneously to web sites and weblogs (Geck, 2007). On the other hand, Wood (2013) writes that generations Z shares a series of characteristics with generation Y, mainly related to their ability to adapt to the global world and to use the newest technologies. Lyon (2010) sees generation Z people as good multitaskers – this ability is related to their broad access to information and social networks from an early age, generation Z having a great ability to process a great amount of information.

Some consider members of Generation Z to be smarter, more self-directed, and more able to quickly process information than previous generations; but there is one thing they may not be team players (Igel, & Urquhart, 2012). Other authors think that tendency of generation Z for communicating in virtual environment and using and abbreviated language affects their listening, writing, interpersonal and socialization skills. Tulgan (2013) stresses that generation Z could only work for superiors who manage to develop a strong working relationship with their subordinates.

3 Survey Objective and Methodology

The objective of the survey was to learn more about academic experience of students of generation Z. Our attention was focused mainly on what students liked and disliked during their study, how the university contributed to them and how they see the role of university teacher in the pedagogical process.

The survey was created as a qualitative survey. Because of the survey objective we did not articulate hypothesis or thesis. They may be defined later based on results of this and similar surveys. Data was collected by a questionnaire. Questions were opened. Questionnaire was distributed after the BA and MA state exams.

Students were classified as generation Z students in line with Geck (2007) and Posnick-Goodwin (2010) who see generation Z as people born in or after 1990.

The results were analyzed by grounded theory (Glaser, Strauss, 1967). The substantive area is academic experience of generation Z students. The answers of students were open coded to get basic categories. Selective coding and theoretical sampling were not applied as they do not bring value to the objective of the research.

4 Results of the Survey

Our questionnaire was answered by 69 students of generation Z, 36 (52%) were woman, 33 (48%) were men. Table 1 and Table 2 shows factors students liked or disliked on their study at the UEP. Table 3 presents factors students identified as main contributors of study to them. Table 4 gives explanation why students decided for our University. Table 5 presents how students see the role of the university teacher.

TAB. 6: What students liked on their study at the UEP

Factor	Number
Practical experience of teachers and experts from practice	16
Practical course	15
Environment, relationships, atmosphere	15
Group, schoolfellows	13
Concrete courses and specializations	10
Elective courses	9
Autonomy, free choice of courses	6
Incentives, development, study	4
Teachers	4
Study abroad	3
Innovations, the UEP progressivity	2
Team work	2
Chances, opportunities	2

Sport	1
Canteens	1
Mr. Říha	1

TAB. 2: What students disliked on their study at the UEP

Factor	Number
Differences in grading by different teachers, subjectivity, format of tests	15
Anonymity and individuality	11
Only 1 attempt for exam	10
Too much of theory	10
Stress	5
Nothing	5
Lack of practice	3
State exams	3
Classes in different parts of Prague, Jižní město	3
Some courses	3
Obligatory activities, obligatory participation - exercises	2
Canteen	2
Demands on time too high	2
Lack of chair on corridors	1
Team projects	1
Some courses too practical	1
Lack of communication	1

TAB. 3: What was the greatest contribution of the UEP for you personally

Factor	Number
Knowledge	40

Self-management, independence, personal development	15
New people, contacts	11
Prestigious university, opportunities	9
Ability to manage stress	6
Study specialization	1
Cooperation with firms	1
Environment	1

TAB. 4: Why did you chose the UEP

Factor	Number
Reputation of the UEP	40
Knowledge the UEP provides	25
Title	7
Easier to find good job	6
Potential contacts	3
It is in Prague	3
Environment	2
Far from home	1
Close to home	1

TAB. 5: In your opinion, what is the role of university teacher

Factor	Number
Guide through study, mentor, motivates	31
Transfers knowledge	28
Important	5
Colleague	2
Replaceable	1

Students evaluated as the most positive experience from the UEP practical experience of teachers and experts from practice (16x), practical courses, environment, relationships and atmosphere (15x). They also liked being the part of the group and cooperating with schoolfellows (13x). Some of them liked concrete courses and specializations (10x). On the other hand, they disliked differences in grading by different teachers, subjectivity, and format of tests (15x), anonymity of the students at school and the fact that students study individually (there are no rounds or official groups at the UEP) (11x). They also do not like 1 attempt for exam and theoretical concepts (10x).

As the greatest contribution of school for their life they see knowledge learned (40), and that they learned to self-manage their activities, became independent and developed (15). They also credited meeting new people and making contacts.

As for the role of a university teacher, students see two important roles – being the one who guides through study, mentors and motivates students (31x) and the one who transfers knowledge (28x).

5 Conclusions

Generation Z people are perceived to be specific in comparison to previous generations because of their relation to ICT. They grew with it and in it and take it as natural which may influence the way how they think and learn and what they take as important. Our survey is just one of surveys we do in attempt to learn more about generation Z students at the UEP. These surveys help us to improve our pedagogical processes and communication with our students.

The survey showed that interviewed students are more practically than theoretically oriented, want to work in good atmosphere together with teachers and other students. They are very sensitive about fairness. In their opinion, major contribution of the UEP was providing them with knowledge and developing their independence and skills. They require university teachers to guide them, mentor them and provide them with knowledge. E.g. even though being generation Z, our respondents stressed typical requirements and values traditionally linked with universities and university education.

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SELECTED PROBLEMS OF ECONOMICS IN RISK RESEARCH AND ITS CONSEQUENCES FOR MANAGEMENT

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Abstract: *Applied risk analysis and risk management are disciplines which developed within economics on the basis of the fact that our world is divided and shocked due to hardly predictable or unpredictable events and interconnected by our cognitive inability to face it. The aim of the article is to provide a brief overview of three selected theoretical problems which economics needs to deal with to be able to make progress in risk research. These problems are related to the nature of economics, risk epistemology and characteristics of decision-makers. Two hardly compatible tendencies in useful concept of enterprise as biological organism, inspired by Baťa's system of management, demonstrate the importance of this discussion in Czech academic and business environment. The article concludes that the answer to the questions related to these problems will lead to significant changes in the approaches to management.*

Keywords: *epistemology philosophy of economics, risk, uncertainty*

JEL classification: A120, D810

Grant affiliation: IGA_FF_2016_023 Philosophical reflection of bounded rationality.

1 Introduction

Mainstream economics and social sciences have one common characteristic – gradual loss of competence to comment on results of scientific research. These disciplines live often in their own theoretical framework which is in many cases based on armchair constructs of folk psychology or mathematical models.

This situation is caused by overestimation of prescriptive attitude to economics and decision-making to the detriment of descriptive attitude, which is based on rigorous empirical research. The prescriptive approach seems to be more useful because it is connected with direct practical applications. This article holds the view that descriptive research has at least the same level of significance. As Bazerman & Moore (2009, p. 5) show, there are several reasons why this approach can be considered justifiable, for example improvement of decision strategies, evaluating reactions, motivating to adopt advice regarding decision-making.

Studies of risk represent interdisciplinary research field. Nevertheless, mathematical models and old theories are recently in conflict with findings of natural science and economics is facing significant issues of integrating these findings into its applied disciplines.

This article provides a brief overview of three selected problems which economics needs to deal with to be able to make progress in risk research. The first problem is related to the nature of economics and to the question if economics is a biological science as some authors suggest (Rosenberg, 2009). The second problem is connected with epistemology of risk and risk perception. The third problem is based on descriptions of decision-makers' characteristics. The answer to these questions has consequences for future development of risk research and approaches to managerial work.

2 The Nature of Economics

Although economics is a discipline which is the most similar to natural science, especially in self-confidence and style supported by mathematical methods, there are still many problems to call economics scientific, as Wilson (1998) pointed out. Economics fails in predictions due to exogenous shocks and makes inaccurate models based on simple general laws which aspire to cover all economic arrangements (Wilson, 1998, p. 214). Biological science has similar problems, but in contrast to economics it has clear methodology.

According to Alexander Rosenberg (2009) "almost everything mysterious and problematical to the empiricist philosopher of science about economics is resolved once we understand economics as a biological science". It can be assumed that understanding problems of economics as problems of biological science will lead to extension of descriptive approach to the studies of risk.

We witness expansion of neuroeconomic research. Nevertheless, this revolutionary methodology has many opponents who are sceptical about recent findings of neuroscience. For example Harrison (2008) considers results of neuroeconomic research a kind of academic marketing, which is impossible to use in practice. On the other hand, Peter Polister (2008, pp. viii, ix) argues that by showing potential of neuroeconomic methods, it is necessary to reduce speculation about the significance of new results. Regarding risk research, neuroeconomics may help us measure biological responses to monetary risk and reward or integrate diverse theories of anticipatory emotion. It is a challenge for economists to decide what the nature of economics is and how future research will look like. Ignoring new findings and methodologies could be considered a kind of "protectionism" of obsolete economic theories. On the other hand, every new methodology should be critically analysed.

3 Epistemology of Risk

As Hansson (2012) pointed out, knowledge about risk represents specific kind of knowledge because knowledge about risk is connected to lack of knowledge, therefore risk represents an epistemological problem. Risk management and risk analysis usually deal with probability of risk factors which may or may not occur, but there is also another aspect of risk problematic which is related to the epistemic credibility or risk perception.

According to Taleb & Pilpel (2007), risk management lacks adequate supervision and faces many problems which are connected with unjustified inductive claims about rare events. There is also overlooked relation between risk and uncertainty. Although we have quantified representation of

risk, it depends on level of credibility of this information for us. In case that we are aware of the fact that specialists make mistakes in predictions, our belief in forecast will be lower, that is why our decision-making will be connected with uncertainty (Hansson, 1999).

Risk perception plays key role in decision-making and therefore in all economic disciplines, which also include safety management or even cyber security. This issue represents actual topic in the Czech Republic, which demonstrates the implementation of the law on cyber security with effect from 1st January 2015 (Drastich, 2015, p. 86.). Outsourcing of IS activities to external vendors is connected with two perspectives (client's and vendor's) to the risk. Recent research shows that these two parties may have different perception of risk which is related to the IS development (Liu, Wang, & Ma, 2011).

Answering epistemological questions has practical consequences for adopting different decision-making or insurance strategies. It is a task for economists to define importance of epistemological problems and their relation to management.

4 Characteristics of decision-makers

Models of standard economics which supposed that people behave in similar way like homo oeconomicus, who is selfish and rational in decision-making, were revised by behavioral economists and new tendencies in neuroscience. The third problem of economics lies in fact that there are still concepts where homo oeconomicus resists. Evidence for this assertion could also be found in Czech environment.

There are approaches to the management of small and medium-sized enterprises, which are based on the Baťa's management system and underline the concept of the enterprise as a biological organism. This organism includes knowledge management, which is part of an integrated enterprise epistemology, company's self-knowledge, self-examination and measurement of team and individual knowledge. These activities are related to the processes of creation, preservation and reproduction of knowledge in enterprise. All these characteristics make from an enterprise an epistemological organism. (Petříková, Nenadál, Zelený & Gristlová, 2005, pp. 7-8; 75) This holistic approach to enterprise can be considered a very useful tool that helps to reach a comprehensive understanding of all parts of the company and all its processes that are linked to its individual parts. Although proponents of this concept assert that company "is rather a miracle of biology and evolution than a miracle of industrial engineering" (Petříková, Nenadál, Zelený, & Gristlová, 2005, p. 105), it seems that they underestimate the true nature of human decision-making.

These authors argue that Baťa correctly "looked for results, performance and ethics in meeting customer requirements, he did not drown in oxymoron of so-called emotional intelligence" and "he very well understood that management is about knowledge and ethics of value adding, not about emotions, vibrations, instincts and dubious moral relativity of the need 'to feel fine' (or better and happier)" (Petříková, Nenadál, Zelený, & Gristlová, 2005, p. 76). Without a deeper evaluation of Baťa's personal characteristics it can be assumed that this approach is not possible and it is necessary to admit that people who make decisions about the processes in the company, are in a great extent influenced by emotions, vibrations and instincts (Bazerman, & Moore, 2009, p. 96) and it is the task of scientifically based investigation to uncover extent of this impact. Real enterprise epistemology ought to be aware of the fact that people often, because of many natural causes, make decisions in

another way. One of these causes may be related to the risk perception or decision making under risk and uncertainty. To understand decision-making under risk it is necessary to describe neural processes and emotions which are closely associated with decision-making under risk and uncertainty (Loewenstein, Hsee, Weber, & Welch, 2001; Glimcher, & Rustichini, 2004).

If economics is a biological science it is necessary to be aware of the fact, that this science is "devoted to the study of causes and effects of behaviour of members of a particular species, Homo sapiens" (Rosenberg, 2009, p. 60), not idealistic decision-maker. This fact related to the cognitive limitations of managers will play an important role in future development of risk management, as recent researches show.

5 Conclusion

It is clear that there are theoretical problems within economics which have practical consequences. It can be assumed that solution of above mentioned problems will lead to changes in interdisciplinary risk research with consequences for management. The goal of economists is gradual revision of obsolete opinions about reality rather than revolution based on replacement of all economic concepts and theories by scientific ones. To sum up, there are several activities which economists can do to make progress in risk research: Answering the important questions related to the nature of economics; avoiding protectionist policy towards the findings of natural science; taking part in scientific research and thinking about its application in economic disciplines.

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THE EFFECTIVENESS OF TEAMWORK AND COMMUNICATION WITHIN THE COMPANY

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Abstract: *The main objective of the paper is introducing the key findings from the available literature and researches which have been realized in the field of teamwork and internal communication either in the Czech Republic or abroad. Teamwork and communication are constantly a topical issue as non-academic sphere so in applied environment. The results of researches in this area help to increase the functionality and effectiveness of teams. The in-depth analysis was accomplished in order to prepare a research project. The project is focused on teamwork and communication in a selected organization with the aim to analyse effectiveness of teamwork and communication in the organization within a long-term period and to find potential opportunities how the current condition can be improved.*

Keywords: *teamwork, communication, sociomapping, team roles.*

JEL classification: M54

Grant affiliation: IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.

1 Introduction

This work aims to carry out the detailed analysis in the field of teamwork and communication, which will serve as the basis for a research project in a selected company. For better understanding of this issue it is necessary to define the basic psychological aspects of teamwork.

The first part deals with the explanation of the terminology of teamwork, we also explain the basic assumptions for a successful teamwork. Then we deal with the effectiveness of the team and explain the basic conditions for the efficient team.

The second part presents diagnostic methods that will be used in the research project. It is the concept of team roles according to M. Belbin and sociomapping of teamwork which are used primarily for the development of communication within the team.

2 Basic characteristic of the team

In social psychology and the psychology of work and organizations we encounter the term "working team" (Seitlová, 2013). The very concept of a word "team" is clearly specified the recommended number of persons, group dynamics and other characteristics. In the literature the team is characterized as "goal-oriented, internally organized group with a small number of members responsible for solving a problem (working on a common task) and existing in a limited period of time, e.g. managing teams (management), project teams (collaboration of different specialists on a common task) etc." (Palan, 2002). Kolajová (2006) describes the team as a shortcut of key words in English "TEAM": Together, Everybody, Achieves, More. From these characteristics it is evident that not every group must necessarily be a team. From a performance of a standpoint the working team is more powerful than the working group therefore employers of companies invest capital in developing and building the teams.

2.1 Performance and efficiency of the team

Our societies and communities face the fundamental challenge of how to enable people to combine their efforts to work in ways that improve quality of life through the achievement of our shared goals.

The basic conditions for effective teamwork include having a real team whose membership is clear, which has the right size, is relatively stable in membership and where the teamwork is required (West, 2012).

It is important to respect the fundamental rule and the fact that the working team must have a clearly stated objective, which is mandatory for all members. If team members respect this rule we can then say that the efficient team has successfully achieved its objective. The performance of a work team can be calculated mechanically according to the triple imperative, therefore, in the shortest time at the lowest cost and the highest quality. From a psychological point of view, however, it is not possible to measure only the performance indicators of cost, time and quality. To achieve the triple imperative also contributes significantly internal processes that take place in the team and that ultimately affect the outputs. It is all about trust and achieving sub-goals of the individuals in the team. We are talking about a sense of belonging, professional development, opportunities to realize oneself and create new values.

Team effectiveness always, to a large extent, also affects the development stage of a particular team. At the beginning when the team is formed, its productivity declines and it is necessary to engage in conflicts and other internal processes that take place within the team. Once the rules are set in the team, which means the initial phase is overcome, productivity increases (Meier, 2009).

The research about Successful teamwork done at the Australian University has provided attributes that contribute to the successful teamwork. The most of the attributes have been identified in the literature (Tarricone & Luca, 2002) as:

- Commitment to team success and shared goals – successful teams are motivated and they can achieve the highest level.
- Interdependence – it is necessary to create an environment where the team together can achieve far more than as individuals.

- Interpersonal Skills – the ability to discuss openly with team members.
- Open Communication and positive feedback–members should be willing to give and receive constructive criticism and to give the feedback.
- Appropriate team composition – every member of the team needs to be fully aware of his/her specific team role and must understand what is expected from him/her.
- Commitment to team processes, leadership and accountability.

The main prerequisite for an effective team is its high efficiency. Team performance depends on knowledge, skills and abilities that the members of a team have. However, the motivation of individual members and the complete coordination of a team are also very important. Lack of motivation and coordination is primarily the result of a failure of communication within the team. Precisely speaking, communication is crucial for the team because we distinguish successful and unsuccessful teams. Hermochová (2006) states, that the significance and importance of communication is especially shown during the crisis, when it is the most needed proper coordination of all members and particularly accurate exchange of information.

The great advantages for each team are the supporting processes such as the synergistic effect or increased creativity.

For an effective team is very typical relaxed and open atmosphere in expressing the ideas, discussions with a huge participation of members, listening to the other members (Seitlová, 2013).

3 Communication within the company

Effective communication is important for managers in the organizations so as to perform the basic functions of management, like is planning, organizing, leading and controlling. Communication about workplace practices helps achieve the required outcomes for the employee and the organization.

Teamwork is defined by Scarnati (2001) as a cooperative process that allows ordinary people to achieve extraordinary results. So that is why to have teams in the company is really good way to enact organizational strategy because of the need for consistency between rapidly changing organizational environments, strategy and structure. When the organization starts with team-based structure there is visibly less need for these hierarchies that slow down the organizational decision making because the team becomes the work unit. Teams which are based on their flat structures can respond quickly and effectively in the fast-changing environments (West, 2012).

3.1 Team roles

The basic prerequisite for a successful teamwork is actually to establish the correct role in the team. In the team there exist roles that are focused on filling the task and achieving the goals or roles that focus on maintaining optimal interpersonal relationships. We can state that the team members hold firstly task roles which focus on the monitoring tasks. These include the role of coordinator or search sources. Secondly, equally important are the keeping roles that focus on the good relations between members. Task role thus leads the team to set goals and keeping roles support the cohesion of a team. Obviously you just cannot build a team of people who will for example focuse solely on the results (Kolajová, 2006).

There exist several approaches concerning the issue of team roles. The most famous of these is the concept of R. M. Belbin (1981). It is a diagnostic method which is based on the 16 PF questionnaire, questionnaire of personal preferences (Preference Personality Questionnaire) and a test of critical thinking (Watson-Glaser Critical Thinking Test). With the help of managerial game called Teampoly and watching the others. Dr. Belbin developed a set of nine team roles. Each of them is characterized by its strength and admissible weaknesses. Meredith Belbin characterizes team role as "a tendency to behave, contribute and interact with the other people in a concrete way.

3.2 Sociomapping of teamwork

Sociomapping of a team is a set of analytical and coaching practices created for development of the teams (Bahbouh, 2011). Input data for the direct sociomapping are the interpersonal aspects of teamwork such as: communication, atmosphere, trust, sharing knowledge and motivation. There may also be monitored the cooperation on joint projects or the number or duration of phone calls / emails exchanged between members of a team during certain period of time (Rozehnalová, 2008).

Sociomapping of the team is used in research and scientific areas. The first study comes from the projects of the European Space Agency and the Army of the Czech Republic where they used for a research of group dynamics. Nowadays the sociomapping is primarily used in the application area in the analysis of cooperation and communication in a team, surveying the atmosphere and motivation in the reorganization of the team or in the team building, in management knowledge etc. The most frequently used method of sociomapping is direct sociomapping that comes from the mutual evaluation of team members. Indirect sociomapping is based on identifying similarities of personality profiles of individual members. These two methods are focused on the areas where there appear most discrepancies. It is mainly about communication between members, which is a crucial point for the functioning of a team.

4 Concluding Remarks

From outlined theoretical knowledge there was created a research plan which will last for six months and will examine the communication and teamwork in a selected company. The project began at the end of June 2016 and will be completed in January 2017. At the end of the month all members of the team fill in a questionnaire that should enable to monitor how the individual members communicate among themselves. As a part of the project there will be prepared a workshop on the development of a teamwork and communication of the working group. The results of the research team will serve as a basis for diploma thesis.

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DEVELOPMENT OF RAILWAY TRANSPORTATION BETWEEN CHINA AND THE EUROPEAN UNION COUNTRIES

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Abstract: *European and Chinese economies belong to the largest economies in the world. These economies are also heavily intertwined into bidirectional supplier-customer chain. Bilateral trade between European countries and China was in the nineties of the last century relatively weak. Development of the Chinese economy caused an increase in the volume of foreign trade. Chinese leaders began to promote the development of the New Silk Road. This trade route in addition to maritime has two railway routes - northern and southern. Since 2008 there has been significant development of connections and transport volumes on these routes. This article will deal with the analysis of the development of rail to rail routes, the New Silk Road.*

Keywords: *transport, railroad, silk road economic belt, international trade.*

JEL classification: *F230, O180, L910*

Grant affiliation:

1 Introduction

The main means of transport on the historic Silk Road were caravans that crossed from China through Persia and Arabia to the east coast of the Mediterranean Sea. Overland transport route was secured for a first time by the Roman Emperor Augustus, who negotiated peace with the Parthians in the year 20 BC. As the end of the original Silk Road is considered the year 1453 when the Ottoman Empire conquered Constantinople and refused to promote European trade.

The second mean of transport were ships that sailed from China past Indonesia, India and the Red Sea. The first regular naval links with China were introduced by the Portuguese in 1514. The third mean of transport was a train. In 1905 was completed a comprehensive rail line known as the Trans-Siberian Railway, which joined the Russian Far East and northern China with the European railway network.

The European Union and China are the biggest exporters and importers in the world (Eurostat 2016). For the effective functioning of foreign trade it is essential to ensure smooth logistics chains.

TAB. 7: Table of main export and import partners of the EU in 2015

	Main	Share (%)	Second main	Share (%)	Third main	Share(%)
Export partner of EU Member states in 2015	United States	21	China	10	Switzerland	8
Import partner of EU Member states in 2015	China	20	United States	14	Russia	8

(Eurostat 2016)

As is evident from TAB. 1, China ensured 10% of total exports of the EU countries in 2015. On the other hand, the EU imported from China 20% of the total imported products. It is therefore obvious that the material flows between these economies are enormous.

At the end of the last century the transport between the European Union and China was provided almost only by a ship or by a plane. But in the nineties Europe launched the Pan-European railway corridors project (TEN-T). Central Asia started to build a network of TRACECA (Transport Corridor Europe Caucasus Asia) and China began to modernize its railway network.

Nowadays it is possible to provide transport of goods between Europe and China not only by ships or planes but also by trains. These transport means are different in lot of aspects such as speed, costs, safety or environmental impacts.

Each kind of products has its own characteristics that must be considered in selected type of transport. Products which quickly become obsolete must be transported quickly to have been placed on the market as soon as possible. On the contrary, products that have a high density and their application is not urgent take advantage of low transportation costs. The main subjects of EU trade are machinery and transport equipment (42% of exports. resp. 31% of imports.) The second largest chapter is other manufactured goods. In this group are electronic components and products (23% of exports and 26% of imports) (Eurostat 2016). Electronic components and products often belong to a group of products which could become obsolete very quickly and slow transport could make them less competitive.

2 Literature review

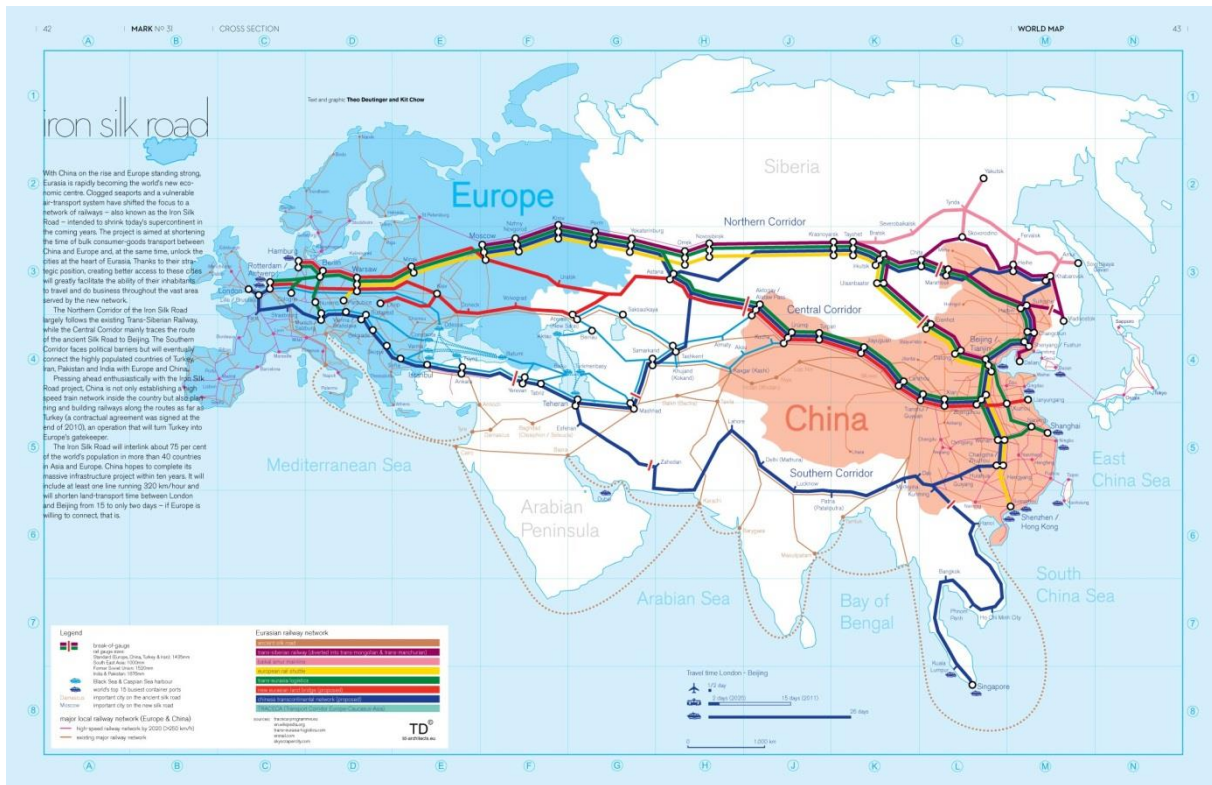
2.1 Development of Eurasia railroad

In 2008 the Deutsche Bahn and Russian Railways created a project of Trans Eurasia Logistics GmbH (TEL). Deutsche Bahn has prepared the first train Beijing - Hamburg. In 2010 began testing of usability of the Northern Route (via the Trans-Siberian Railway) and of the Southern Route (via Kazakhstan). A map of these corridors is can be seen in PIC. 1. In 2011 the first regular train between Germany and China was launched.

China launched the Project Silk Road economic belt in 2012. Aim of this project is to develop a modern silk route and support the international trade of China. The project aims to create three new

high speed rail corridors named The Iron Silk Belt. The first two corridors copy corridors that TEL is nowadays using. The third corridor (in the PIC. 1 the southern blue one) should be built in future linking Indonesia, China, India, Pakistan, Iran, Turkey and join the European network of corridors TEN-T.

PICT. 8: A map of train corridors between Europe and Asia (Strategic Demands 2016)



On both of current corridors there is a problem with rail gauge. China and Europe use same rail gauge (1.435 m) But Kazakhstan, Russia and Belarusian use broader gauge (1.520 m). Either the shipping containers have to be transloaded from one train to another or the bogies have to be exchanged on borders.

The first regular route between the EU countries and China was Chongqing - Duisburg in 2011. In 2012 followed the routes Wuhan - Pardubice (for Foxconn), Chengdu to Lodz (Poland), Zhengzhou - Hamburg. All these routes are on the Southern Route via Kazakhstan. The first route on the Northern Route was opened Suzhou - Warsaw in April 2014 and later Changsha - Duisburg. The line Yiwu – Madrid was launched in 2014. Yiwu has thus become the first Chinese city with the classification of Tier 3, which opened regular rail link to Europe (Elsinga 2014).

2.2 Current situation and possibilities in railway transport

Fastest version of freight train is a blocktrain. It could be a company train for one customer or a public train for multiple customers. These trains can travel at top speed due to blocktrain prioritization. There is no shunting (only technical stops and transshipment stops at the border) (Schenker 2015).

Since 2015 it is possible to use other services than blocktrains. It is possible to transport a single container or container groups but there is a longer lead time due to train consolidation in open

intermodal system of railways. Next service is Less than Container Load (LCL) services. This service is provided by DB Schenker on blocktrains e.g. from Suzhou (Northern Route) or Chengdu (Southern Route) to Malaszewice. Door to door time is 20 – 23 days (Schenker 2015).

Hewlett Packard (HP), Acer and Foxconn began to look for an alternative of the transportation of the computer components from China to European factories. Hewlett Packard moved production from China's coastal areas inland to the city of Chongqing, where it produces components for the production, which takes place in Duisburg, Germany. Transport to the coast and the subsequent transport ships would be time consuming and therefore these components have been transported throughout Southern Route since 2011. DB Schenker was a pioneer of traffic on this route, which uses the rail network of Kazakhstan (Knowler 2014).

Kazakhstan is part of a customs union agreement with Russia and the European Union and once the block trains are cleared at the Kazakhstan border, which takes four hours, there are no further inspections, or delays, required until destination. Due to the procedure of preliminary customs information under the "electronic train" container train was made for 90 minutes (Kazakhstan temir zholy 2012).

DB Schenker operated about 800 trains in both directions in 2015. Westbound is approximately 70% (10 – 11 trains per week on westbound and about 15 trains per week on eastbound). These trains hauled 30,000 shipping containers. Estimate of DB Schenker for the year 2016 is 1500 trains. TEL plans an increase up to 100,000 containers per year by 2020 (Kemp 2016).

DHL 150 TEUs were transported by train between Europe and China. The company uses this type of transportation when there is a risk of delay of the delivery and transport ships would cause complications. DHL in 2015 established a regular rail connection between Zhengzhou and Hamburg, which runs twice a week (Knowler 2015).

Government of Hubei province announced that Europe - Wuhan freight trains ran a total of 164 shifts in 2015 (98 shifts of Outbound trains a 66 shifts of Inbound trains), carrying 14912 TEUs of container cargos. Cargos travel from Wuhan including electronic equipment, automobiles, clothes, general merchandise of companies such as Foxconn or Dongfeng. Cargos which came from Europe were plastic products, auto parts, cosmetics, timber, etc. Government of Hubei province expects 537 trains in 2016 only for this province (Huifang 2016).

If cargos are transported by ship from China to Europe, the transit time would be approximately 42 or 45 days and the price per one 40-ft container would be over 5,000 to 5,500 US dollars. Moving cargo by train, the transit time significantly decreases. Depending on the destination in Europe, it might take between 16 and 25 days. Unfortunately the speed comes with a price. The approximate price would be between 8,600 and 8,900 US dollars per container. And by air, at price of \$3.85 per kg would cost \$37,000 (Knowler 2015).

In the time before running rail connection was available almost all goods between China and the EU were transported by ships. Only smaller volumes were sent by air. Choice of transport mean depends on the characteristic of the cargo and how urgently it is required. Heavy, low-value cargo is sent by ships while high-value and time-critical cargo is flown by aircrafts.

Rail freight will compete mainly with air transport. Electronics and automotive manufactures are interesting in rail freight because the value loss on goods during the longer sea journey is high.

Schenker (2015) published the following information for transporting High Value Good (in this case it was a notebook) from Chengdu to Rotterdam in 2015. These data are shown in TAB. 2. Data were compared with data from other sources and has been found to be authentic.

TAB. 2: Table with data about transport of one notebook from Chengdu to Rotterdam in 2015

	Door to door lead time (days)	Cost of freight (USD/ one pcs of notebook)	Pollution (kg CO2 / ton)
ocean	38	1,9	391
blocktrain	22	3,8	270
air	4	18	5727

(Schenker 2015)

The alleged costs in TAB. 2 include only freight costs. The goods are the property of company and as such they have to be financed. During transport of goods capital is fixed in it. If the goods are being transported for a long time, then such transport may cause significant rise in capital costs. In the case of consumer electronics and other precious commodities, capital costs can reach a higher value than the cost of transporting goods. In the case when the capital costs are higher than 7% and one container contains goods worth more than USD 2 mil, cumulative freight costs and capital costs for transport by rail are lower than for transport by ship (Schenker 2016). For these goods, the transportation by rail is more economical than the transport by ships. In addition to these purely economic parameters, there can be other benefits found in rail transport. For the products that rapidly become obsolete, it is possible to better exploit market opportunities as the products reach the target markets sooner. If the semi-products are transported for further processing and shipment by rail it reduces the risk of subsequent stop in production due to failure of delivery of semi-finished products to the factory on time.

2.3 Risks

Goods in transit are exposed to various risks. Transport by air exhibits the lowest risk. It is the way of carriage with the bottom failure rate. There is not so high risk of theft of goods, of its loss or damage. Such services may be influenced by the weather.

Goods transported by sea are exposed to risks caused by adverse weather conditions, which can cause a delay in delivery of goods. According to the Maritime Riskmap (Control Risk Group 2016) goods must pass risk areas in the South China Sea and Malacca straight and risk areas off the Somali coast. South China Sea is risky due to dispute about ownership of area which is rich in natural resources.

Railway transport is the least dependent on the current weather. But all existent railroad corridors lead across Russia and there are some political tensions between Russia and EU. Escalation of these tensions could lead to problems with transport.

3 Methodology

The aim of this paper is to prepare a table for Multi-criteria decision making about modus of transport between EU and China.

In the literature review the following criteria were mentioned: Door to door lead times, Cost of freight, Pollution, Capital costs and Risks. In this article, the multi-criteria analysis will be performed only for the first three criteria mentioned above. Capital costs are negligible for certain products and the current risks of transport on the roads are relatively low so these factors are not included in the analysis. If necessary, the user can add other criteria following the described procedure and include it in the decision-making process.

Weight Sum approach will be used as a decision method. The reason for this choice is the quantification of the criteria. Another reason is the user's ability to adjust the weighting of the criteria based on current conditions (launching new products, increasing consumer pressure on environmental behavior, etc). The choice of weights will be based on recommendations of an expert in the field of transport for the standard product, not based on a product that could become obsolete as a consequence of longer transportation time thus binding larger amount of capital during transport and increasing its cost. The most important objective is the perceived costs of transportation (60%), followed by transport time (30%) and then the last one is the environmental impact of transportation (10%).

The decision process will be designed for transport of one notebook from Chengdu to Rotterdam in 2015.

In this article the weighted sum will be used according to (Jakob, W. &, Blume, Ch. 2014). The result of this method will be one non-dominated solution with highest utility.

This method is suitable because there are objectives functions with different scales. These scales will be normalized by functions:

$$f_i^{norm} = \frac{\max(f_i) - f_i}{\max(f_i) - \min f_i} \quad \text{for objectives to be minimized} \quad (1)$$

$$f_i^{norm} = 1 - \frac{\max(f_i) - f_i}{\max(f_i) - \min f_i} \quad \text{for objectives to be maximized} \quad (2)$$

The bounds of all criteria can be identified by a user. In this article will be used maximal value in each objective in this case study. Calculation of utility (weighted sum) is shown in the next equation. Weight w_i has to be selected for each objective.

$$\max \sum_{i=1}^k w_i f_i^{norm} \quad \text{where } w_i > 0 \text{ for all } i = 1, \dots, k \text{ and } \sum_{i=1}^k w_i = 1 \quad (3)$$

The type of transport with maximal utility will be recommended as a best choice for this case.

4 Analysis

As it was mentioned above the analysis will be carried out from data of DB Schenker for transportation of one notebook from Chengdu to Rotterdam in 2015 see TAB. 2.

A user can adjust the bounds of every objective according to their present needs. For example they know that the product needs to be imported to Europe in 45 days - then the maximum value (max f_i) of the first objective is substituted by 45. In this analysis values of max f_i and min f_i will be substituted with the real limit values for each objective. By combining the table TAB. 2 and the limit values we obtain table TAB. 3. The table also shows specified weights w_i , as suggested by experts (0,3; 0,6; 0,1). The sum of the weights must be equal to one and size of the weight indicates the importance of the given criterion.

TAB. 3: Table with data about transport, limit values and weights

	Door to door lead time (days)	Cost of freight (USD/ one pcs of notebook)	Pollution (kg CO2 / ton)
ocean	38	1,9	391
blocktrain	22	3,8	270
air	4	18	5727
Max f_i	38	18	5727
Min f_i	4	1,9	270
w_i	0,3	0,6	0,1

Each value must be normalized. All criteria in this case are minimized so we use the formula (1). Calculation for a normalization of the first criterion for blocktrain will be as follows:

$$f_i^{norm} = \frac{4 - 22}{4 - 38} = 0,4706 \quad (4)$$

In the same way we normalize all values and we get table TAB. 4. The last calculation is the calculation of a weighted sum as shown in the following equation (5) for ship transportation. These values are also shown in Table 4 too. On the basis of these values the order of the variants is determined.

$$\sum_{i=1}^k w_i f_i^{norm} = 0 * 0,3 + 1 * 0,6 + 0,9778 * 0,1 = 0,6978 \quad (5)$$

TAB. 4: Table with normalized values and with values of aggregated value of the utility

	Door to door lead	Cost of freight	Pollution	Utility	Order

	time (days)	(USD/ one pcs of notebook)	(kg CO2 / ton)	($\sum w_i \cdot f_i$)	
ocean	0	1	0,9778	0,6978	2.
blocktrain	0,4706	0,882	1	0,7704	1.
air	1	0	0	0,3	3.
wi	0,3	0,6	0,1		

From the aggregated value of the utility it is clear that for the setting of the decision making process of this case study transportation by rail has the highest total utility value. This type of transportation wins despite it is best only in one criterion (pollution). Furthermore, this criterion has very little weight ($w_i = 0.1$). However, this variant reached balanced results in more important criteria and thus ultimately obtained greater value of aggregate utility than other types of transport. On the second place is the transport by ship. This transport is very slow, causing zero utility value of this criterion.

As an option with the lowest value of utility is in this case air transport. Which is indeed very fast modus, but also it is very expensive and has strong negative impact on the environment.

Conclusion

International trade between the EU and China is and will be very important for both economies. Modernization of transport infrastructure in China and Kazakhstan being in progress in recent years can therefore raise expectations in further development. Every commodity and every commercial transaction has unique characteristics which influence the choice of transportation modus. The aim of this article was to propose a simple methodology for preparing data for the decision-making managers. In this case study, according to the data available for 2015, rail transport appears to be the best type of transport. However, if the user changed the setting of weights, or range of limits, then the results will be different. Likewise, the results would be affected by involvement of other criteria, such as capital costs or risk elements. The author, however, believes that in most settings of the decision-making process the rail transport will still be the best choice. This opinion is supported by a relatively significant annual increase in the volume of railway traffic between the EU and China. This development thus supports the economic growth of all countries involved.

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A LOGIT MODEL FOR THE ESTIMATION OF THE EDUCATIONAL LEVEL INFLUENCE ON UNEMPLOYMENT IN ROMANIA

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Abstract: Education is one of the main determinants of the unemployment level in all EU countries. In this paper we used a logit model to estimate the effect of the educational level on the unemployment in Romania using data recorded at the Population and Housing Census 2011. Besides the educational level we also used other socio-demographic variables recorded at the Census like gender, marital status, number of years of experience on the labour market, residential area. Data processing was achieved using R software system and since the data set used for model estimation was very large we used special techniques suited for big data processing. The results showed that the lowest odds ratio to be unemployed was recorded for population with tertiary education which is consistent with other studies at international level and with the official statistics data, but our study indicates that tertiary education has a greater impact on unemployment in Romania than in other EU countries.

Keywords: educational level, unemployment, logit, higher education.

JEL classification: I20, J24

Grant affiliation: IGA_FF_2016_007 Continuities and Discontinuities of Economy and Management in the Past and Present 2.

1 Introduction

The massification of the higher education sector all over the world has led to a substantial increase in the number of people with a very high level of competence trying to enter the labor market (OECD, 2015) which could make the task of finding an appropriate job to become difficult and eventually it may lead to an increasing unemployment rate. In this paper we investigated the influence of the educational level and especially of the higher education on the unemployment in Romania using the data from the 2011 Census.

There are many studies in the international literature that highlight a strong link between the educational level and unemployment rate such as Spence (1981), Mincer (1994) or Winkelman (1996) to mention only a few of them. Among the first theoretical models that explain the low unemployment among higher education graduates we can mention those proposed by Nickell (1973) and Arrow (1973). They point out that higher education leads to the accumulation of human capital with high productivity and employers have an interest to maintain the productivity at a high level, so employees with higher education are less likely to be sent to unemployment when companies make staff cuts. Also, the signaling theory shows that higher education graduates have innate abilities more developed than the rest of the population and an academic title indicates these skills, employers being interested in having such people as employees.

We studied the influence of the educational level as well as other socio-demographic variables on the unemployment through a logit model. For higher education graduates we also investigated how the unemployment depends on the field of study.

2 Literature review

The relationship between the educational level and unemployment is an interesting research topic in labor economics. Altbeker and Storme (2013) carried out a study for South Africa and showed how different shocks or changes in economic conditions affect people differently in that they have less effect on the unemployment among people with higher education than among people without higher education. Using data for US Daly et al. (2007) also showed that the unemployment rate for higher education graduates is considerably lower than for people with only secondary education and the difference between the two categories was kept since 1978.

Nunez et al. (2010) examined the impact of higher education graduation and of the field of study on unemployment in Europe using data from the statistical survey "Labor Force Survey". Using an M-logit model, the authors analyzed the effect of the education on short term and long term unemployment using variables such as the marital status, gender, age, educational level and the field of study. Their results showed that a higher education diploma increases the odds of being employed on short-term and also lead to lower odds of being long-term unemployed. The authors also analyzed the changes in the probability of being unemployed by country and found that graduates of higher education in Belgium, Ireland and the UK have the lowest chances of being unemployed on the short term while graduates from Germany, Italy and Ireland have the lowest probability of being long-term unemployed. Considering the fields of study, the authors showed that most fields of study provide approximately the same probability of employment. Fields of study such as physics, chemistry, mathematics, statistics or informatics present the same probability of employment. The study fields that have the lowest unemployment probability are medicine, engineering and the sciences of education.

The effect of the public policies in the higher education area was investigated by Plumper (2007). He showed that public policies can be an effective tool available to the government in the fight against unemployment. Increasing the number of students lead to a decrease of the pressure on the labor market on short-term which has an effect on unemployment on short-term but the author warns about long-term effects of this type of policies: a decrease in the quality of education and an unsustainable growth in the number students. Garrouste (2010) used a binary response model and

investigated the relationship between education and long term unemployment in EU countries showing that the probability of long-term unemployment decreases with the educational level.

In Romania, Danacica (2008) studied the influence of the gender, age and educational level on the probability of being hired or re-hired for 2002-2006 period, for a single county, showing that the educational level positively influences the likelihood that an unemployed person finds a job.

3 The unemployment and the educational level in Romania and EU

Figure 1 shows the evolution of the unemployment rate in Romania for three levels of education, during 2004-2013, for people aged over 15 years. It can easily be observed that every year the unemployment rate for higher education graduates has lower values compared with other educational levels, which is consistent with international figures. The unemployment rate for higher education graduates registered a minimum value in 2008 reaching 2.5%.

FIG. 1: Unemployment rate on educational levels during 2004-2013

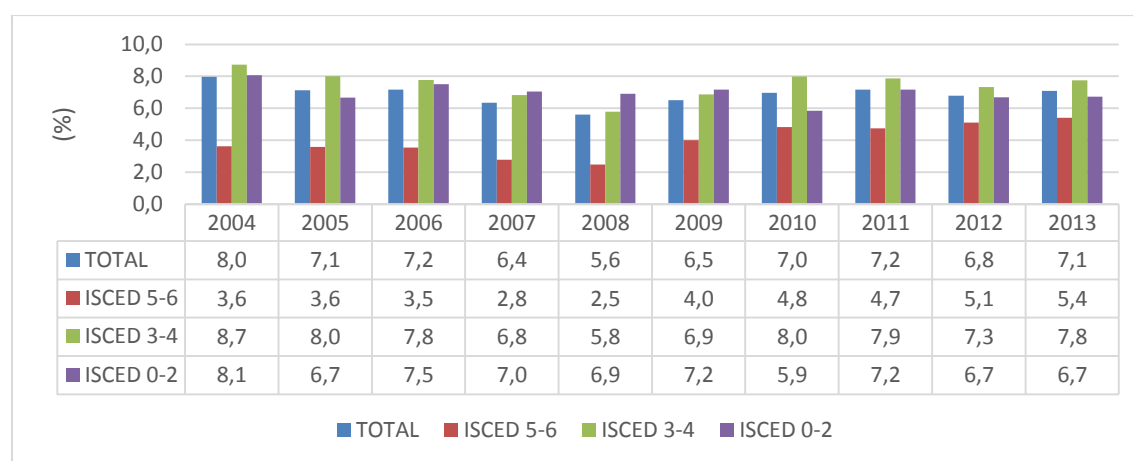
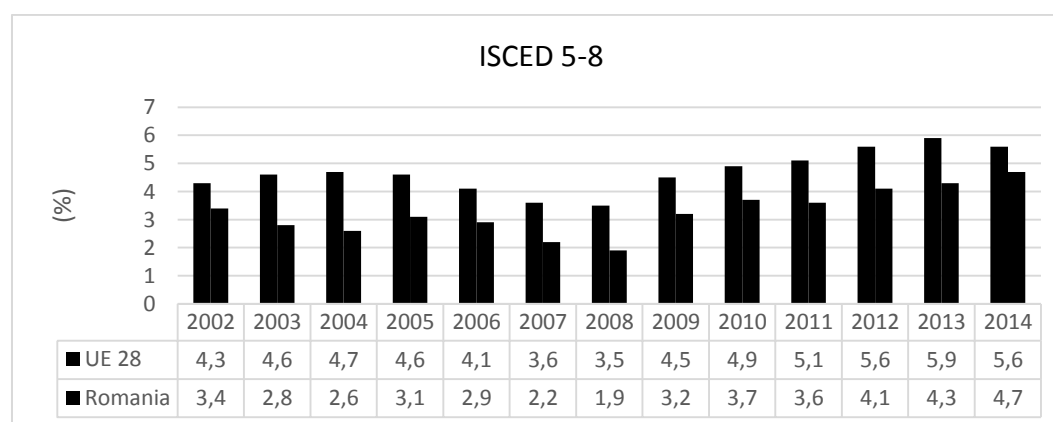
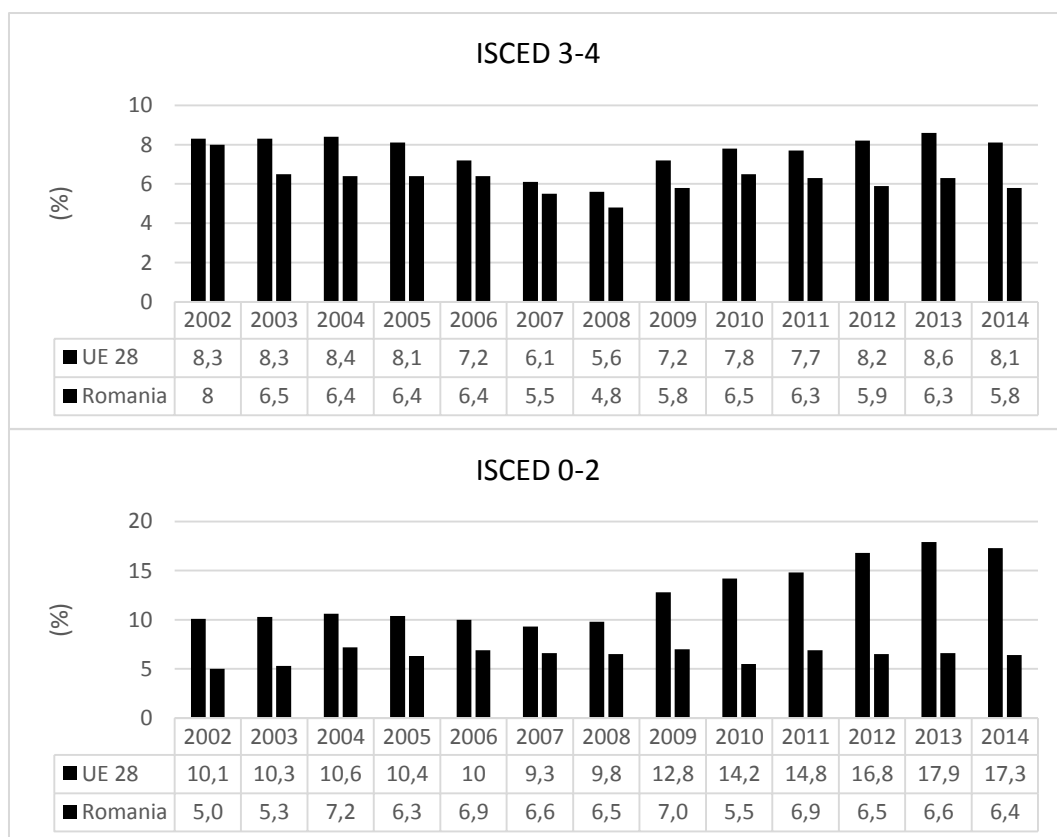


Figure 2 presents the evolution of the unemployment by the educational level for Romania and the average value for EU28 countries, considering the population aged between 25 and 64 years.

FIG. 2: The evolution of unemployment by the levels of education for Romania and EU28 countries

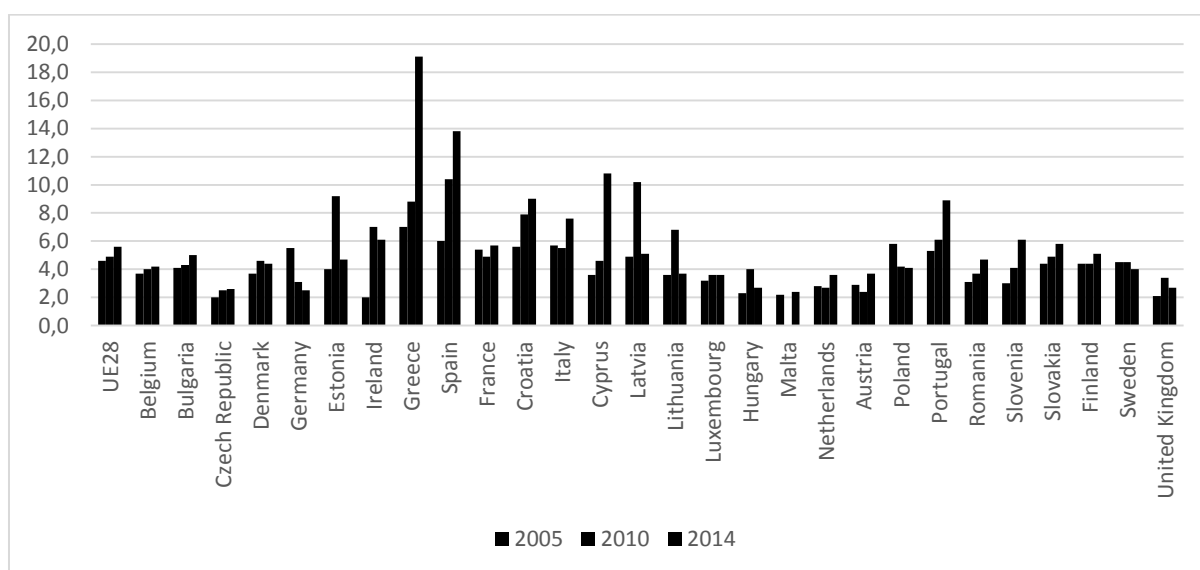




Romania recorded unemployment rates lower than the average of the EU28 countries for all educational levels. The value of the unemployment rate for people with higher education reached a minimal value in 2008 for Romania (1.9%) and EU28 (3.5%), after this year having an upward trend.

Figure 3 shows the unemployment rate for people with higher education in 2005, 2010 and 2014 for all EU countries.

FIG. 3: The unemployment rate for higher education graduates aged between 25 and 64 years in EU countries



Romania is among the countries with the lowest unemployment rate for people with higher education compared with other EU member countries. Greece, Spain, Cyprus, Latvia and Portugal are at the opposite side, recording high unemployment rates among people with tertiary education. In 2014, the unemployment rate for higher education graduates in Greece was 19.1% while in Spain it was 13.8%. In most of the countries, the unemployment rate for people with higher education graduates increased from 2005 to 2014.

4 The econometric model

We studied the influence of the educational level as well as other socio-demographic variables on unemployment through a logit model (Wooldridge, 2008) with the dependent variable being the occupational status registered at the 2011 Census. The logistic regression allows one to predict the values of a dichotomous variable Y which takes only two values, 0 or 1, depending on a set of explanatory variables, which can be quantitative or categorical variables. The logistic regression does not work with probabilities, but with odds. For people with higher education we also investigated how the unemployment depends on the field of study.

We used the variables presented in table 1 (Drăgoescu, 2015), derived either directly from data recorded at the 2011 Census or by processing these data. Besides the variables directly related to the educational level, we used a number of socio-demographic variables: gender, marital status, residence (urban/rural), and a binary variable that indicate whether the person lives in a big city (a city with a total population greater than 150,000). The study included population aged between 25 and 64 years and the data set comprised 7,652,044 records.

TAB. 1: Variables used in studying the influence of educational level on unemployment

Variable	Avg.	Std. Dev.	Description
UNEMPL	0.06	0.23	1-unemployed, 0 otherwise
GENDER	0.55	0.49	Gender: 1-M, 0-F
MARRIED	0.76	0.45	Marital status 1-married, 0-widow, single or divorced
BIG_TOWN	0.27	0.44	1 for persons living in cities with more than 150,000 inhabitants, 0 otherwise
URBAN	0.59	0.49	1 for persons living in urban areas, 0 otherwise
EDU_CAT	3.86	1.48	Categorical variable indicating a person with: 1-primary education 2-gymnasium 3-vocational school 4-high school 5-post-secondary school 6-higher education
HAS_GYM	0.19	0.39	1-gymnasium, 0 otherwise
HAS_PROF	0.18	0.38	1-vocational studies, 0 otherwise
HAS_HS	0.31	0.46	1-high school, 0 otherwise
HAS_POST	0.04	0.19	1-post-secondary studies, 0 otherwise
HAS_HE	0.24	0.43	1-tertiary education, 0 otherwise

	Total population	Higher education graduates	Total population	Higher education graduates	
HE_TECH	0.07	0.30	0.26	0.46	1-tertiary education in the technical field, 0 otherwise
HE_UNIV	0.06	0.26	0.24	0.43	1-tertiary education in the field of education and natural sciences, 0 otherwise
HE_EC	0.07	0.28	0.25	0.45	1-tertiary education in the field of social sciences and economics, 0 otherwise
HE_LAW	0.02	0.09	0.15	0.29	1-tertiary education in the field of law, 0 otherwise
HE_MED	0.014	0.06	0.12	0.24	1-tertiary education in the field of medicine, 0 otherwise

All computations were performed using the R software system. The probability of being unemployed by the educational level was studied using several logit models. The first model considered the gender, marital status, residence and the categorical variable EDU_CAT, whose benchmark was set to EDU_CAT=1, as explanatory variables. The results of the model estimations indicate the odds ratio of being unemployed for a person with gymnasium, vocational school, high school or university degree compared with the reference category. The dependent variable was UNEMPL. The equation of the model is given by (1) and the results of the estimation are shown in table 2.

$$UNEMPL_i = b_0 + b_1 GENDER_i + b_2 MARRIED_i + b_3 URBAN_i + b_4 BIG_TOWN_i + b_5 EDU_CAT_i + \varepsilon_i \quad (1)$$

TAB. 2: The estimations of model (1)

	Estimate	Std. err.	p-value
INTERCEPT	-2.67	0.0087	<2e-16
GENDER	0.41	0.0033	<2e-16
MARRIED	-0.63	0.0032	<2e-16
URBAN	0.67	0.0039	<2e-16
BIG_TOWN	-0.12	0.0039	<2e-16
EDU_CAT2	-0.13	0.0089	<2e-16
EDU_CAT3	-0.14	0.0089	<2e-16
EDU_CAT4	-0.28	0.0088	<2e-16
EDU_CAT5	-0.73	0.0125	<2e-16
EDU_CAT6	-0.77	0.0093	<2e-16

All coefficients of the equation have significant values at 1% significance level. These coefficients indicate the change of the log odds of being unemployed at a unit increase of the predictor variable.

The coefficient of the GENDER variable shows that the odds ratio of being unemployed for men comparing to women is 1.5, the odds of unemployment being 50% higher for men than for women. This is in agreement with official statistics data for Romania but contradicts other studies carried out

at European level showing that women have a higher probability of unemployment (Nunez, 2010; Garrouste et al., 2010).

The marital status influences the unemployment, married people having fewer chances to be unemployed compared to the unmarried people. In this case the odds ratio has a value of 0.53, the odds of unemployment being 47% lower for married persons compared to the rest of people.

Residence in urban areas increases the unemployment, the odds ratio of being unemployed for those living in urban areas compared to those living in rural areas is 1.9, meaning that the odds of unemployment is about 90% higher in urban areas than in rural areas which is confirmed by official statistics of Romania. The explanation comes from the fact that in rural areas most people perform subsistence farming activities, thus they are not considered unemployed. However, people living in cities with population greater than 150,000 inhabitants are less likely to be unemployed. The odds ratio of being unemployed for the population in large cities compared with the rest of the population is 0.81.

The effect of the educational level on unemployment is studied through EDU_CAT categorical variable. The reference value is EDU_CAT=1. The coefficients of the EDU_CAT2 ... EDU_CAT6 give the change in the log odds of being unemployed for people with different educational levels compared to the reference level. For example, the change of the log odds of being unemployed for people with secondary education compared to the reference category is -0.28, i.e. the odds ratio of being unemployed for people with secondary education compared to those with only primary school is 0.75. The educational level influences the odds of being unemployed, people with tertiary education having the lowest odds of unemployment compared with other categories of persons. The coefficients obtained for people with tertiary education in Romania's case are higher than the coefficients obtained in other similar studies in Europe (Nunez, 2010).

We tested the significance of the overall effect of the educational level using the WALD test on the significance of the EDU_CAT variable. Chi-squared statistics for five degrees of freedom is 21640.1 and p-value<0.001, indicating that the educational level effect is statistically significant.

The goodness of fit of our model was tested using the significance test described in (Hosmer and Lemeshow, 2000). This test checks whether the model that uses the predictor variables is significantly better than a model with only a constant, called the null model. The statistics of this test is distributed according to a Chi-squared law with a number of degrees of freedom equals to the difference between the degrees of freedom of the model with explanatory variables and those of the null model. The statistics of the test is 105,456.5 for nine degrees of freedom with p<0.001, which indicates that our model is statistically significant.

Next, we built a model considering the educational level through HAS_PRI HAS_GIM, HAS_PROF, HAS_HS, HAS_POST, HAS_HE variables. The model is given by:

$$UNEMPL_i = b_0 + b_1 GENDER_i + b_2 MARRIED_i + b_3 URBAN_i + b_4 BIG_TOWN_i + b_5 HAS_PRI_i + b_6 HAS_GIM_i + b_7 HAS_PROF_i + b_8 HAS_HS_i + b_9 HAS_POST_i + b_{10} HAS_HE_i + \varepsilon_i \quad (2)$$

TAB. 3: The estimations of model (2)

	Estimate	Std. err.	p-value
INTERCEPT	-1.98	0.0141	<2.22e-16
GENDER	0.41	0.0033	<2.22e-16
MARRIED	-0.63	0.0032	<2.22e-16
URBAN	0.68	0.0039	<2.22e-16
BIG_TOWN	-0.13	0.0038	<2.22e-16
HAS_PRI	-0.70	0.0161	<2.22e-16
HAS_GYM	-0.83	0.0143	<2.22e-16
HAS_PROF	-0.84	0.0143	<2.22e-16
HAS_HS	-0.98	0.0142	<2.22e-16
HAS_POST	-1.44	0.0169	<2.22e-16
HAS_HE	-1.46	0.0145	<2.22e-16

We tested the significance of the model and obtained a statistics equals to 110,748.65 for 10 degrees of freedom, $p < 0.0001$, i.e. our model is statistically significant.

GENDER, MARRIED, URBAN and BIG_TOWN have coefficients approximately equal with those of equation (1), their interpretation being identical. The coefficients of the dummy variables show that the log odds of being unemployed decreases with an increased educational level, values ranging from -0.63 for HAS_PRI to -1.46 for HAS_HE variable. Table 4 presents the exponentials of the coefficients of the dummy variables corresponding to the educational level, these values representing the odds ratio of being unemployed for the people with a certain level of education than those who do not have that level. These values show that the odds of being unemployed decrease as educational levels increase, people with higher education having the lowest unemployment odds. The odds ratio of being unemployed for higher education graduates compared to the rest of people is 0.23 meaning that the odds of being unemployed for a higher education graduate are 77% lower.

We applied a WALD procedure to test whether there is a statistically significant difference between the coefficient of the HAS_HE variable and HAS_POST variable coefficient. We obtained a statistics value equals to 6.3 for one degree of freedom, and $p = 0.01$, i.e. there is a significant difference between higher education and the educational level immediately below in terms of influence on the unemployment.

TAB. 4: The exponential of the coefficients of model (2)

Variable	e^{b_i}
HAS_PRI	0.49
HAS_GIM	0.44
HAS_PROF	0.43
HAS_HS	0.37
HAS_POST	0.24
HAS_HE	0.23

The last model that we estimated considered only persons with higher education and we assessed the field of study influence on unemployment. The model is:

$$UNEMPL_i = HE_TECH_i + HE_UNIV_i + HE_EC_i + HE_LAW_i + HE_MED_i + \varepsilon_i \quad (3)$$

TAB. 5: The estimations of model (3)

	Estimate	Std. err.	p-value
INTERCEPT	-2.63	0.0260	<2.22e-16
HE_TECH	-0.46	0.0268	<2.22e-16
HE_UNIV	-0.40	0.0269	<2.22e-16
HE_EC	-0.39	0.0268	<2.22e-16
HE_LAW	-0.51	0.0287	<2.22e-16
HE_MED	-0.90	0.0317	<2.22e-16

TAB. 6: The exponential of the coefficients of model (3)

Variable	e^{b_i}
HE_TECH	0.63
HE_UNIV	0.67
HE_EC	0.68
HE_LAW	0.60
HE_MED	0.41

The values from table 6 show that the field of study presenting the lowest odds of unemployment is medicine, the odds ratio of unemployment for a person with higher education in medicine compared to the rest of the graduates being 0.41. This result is consistent with other studies: Nunez (2010) shows that for 15 EU countries the odds ratio of being unemployed on short term as well as on long term has the lowest value for graduates from medicine schools. It follows in descending order the law, technical and education and natural sciences fields of education. The biggest odds of being unemployed is recorded for the graduates of the economic field of study. The results can be explained by the fact that social and economic sciences has the largest share in the total number of students and the labor market can not absorb all graduates. On the other hand, the medicine requires large personal investment which makes the number of people undergoing such studies to be low and the probability of employment at the end of studies to be very high. The significance of the model (3) was tested with a similar procedure and the statistics of the test is 1145.7 for 5 degrees of freedom with $p < 0.001$, which means that the model is significant.

5 Conclusions

In this paper we studied the relationship between unemployment and the educational level using a series of logit models. The models that we estimated show that education influences the odds of being unemployed, increasing levels of education being correlated with decreasing odds of unemployment. Higher education graduates have the lowest unemployment odds compared with other educational levels. Regarding the field of study, the smallest odds of unemployment are recorded for medicine while social and economic sciences present the biggest odds of unemployment.

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POSSIBILITIES PRICING OF THE INFORMATION SYSTEM BY PROVIDING INSURANCE AGAINST CYBER RISK

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Abstract: *The article discusses the issue of the insurance of information systems against cyber risk. The first part specifies the insurance against cyber risk and defines the importance and urgency of this issue. The second part is focused on the specification of the factors that may affect the formation of the value of information in the information system. Finally, there is a discussion that sums up the problems with an outline of possible future developments.*

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1 Introduction

The insurance against cyber risk has currently been the worldwide trend which needs special attention. Increasingly frequent and increasingly sophisticated cyber attacks on private and public sector prove that information systems are one of the main assets of the organization. These days, the information has been a very valuable commodity that can be traded in the same way as any other type of goods. For the business community, it is obviously very important to protect its business data as it represents the know-how of each company. (Salter,

The field of the information systems insurance against cyber risk interconnects multiple scientific disciplines. Therefore, it is not only a technical issue, as it might seem at first glance, but an interdisciplinary field of scientific interest. It is therefore necessary to view this branch of science as a combination of computer science, economics, finance, and law. [8]

The prevalence of and interest in this field differs in different regions of the world. It has already been a common product on the insurance market in the US, UK, and Germany, while in Central and Eastern Europe, the issue has developed slowly. This situation is caused by the fact that the field of

the insurance of information systems has its roots in the western part of the world, especially in the USA. [8]

It can, of course, be argued that the research has its own history and comes from a different market. However, in the Central European region, where insurance products focusing on cyber risks are only starting to be offered, this research is very timely. The analysis can also identify the causes which could lead to the purchase of the insurance against cyber risks by Czech managers. [8,9]

When providing the insurance against cyber risk, the methodical process of quoting the price of such an information system is the key area. This issue is also the subject of my dissertation. It is not easy to specify the factors that directly affect the price of the information system. A large number of influences enter the assessment process and these must be included in the methodology of the assessment process. However, it is necessary to consider only those factors that are essential for an objective assessment of the information system and eliminate the redundant ones. From the research that has been carried out so far, it is possible to develop the following procedure for determining the price of the information system which can be used as a platform for developing the methodical procedure. [3,4]

2 Attributes of an organization

The areas which are directly associated with determining the amount of insurance coverage need to be included in the group concerning the organization complexity. This amount, based on the analysis of this group, should cover the main costs for the system recovery and financial compensation for the value of lost or damaged data. The main areas of this issue include:

Turnover,

Employees,

Hardware,

The lost revenue from non-production,

Software,

Fines,

The training of employees in the field of data safety,

The cost of data reconstruction,

The time during which the organization can function without an information system,

The damage to reputation.

2.1 Turnover

The turnover can be defined as the amount of funds that are adopted by the economic entity for a specific period. For a merchant, for example, it is a summary of what customers have paid for the goods. According to the turnover amount for a certain period, the sum of money the company would lose in case of the information system failure which would thus mean the inability to produce goods

and generate profit can be estimated. According to this amount, the approximate value for the insurance coverage of the information system can therefore be determined. [5]

2.2 Employees

In the employees group, we need to consider the actual number of employees available in the organization. It is very difficult to use the relevant data when determining the input value of each employee working with each document. The result should be a value that comes as close as possible to the actual value that the employee put in their work with the document. One option that can be used as an initial procedure for determining this criterion is the following formula:

The value the employees put in the document production = $t * CZ * PZ$

tthe time spent by employees on the production of documents

CZaverage labour costs of employees

PZthe number of employees involved in drafting the document

The time spent by employees on the production of documents

The determination of the time spent by employees on creating the documents is usually set for a period of five years. The reason is that five years is the most common retention period for documents in the organization. [5]

Average labour costs of employees

This is the hourly wage which is designed for employees in the company.

From the formula proposed above, it is possible to determine the approximate price that indicates the value of information and documents the employees were working with for the elapsed time in the organization. The information value is thus relative to a certain extent, however, it is possible to use this way of assets valuation in the organization so as to reach the value which can be used for further work.

The number of employees involved in drafting the document

This is the actual number of employees who take part in forming the document price with their added value.

2.3 Hardware

In this case, not only computers and their accessories, but also any mechanical and technical equipment related to the information system of the organization can be included in the hardware area. In this group, the lost revenue can be calculated which is the indicator of the value the organization has lost for a specific time period. The loss of revenue can occur e.g. due to the inactivity or disruption of the information system for a certain time. During this time when the information system does not work, the production capacity can be disrupted, which can lead to a loss in the company. On the basis of these factors, the following formula for determining the assets price can be developed:

Calculation of the assets price = $CZ + O + ZV$

CZ average labour costs of employees

ZV the lost revenue for non-production

O..... the depreciation of assets

Average labour costs of employees

This item has been characterized in the previous section about employees.

The lost revenues for non-production

This situation can occur if the organization has set a number of products that must be produced for a specified time unit. In case of e.g. an inactivity or disruption of the information system, the production function is also disrupted. This situation may result in the lost revenue which is also an important item in determining the total value of lost revenues. [3]

The depreciation of assets

If there is an information system disruption, the result is a production disruption e.g. on the production line, so it is needed to offset the loss of revenue by depreciating the equipment which is taken out of service. This value reflects the price of the asset for a specific amount of time. [5]

2.4 Software

All the software that can be deleted or irreversibly modified due to the disruption of the information system function can be included in the category of software. The software area is relatively easy to assess due to acquisition costs which serve as the basis for assessing this category. [5,7]

2.5 Fines

Fines can be issued on the basis of a failure to meet certain requirements. These requirements are set for each type of organization separately. In case of state institutions, a situation can occur that the failure of the organization information system can cause inability to provide the information that was due to be published. This means e.g. the publication of information on the electronic notice board, which can be sanctioned under the Act on Municipalities No. 128/200 Coll. It also depends on the type of information that was not published within a certain time interval. If it were the documents concerning e.g. a municipal budget, then this issue would be related to the legislation of the Amendment No. 477/2008 Coll., in the provision of the Act No. 250/2000 Coll. [1]

If it were a second type of organization, i.e. manufacturing companies, then this could lead to sanctions due to the fact that the company did not manufacture a number of products within a specified time plan. In the event of disruption of the function of the company information system, the main function of which is to ensure the operation of production machinery and production lines, the required number of products for a specified time unit would therefore not be made, which would result in a large company loss. Such fines can be imposed either by the main headquarters of the company if it is a failure of the information system in a branch office, or the fine can also be imposed by the supplier of the material who loses a potential product from his material and thus revenue. [1]

2.6 The cost of data reconstruction

The cost of data reconstruction can be defined as reasonable costs of restoration and recovery of data from the hardware and software resources. The data loss can occur if the source or carrier where the data are stored or backed up is disrupted. This disruption can be divided into two groups, namely:

- 1) A mechanical or electronic damage to the disk or memory
- 2) A software data loss from disk or memory [10]

2.7 The time during which an organization can function without the information system

This factor includes the fact that an organization can perform its function without its existence being threatened by the loss of the information system. At this point, it is important to note that the period during which the organization can function is limited and is established for a certain, mostly short period of time. Every organization needs the information system to function and it would be only a matter of time before there was a total collapse of the organizational structure influenced by the distortion. However, the time that the normal operation of the organization can still take place can be seen as a factor that affects the price of the information system and thus the amount of insurance coverage. The shorter the time of possible normal operation without the information system, the higher the insurance coverage will be required to cover any potential damage caused by the absence of the system function in the organization.

2.8 The damage to reputation

The damage to reputation should also be included in the pricing of the company information system. It is primarily for this reason that any security incident in an organization (meaning the cyber risk) can do harm to other entities (companies, suppliers, customers). This harm can be expressed by the loss of existing and future business contacts and ties. When determining the amount that will reflect the damage to reputation, the base should be derived from the defrayed costs of promotion and networking in the business field for a specific time period.

3 Conclusion

Pricing the information system and information that is inserted into it is a very complex process. The determination of the key factors with subsequent assignment of values is subjective to some extent. But it is possible to say that the information as such is an equally measurable quantity. It follows physical laws so it becomes possible to objectively determine its value. This value should serve as a basis not only for the organization itself, but also for insurance companies that have chosen to provide the company insurance against cyber risk. The in-house methodologies are usually used for pricing the information system. These are the methods that have been developed by specific companies and the application of which is designed exclusively for this organization. These methodologies are usually a combination of existing tools and procedures that can provide relevant data on the information system. This is e.g. the metric type COBIT in combination with the framework NIST which was developed in the USA for assessing the critical infrastructure in terms of cyber security. In conclusion, we can say that the issue of the insurance of information systems against cyber risk is a trend that has become an increasingly important field due to the increasingly frequent cyber attacks. My previous research shows that most companies and institutions are more focused on prevention rather than dealing with the consequences and harm arising from the

implementation risks. On the one hand, it is good that prevention is considered one of the main pillars to prevent undesirable situations associated with the information system of the organization. On the other hand, you also need to reckon with the fact that prevention can be inadequate and can compromise the information system and information that is inserted into it. This area can be effectively resolved with the cyber insurance against risk, through which the organization can bridge the gap between the crisis caused by the disruption of the information system operations and restoring the balance that makes the information system stable and secure again. [1,2]

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STUDENTS' ADAPTATION DURING EDUCATIONAL MOBILITY: SOCIO-CULTURAL CHALLENGES

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Abstract: *Our interconnected world offers many chances for young people to travel and gather new experiences. The educational mobility is among the most fascinating but also challenging ones. The aim of our research is to identify and examine the different challenges of socio-cultural adaptation during students' educational mobility. We have conducted a survey among ERASMUS students in different European universities. The results have helped us to comprehend the variety and depth of the socio-cultural challenges. On this basis some suggestions have been made for fostering the students' adaptation process.*

Keywords: *educational mobility, socio-cultural challenges, adaptation*

JEL classification: *I21, Z13*

Grant affiliation: *EEA FM and NFM 2009-2014. Grant Agreement No. BG01-001/ 22.12.2014.*

1 Introduction

Nowadays the world is more connected than ever. Our lives become more and more dynamic and the environment we live in urges us to be more mobile than ever before. Mobility is a means of promoting employment, reducing poverty, improving mutual and intercultural understanding. An important part of this broader concept is educational mobility. It is a transnational mobility for the purpose of acquiring new knowledge, skills and competences.

The impact of the learning mobility states it as a key objective of the Europe 2020 strategy for growth and jobs as well as a focus of the Commission's "Youth on the Move" initiative. It also aligns with the objectives of the Strategic Framework for European Cooperation in Education and Training (ET 2020), the overall objectives of the renewed framework for European Cooperation in the Youth Field (2010-2018) and the Bologna Process. Several European documents stress the importance of learning mobility: Mobility strategy 2020 for the European Higher Education Area, Bucharest Communiqué (April 2012), 2014 annual work programme for the implementation of "Erasmus+", Green Paper on the Learning Mobility of Young People (2009), European Quality Charter for Mobility, etc.

Therefore, it is of great importance to overcome the challenges faced by the students during their learning mobility. Previous research shows that international students studying abroad have experienced adjustment problems (Swagler & Ellis, 2003; Nilsson & Anderson, 2004; Li & Gasser, 2005). Some of them include loneliness, lack of confidence in foreign language fluency, social interaction difficulties, and greater role ambiguity. The aim of our research is to identify and examine the different challenges of socio-cultural adaptation during students' educational mobility.

In order to achieve this aim we have conducted a survey among ERASMUS students in different European universities.

The questionnaire was prepared for online distribution using the software LimeSurvey 2.0 in two language versions – Bulgarian for the outgoing students from Bulgarian universities and English for the incoming students in Bulgaria and both outgoing and incoming students in the partner universities. The sampling frame was formed by a database provided by the university International Relations Office. An invitation for participation in the survey was send to all respondents by email.

322 respondents participated in the survey. The target group of this research were students who had participated or were participating in educational mobility. That is why we narrowed the results only to the respondents meeting the before-mentioned criterion. The final sample consisted of 239 respondents from 22 countries (including 50 Bulgarians).

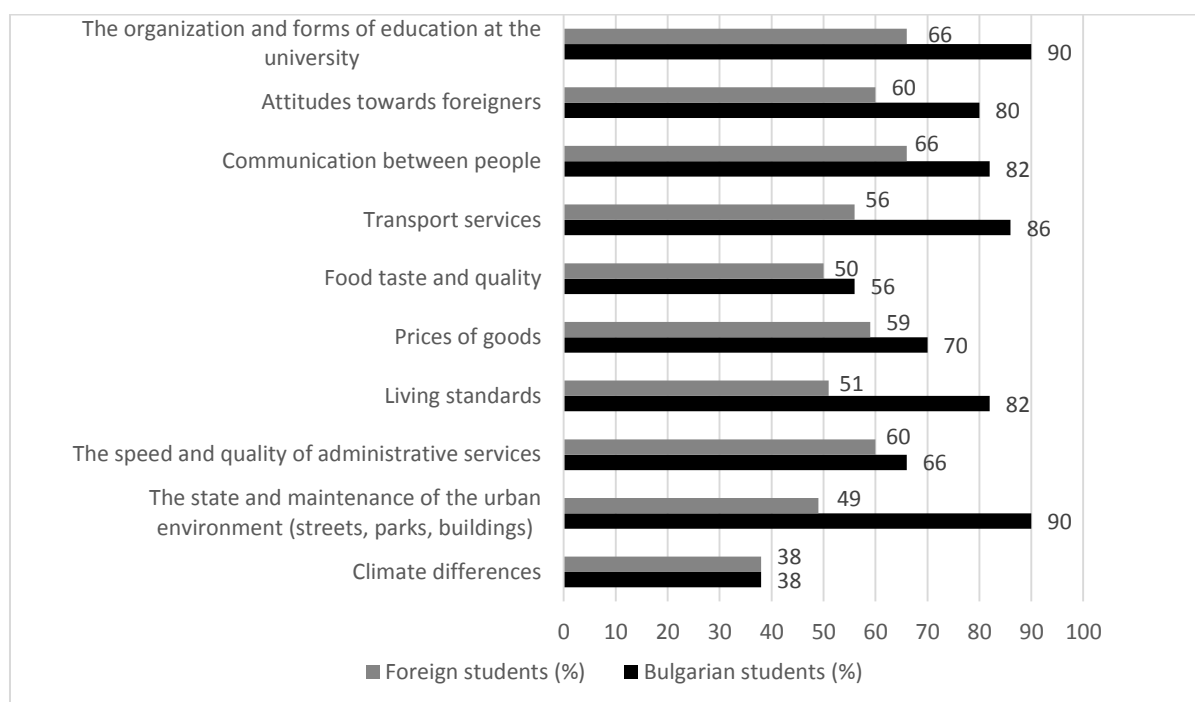
2 Facets of the Culture Shock

The speed and the results of the adaptation process depend highly on the differences between the host country and the home environment. This forms the extent of the culture shock - "a feeling of confusion felt by someone visiting a country or place that they do not know" (Cambridge Advanced Learner's Dictionary & Thesaurus, 2016).

The faster to notice are the natural differences – climate, food, prices, transport services, attitude of the host country population, etc.

We show in FIG. 1 the extent of surprise caused by the differences in a few factors (we use a 4-point scale – "there are no differences", "insignificant", "significant", "very significant", for the evaluation of the presented statements; in the figure only the cumulative percentages for the last two points are presented).

FIG. 1: Perception of the Differences Between the Host Country and the Home Country



The new environment is perceived as significantly different from the home country. This stresses the need for assimilation of the differences and a significant change in the behavioral models in order to foster the adaptation process.

The study proves that most significant differences are observed in the urban environment, the organization and forms of education at the university, the attitudes towards foreigners, and the communication between people.

The structure of the perceived differences for the Bulgarian students is significantly different from the foreign students. The Bulgarians perceive the urban environment, the educational system and the transport services as most different from their home country. The foreign students rate on the first three places the educational system, the communication and the administrative service (on par with the attitude towards foreigners).

The Bulgarian students also express a higher level of surprise when observing the new environment in comparison with their home country (an average of 74%, while for the other respondents this percentage is 55.5%).

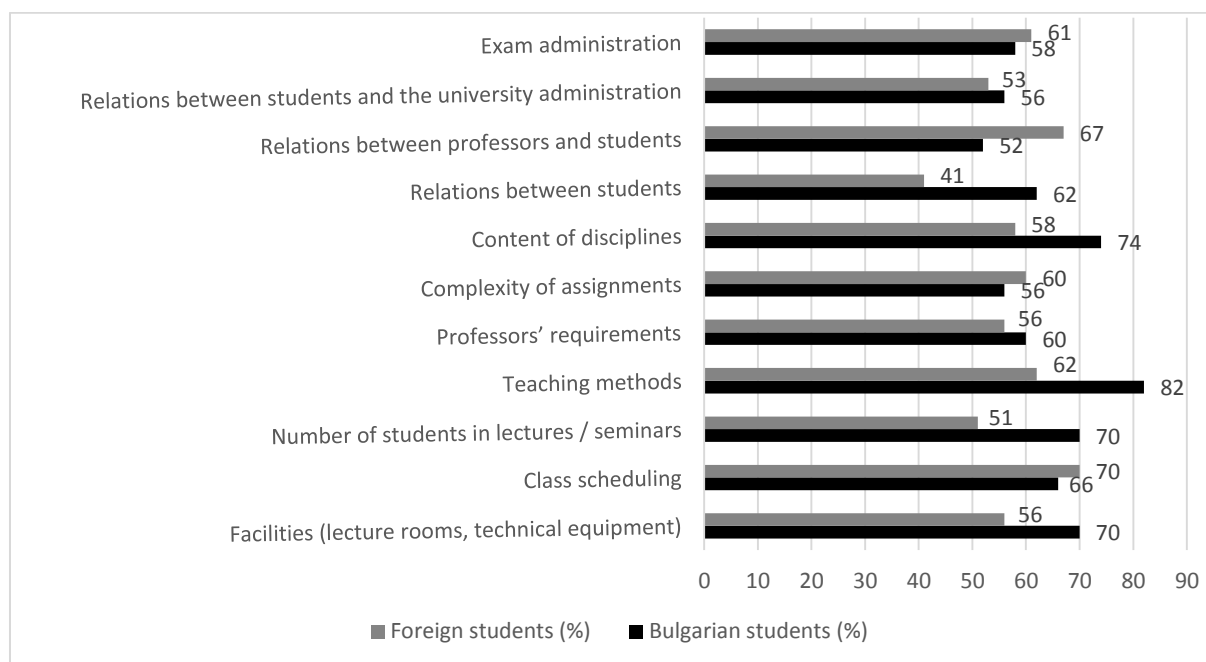
3 Evaluation on the Specific Differences in the Organization of the Foreign Educational System at University Level

In order to achieve the goals of the educational mobility the international students must adapt quickly to the new university environment, and more important – to the educational process. This intensification is determined by the shorter study periods – one or two semesters.

This is the reason why we further investigate the specific differences in the organization of the foreign educational system at university level.

FIG. 2 presents the extent of the differences in the educational institution between the host country and the home country (we use a 4-point scale – "there are no differences", "insignificant", "significant", "very significant", for the evaluation of the presented areas; in the figure are shown only the cumulative percentages for the last two points).

FIG. 2: Perception of the Differences in the Educational Institution Between the Host Country and the Home Country



The comparison of the results confirms the previous conclusion that the Bulgarian students perceive the foreign educational systems as rather different from the one in their home country. The most significant differences are in the teaching methods, the facilities, the number of students in lectures, and the class scheduling. The foreign students perceive as most different from their home university mainly the class scheduling, the relations between professors and students, and the teaching methods. The results represent similar structures of the differences in the educational systems for the Bulgarian and the foreign students.

The overcoming of this greater distance requires more efforts from the students. This process helps the students clarify and focus their goals and choose suitable means for application. We should stress that the success of this task depends on the individual resources and the institutional support from the university.

4 Adaptation Challenges

The successful adaptation to the new environment requires the overcoming of many challenges. This process includes a lot of new information, orientation in the new forms of organization of the social life, overcoming of different stereotypes, modifying unsuitable behavior models and so forth.

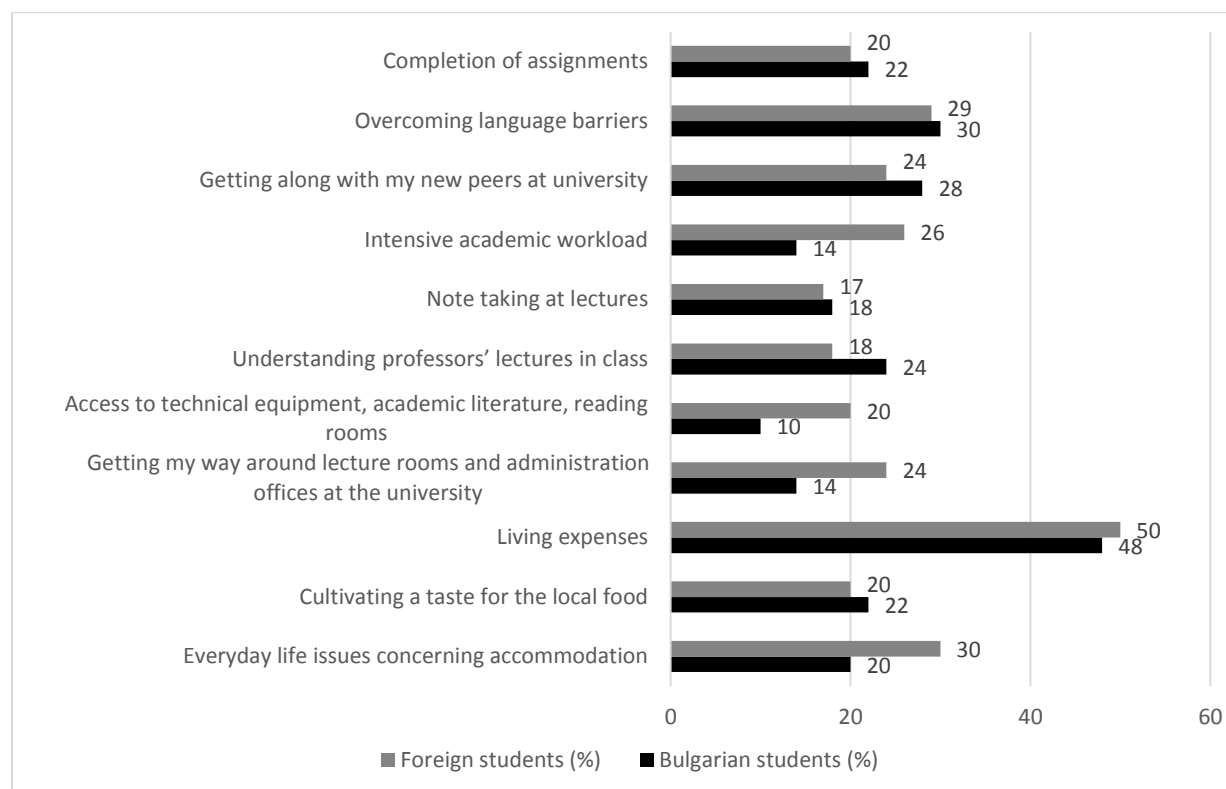
We examine two main areas of challenges – way of life and educational process.

The way of life is divided into three factors – accommodation, cultivating a taste for the local food and living expenses.

The other group of adaptation challenges involves the educational process. Getting used to the organizational specifics of the new university, teaching methods, lecturers, workload and the new peers takes time. The language barriers may slow down this process.

This can be seen from FIG. 3 which presents the significance of the adaptation obstacles (we use a 4-point scale – "no", "rather not", "rather yes", "yes", for stating if there are any difficulties in the presented situations; in the figure are shown only the cumulative percentages for the last two points).

FIG. 3: Significance of the Adaptation Challenges



The majority of the respondents perceive these challenges as insignificant and easy to overcome.

The most challenging areas are the living expenses, getting along with the new peers, the language barriers, and the accommodation (only for the foreign students).

Structural differences are present in the accommodation, understanding professors' lectures in class, and the intensive academic workload. The Bulgarians share problems with the comprehension of the live lectures, while the rest of the respondents state that they are challenged by the intensive academic workload and the accommodation problems.

5 Recommendations

The mobility students have specific needs which should be addressed by a certain set of measures. In this part of the paper we discuss some suggestions regarding the adaptation process as part of the institutional support.

- Intensively seeking opportunities for additional financial aid for the students. The new mobility program ERASMUS + offers a great variety of possibilities.
- Preparation of a detailed guidebook, which should be published online and sent by email to each approved international student.
- Conducting a preliminary survey on the expectations of the students.
- Language courses for different host countries.
- Organization of meetings with students who have participated in educational mobility.
- Organization of the student welcoming and accommodation.
- Welcome days to make students acquainted with the university, the city and the cultural specifics of the host country.
- Organization of meetings with people from the host country.
- Providing an adviser and counselor for the student.
- Inclusion of the student into a group of other international students, as well as into groups of local students – participation in classes, lectures, extracurricular activities, cultural and sport activities.
- Organization of the departure of the student.
- Conducting a survey on the satisfaction of the students with their educational mobility.

6 Conclusion

In this paper we used results from a survey among mobile students across Europe in order to comprehend the variety and depth of the socio-cultural challenges during educational mobility. We examined the perception of the differences between the host country and the home country, got a deeper view of the differences in the educational systems at the institutional level and finally presented the significance of the adaptation challenges. On this basis, we made some suggestions for fostering the students' adaptation process.

The educational mobility's goals are accomplished through institutional, social and individual efforts. The institutions set the rules and provide the necessary conditions for the organization of the financial, educational, living and informational processes. This is the reason why our suggestions are focused on the efforts of the home and host universities.

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CZECH CONSUMER ATTITUDES TOWARD CERTIFICATIONS OF PRODUCTS AND SERVICES

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Abstract: Paper defines consumer attitudes toward certifications on products and services in Czech Republic. Nowadays, a lot of ecolabels are entering Czech market which sometimes leads consumers to confusion about actual quality of the product and what exactly the ecolabel is for. Even in Czech Republic, there are a lot of ecolabels guaranteed by the state or private institutions. This paper focuses primarily on ecolabelling system in Czech Republic, which eco or quality labels can be found in Czech Republic and the problems of ecolabelling. The last part of paper is the summary of findings from the questionnaire.

Keywords: Ecolabelling; Consumer's confusion; Greenwashing

JEL classification: Q13, Q50, M30

Grant affiliation: The processing and publication of this work was possible thanks to purposeful support for specific collegiate research granted to Palacky University in Olomouc in 2015 by the Department of Education, Youth and Physical Culture of the Czech Republic. FF_2015_014 - SGS - Continuity and discontinuity of the economy.

1 Introduction

In the postmodern time society is starting to pay more attention to environmental protection. And at the same time, people had the need to differentiate the products, that have less impact on environment. With this concept environmentally friendly products and services have started to be marked with various certifications. But the beginning of ecolabels has already started in 70s of the 20th century. At that time, the demand for products and services with more environmentally friendly production cycle started to grow. To enable consumers to better identify the environmentally friendly products, producers have started to mark them with ecolabels (Cenia, 2016).

2 Problems of ecolabelling

The growing number of ecolabels and quality labels makes consumers confused about product and service certifications. One of the causes is a low propagation of eco and quality labels, which leads

consumers to confusion about what each ecolabel means. This also means, that a lot of consumers isn't interest in ecolabelling and that makes the companies lose motivation to get the certifications. This is why in these days a lot of companies don't apply for certification, in spite of the fact that their products meet the regulations (Mach, 2016a).

Another problem is that criteria for obtaining certain labels are sometimes vague and inaccurate (Mach, 2016a). For example, companies can obtain „Český výrobek“ („Czech product“) provided by Český výrobek, s.r.o., if their products are made from Czech materials, but it is enough to have only 50 % of Czech materials (Český výrobek, 2016). Because of this, consumers often don't believe in eco and quality labels and they are sceptical about the effectiveness. In addition, sometimes marking of products with these labels is very ambiguous. For example „Ekologicky šetrný výrobek“ marked on egg packaging can confuse customers who may think that this ecolabel means organic origin of the eggs. But the true is that the ecolabel only says that not the eggs but the packaging is environmentally friendly (Mach, 2016b).

In these days, problems with so called greenwashing are also arising. Greenwashing is a company practice in which „green“ advertisement is used falsely or incoherently to confuse the consumers that products or services are environmentally friendly, but in reality they aren't (Vítková, 2010). Problems are also with so called Self-declared environmental claims, in another words company statement in which the company itself declares environmental friendliness of product or service. This statement should meet the ISO 14021 standard, but company doesn't need any approval on how the statement looks (Firemní finance, 2016). This may lead to greenwashing practices.

3 Research methodology

This paper deals with research of consumer's attitude toward ecolabels and other quality labels on Czech market. Intention of this paper was the assumption that more than half of the consumers are confused with the number of ecolabels on market and that they don't know the exact meaning of the labels. The questionnaire was drawn up, posted online and distributed by students of Palacky University Olomouc (Czech Republic). 185 respondents took part in this questionnaire. Survey was conducted publicly and anonymously. The questionnaire consisted of 15 open and 12 closed questions.

The basic research assumptions were:

1. More than half of the consumers don't know the exact meaning of the labels.
2. More than third of the consumers aren't interested in ecolabelling.
3. Women are more interested in ecolabelling than men.

114 women (62 %) and 71 men (38 %) took part in the research. In age category up to 18 years old there were 10 respondents (5 %), from 19 to 30 years old there were 140 respondents (76 %) and over 30 years old there were 35 respondents (19 %). The largest number of respondents were people with completed high school education with maturity diploma 59 %, with completed higher education 34 %, with completed primary education 5% and with high school education without maturity diploma 2 %. The largest number of respondents were students (61 % of all respondents).

3.1 Results of the questionnaire

Results of the survey show that 123 respondents (47 %) are focusing primarily on price when buying products. 82 respondents (31 %) are focusing on used materials, 40 respondents (15 %) are focusing on country of origin and 18 respondents (7 %) on another parameter such as brand, personal experience or recommendation. In this question respondents could choose more than one answer. At the same time most of the respondents (95 %) are aware what “environmentally friendly” means. Only 5 respondents (3 %) answered that these labels are marketing scam or had other negative answers. To question “what ecolabels do you know” 79 respondents (43 %) answered that they do not know any of ecolabels, 46 respondents (25 %) answered Klasa, 19 respondents (10 %) answered Ekologicky šetrný výrobek, 8 respondents (4 %) answered Fairtrade, 6 respondents (3 %) answered Český výrobek, then other labels such as FSC, Alverde or NašeBio were mentioned. 47 respondents (25 %) prefer products and services with certification.

The questionnaire also focused on problems with ecolabelling. From this part it is clear that 22 respondents (12 %) aren't confused about ecolabelling at all, 93 respondents (50 %) have problems regarding ecolabelling and 70 respondents (38 %) don't care about ecolabelling at all. The next optional question was “in what did you see the biggest problem with ecolabelling?”. 18 respondents (12 %) answered that ecolabelling is confusing, 54 respondents (37 %) is confused about the amount of ecolabels and 74 respondents (51 %) have problems with not knowing what each of the ecolabel means.

Next part of the questionnaire was about certain labels. At first, respondents had to answer how the ecolabel is called according to the pictures in questionnaire and then write answer to optional question what each label means. In total, respondents were asked about 8 labels. First label was Ekologicky šetrný výrobek. 83 respondents (45 %) answered that they know this label. The next question was optional and respondents were asked what the label means. 71 respondents knew that it was something about environmental protection. The second label was EU ecolabel. This label was recognized by 27 respondents (15 %). To optional question 28 respondents answered that it is an EU certification for environmentally friendly products. The next label was Český výrobek – garantováno Potravinářskou komorou ČR. Unlike the previous one this label was recognized by 130 respondents (70 %). 88 respondents answered that it is a label marked on Czech products, 8 respondents thought that it is a product guaranteed by Food Chamber and the rest is not sure or don't know. The next one was Klasa which was recognized by 155 respondents (84 %). From 121 answers about what the label means 54 respondents answered that this label is connected to product quality. 27 respondents answered that it is connected to Czech origin of product. In this question the largest number of negative answers appeared. 9 respondents answered that they don't believe in this label. The fifth label was Fairtrade, which was recognized by 86 respondents (47 %). Respondents are aware of the connection with fair trade, no child labour and so on. The sixth label was BIO product ekologického zemědělství known by 102 respondents (55 %). Unlike this Czech ecolabel, EU organic logo was recognized only by 49 respondents (27 %). At the same time, more respondents knew that Czech ecolabel is marked on environmentally friendly products. Unlike this, most of the consumers only guessed connection with EU when they saw the picture of EU organic logo. The last label was FSC certification, which was recognized by 36 respondents (20 %). Only 12 of them guessed connection with forestry.

Based on assumptions set in methodology it is clear that more than half of the consumers don't know the exact meaning of the labels. The results of the research show that more than half of respondents (Ekologicky šetrný výrobek 55 %, EU ecolabel 85 %, Český výrobek – Potravinářská komora 30 %, Klasa 16 %, Fairtrade 53 %, Bio zebra 45 %, bio značka EU 73 %, FSC 80 %) didn't recognize shown labels and didn't know what each label means. Results also proved that more than third of the consumers aren't interested in ecolabelling, because only 25 % of respondents prefer products and services with certification. But the third assumption wasn't proved. Men has approximately the same interest in ecolabelling as women. Only 27 % of male respondents and 25 % of female respondents prefers products with certification.

4 Conclusion

The results of the research show that respondents are more familiar with Czech labels. The interesting fact is that the largest group of respondents (students) prefers not only price but also materials when buying products. Research also showed that education doesn't have big influence on consumer's attitude toward ecolabelling. In the group of respondents with higher education 56 % don't have any problems with ecolabelling, in the group of respondents with high school education 49 % of respondents don't have any problem.

Czech consumers don't have problem only with greenwashing, but also with the amount of labels, because a lot of them are confusing. Because of that consumers often don't know the meaning of the label. This was also shown in the survey, where for example only 27 % of respondents recognized EU organic logo. Another problem is with credibility of certain labels. Czech consumers are often sceptic about effectiveness of the label.

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MOTIVATION AND STIMULATION AS A KEY INSTRUMENT OF EMPLOYEES STABILIZATION

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Abstract: *In the current turbulent times, there is a significant turnover of staff across the labor market. The departure of high-quality employees is for the employer connected not only with the loss of human capital, as well as with financial investments incurred for training and further employees' education. Motivation and stimulation of employees in particular, is one of the key areas of stabilization, which employers should pay particular attention. Article will deal with the issues of motivation and stimulation of employees, which ultimately lead to the contentment and is basically associated with employees' stabilization.*

Keywords: *Employees, Motivation, Stabilization, Stimulation.*

JEL classification: J01, M00

Grant affiliation: *Systém sociálního zabezpečení jako nástroj motivace a stabilizace zaměstnanců Ministerstva obrany České republiky. SYSOZA (SV14-FEM-K102-03-POP).*

1 Origins and definitions of the motivation and stimulation

In the second half of the 20th century, were created the theories of motivation that were contradictory in its starting points and competing principles. For example, theories emphasizing the cognitive processes versus theories emphasizing needs as key factors for motivation process. Scientists gradually coming up with more and more concepts on which it relied and founded another theories about motivation. Latham and Locke (2004), in his work created a list of all existing theories and branded them as partial and, therefore, that every sub-theory of motivation based on partial definitions of motivation.

The word motivation comes from the Latin word "moveo", the meaning of which in English means to move. Motivation can be defined as an inner psychological process, causing activation, direction and maintain behavior (Young, loc. according to Nakonečný, 2002). His view points to be functional division of motivational theories into two groups according to rather explain whether the cause of the behavior and motives, or whether they explain the process of formation of behavior, from

motives to results. Theories of the first group addresses energizing influence behavior, ie how hard you try, or the possibility of appropriate interventions in the environment affect the effectiveness of efforts - choice of means to achieve the objective. Theories of the second group show how to create a bridge between wanting and achieving because they describe the process as selected targets to achieve.

Pauknerová in her work defines motivation as a set of internal driving forces, which are focusing in a particular direction, energize him, and is maintaining the resulting activity. Outwardly, these forces manifest themselves in the form of motivated behavior (Pauknerová, 2006). By the term of stimulation then Pauknerová means the external incentives affecting motivation.

All organizations should be concerned about how to achieve a consistently high level of performance. That means paying special attention to the most appropriate ways of motivating people using tools such as various incentives, rewards, leadership or conditions within the organization.

2 Motivation theories

Motivation theories examine the process of motivating. It explains why people behave in a certain way and why they pursue specific efforts. It describes the possibilities for the organization to encourage people to apply their abilities and make efforts to promote the goals of the organization, but also satisfying their own needs. It also deals with job satisfaction and it is creating factors and influence on job performance. In most roles there is a space within which staff decides on the amount of effort. Voluntary efforts beyond the requirements of the employer may be a key component of organizational performance. But the motivation process is a complex system involving different needs and objectives and the procedures to satisfy us. Therefore we can not believe that only one way of motivation can be applied to employees.

(Arnold et al., 1991, loc. according to Armstrong, 2008) identified three basic components of motivation:

- direction - what a person is trying to do;
- effort - the degree of diligence in this activity;
- endurance - how long trying.

People are motivated when they expect that their certain behaviors will achieve the desired goal and valuable rewards leading to satisfy their needs. Well-motivated people are then those who have clearly defined goals and taking steps, from which they expect to achieve these goals. Most people to proceed this way, however, need greater or lesser degree of motivation from the external environment. The organization as a whole can create an environment in which to achieve a high level of motivation with the help of incentives and rewards, job satisfaction and opportunities for further education and personal growth. However, managers are playing in stimulating the main role in which are using their skills to motivate employees to achieve the best results. So that they can act, must understand the motivation processes and how motivation works and what its types exist.

2.1 Internal and external theories

According to Hull (loc. according to Armstrong, 2008), there are two types of motivation to work. In the first case, which can be described as internal motivation, people motivate themselves the process of searching for and finding work that meets their needs, or at least leads to the

fulfillment of the objectives set. Factors conditioning the negotiations as responsibility, autonomy, opportunity to use and develop skills and abilities, interesting and stimulating work or opportunity to advance within the occupational hierarchy. (This option is the best for the organization). In the second case we are talking about the so-called external motivation. There is a need for intervention by management using techniques such as remuneration, commendations and promotions. The other possibility is the use of punishment, such as criticism, reduction in salary or disciplinary proceedings. External motivators tend to have an immediate and significant effect, however, may not work in the long term. In contrast, the inner motivations related to the quality of working life have long-term effects, but their effect is usually not immediate.

Approaches to motivation are based on theories of motivation. Among the most important may include:

- Instrumentality theory;
- Theory focused on content;
- Theory focused on the process.

2.1.1 Instrumentality theory

Instrumentality theory is based on the belief that if we do one thing, it will lead to other things. The essence of this theory is that people work only and only for the money. This theory comes from the second half of the 19th century and is based on the assumption that the person will be motivated to work if rewards and punishments are tied directly to his performance. Theory has its roots in Taylor's methods of scientific management (Taylor, 1911, loc. according to Armstrong, 2008), where he writes that "it is impossible to get over any long period of time workers to work harder than the average person in their neighborhood, if they're not provide substantial and a permanent increase in their cash rewards."

Motivating employees, based on this method has been and still is widely used and in some cases may be successful. However, it is based solely on the control system and defies most people's needs. It also does not take into account that a formal management system and control may be largely influenced by informal relationships in the workplace.

2.1.2 Theory focused on content

Unmet need leads to the necessity of carrying out steps and choose how behaviors that lead to its satisfaction by achieving goals. On the other hand not all needs have the same intensity, and people have different needs. Maslow developed a theory of needs (Maslow, 1954, loc. according to Armstrong, 2008), when talking about the so-called hierarchy of needs. It sets out five main categories of needs common to all people.

The so-called Maslow's hierarchy of needs consists of the following needs:

- Physiological - oxygen, food, water, and reproduction.
- Security and safety - protection against danger and ample meet the physiological needs.
- Social - love, friendship, being part of the group.
- Recognition - the desire for success, self-confidence, independence, freedom, reputation, - recognition, attention and appreciation

-Self-confidence - to develop skills and abilities, fulfill their own dreams, goals and wishes.

Maslow's theory assumes priority to meet the needs on the lower level and only then you can go to meet the needs for higher levels. This theory has a significant impact so far, but on the other hand, has never been empirically verified and is criticized for its inflexibility. The author himself expressed doubts about the validity of a strict hierarchical organization needs.

2.1.3 Theory focused on the process

Another motivation theory falling into this category is Herzberg's two-factor model (Herzberg, 1957, loc. according to Armstrong, 2008).

The theories focused on the process are an emphasis on psychological processes influencing motivation and basic needs. Sometimes they are also known as cognitive theory, because they deal with how people perceive their work environment. These theories may be useful for managers than the theory of needs. Among the theories focused on process may include:

- Expectancy Theory;
- Theory of Targets (goals);
- Theory of Justice.

Expectancy Theory

Expectancy theory more closely defined Vroom (Vroom, 1964 loc. according to Armstrong, 2008). "Whenever an individual chooses between alternatives that involve uncertain outcomes, it seems clear that his behavior is influenced not only by his preferences, relating to these results, but also the degree of his belief that these results are possible.

Expectation is defined as current belief regarding the likelihood that after a certain act to follow certain result. Expectations can be characterized in terms of their strength. Maximum power signals subjective certainty that the act will follow after the result, while the minimum signals subjective certainty that the act will not bring the result. "

The strength of expectation, therefore, is based on past experience, but people are getting into new situations and unfamiliar to them. These situations may include changing jobs or working conditions. In these situations may reduce the level of motivation (Armstrong, 2008).

Theories of Targets (goals)

(Lathan and Lock, 1979 loc. according to Armstrong, 2008) argue that the performance and motivation are higher if the targets are, despite their demanding nature, acceptable and there is feedback on performance. The essential feature of this theory is the participation of individuals in the setting goals at the emphasis on feedback. This theory is associated with the concept of management by objectives. It often failed because of bureaucratic use. Unskilled managers were not aware of the importance of achieving approval, support and feedback from staff.

Theory of Justice

Theory of justice is based on the perception of workers how they are compared with other workers treated. Fair treatment is based on the fact that the workers are treated in the same way and also is

based on subjective feelings and constant comparison. So people are motivated in case of fair treatment, and vice versa in the case of explicit or implicit unfair treatment. (Tyler and Bies 1990, loc. according to Armstrong, 2008) recognize the five factors perception of procedural fairness. This is a reasonable consideration of the worker's opinion, the suppression of personal bias to the workers, the same criteria are applied consistently to all employees, providing timely feedback and provide adequate explanation of decisions taken.

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THE DEBT CAP FOR PUBLIC FINANCE – THE CURRENT SITUATION IN THE CZECH REPUBLIC

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Abstract: *In the long run, public budgets in a great majority of developed economies suffer from recurring deficits and an increasing public debt. However, the condition of public finance deteriorated even in times of economic conjuncture, so the onset of the crisis in 2008 caught most of the developed world without financial reserves, or the so-called fiscal cushion. Thus most EU countries now fail to fulfill both the Maastricht Convergence Criteria and the Fiscal Compact Treaty, even if these are binding legal norms of the EU. Despite this, some EU countries voluntarily accepted a sort of financial debt cap, which the government of the Czech Republic accepted in February 2015 in the form of the so-called financial constitution, which contains a whole range of mechanisms at all levels of public budgets and public expenditures with a public debt in the amount of 55% of the GDP. The goal of this contribution is to analyze the content of the financial constitution, assess its structure and the aspects of its process application, and through selected public budgets also its possible influence on the whole economy. The content of the financial constitution shall also be compared to similar mechanisms abroad, especially in the neighboring countries.*

Keywords: *debt cap, deficit, financial constitution, public budgets, GDP.*

JEL classification: H63

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1 Long-term sustainability of public finance

A large majority of developed economies within the EU annually suffer from chronically repeated deficit of public finance resulting in an increasing public debt. The costs related to servicing such debts have brought some countries to the verge of bankruptcy, and only international loans provided by the European Commission and the International Monetary Fund, or the use of resources of the European Stabilization Fund saved them from going bankrupt. The increase of public debt measured by its debt-to-GDP ratio also concerns the Czech Republic, even though in comparison to most EU countries the Czech Republic shows only a small debt.

The admission of a member country of the EU into the eurozone is, besides the compliance of legal regulations of the given country with Articles 130 and 131 of the Treaty on the Functioning of the EU and the Status of the European System of Central Banks and the European Central Bank (ECB), conditioned by the achievement of a high degree of sustainable convergence. The degree of sustainable convergence is assessed in compliance with the Maastricht Convergence Criteria. These include HICP inflation (price stability), government budget deficit (long-term sustainability of public finance), government debt-to-GDP ratio, exchange rate stability, and long-term interest rates. These criteria are mentioned in Article 140 of the Treaty, and specified further in Protocol 13 on the Convergence Criteria added to the Treaty. Besides three criteria which are mainly focused on the area of currency policy, the crucial criterion is long-term sustainability of public finance (MF ČR, 2016).

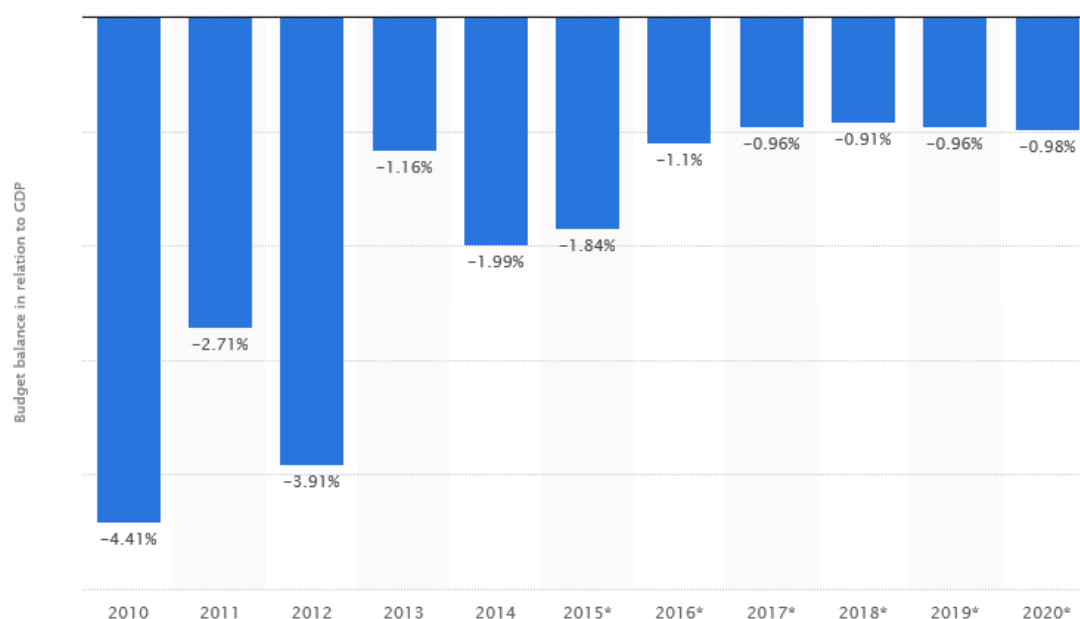
The criterion of a long-term sustainability of public finance means that the given country is not subject to the decision on an excessive budget deficit. The criterion has two parts (ČNB, 2016):

The criterion of public deficit means that the ratio of planned or real deficit of public finance to the gross domestic product in market prices shall not exceed 3% except those cases when the ratio has either dropped significantly or continued dropping to a level close to the reference value, or its having exceeded the reference value was only exceptional and temporary, and the ratio remains close to the reference value. Public deficit means a deficit related to the central government including regional and local authorities and social security funds, with the exception of commercial operations defined in the European system of macroeconomic accounts,

The criterion of public debt means that the ratio of public debt in market prices to the gross domestic product shall not exceed 60% except those cases when the ratio is adequately decreasing and approaching the reference value. Public debt means the gross sum of debts in nominal values at year's end, consolidated within and between individual branches of the state sector.

The criterion of the condition of public finance sets the conditions for maximum amount of the total deficit and debt of the government institutions sector. Currently, the Czech Republic is meeting this criterion. Failing to meet this criterion results for all member states of the EU in taking up the excessive deficit procedure (Excessive Deficit Procedure, EDP), in which the Czech Republic found itself between December 2009 and June 2014. The current goal of the fiscal policy of the Czech government (see Government Policy Statement) is to continue meeting this Maastricht criterion in the future. To be more specific – the government's fiscal strategy approaches a deficit of 2.2% of the GDP in 2015, 1.4% in 2016 and 1.1% in 2017. The main risk for this development is the not yet stable situation in the eurozone and its possible impact on the economic development of the Czech Republic. The FIG. 1 shows the Czech budget balance since 2010 with its forecast till 2020:

FIG. 1: Czech budget balance 2010 – 2020 (forecast)



Source: (Statista, 2016)

The so-called Fiscal Pact was accepted together with the Maastricht criteria in 2012, which is an intergovernmental treaty of 25 countries of the EU on a legally enforceable stricter budget discipline of the signatories. Its full name is the “Treaty on Stability, Coordination, and Governance in the Economic and Monetary Union”. The pact was meant to save the euro which suffers from an imbalanced combination of a united monetary policy controlled by the European Central Bank and independent fiscal (budget) policies which are controlled by individual countries.

The main goal of the Fiscal Pact is the requirement for the annual structural deficit not to exceed .5% of the GDP. Countries with a debt significantly lower than 60% of the GDP, which is the case of the Czech Republic, may have a deficit of up to one percent. This rule, also referred to as the debt brake, shall be introduced into the national constitutions or laws.

The ratio of the government debt to the GDP in the Czech Republic has always been under 60%. Thanks to a relatively small government debt in the past the Czech Republic has not had problems meeting this indicator, even if its debt had increased significantly between 2009 and 2012. The debt in 2014 is expected to be 43.8% of the GDP, i.e. 2.0% lower than in 2013. The decrease of the relative level of debt is caused by a gradual dissolution of financial reserves created in the previous years, and sharing liquidity of public subjects. In the mid-range horizon the relative level of government debt should continue to drop slowly until it reaches the level of 41.7% of the GDP by 2017. Long-term risks for the future development are mainly posed by expected negative impacts of aging of the population. If there are no structural changes in the pension and health care systems, it will be necessary to count with a further increase of the debt-to-GDP ratio in the long run. The following table shows the development and prediction of fulfillment of the criterion of long-term sustainability of public finance in the Czech Republic as well as figure shows the current situation in national debt in last 10 years.

TAB. 1: Fulfillment of the criterion of long-term sustainability of public finance in the Czech Republic 2011 – 2017

	2011	2012	2013	2014	2015	2016	2017
Balance of the sector of government institutions							
Value of criterion	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0	-3.0
Czech Republic	-2.9	-4.0	-1.3	-1.5	-2.2	-1.4	-1.1
Debt of the sector of government institutions							
Value of criterion	60.0	60.0	60.0	60.0	60.0	60.0	60.0
Czech Republic	41.0	45.5	45.7	43.8	42.3	42.1	41.7

Source: (ČSÚ et MF ČR, 2016)

FIG. 2: Czech government debt to GDP in last 10 years



Source: (Eurostat, 2016)

2 Proposal of Financial Constitution

The concept of financial constitution is by no means something completely new. A form of debt brake has been discussed in the Czech Republic for several years, and that with a much lower public debt-to-GDP ratio. In February 2015 the government passed a constitutional bill on budget responsibility and bill on the rules of budget responsibility, and also passed a bill changing some laws

related to accepting legal regulations concerning budget responsibility. However, passing the act on budget responsibility will not be easy since it is a constitutional act, which has to be passed by a qualified majority, which means five fifths of all deputies and at the same time five fifths of present senators. The president cannot veto this bill.

The Act on the Rules of Budget Responsibility is a general legal regulation to further regulations in the budget area, which is why it only contains basic requirements, which are further specified by a special legal regulation, e.g. the Act on Budget Rules of Regional Budgets, or the Act on Departmental, Area, Company, or Other Insurance Companies.

From the viewpoint of practical budget-fiscal measures at all levels of public budgets, the most important is § 13 of the bill. On reaching a debt of at least 55% of the nominal GDP in compliance with Article 4 of the Constitution Act on Budget Responsibility dealing with the way how public institutions should proceed while enforcing these measures (Moderní obec, 2015).

The government shall pass and submit to the Chamber of Deputies a proposal for a medium-term outlook of the state budget and state funds' budgets, which lead to a sustainable condition of public finance; in case the state budget bill or state fund budget bill are submitted without actually fulfilling this condition, the government shall withdraw such a bill and immediately submit a new one,

The government shall submit to the Chamber of Deputies proposals of balanced budgets of health insurance companies; deficit proposals can only be submitted in case that the deficit could be paid using no more than 1/3 of the financial balance of a particular insurance company from the past, or using a returnable financial aid,

A local government unit (LGU) shall pass their budget for the coming year as balanced or surplus budget; the budget of an LGU can only be passed as a deficit one if it is possible to pay the deficit using financial means from the previous years or using a returnable financial aid. Using a contractually secured loan, credit or revenue from selling municipal bonds of the LGU is only possible to pay a deficit arising from pre-financing projects co-financed from the EU budget,

Public institutions which were not mentioned above must not, for a period during which the debt represents at least 55% of the gross domestic product, establish new contractual commitments except commitments regarding projects co-financed from the EU budget or commitments necessary to fulfill a court verdict or a public authority decision, leading to an increase of the debt of the sector of public institutions for a longer period than one calendar year.

New regulations shall pertain to the whole sector of public institutions, which in the Czech Republic includes approximately 17,500 subjects of public administration. It means:

- Organizational units of the state (283),
- State-funded organizations (123),
- State funds (6),
- Public research institutions (67),
- Public colleges (26),
- Public health insurance companies (7),
- Basic and higher local government units (6,247 + 14),
- Organizations funded by local government units (9,819),

- Voluntary unions of municipalities, so-called micro-regions (735),
- Regional territorial units - NUTS II (7),
- Corporate entities founded and financed by a public institution or controlled by a public institution entitled to nominate or remove its managers.

At the same time the salary base for the calculation of salaries of constitutional officials should decrease by one fifth, and there will be no funds for the remuneration in the sector of public institutions. The government shall also be allowed to decide on a lower increase of pensions being paid than as stipulated by law. The proposal of the department also counts on establishing a three-member National Budget Council. Its goal will be to evaluate the fulfillment of budget goals, monitor the economy of public institutions, and prepare a report on the sustainability of public finance. Besides this, there should be a seven-member Committee for Budget Prognoses which should evaluate the prognoses of the Treasury Department.

These regulations shall not apply in the following instances:

In case of a serious worsening of the economic development for the duration of 24 months from the first day of the calendar month following the calendar month during which the Czech Statistical Authority in its quarterly national budgets publishes an inter-quarterly decrease of the gross domestic product, taking into account price-related and seasonal influences and the number of workdays in the last quarter, by at least two percent, or an inter-yearly decrease of the gross domestic product taking into account price-related influences in the last quarter by at least three percent,

In case of an emergency, threat to the state, or state of war,

For the duration of emergency measures declared by the government in order to increase the defenses of the state in case of a worsening of the state's defenses, or

For a period of 24 months from the first day of the calendar month following the calendar month during which the department publishes the fact that the sum of the necessary expenditures of the state budget to remove the effects of a natural disaster which affected the territory of the Czech Republic and the expenditures resulting from the fulfillment of international treaties and other international commitments of the Czech Republic has exceeded three percent of the nominal gross domestic product.

3 Debt Brake for Municipalities and Regions

With special emphasis, the Act on Budget Responsibility deals with the economy of local government units, stipulating their basic form in § 19 of this act:

Shall the debt of a local government unit exceed 60% of its average income in the previous 4 budget years as of the balance date, such a local government unit shall be obliged to decrease this debt in the next calendar year by at least 5% of the difference between its debt and 60% of its revenue in the previous 4 budget years,

Shall the local government unit not decrease its debt, and its debt as of the next balance date exceeds 60% of its average revenues in the previous 4 budget years, the (Treasury) Department shall

in the next calendar year decide in compliance with the Act on Budgetary Rules and Changes on suspending the transfer of its share in tax revenue,

The revenues of local government units for the purpose of this act are understood to be the sum of all monetary payments accepted into the budget in the given fiscal year, consolidated in compliance with a different regulation,

A debt of a local government unit for the purpose of this act is understood to be the value of unpaid obligations ensuing from issued bonds, accepted credits, loans and returnable financial aids, realization of fulfillment ensuing from pledges and issued bills of exchange.

As of December 31, 2013 92% of Czech municipalities had fulfilled the above-mentioned debt rule, i.e. they had a debt of up to 60% of their average revenue in the previous four budget years. As of the same date approximately 500 municipalities, i.e. 8% of the total number, had exceeded this limit. Only 198 municipalities (3.2%) had exceeded 100% of their average revenue in four budget years. Over 84% of the municipalities in question had a pledge on shared taxes of less than 5% of their total revenue, and in case of 93% of municipalities it should be less than 10% of their revenues. Almost 80% of those municipalities whose ratio of suspended tax revenue against the total revenue would exceed 10% would be able to finance this debt by means of the balance in their accounts, and over a half of them even for one or more election terms.

Higher local government units – regions – are a bit better off. As of the above-mentioned date none of them had breached this rule, with the average debt indicator showing 19.99% (Ryšavý, 2015).

4 Mechanism of the Debt Brake in Selected Countries

Certain forms of the debt brake are implemented in most countries of the EU. They were mostly accepted as prevention against a country's falling into a debt spiral, using a loan to pay off another, and thus facing the imminent risk of government bankruptcy, which some southern countries of the EU have in fact been through.

Slovakia

Slovakia has had a cap against a dangerous increase of indebtedness since March 1, 2012. The Constitutional Act has four main provisions: constitutional limitation of the public debt with a cap of 60% of the GDP, the establishment of the Council for Budget Responsibility, rules for transparency of public finance, and rules and limitations for the economy of local governments.

Shall the debt exceed 50% of the GDP, sanctions will be triggered and intensify with every increase. At 50% debt the Treasury Secretary must explain the reasons for it and propose measures to change it. At 53%, a package of measures is accepted and government salaries are frozen. At 55%, an automatic 3% expenditures freeze for the next year takes effect (except for European funds).

At 57%, the government shall propose a bill for a balanced budget, and on reaching the cap, i.e. 60% indebtedness, the government shall ask the parliament for confidence. The Council for Budget Responsibility shall have three members for seven years, whose mandate shall not be extendable. They shall be assisted by a team of analysts. This law creates mechanisms and tools for the prevention of indebtedness.

The rules of economy of local governments were reached through compromises. The government gave up a tax mix, thus the state shall not save the local governments in case of insolvency, but shall ensure financial means during the transfer of new competencies. A penalty has been implemented for those local governments which exceed a 60% debt of their normal revenue from the previous year, which is a provision similar to a provision which will also be effective in the Czech Republic in the future. An audit shall be performed in the whole public service to find out what kind of competencies local governments have and how they are secured. The state shall not transfer competencies to local governments without adequate funding.

Spain

Spain was the first state in the eurozone to implement the institute of debt brake. In September 2011 Spain introduced limits of budget deficit and public debt into the constitution. Spanish amendments to the constitution do not contain any exact limits as it is in Slovakia. However, an implementation act, which shall take effect in 2020, is a part of it. This act sets the cap of budget deficit at 0.4% of the GDP and sets criteria for gradual decreasing of the debt. The debt volume in relation to the GDP must not, according to constitutional norm, exceed the Maastricht criteria set for the eurozone countries, according to which public debt, as the sum of the state debt and debts of local governments, must not exceed 60% of the GDP, and the budget deficit must not exceed 3% of the GDP. Spain expected that by accepting this golden rule of budget stability it would appease skeptical financial markets. The state debt in the year of accepting this amendment reached almost 69% of the GDP and the budget deficit approached 6% (Euroskop, 2016).

Switzerland

The Swiss debt brake is a rule which restricts expenditures in order not to exceed the volume of structurally modified budget revenues. It means that expenditures must respect revenues, but not in the strict sense of annual balance. The Swiss federal budget may be adopted even with a deficit. There is no verisimilitude to the Maastricht criteria for maximum deficit: theoretically, its volume can be as large as they wish.

However, expenditures must respect the trend of revenue development. Expenditures of the federal government have a cap which is calculated as the function of budget revenues and the current position of the economy in the course of the economic cycle according to the following simple formula:

$$\text{Expenditures} = \text{Revenues} * K,$$

Where

$$K = Z / Y,$$

Z = trend of the gross domestic product,

Y = current value of the gross domestic product.

Thus if coefficient K is greater than 1, it means that the economy is below its potential, thus it is possible to allow expenditures greater than revenues. On the contrary, if the economy is “overheated” and $K < 1$, a surplus budget is required.

The goal is to keep the total expenditures of the federal government relatively independent of the economic cycle, thus the growth of expenditures reflected the trend, long-term growth of the economy. Tax revenues shall fluctuate depending on the economic cycle, which means that it is not necessary to raise taxes in the period of recession and thus deepen it. So the Swiss debt brake is not procyclic, as it does not worsen the course of a recession. On the contrary, it helps balance recessions in the spirit of Keynes' teaching. However, shall the government follow the traditional orthodox policy of balanced budgets in every budget year, the debt brake will not rule this policy out.

The Swiss implementation regulation regarding the debt brake also works with a compensation account which adds the values of deficits and surpluses once the final balance for the particular year is known. Deficits in this account must be taken into account while calculating a new expenditure cap for the coming years. If the deficit exceeds six percent of the expenditures, the surplus amount must be eliminated during the nearest three annual budgets by decreasing the expenditure caps.

We need to note that the Swiss federal budget does not distinguish standard and investment expenditures in terms of the total expenditure cap. This is intentional since it is not possible to simply claim that macro-economically speaking standard expenditures are "bad" while investment expenditures are "good". Any kind of investment in infrastructure regardless of future usefulness does not have to be better than standard expenditures on salaries or the running of the country (Geier, 2011).

The complete text of the Swiss debt brake is found in Article 126 of the Swiss Confederation:

The Confederation shall keep its revenues and expenditures balanced in the course of time.

The cap for total expenditures, which is supposed to be passed within the budget, is based on expected revenues considering the economic situation.

Exceptional financial requirements may substantiate an adequate increase of the cap as stipulated in Paragraph 2. The Federal Assembly shall decide on every cap increase by an absolute majority of all (not only present) votes.

If the total expenditures of the federal budget exceed the cap as stipulated in paragraphs 2 or 3, it will be necessary to compensate for these expenditures by savings.

Details are to be stipulated by law.

The Swiss debt brake was first applied relatively recently – as late as 2003. While being used, it succeeded to decrease the growth of public expenditures from an average 4.3% to 2.6%, and the total Swiss state debt decreased from 53% of the GDP to 36.5% of the GDP (Kohout, 2015).

Poland

The Polish Constitution, effective since October 1997, stipulates such a provision, which makes the government take measures in case that the public debt reaches 55% of the GDP. Shall the debt reach 60% of the GDP, the constitution forbids the government to render loans and state guarantees, and thus further indebt the country.

This relatively less developed country has been experiencing a constant economic growth for over two decades, and is the only economy of the EU that avoided a deeper recession during the financial crisis.

A 17-year tradition of constitution-embedded anti-debt rules also probably contributes to the fact that Poland strongly supports German requirements of budget discipline and savings. The constitutional restriction of future indebtedness of both Germany and its states was passed by the German parliament in June 2009. The states will not be allowed to create new debts starting 2020, and only a deficit up to 0.35% of the GDP will be allowed starting 2016.

5 Conclusion

The need to introduce debt brakes throughout the member states of the EU ensues from the wording of the Fiscal Pact, which adds to the Maastricht Convergence Criteria the limit of the structural deficit of public finance, and which has been adopted by 25 states of the EU including the Czech Republic as of today. However, it will become a legally binding norm for the Czech Republic only after its entering the eurozone. The institute of debt brake, or the fiscal constitution, has been adopted by the individual countries voluntarily, since the condition of public budgets of most countries of the EU is not sustainable in the long run, and the need for fiscal correlation toward public debts is clear and objective, and is the subject of societal consensus.

Taking into account the fact that in case of the Czech Republic it is just the first proposal of a fiscal constitution, or debt brake, and might eventually become effective as of January 1, 2016, the Czech Republic will not be among the first countries to have adopted it in their legal system. However, its content is fully comparable to similar institutes abroad. The financial constitution of the Czech Republic respects the limit for long-term sustainability of public finance, mainly the limit of the state debt in the amount of 60% of the GDP. Thus it takes effect with the public debt reaching 55% of the GDP in order to have enough time to adjust the development of public budgets and public finance. The financial constitution also concerns basically all levels of public budgets, not only the state budget, but also the budgets of local governments, i.e. budget of local government units, even if those periodically show better fiscal condition than the state budget.

An inseparable question while discussing the concept of fiscal constitution are also wider issues of the macro-economic development. This concerns not only the nominal amount of deficits and the public debt, but their relative relation in respect to the GDP. It is namely this economic recovery and the growth of the GDP which lead to a better tax revenue of the state, a more favorable debt service, a smaller demand for public budgets, lower unemployment, and other positive impacts on the economy of the civil service and local governments.

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ON PROBLEMS IN INTRODUCING FAIR VALUE MODEL IN AGRICULTURAL ACTIVITIES IN POLAND AND OTHER EUROPEAN UNION COUNTRIES

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Abstract: *The aim of an article is to present the results of studies on possibilities to use category fair value to evaluate biological assets and agricultural produce in Poland and other EU countries. The requirement to use fair value was introduced in 2003 in the context of International Accounting Standards- 41 Agriculture. This standard has been already adopted in some countries, and in other they still discuss the need to of its introduction. The requirement of valuating biological assets and agriculture produce leads to increase of booking value of assets what distorts interpretation of real level of effectiveness of agricultural activities. The research was based on interviews with appraisers in Poland in 2015. These were appraisers appointed in Poland to evaluate fair value in farms. Research results show that the use on principles of IAS -41 in Poland creates a set of problems, including appearance of the so called creative accounting in agriculture.*

Keywords: *international accounting standards, fair value, agricultural accounting*

JEL classification: H30

Grant affiliation:

1 International Financial Reporting Standards in European Union countries

International Accounting Standards (and International Financial Reporting Standards) are designated to provide better comparability of financial reports in different countries. So far in different countries there are big differences between tax and accounting regulations. Because of this reason financial results reported, and financial reports differ in artificial way. This is real problem in the time of open and global market, where investors before making investment decisions evaluate value of companies and they take into account data provided by companies. International Accounting Standards are for some countries obligatory and for other they are recommended. Also still in some countries they are forbidden. Table 1 shows legal position of International Financial Reporting Standards in different countries.

TAB. 9: IFRS implementation in the EU

Country	Publicly traded companies		Non publicly traded companies	
	Consolidated account	Individual accounts	Consolidated account	Individual accounts
Austria	Required	Not allowed	Allowed	Not allowed
Belgium	Required	Not allowed	Allowed	Not allowed
Bulgaria	Required	Required	Required	Required
Cyprus	Required	Required	Required	Required
Czech. Rep.	Required	Required	Allowed	Not allowed
Denmark	Required	Allowed	Allowed	Allowed
Estonia	Required	Required	Allowed	Allowed
Finland	Required	Allowed	Allowed	Allowed
France	Required	Not allowed	Allowed	Not allowed
Greece	Required	Required	Allowed	Allowed
Spain	Required	Not allowed	Allowed	Not allowed
Netherlands	Required	Allowed	Allowed	Allowed
Ireland	Required	Allowed	Allowed	Allowed
Lithuania	Required	Required	Allowed	Allowed
Luxemburg	Required	Allowed	Allowed	Allowed
Latvia	Required	Required	Allowed	Allowed
Malta	Required	Required	Required	Required
Germany	Required	Not allowed	Allowed	Not allowed
Poland	Required	Allowed	Not allowed	Not allowed
Portugal	Required	Allowed	Allowed	Not allowed
Romania	Required	Allowed	Allowed	Allowed
Slovakia	Required	Allowed	Required	Allowed
Slovenia	Required	Allowed	Allowed	Allowed

Sweden	Required	Not allowed	Allowed	Not allowed
Hungary	Required	Not allowed	Allowed	Not allowed
U.K.	Required	Allowed	Allowed	Allowed
Italy	Required	Required	Allowed	Allowed

Source: Guggiola, G.(2010). IFRS adoption in accounting harmonization and markets efficiency E. U.: A review. The International Business&Economics Research Journal, 9(12), 99-112.

Data shows that in most UE countries IAS are required for consolidated accounts of publicly traded companies. The problem is that in EU countries, as everywhere vast majority of companies are small and medium size companies and they are not likely to become joint stock companies listed on stock exchange. So most recommendations of IAS/IFRS do not apply to most of companies. This situation is especially concerned with agricultural firms of which very few are listed on stock exchange.

2 Principles of agricultural accounting in selected countries of the world

Table 2 shows those principles of accounting and specific elements of accounting system used in Australia, United Kingdom, France, Czech Republic and USA.

TAB. 2: Principles of accounting in agriculture in selected countries

Elements of accounting systems	Australia (before 2005)	UK	France	Czech Republic	USA	IAS/IFRS
Reporting system	AASB	UK GAAP	PCG	CAS	US GAAP	IAS/IFRS
Agricultural activity reporting	AASB 1037	No special requirement	PCGA	No special requirement	SOP 85-3	IAS-41
Profit and loss statement structure	Two-sided	vertical	vertical	vertical	vertical	vertical
Prevalent cost presentation	By - function	By- nature	By- nature	By- nature	By- function	Both ways of presentations
Prevalent biological assets measure-	Net market value	Historical cost	Historical cost	Historical cost	Historical cost	Fair value less cost to sell

ment						
Change in value reporting	In profit or loss	No changes are reported	No changes are reported	No changes are reported	No changes are reported	In profit or loss

Elad, Ch. (2004). Fair value accounting in the agricultural sector: some implications for international accounting harmonization. *European Accounting Review*, 13, 621–641.

Data used in the table 2 show that in some countries they use historical costs. Only in Australia they introduced valuation based on net market value. The level of reported financial results is highly influenced by changes of fair value in financial reports. So it is the only Australia that adopted IAS-41 „Agricultural”.

Evaluation of biological makes essential change on the reported financial effects of firms that have adopted IAS 41.

At the table 3 the most spectacular examples of consequences of introducing the valuation based on fair value. Examples concern two big joint stock companies: Stora Enso Oyj and Del Monte Pacific Limited.

TAB. 3: Examples of results of introducing valuation based on fair company

Company	Balance value based on purchase prices.	Value based on fair value
Stora Enso Oyj.	705, 9 mln EURO	1 561, 7 mln EURO
Del Monte Pacific Limited	320,7 mln USD	832,0 mln USD

3 Opinions of appraisers on IAS 41

Because the valuation of biological assets and agricultural produce is much complicated, in countries like Poland, there may appear the need to use the service of professional appraisers. International Evaluation Standard requires that appraisers have the knowledge of unique nature, knowledge of production factors in agriculture, of the very production processes and of seasonal characteristics of local markets. The purpose of the research was to check the opinion of the sample of one hundred appraisers on how reliable is valuation based on fair value and on the quality of financial reports based on fair value.

4 Research results

Valuation based on historical costs is deeply enrooted in mentality of both managers and accountants. What is obvious advantage of this is that valuation is based on reliable documents concerned with documented transactions. Valuation based on fair value means acceptance of idea that value is changing alongside with biological change. Table 4 shows opinions of appraisers on right ground for valuating biological assets and agricultural produce.

TAB. 4: Opinions on which base for valuating biological assets and agricultural produces is more justified

Base for evaluation	Number of answers
Historial cost	76
Fair value	13
Replacement value	11

Source: Authors's own study

TAB. 5: Advantages of vaalution based on fair value

Answer alternatives	Number of answers
Fair value reflects actual value that can be capitalised in the market	65
Fair value in better way reflects changes resulting from changing biological processes	34
Most biological assets and agricultural produce have their active markets	86

Source: Author's own study

Evaluation based on fair value has both advantages and disadvantages. Fair value based evaluation is supported by an assumption that historical cost (purchasing price, cost of production) does not reflects real and actual value because of continuous biological changes of biological assets and agricultural produce. It does not reflect effects of agricultural activities. This decreases profitability.

On the other side fair value based evaluation is subjective and it shows returns that are not really achieved.

TAB. 6: Answers to the questions about disadvantages of evaluation based on fair value

Answer alternatives	Number of answers
Some biological assets and agricultural produce do not have active markets	62
It shows returns not achieved	64
Fair value is subjectively stated	91

Source: Author's own study

Mature biological assets do not subject to biological changes, so some experts think that they may be regarded as fixed costs and as a result, they should subject to evaluation based on historical costs.

Before introduction of IAS 41 they required to evaluate all biological assets using fair value minus selling costs. In 2013, IASB made decision that biological assets should be treated as fixed costs. This change means that governmental grants for farmers are to be treated according to IAS 20, instead of IAS 41.

Table 10 shows answers of respondents to justification of adopting fair value revaluation to fully matured biological assets.

TAB. 7: Answer on justification of evaluating mature bearer plants on the basis of fair value, in accordance with IAS 41

Answer alternatives	Number of answers
Yes	14
No, because they do not subject to biological change any longer	63
I have no opinion	23

Source: Author's own study

As can be observed most respondents thinks that the fact that mature bearer plants do not subject to biological change is an argument to evaluate those assets as fixed assets.

5 Conclusion

The paper has presented results of research on problems concerned with introduction of IAS-41 Agriculture in Poland. At the beginning they compared legal regulations addressed to agricultural activities in different countries. What is important is that in different countries they use different methods of evaluating biological assets and agricultural produce. This limits comparability of financial effects of firms. What especially distorts comparisons is of model of fair value is used and how

governmental grants for farmers are interpreted. Research was conducted among professional appraisers in Poland.

The experts indicated, as main advantages of basing evaluation on fair value:

- that fair value presents actual value that can be capitalized on the market;
- fair value better than production cost reflects effects resulting from biological change;
- for most biological assets and agricultural produce there are active markets.

As disadvantages of evaluation based on fair value experts indicated that:

- for some biological assets and agricultural produce no actually active markets;
- fair value is stated in subjective way;
- in the case of using fair value based evaluation, they report revenues not exactly achieved.

Most appraisers in Poland think that practical introduction fair value based evaluation will be both too complicated and not enough reliable. So arguments of those who are against fair value based evaluation seems to be stronger than arguments of those who promote the idea.

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ILLEGAL WORK AND ILLEGAL EMPLOYMENT IN THE EUROPEAN CONTEXT

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Abstract: *The issues of illegal work and illegal employment are regulated by legislation in the Slovak Republic. The paper attempts to shed light on the legal definition of illegal work and illegal employment. The authors direct attention to the legislation banning both illegal work and illegal employment at European level. By utilizing the methods of analysis, logical and grammatical interpretation, and comparison of the provisions of the relevant legislation, the authors attempt to propose a view of the legislation banning illegal work and illegal employment at national and transnational levels.*

Keywords: *illegal work, illegal employment, labour inspector, EU directive, natural person, legal entity.*

JEL classification: *K31, J6, J83.*

Grant affiliation: *The paper will be published under the VEGA project No. 1/0613/14 titled Changes in the economic structure of the Slovak regions and their impact on economic and social development.*

1 Introduction

Illegal work and illegal employment are a negative social phenomenon accompanying unemployment in the labour market. Societies are trying to combat these negative occurrences, and thus to eliminate their unfavourable legal, economic and social consequences. Illegal work and illegal employment are a serious problem from both economic and social points of view. These issues have to be paid special attention because of the detrimental effects that undeclared work and illegal employment have on societies. Individuals working illegally lose their social security, which contrary to a legal employment relationship, certainly reduces their quality of life. Quality of life is a multidimensional concept that includes not only social, but also psychological and biological aspects of life (Masárová, Gullerová 2014).

2 Work as the subject matter of labour-law relationship

Work is a key concept in the employment relationship, whether performed legally under an employment contract, agreement on work performed outside employment relationship, or performed illegally.

Ivanová (2009, p. 298) writes that work is a purposeful activity directed toward the production of new products or provision of services. Work is a productive activity that results in new and useful values. According to Habánik (2014) employment refers to the participation of the population in the working process. Since employment is one of the most important factors affecting the GDP growth, all countries strive to achieve full employment by minimizing unemployment.

Barancová (1991, p. 7) maintains that the state as a compulsory entity cannot avoid its obligation to ensure the basic conditions for the implementation of the right to work for all citizens able to work. Ivanová (2009) argues (2009) that unemployment is a serious economic problem since no values are created in economy. Moreover, unemployment is a social issue as it leads to higher crime rates and poor physical and mental health.

3 EU Directive

The respective EU bodies pay special attention to the issues of illegal work and illegal employment. Directive 2009/52 / EC of 18 June 2009 provides for minimum standards on sanctions and measures against employers of illegally staying third-country nationals. The Directive is to prohibit the employment of third-country nationals who are illegally staying on the territory of EU Member States and to set minimum sanctions to be imposed against employers who infringe the ban of illegal employment.

Pursuant to the Directive, third-country nationals have to hold and present a valid residence permit or other authorisation to stay prior to beginning employment. Employers have to keep, for at least the duration of the employment, a copy or record of these documents in case of inspection, and they also have to notify the relevant authorities within a specific period when they start employing a third-country national. In case of violating the ban on illegal employment, effective, proportionate and dissuasive sanctions shall be imposed by all Member States.

In addition, employers are obliged to any outstanding remuneration, all taxes and social security contributions that should have been paid, had the third-country national been legally employed (including late charges and administrative fines) as well as any cost arising from sending back-payments to the country to which the third-country national has returned or has been returned.

The Directive also contains a list of additional measures to penalise employers responsible for illegal employment, such as the loss of entitlement to some or all public benefits for up to five years; the exclusion from participation in a public contract for up to five years; the recovery of some or all public subsidies granted to the employer in the 12 months preceding the detection of illegal employment; and the temporary or permanent closure of establishments that have been used to commit the infringement.

The Directive provides for criminal sanctions for particularly serious cases of illegal employment, including:

- persistently repeated infringements;
- involving a significant number of third-country nationals;
- employment in particularly exploitative working conditions;
- where the employer knows that the worker is a victim of human trafficking;
- the illegal employment of a minor.

In case of committing any of above offenses, all Member States shall impose effective, proportionate or dissuasive criminal sanctions, which may be imposed regardless of other sanctions of non-criminal nature, and these measures may be accompanied by a publication of judicial decision.

4 Implementation of the Directive 2009/52/EC into the Slovak Legislation

The Directive of the European Parliament and Council 2009/52/EC of 18 June 2009 providing for minimum standards on sanctions and measures against employers of illegally staying third-country nationals has been implemented into the Slovak legislation. Obligations of employers regarding employment of third-country nationals are governed by § 23a of the Act No. 223/2011 Coll. amending and supplementing the Act No. 5/2004 Coll. on Employment Services and on amendment and supplements of other acts.

Pursuant to the Act on Employment Services, employers may only employ a third-country national who:

- has been granted permanent residence in the Slovak Republic,
- has been granted temporary residence of a third-country national who has the status of a long-term resident in a Member State in the period up to 12 months from the beginning of the residence in the Slovak Republic,
- has been granted temporary residence for the purpose of a family reunification (if a family member of a Blue card holder),
- is a family member of an EU citizen and has the right to reside in the Slovak Republic,
- has been granted temporary residence for the purpose of study and the performance of his/her work with all employers does not exceed 10 hours per week or 20 hours per week, when he/she is a university student, or the equivalent in days or months per year,
- has been granted temporary residence for the purpose of research and development and his/her employment related to lecturing will not exceed a total of 50 days in a calendar year,
- has been granted temporary residence of a third-country national who has the status of a Slovak living abroad,
- is an asylum seeker and entry into the labour market is allowed to him/her by the Asylum Act,
- has been granted asylum,
- his/her employment in the Slovak Republic will not exceed 30 days in a calendar year, and who is:
 - a pedagogic employee, academic employee at a higher education institution, scientific, research or development worker, participating in a professional scientific event, or an artist participating in an artistic event,
 - who, on basis of a business contract, secures delivery of goods or services, or delivers such goods or services or carries out installation works, warranty services and repairs, work related to system setup of production facilities, programming 24 work or professional

trainings if his/her employment relationship or secondment does not exceed 90 days in one calendar year,

- who is accepted for employment relation based on an international treaty binding for the Slovak Republic and which stipulates that a work permit is not required for acceptance of a third-country national into employment relationship,
- who is a family member of a diplomatic mission member, of an employee of consular office, or of an employee of intergovernmental organisation based in the territory of the Slovak Republic, provided the international treaty made on behalf of the Government of the Slovak Republic guarantees reciprocity,
- who is a member of a rescue unit and provides assistance on the basis of interstate treaty on mutual assistance in the mitigation of the effects of accidents and natural disasters and in the cases of humanitarian assistance,
- who has successfully completed secondary school or university studies in the Slovak Republic,
- who is employed in an international public transport company and assigned to perform work by a foreign employee.

Third-country nationals have to hold and present a valid residence permit or other authorisation to stay prior to beginning employment. Employers have to keep, for at least the duration of the employment, a copy or record of these documents from a third-country national.

Employers are obliged to notify the local Office of Labour, Social Affairs and Family within seven work days of the start and termination of employment of EU citizens and their family members and third-country nationals. In the case of a third-country national holding a blue card, employers are obliged to notify the local Office of Labour, Social Affairs and Family. In the case of employment of third-country national, the employer is also obliged to enclose a copy of the employment contract or agreement on work performed outside the employment relationship.

5 Conclusion

Illegal work and illegal employment represent damaging social phenomena, having negative effects on both society and individuals. Individuals working illegally have their social security reduced, and thus also reduced quality of life. Due to the damaging effects brought about by illegal work and illegal employment, the Slovak government strives to eliminate this element in the so-called shadow economy. The respective EU bodies also pay special attention to the issue of illegal employment of third-country nationals. Upon implementing the Directive 2009/52/EC into the Slovak legislation, the conditions of employment of third-country nationals in Slovakia were set. The Act on Employment Services is one of the tools to prevent illegal employment of third-country nationals in the Slovak labour market.

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TEAMWORK AS A WAY TO KNOWLEDGE SHARING

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Abstract: *In order to increase the competitiveness, modern organizations are trying to implement the strategies and processes to identify, capture and effective use of knowledge. In human resources, skilled workforce is considered to be as an important source of organization success. There is necessary amount of knowledge, skills, abilities, talent and creativity, which of these there is a will to work for the benefit of the organization. As one of important factors of competitiveness of the organization is currently mentioned teamwork. It is an effective tool to share not only explicit but also tacit knowledge.*

Keywords: *Teamwork. Knowledge. Sharing. Knowledge management.*

JEL classification: *A2, I25, I290*

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1 Introduction

Nowadays society can be described as a society oriented at performance. In such a society, knowledge is one of the main economic resources. Productivity and success of the organization is now mainly determined by the productivity of people who carry out skilled work. Skilled workforce has the necessary supplies of the knowledge, skills, abilities, talent and creativity that is willing to use to benefit of the organization (Steingartner et al., 2013). Human resources are key source necessary for the function of any organization. Namely to ensure the coordinated action, the collection and use of other resources (material - machinery, equipment, energy, etc. and financial). Human resource development and efficient use of human capital (considered as an important factor of economic growth) is therefore an essential part of any organization that wants to remain competitive. Currently, in order to remain competitive, they have to do everything possible to keep highly qualified and motivated employees. Human resource development is an increase of knowledge, abilities, skills, attitudes, moral, and other characteristics of individuals so that they are able to meet the needs of legitimate, consensually supported users of human resources, as well as to be able to maintain their own individual integrity and social, civic and personalities sovereignty (Sivak et al. 2011, s. 171).

2 Knowledge and Knowledge Management

The claim that the success of companies is significantly determined by the quality and knowledge, is not undermined by anyone today. Knowledge is an expression of the cognition level. The growth of the importance of knowledge for the organization has led to the creation of the modern discipline referred to as knowledge management. Knowledge management is a modern, hybrid discipline, whose task is to do the best use of human capital, which is transformed into innovation, creative and unconventional ways of thinking. There are produced new ideas that contribute on the one hand to the profit and on the other, stimulates the other action. (Hvidzová - Miklošík, 2012, p. 5). Its aim is to maximize the organization's human capital and knowledge of their colleagues in order to improve performance. Provazník J. (2011) sees knowledge management as a business philosophy, which is a set of principles, organizational structures and technology applications that help people to share and use their knowledge to meet business goals. Katuščáková M. (2009) describes Knowledge management as an effort to understand the theoretical and practical help to create such conditions that would encourage and motivate the acquisition, capturing, sharing and use of knowledge in organizations. Important role in knowledge management does the search for ways to increase mobility (of these) knowledge.

However, in contrast to the term "knowledge" can be seen inconsistency in literature and to the approach to the concept. We assume that to some extent it comes from the actual translation of the term "knowledge". While translated into Slovak language it offers several meanings eg.: knowledge, cognition, information, skill and ability. That's why some Slovak and Czech authors perceived the term "knowledge" as synonyms, and they differ them in their work. For example, Sivak et al. (2011, p. 408) presents that knowledge is usually defined by the two levels 1. knowledge, information, cognition of life, conditions and background ; 2. control something, knowledge about something based on the level of experience, good knowledge of foreign languages, knowledge of traffic regulations, expertise and knowledge. Ch. Collison et al. (2005) has treated knowledge as intangible assets of the company which may exceed tangible assets. As the knowledge is inseparable from workers, the workers are potential (assets) of the company ruling to its success. In this context, a set of knowledge and skills date information from real knowledge of current conditions in a particular area. Better understanding of the notion of cognition and promotes knowledge typology. However, there are many typologies, so for this article we picked typology which distinguishes: Explicit knowledge (explicit knowledge) can generally be defined as precisely and formally articulated, codified, documented, transmitted, shared and communicated knowledge. They can be directly transferred to other individuals. (Eg. Manuals, Documents and processes as well as work of art or graphic design, etc.). (Sivak et al., 2011). On the other hand, tacit knowledge (tacit knowledge) is difficult to be delegated in written form. This is about unwritten, unrecorded, inarticulate, hidden knowledge, which every normal human being virtually has and that are based on their own emotions, experience, intuition, observation, internalized information. They are often made up of customs and cultures whose individuality is not registered in themselves. Tacit knowledge is mostly obtained by association with other people and require joint or shared activities. In the essence of knowledge management, tacit knowledge refers to knowledge that has only a single person, that is difficult to communicate with other individuals within the organization. They can be described as know-how. They include learning and skills, but not in a form that can be recorded in written one. (Provazník, 2011; Sivak et al., 2011, pp. 409-410). Tacit knowledge is essentially subjective nature, therefore their capture, processing and dissemination is problematic and attention is directed to the people

themselves as knowledge workers is also why the organization itself cannot create tacit knowledge, however it can invent environment that will create their support (Collison 2005).

It shows that knowledge of the specific sources and substantially differs from other resources of the organization. According to Kokavcová they have many specifics such as. 'They are intangible and immeasurable, are perishable, the processes are not consumed, growing use in organizations have a broad reach, are competitive and can be used at one time in different processes, cannot be bought. " However, knowledge of the organization is relevant only if it changes to a new value. It means that any knowledge of the content and the scope of the organization are of interest where they are referred to as "the property" individuals or groups, e.g. They are hidden in their heads and do not get to "the market" for the purpose of using and further improving (Kokavcová, 2011, p. 25).

Intellectual capital, information and knowledge is now considered as a source of competitive advantage. And the aim is to maximize the knowledge management intellectual capital and workers' knowledge to improve efficiency, profits and to meet business strategy.

3 Teamwork as a way to knowledge sharing

The very concept has no clear definition. It is often used as a synonym for group or team. However, the definitions of team and the group are different. Their difference lies primarily in the sense of the mission or goal of the team and the group, as well as relationship between their members, opportunities for reciprocal representation, sincere cooperation, credibility of communication and so on. A work team can be considered as a temporary working group or PI group, which uses modern management to address the short-term, but important role. Since it is not always possible to solve everything by one worker and sometimes even by means of one organization, it is often used precisely this form of teamwork. It enables comprehensive solution to very complex business problems. Team success is so heavily dependent on the competence of individuals and the members who compose it. Team members who work on a problem can change during this time, which means that after solution of their problem some leave and others come. The main advantages of teamwork is primarily a comprehensive analysis of the problem, which in particular enables the collaboration of experts of different orientation; obtaining objective results, limiting errors; task is achieved faster; shortcomings are addressed on the spot. Teamwork also enriches team members. enhances their knowledge of other disciplines, teaches cooperation, tolerance, responsibility and so on. The number of team members depends on the nature, scale and complexity of the task. For optimal size is considered to be approximately 7 - members (Hruskova, 2010).

As indicated above, the word team is now quite often used as a synonym of the word group. In sociological terms, the group is a number of people that shape the consciousness of common belonging. They are connected by a common feature, mutual communication, frequent interaction or common goal. In this case, members of the work team:

- Are aware of their solidarity and understand that their personal and group goals can achieve mutual support. Therefore, by Provazník they do not waste time to fight for position or personal gain at the expense of others.
- Are committed to the aim, which they participated on the creation themselves
- Identify with their work and work groups.
- Encourage each other to develop what they know in the workplace.

- Operate in an atmosphere of trust that encourages open expression of opinions, ideas, and other feelings of disapproval.
- Their talents and knowledge contribute to the success of the organization.
- Use the open and emotional communication, try to understand each other's views and opinions (Provazník, 2011, pp. 313-314; Belbin, Prochádzka, 2013).

A high performance of team is conditioned by the competency of each member. Their personal qualities, professional skills, knowledge and practical skills. The real, opposed to the classic group consists of people whose capabilities complement each other and who are interested in the common objectives and goals for which they are mutual responsible for. However, an important factor for the development of teams, sharing knowledge within the team and hence to the overall success of the team work is important the culture of the organization (a set of shared values, attitudes, relations and ways of framing). Culture supporting knowledge sharing is characterized by willingness to share their experience, knowledge, trust, mutual respect, accepting mistakes, physical meeting place, teamwork, open communication, a common language, willingness to take risks, to take the idea from outside and also measurement of knowledge sharing (Katuščáková, 2009). If the culture does not contain these elements, we cannot talk about it as a culture supporting knowledge sharing and teamwork. According to Belka (2011) nowadays, the vast majority of organizations whose members are organizationally grouped into working groups are not teams. In contrast to the work team, working group members:

- Work independently, sometimes their job crosses. There may be often fighting for positions and contradictory action of the group.
- Feel that they are teamed up for administrative reasons, they perceive themselves as "leased labour".
- Get their orders what to do and no one asks them about their personal suggestions or improvements.
- The planned target group participated in little or nothing, and therefore they tend to look particularly at their personal goals.
- Often consider to express their opinion or consent of another member of the group for divisive behaviour.
- Do not trust motives of their colleagues.
- In their speeches they are so careful that real understanding cannot occur at all. In pretended communication inexperienced person can easily get confused (Provazník, 2011, pp. 313-314).

To achieve a qualitative change of the working group into a team is sometimes very difficult. Therefore, the manager is required to show a lot of patience, a good situational estimate, empathy and appropriate assertiveness as well as other personality requirements and skills. In general, in a society that manages to apply teamwork, people feel a fewer stress, work more effectively, contribute new ideas and try to improve their work.

Teamwork enables people to think and act with genuine imagination. It allows them to find innovative solutions demonstrating its enormous potential. This is also why the team "should evaluate and project every creative initiative of the matter who suggested it. Then collectively consider how to implement this idea (extended and improved by the comments of the previous

debate on the creator of the initiative) to create innovative solutions together. " Teamwork makes it possible to effectively use both the natural creativity and fantasy of the team members, but it also usefully combines forming collective creativity (Pitra et al. 2015, p.31). Basically, team learning implies sharing and use of knowledge for the benefit of collective thinking. Teamwork is shown as proved effective form of work which encourages people to greater professionalism and to take responsibility in full content. We can say whether it's the team as a work group or the group as a PI or team, teamwork benefits to an organization. Teamwork is an excellent tool to share knowledge.

4 Conclusion

Knowledge, unlike data and information clearly associates with a man. They are the result of thoughts of their creators and convert a variable mix of shared values, reflexive experience, verified information and expert knowledge, which create framework to gain new experience and the formulation of new useful information to eliminate the uncertainty of existing knowledge and contribute to the creation of new entrepreneurial skills of the organization. (Pitra et al., 2015, p. 73). Their share implies a transfer and adoption - absorption. If knowledge is accepted, but is not absorbed, as in the case of information transmission, the transmission of knowledge is not complete. In order to name the process as sharing of knowledge, it is essential for knowledge to be received, processed and absorbed (Katuščáková, 2009). In this context, teamwork appears to be an appropriate tool for sharing knowledge. In the process of sharing is a free and voluntary act where an individual decides for themselves. Therefore, willingness, voluntariness and trust is a process for the creatures, exchange and transfer of knowledge necessary conditions.

Knowledge is largely hidden. The organization does not own the knowledge stored in the minds of their employees as well as does not own knowledge of the external environment held by partner organizations. Although knowledge significantly affects its success and a prerequisite to maintain the fight with competitors. Therefore, it is necessary to organize and manage work with knowledge, streamline these processes, measure and evaluate their outcomes. The focus on people as the holders of knowledge and creators of innovation is therefore basic knowledge of knowledge management. Knowledge management is a management process that focuses on acquiring, storing, sharing, fusing, developing and use skills of individuals and groups to achieve better business performance (Collison et al., 2005). Knowledge management contributes to the development of the organization more dynamic and higher efficiency processes.

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THE ROLE OF THE CIRCULAR ECONOMY IN THE IMPLEMENTATION OF THE CONCEPT OF SUSTAINABLE DEVELOPMENT

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Abstract: *The world is trying to achieve the goals of sustainable development. But the imperfection of this idea in capitalistic system consists in the continuation of a linear model (take, make, use and throw away), which causes excessive mass production and consumption of resources and large-scale waste. The article attempts to demonstrate that the opportunity to change the current state is to implement the circular economy model, based on the formula of 3R (reduce, reuse, recycle). This model - as a practical application of sustainable development - is a big challenge, but also the need to achieve at least one of a goal of sustainable development.*

Keywords: *sustainable development, circular economy, environmental protection.*

JEL classification: *Q5, O1*

Grant affiliation:

1 Introduction

According to the Brundtland Report (1987), sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. This definition relates especially to the environmental protection and waste of resources issue. However, statistics show the efforts made so far do not deliver the expected results and in effect, our ecosystem slowly but surely overloads. In the face of such threat, a question arises if there is a real chance to attain sustainability in the future?

The main goal of this paper is to show that circular economy plays a crucial role in the implementation of the concept of sustainable development. Research was based on the critical analysis of literature and statistics.

2 Paradoxes of sustainable development in environmental sphere

Although the idea of sustainable development evolves intensively from many decades and gains more and more new followers, little do people realise that in reality, it still functions as a concept of "wishful thinking" to create an ideal but rather utopian future, what can be described as Sisyphean tasks. This is because in capitalistic system all actions of stakeholders are determined by economic growth. Consumers need economic growth to consume more, enterprises - to produce more, for governments the more growth the higher revenue budget and the lower unemployment rate (according to Okun's Law). However, the more we produce, the more we destroy and pollute in accordance with entropy rules. That is why, as Rist (2010) notices, standard economic science is not properly equipped to understand environmental problems just because economy more wastes than saves.

Nevertheless, the aim of sustainable development should not be about reducing pollution, but stopping pollution at all. The point is not to limit the non-renewable resources, but to eliminate them at all. Paradoxically, as statistics show, despite the increase in expenditure on environmental protection, both from governments and industries (Eurostat), the state of the environment is far from satisfactory level. For instance, approximately 90% of city dwellers in the European Union are exposed to one of the most damaging air pollutants at levels deemed harmful to health by the World Health Organisation (EEA). This was one of the reason why the latest EU's growth strategy - Europe 2020, more than ever before, focuses on issues related to environmental protection, this time by intelligent and sustainable growth. But still, growth is a tool to achieve this objective. This assumption is controversial, because as Rist (2010) proved, this fetish for growth results in reduction of productivity just because generosity of nature is limited. For instance in China about 2/3 of economic growth was sacrificed for ecology (Levy, 2009). On the other hand, we all know that growth is important - if only because it motivates stakeholder to progress and reflects the effects of activity.

So, if we can't forget about the growth, the only reason to save the planet is to combine the axiom of growth with ecology. These capabilities offer circular economy which is called as practical application of sustainable development.

3 The concept of circular economy

The circular economy is defined as an industrial system that is restorative or regenerative by design. It replaces the end of life concept with restoration, shifts business towards the use of renewable energy, eliminates the use of toxic chemicals, which impair re-use and aims for the elimination of waste through intelligent design of materials, products and systems and, within this, business models (Ellen MacArthur Foundation, 2012).

The business model of circular economy grow out of the concept "cradle to cradle" by W. McDonough and M. Braungart. It describes a closed-loop system of production and consumption without waste and new resources. Using the formula of 3R - Reduce, Reuse, Recycle (and even more Revalorise, Rethink, Relocate, Redistribute, Restructure by S. Latouche 2006) the system is able to function as the Nature does, including the cutting edge technology. But the most important is that it can bring the profit and growth in long-term thanks to saving resources and reducing waste. This model transforms linear action: „take, make, use and throw away“ into the system of connected

vessels, where waste can be treated as a resource. In this way it is possible to build the optimal synergy of all sectors of economy (agriculture, industry and service).

It is also essential that the circular economy is a real chance to link competitiveness with environmental protection. The research showed that there is a strong correlation between these two values which proves, that implication of 3R rules has a positive influence on competitiveness of countries where circular economy is already implemented (Raftowicz-Filipkiewicz, 2016).

What is more, according to World Economic Forum and Foundation Ellen MacArthur, the shift towards circular economy could save 1 trillion USD in materials per annum by 2025 and prevent 100 million tonnes of waste globally (WEF). A similar approach was taken by European Commission which has already adopted new Circular Economy Package to help businesses and consumers to make the transition to more circular economy. This transition in European Europe will be supported financially by the European Structural and Investment Funds (5,5 billion of euro) and under Horizon 2020 (650 million of euro)..

4 The circular economy in practise

Is it possible to shift quickly our economy to circularity globally? There are more and more countries interested in application of the rules of circular economy on national level (Denmark, France, Germany but also China). On the other hand, global corporations have also slowly (regardless of the government policy) started adopting this model (especially these which rank among Corporate Social Responsibility). These companies aim for realizing the long term idea of sustainable development growth through the strong engagement in ecological and social values but on the other hand pursue a gain profits and achieve competitive advantage. It is simply to indicate the field of operation, just because circular opportunities exist all along the value chain: in manufacturing, in the distribution, consumption and in the post-use processing (food waste). Research showed that in developing countries, more circular opportunities are lost at the manufacturing stage in contrast to developed countries, where losses are more heavily concentrated at the consumer level (Webster, 2013).

There are one simple rules of circular economy which do not exist in the linear economy: the smaller the loop, the more profitable and resource efficient it is. This loops have no beginning and no end, but all the time we have to use 3R formula.

The business partners of foundation Ellen MacArthur (which promote the circular economy on the world and confirm that circular economy is effective – although expensive way in the beginning, to achieve matter-of-factly sustainability in long term) are already numerous. Among these we can underline: Cisco, Google, H&M, Intesa Sanpaolo, Kingfisher, Nike, Philips, Renault, Unilever which implement with success the rules of circularity.

5 Conclusion

Summarizing these ponderings, we might arrive at the conclusion that the future of capitalism can be found in the circular economy, as practical implementation of sustainable development in ecological sphere. The Circular economy in contradistinction to the linear, is the only one real model of production minded to sustainability in long term and on the other hand is profitable for business and good for economy. Entrepreneurship, in combination with state support, is a driving force to achieve this goal on a large scale.

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ANALYSIS OF THE STANDARDS OF SENIORS' LIVING: CASE STUDY OF THE CZECH REPUBLIC

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Abstract: *Seniors belong to the segment, whose share in the population has been annually increasing. The object of the article is a detailed analysis of the standards of living of Czech seniors in various aspects of material and immaterial nature. With the use of data from the database EU-SILC it was made effective monitoring, in-depth findings of Czech seniors standards of living: an analysis of the income situation of households and the elderly, assessment of the employment situation, analysis of poverty and people at risk of poverty using the Gini coefficient and the coefficient of income inequality. Furthermore, theoretical and managerial implications of these findings are being discussed.*

Keywords: *senior, standard of living, households, incomes, employment*

JEL classification: *J10, J11, J14*

Grant affiliation: *This paper was supported by The Ministry of Education, Youth and Sports, Prague, Czech Republic: LD – COST CZ, project: LD15065 titled Gender dimension of active ageing implementation in the Czech private and public sector in comparison with western countries.*

1 Introduction

The current income situation of older people in the Czech Republic is a very actual topic. Seniors are segment, which is developing very dynamically and this fact also brings a financial burden for every developed country that solves these problems through social policies. There are some groups of seniors who have fallen under the poverty line and their survival is for that of great concern (Sak, Kolesárová, 2012). The inability to satisfy one's needs, poor health, lack of access to education, inadequate care for the infirm and elderly, susceptibility to violence and criminality, the inability to cope with daily financial requirements and to keep pace with the majority of society, these are all phenomena of poverty (Klimánková, 2008). The problems of poverty are not associated with injustice

in society, however, above all directly with segments that are suffering from extreme deprivation (Ringen, 1989).

The standard of living is closely related to real income and expresses the material and economic conditions of life (Vaňurová, Mühlpachr, 2005). According to the author Blažej (2005) quality of life depends on the level of material consumption, the level of social security, lifestyle and environment (see also Rašticová et al., 2015). Seniors often suffer from negative prejudices and stereotypes which complicate their situation, quality of living, and employment possibilities (Mikušová, Rašticová, 2015; Rašticová, Kolářová, 2015). Večerník (2001) states that due to the economic and social transformation since 1989 there have been significant fluctuations in the distribution and structure of income in the Czech Republic.

2 Methodology

In our research a senior (retiree) is understood to be a person who receives a pension contribution and belongs to the group of pensioners. Then we can distinguish whether the pensioner lives with a person who is working or not. We analyse in detail the various aspects of material and non-material standard living of Czech seniors. The effective monitoring, in-depth findings Czech seniors' standards of living in various aspects of material and immaterial nature was made with the use of data from EU-SILC (European Union Statistics on Income and Living Conditions) and CSU (Czech Statistical Office). Therefore, it was the detail analysis of the more factors: income situation of households, elderly, assessment of the employment situation, analysis of poverty, people at risk of poverty with the help of the Gini coefficient and the coefficient of income inequality.

3 Research results

Table 1 below presents the average income of senior and the average household. Each income is calculated according to different methodologies. The difference between a net income and disposable income as defined by the European Union (EU) is not enormous but there is a significant difference in using the conversion income per consumption unit. The following Table 1 shows the revenue growth, the net of inflation of population in general and among groups of seniors.

TAB. 1: Evolution of seniors' income and all households in the Czech Republic

Characteristics	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC
Average net cash income per person (CZK)	8666	8919	9421	9947	10259	10416	10388	10422
Basic indices (%)	-	2,9	8,7	14,8	18,4	20,2	19,9	20,3
Average net cash income of senior per person (CZK)	7835	8125	8584	8998	9191	9548	9666	9847
Basic indices of seniors (%)		3,7	9,6	14,8	17,3	21,9	23,4	25,7
The average disposable income per equivalent person (CZK)	12825	13143	13871	14585	15017	15248	15262	15159

The average disposable income of senior per equivalent person (CZK)	9999	10278	10838	11275	11515	12053	12170	12203
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Source: authors' calculations based on EU-SILC, CSO

LC – living conditions, CZK - Czech koruna

Based on the above Table 1, it is clearly seen that the difference between income seniors and middle-income populations during these years fluctuate. It is obviously the revenue during the period grew at much stronger group of seniors 25.7%, whereas the average household growth was only 20.3%. The indicator used income inequality is called the Gini coefficient whose values for all monitored years are shown in Table 2. The following indicators of income inequality are calculated from equalised income.

TAB. 2: Gini coefficient

Gini coefficient	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12
Average household	0,261	0,253	0,253	0,249	0,253	0,248	0,253	0,248
Senior household	0,145	0,154	0,150	0,155	0,161	0,159	0,168	0,162

Source: authors' calculations based on EU-SILC, CSO

LC – living conditions

The Gini coefficient in 2005 reached the value of 0,145 in the group of elderly and 0,261 in the group of households. Income differentiation in the group of seniors has been gradually increasing in the last years. In 2012, the Gini coefficient presents the value of 0.162 in the group of seniors. On contrary, for the whole congregation households Gini coefficient decreased slightly. In 2012, the Gini coefficient of 0.248 was found for the full set. For other frequently used methods of measurement is considered income differentiation coefficient of income inequality. Within the segment of seniors went out the value of this coefficient also relatively low. It means that the richest 20% of seniors have twice higher income than the poorest 20% of seniors. If the index value is equal to one, it would mean that the incomes of group of seniors are equal.

TAB.3: The coefficient of income inequality

The coefficient of income inequality S80/S20	LC05	LC06	LC07	LC08	LC09	LC10	LC11	LC12
Average household	3,7	3,5	3,5	3,4	3,5	3,5	3,5	3,5
Senior household	2,1	2,2	2,1	2,2	2,3	2,2	2,3	2,3

Source: authors' calculations based on EU-SILC, CSO

LC – living conditions

The results presented in Table 3 (see above) shows the coefficients of income inequality among all households in the Czech Republic and among households of elderly. For households of elderly, the coefficient of income inequality is lower which means that income differentiation in this population is much lower and their incomes are equal. For assessing the standard of living it is essential to know the current status as well as the current development of the income poverty. The calculation of the poverty line is defined exactly as defined by the EU at 60% of the income median equivalent household member. With the calculation of households from the EU-SILC for the whole population, it was found that the number of people at risk of poverty since the first survey to survey from LC05 to LCP10 gradually decreased from 10.36% to 8.6%. In 2009, it was followed by the growth in the number of people at risk of poverty. Last LC12 investigation showed a slight decrease of the poverty.

4 Discussion and conclusions

Seniors are very specific segment, which in the future will bring many changes in social and economic areas, which each developed country should be ready for. Analysis of the income situation of senior households in the Czech Republic shows the complexity of the issues, particularly in connection with the assessment of living standards and economic development of society. A detailed analysis and comparison of this specific group can serve for making forecasts and recommendations, especially in the creation of social policy of the Czech Republic. The results of the analyses can describe the current income situation of the elderly in the various regions. Issues concerning seniors will continue to be subject of detailed analysis, the seniors will be judged according to various aspects, such as the type of education or household type. Even though, according to UK's Office for National Statistics, looking back at the years 2010-2013, the Czech Republic featured the lowest levels of number of years in poverty, followed by Netherlands, Slovenia, Finland, and France (Park, 2015), the awareness should be paid to the specific group of population – seniors who are mostly threatened by poverty. Based on the conclusions expressed it is hard to say that seniors are satisfied with their living standards. Detecting subjective opinions would require extensive investigation and detailed analyses to reveal the causes of consequences.

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CASE-BASED REASONING FOR SELECTING A NEW PRODUCT PORTFOLIO

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Abstract: *New product development (NPD) is a crucial process to maintain a company's competitive position and succeed in dynamic markets and turbulent environment. As improper selection of the NPD projects causes unnecessary expenses, the selection of the most promising projects is of particular interest for decision makers. The advancement of information technology helps today's companies manage business processes and collect data in an enterprise system. A database of the previous product specifications is especially significant for companies where product design bases on the past design experiences and knowledge. A promising methodology for assisting conceptual product design is case-based reasoning that uses the past experience to retrieve similar cases from a knowledge base. This paper presents a case-based reasoning approach that helps decision makers select a new product portfolio taking into account knowledge acquisition from the enterprise information system and experts.*

Keywords: *new product development; enterprise system; information retrieval; decision support system.*

JEL classification: *D81, D83, O32*

Grant affiliation:

1 Introduction

A dynamic and turbulent environment imposes organizations to be smart, agile, and responsive to fast changes of business needs. In order to survive and maintain development, organizations have to improve their new product development and product quality, adjust their products and services to the customer's requirements, accelerate the process of commercialization, and be ahead of their competitors (Chan & Ip, 2011). A successful launch of products on the market seems to be critical activity in drifting a company towards a favourable competitive position.

The new product development process includes the stages of identifying customer needs, generating concepts, selecting a concept (or set of concepts), developing design of a product (including prototype), testing a product, manufacturing, and launching (Takai, 2009; Ulrich & Eppinger, 2011). As the stage of concept selection precedes the more expensive and long-term development of the selected products, it is the critical stage of the NPD process and one of the most important decisions

that impact on business success. The selection of product concepts usually bases on the metrics such as the NPD project cost and duration or net profit from a product after launch that can be treated as the measure of the product success.

This study is addressed to one-of-a-kind product design, also called mass customization, in which customer requirements are increasingly involved. One-of-a-kind product design aims to reduce production costs, improve the customer satisfaction, and finally competitiveness of the products. One-of-a-kind production companies largely depend on their ability to develop newer, more qualitative and innovative products within a short period of time (Xie & Tu, 2011). It is widely accepted in many one-of-a-kind production companies that design process relies significantly on past design experience and knowledge, instead of designing everything from anew (Li et al., 2002; Lopez et al., 2006; Xie & Tu, 2011). A promising methodology for assisting conceptual product design is case-based reasoning (CBR).

CBR provides methodology for supporting product design by adapting previously successful solutions to current problems. The use of the customized product design increases product variety and results in larger and larger case library. This causes difficulties in managing the customized product families, including case retrieval that is the most critical step in product design, because reuse of the retrieved cases may impact on the quality of a new design (Tor et al., 2003; Tsai & Chiu, 2007). To cope with these difficulties, a CBR approach has been proposed. Moreover, the use of a CBR approach directly by the sales and marketing (S&M) personnel can reduce misinterpretation of customer requirements that are finally carried out by the research and development (R&D) project team.

The aim of this study is development of a CBR approach dedicated to retrieving similar cases according to the S&M personnel experience and using them to selecting a set of the most promising concepts for further designing. The proposed approach supports the R&D department with reference to how similar past problems have been solved, and what set of concepts should be chosen for further development. The presented decision support system acts as a collaborative platform for sharing knowledge among the agents involved. This eliminates any potential miscommunication problems between the S&M and R&D department, and improves the effectiveness of the NPD process.

The remaining sections of this paper are organised as follows: Section 2 presents the literature review concerning new product development and case-based reasoning in the context of the NPD projects. The proposed methodology for designing a decision support system for selecting a portfolio of the NPD projects is presented in Section 3. An example of the presented approach is illustrated in Section 4. Finally, some concluding remarks are contained in Section 5.

2 Literature Review

2.1 New Product Development Process

The effective management of NPD projects is a challenging goal, due to factors such as intensive research and development investment, long and uncertain development times, low probability of technical success, uncertain market impact and competition (Zapata et al., 2008). The project management literature emphasizes the impact of introducing new products on employment, economic growth, technological progress, high standards of living, and on continuing business success (Brienikova, 2010; Samakova et al., 2012; Kormancova, 2012; Relich, 2014; Relich, 2015;

Doskocil, 2016). As new product development helps firms to survive and succeed in dynamic markets, it is a crucial process in maintaining a company's competitive position (Chin et al., 2009). However, market competition and product technology advancement is often intense (McCarthy et al., 2006), resulting that NPD is a relatively risky activity (Kahraman et al., 2007). Consequently, companies try to meet customer requirements by improving product attributes and processes.

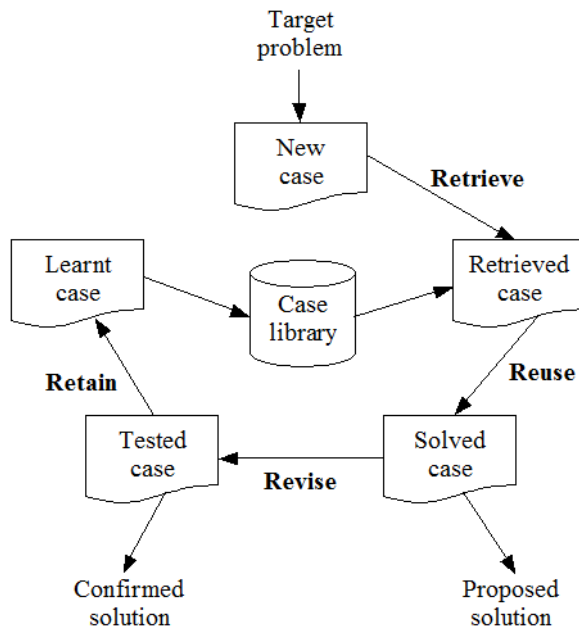
The NPD process consists of the stages such as identifying customer needs, establishing target specification, generating product concepts (ideas), evaluating and selecting the most promising concepts, designing the selected concepts, testing the selected products, and finally launching on the market. The concept selection aims to choose the most promising set of product concepts for development through evaluating the concepts with the use of relevant performance metrics, e.g. the duration and cost of a NPD project or the potential profit from a product.

Companies usually develop a set of new products simultaneously, what increases complexity of the NDP process and requires an interactive task-oriented tool to support the decision-makers in solving multiple criteria optimization problems.

2.2 Case-based Reasoning

Case-based reasoning (CBR) is a powerful method for computer reasoning that is based on past cases. CBR simulates the human problem-processing model and can have the self-learning function by constant accumulation of past experience (Tseng et al., 2005). CBR is a process for solving a new problem case by referring to the solutions of similar past cases (Marling et al., 2002). A CBR algorithm is usually composed of the following five steps (Kolodner, 1993): classification of cases in the database through different features that serve as indices, case retrieval in the database (the index values are assigned to features of a new case and compared with the past cases to look for the one that has the highest similarity), adaptation of the retrieved cases to fit the solution to the current status, evaluation of the adjusted case to ensure its feasibility, and storage of the newly adapted case in case library to achieve the self-learning function. These stages are also known as index assignment, case retrieval, case reuse, case revision, and case retention (see Fig. 1).

FIG. 1: The framework of CBR



A CBR system usually consists of three modules: a case representation scheme, a similarity metric, and a case retrieval mechanism. A case representation scheme aims to model a case by a set of attributes for characterizing the case at a particular application. A similarity metric evaluates the similarity between cases. A case retrieval mechanism is designed to retrieve the past cases that are similar enough to a new case (Wu et al., 2008).

The CBR paradigm has been applied in a wide variety of problems, including the time consuming problem and cost distribution (Takai, 2009), customer relationship management (Choy et al., 2003), design and implementation of knowledge management (Lau et al., 2003; Wang and Hsu, 2004), and product configuration and design (Tseng et al., 2005; Wu et al., 2008; Xuanyan et al., 2011). The essence of case-based reasoning in the context of NPD is to search the similar past cases and extract the experiences from these cases for a new product. Hague et al. (2000) developed a decision support system using CBR to provide relevant information and knowledge for concurrent product development. In their system, the highly structured nature of the cases combined with what-if analysis enables engineers to investigate different design scenarios. It is found that case-based reasoning can manage useful knowledge in a structured way for new product development (Lee et al., 2014).

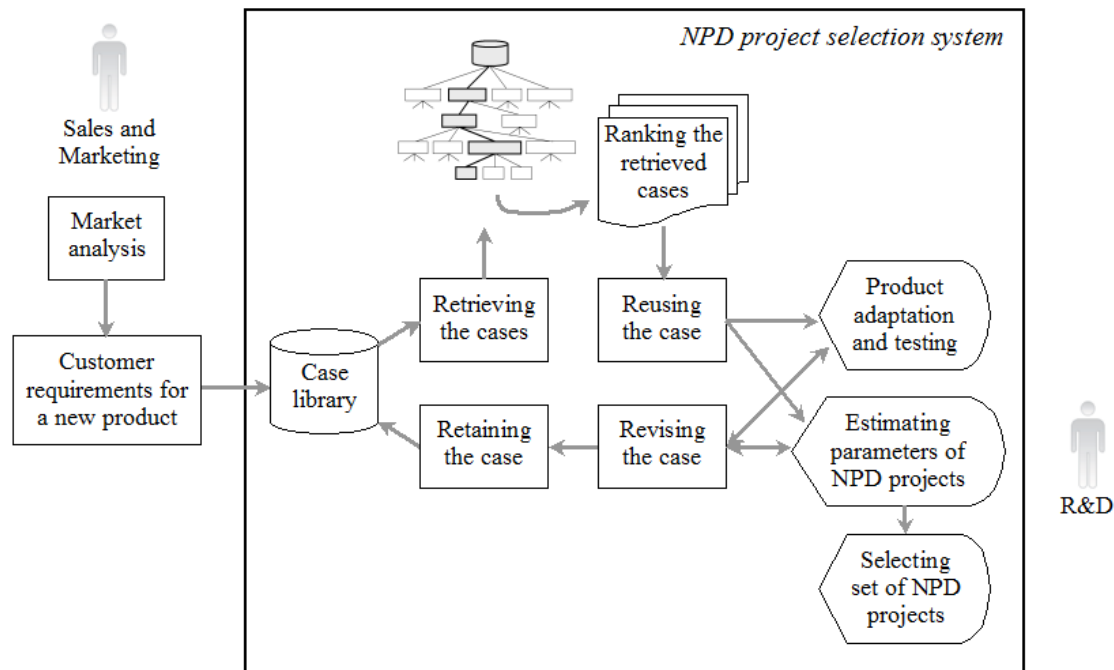
In general, CBR retrieval methods can be broadly categorized into two types, which are the inductive indexing and the nearest neighbor approaches (Chow et al., 2005). The inductive indexing approach determines which features best discriminate cases and generates a tree-like structure to organize cases. The nearest neighbor approach is an exhaustive searching method which evaluates the similarity between all past cases and the new case (Lee et al., 2014). In recent years, artificial intelligence techniques such as fuzzy logic and the genetic algorithm have also been integrated with CBR to construct the retrieval mechanism. For example, Wu et al. (2008) developed a fuzzy CBR retrieval mechanism to retrieve product ideas that tend to enhance the functions of a given product.

The domain of decision support in the early stages of NPD projects mainly includes formal methodologies, methods and tools. The literature review has revealed lack of support in terms of practical approaches that capture and use real life experiences within companies in early project stages (Belecheanu et al., 2003; Daskocil, 2015; Grzybowska, 2015; Relich 2015). As a lot of the reasoning which goes into design decisions is empirical, experience-based support systems are suitable for early NPD stages such as the selection of the most promising product concepts.

3 Decision Support System for Selecting NPD Projects

The decision support system (DSS) consists of two modules: first to retrieving the similar past products with the use of CBR, and second to selecting a set of NPD projects on the basis of the identified clusters of cases. Figure 2 illustrates a framework of the proposed DSS for selecting the NPD project portfolio.

FIG. 2: The framework of the NPD project selection system



The proposed DSS involves two actors from sales and marketing department and R&D department. The sales and marketing employee analyses the client's requirements concerning new products, e.g. changes in product dimensions. These requirements usually refer to a domain of previous products in the context of product line, product type, product application, etc. The NPD project selection system (NPDPSS) acts as a knowledge-based platform to transform the NPD requirements provided by the sales and marketing department into knowledge supporting R&D activities such as identifying the most similar past product that could be a pattern for developing a new product, estimating the NPD parameters (e.g. project cost and time) and selecting the most promising set of NDP projects.

In the conventional approach, the sales and marketing department defines the NPD requirements and sends them to the R&D department. The R&D team members have to identify the past similar products, redesign them according to the NPD requirements, and send the new product specification back to the sales people. If the design of new product is not accepted by the sales and marketing department, the R&D team has to redesign it again, what increases the time and cost of a NDP project. In the proposed approach, the sales and marketing department defines the NPD requirements directly in the NPDPSS, obtaining a set of the most similar past products. The NPDPSS provides a platform to convey the NPD requirements from sales to relevant NPD knowledge, relieving the R&D department, and using NPD knowledge to select the set of new products for development.

The case-based reasoning approach begins with specifying attributes of a new product by the sales and marketing department. After specification of the requirements of a new product, a search path through the product attributes is determined. Along the search path, cases stored in the identified cluster at last level are retrieved as potentially useful cases. Retrieving potentially useful cases from a case library is conducted with the use of the inductive indexing approach. The retrieved cases are ranked according to their similarity to the attributes of a new product. In this study, the nearest neighbour method is applied to calculate similarity function (1), and finally, the similarity value of potentially useful case (2).

$$sim(f_i^P, f_i^R) = 1 - \frac{|f_i^P - f_i^R|}{\max(f_i)} \quad (1)$$

$$\text{Similarity value} = \frac{\sum_{i=1}^n w_i \times sim(f_i^P, f_i^R)}{\sum_{i=1}^n w_i} \quad (2)$$

where:

w_i – the weight of the i -th attribute,

$sim(f_i^P, f_i^R)$ – the function of similarity of the i -th attribute between the value of new case f_i^P and the value of retrieved case f_i^R ; it ranges from 0 to 1.

The similarity value can be used to compare the retrieved cases and select a set of the most similar cases. The next step of CBR is concerned with reusing the selected cases in the context of gaining information and knowledge to estimate product parameters. The retrieved cases are used to determine the probability distribution of time, cost and profit for the identified cluster. These parameters support the R&D department in selecting the most promising set of products for development. A set of alternative new products is often greater than manufacturing capacity, including financial and human resources. Hence, there is a need to help decision makers in selecting the most promising set of new products. Finally, the R&D department revises the possibility of developing new products, tests products, and decides about retaining a new case in the case library.

The case library derives from an enterprise information system and it can be considered as a centralized database. Nowadays, more and more enterprises support their activity through the use of enterprise information systems including enterprise resource planning (ERP), customer relationship management (CRM) and computer aided design (CAD). These systems register and store specifications of the previous products, design parameters and workflow, NPD project planning and implementation, as well as customer complaints, comments and requirements (Relich, 2013). The next section presents an example of using the proposed approach.

4 Illustrative Example

In the first step of the proposed approach, the sales and marketing department defines the requirements of a new product on the basis of customer needs and complaints concerning the past products. At this stage, case-based reasoning can be used to selecting cases that are the closest to the specification of a new product.

The potentially useful cases are retrieved with the use of the inductive indexing approach. The product domain defined for the specific levels determines the search path and the size of the cluster of the potentially useful cases. In this step, the sales and marketing department identified a need for developing a new product that belongs to a specific product line and its attributes such as weight, size, functionality, and price.

In the next step, the potentially useful cases are ranked in descending order according to their similarity values. Table 1 presents the calculations for obtaining the similarity value of the potentially

useful case that is stored in an enterprise database. Similarity function (SF) is calculated according to formula (1) using value of the user's preference (FP) and value of the retrieved case (FR). In turn, similarity value (SV) is calculated according to formula (2) using the weighted average of SF and the significance of attributes. Values of the user's preference (FP) and the retrieved case (FR) are normalized.

TAB. 1: Example of calculating the similarity value

Attribute	Significance	FR	FP	SF
Weight	2	0.6	0.6	100%
Size	4	0.35	0.35	100%
Functionality	5	0.81	0.9	90%
Price	4	0.85	0.81	95.3%
$SV = (2 \cdot 100\% + 4 \cdot 100\% + 5 \cdot 90\% + 4 \cdot 95\%) / (2 + 4 + 5 + 4) = 95.4\%$				

The set of the retrieved potentially useful cases can be too numerous to analyze and use them all in designing a new product. Therefore, the retrieved cases are selected into a set of the most similar cases to a new product. The set of the retrieved cases is limited according to the selection criterion that is usually a certain threshold or a fixed number of similar cases. In this study, the selection criterion is threshold equals 85% of similarity value, i.e. the cases with similarity value greater than 85% are further considered. The selected cases can be used to obtain information about the specification of a past product and distribution of cost, time, and net profit.

The selected cases include information concerning the materials used for product manufacturing, the working procedures, the design and the parameters connected with product development such as cost and time of project. The specifications of the past products facilitate the R&D employees to obtain a direct guideline for developing a new product that has similar product properties.

The revision of the selected cases aims to verify these cases in the context of their usage as a pattern to develop a new product. Moreover, the limited resources impose the need of selecting the most promising set of products for development. The selection of the most promising set of new products for development is connected often with decision criteria such as the maximal total profit, and the minimal cost and time of a NPD project completion.

The last step of the CBR approach concerns retaining the case in the case library for the future use. As new cases are revised before being stored, relevant NPD knowledge is updated and retained in the NPD PSS. The steady development of case library increases the chance of retrieving cases with high similarity values, learning capability of the NPD PSS, and consequently, the quality of decisions in the long run.

5 Conclusion

The simultaneous development of several products, long duration of product development, and usually limited amount of resources cause that the effective management of the NPD projects is a challenging goal. This study presents a case-based reasoning approach to select a set of product concepts for designing. CBR uses the past experience to retrieve similar cases that solve a new problem through partial adapting of the content of the retrieved cases. The confirmed solution is retained in the case library for the purpose of knowledge regeneration for the future reuse.

The characteristics of the presented approach include the use of an enterprise system to obtain information about the past NPD projects, the nearest neighbour method to identify a cluster of the most similar cases, and the use of the identified clusters to estimate the parameters of NPD projects (e.g. cost and time of project, potential profit from a product). These parameters are further used to select a set of the most promising product concepts for development.

The presented approach has the advantages such as the low effort of data retrieval to analysis (the data are accessible in an enterprise system), the possibility of what-if analysis, the selection of the most promising product portfolio according to the project manager's preferences, and the reduction of potential miscommunication problems between the sales and marketing and R&D department. The sales and marketing personnel is best informed about the customer requirements, and can input the parameters of a new product directly to an interactive task-oriented decision support system. This eliminates any potential miscommunication problems between the sales and marketing and R&D department, and improves the effectiveness of the NPD process. Drawbacks of using the proposed approach can be considered in the context of collecting enough amounts of data of the past similar NPD projects.

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THE OLDEST REGIONAL LABELING SYSTEM "CHUŤ AND ZLATÁ CHUŤ JIŽNÍ MORAVY" IN THE REGION OF SOUTH MORAVIA IN CZECH REPUBLIC: CUSTOMER'S POINT OF VIEW

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Abstract: *The paper presents a part of the results of research carried out in 2014 - 2015 in the Region of South Moravia, the Czech Republic. The results are focused on the recognition and preference of the oldest regional labeling system - Chuť jižní Moravy and Zlatá chuť jižní Moravy in this region. The questionnaire survey was conducted at the turn of 2014 to 2015. The research was conducted by quota selection of a representative sample of 450 respondents in the Region of South Moravia, the Czech Republic. The research results are presented using the Pearson's Chi-squared test and also other statistical methods, calculating the dependence on important socio-demographic characteristics of respondents in the region. The results show also the most important target groups for this label and recommendation for the brand coordinator.*

Keywords: *marketing, branding, label, region, product, consumer*

JEL classification: *Q13, M31*

Grant affiliation:

1 Introduction

One of actual significant opportunity in marketing and branding area is a high customers preference of ecological, regional and local products (mainly food products) labeled by regional food labels and brands. This trend is an alternative for those, who prefer local products and brand to global ones and this market grows significantly (i.e. United Nations Environment Programme (UNEP) estimates growth of the ecological food market in 2020 by 400% - compared with 2012 (Denik.cz, 2013).. Regional food labeling is according to McEntee (2010) a result of consumer's pressure on food quality and La Trobe (2001) sees in those products advantages for consumers in freshness and in case intermediaries in supplying chain are left out, in quality food production for reasonable prices. He also thinks that regional food branding can be significant mainly for distant regions depending on agricultural production. GoDu (2015) says that regional brands are among other things connected to

development of local identity and Messely et al. (2015) states that implementation of regional branding would increase region's attractiveness, i.e. leisure time. Aaker (2003) presents a fundamental aspect for the successful functioning of the labeling system and the acceptance of this system by residents of the region, acquaintance of these regional brands.

The article is focused on consumer access to oldest regional labeling system in South Moravia Region- Chuť a Zlatá chuť jižní Moravy. Article identifies brand recognition of regional food brands Chuť a Zlatá chuť jižní Moravy towards to selected socio-demographic indicators.

2 Regional labeling in Europe and Czech Republic

The regional labeling trend is obvious in Europe from about the 90s. The pioneers in this area are mainly France, Spain, Greece, Ireland and the Netherlands. One of the first regional labeling and regional labeling systems were created in these countries with objective to draw the consumer's attention to quality local products (Čadilová 2011). In the Czech Republic, the first regional labeling systems started appearing about ten years ago and three regional systems for labeling of products and services have gradually become established. The oldest of them is the labeling system coordinated by the Regional Labeling Association (initially the Regional Environmental Centre), which in the framework of the Natura 2000 Project introduced the first regional labels in the Giant Mountains, the Beskyds and in Šumava. Independent of this initiative, an own semi-state system of regional labeling was created, which is coordinated by the regional and regional agrarian chambers and includes, for instance, the labels Chutná hezky Jihočesky or Chuť Jižní Moravy and Zlatá chuť jižní Moravy (this is the oldest regional labeling system in Moravia) and subsequently the state system of the Ministry of Agriculture of the Czech Republic known as Regionální potravina (Rojík, Chalupová, Prokop, 2015).

2.1 Chuť a Zlatá chuť jižní Moravy

Regional brand(s) Chuť jižní Moravy a Zlatá chuť jižní Moravy (logo see Fig. 1) is a project of the Regional Agrarian Chamber of South Moravia, Government of the South Moravian Region, Mendel University in Brno and University of Veterinary and Pharmaceutical Sciences. Brands guarantee first-class quality and safety of food and agricultural products. Competition criteria for logged entities (manufacturers) and their products are focused on the following areas: origins from the South Moravia Region, the typical taste and smell and appearance of products, originality, technology and raw materials, product's effects on the customer's health, design and availability in the market.

FIG.1: Logo Zlatá chuť jižní Moravy a Chuť jižní Moravy



Source: Krajská agrární komora Jihomoravského kraje (2016). Kvalitní potraviny z Jižní Moravy. Retrieved July 10, 2016, from <http://www.kisjm.cz/default.asp?ids=3603&ch=292&typ=2&val=3603>.

3 Metodology

This paper presents the partial results of research into the impact of socio-demographic factors on the brand recognition of brands Chuť a Zlatá chuť jižní Moravy in South Moravia Region. At the turn of 2014 and 2015, primary research was undertaken among consumers aged 18-65 years in all the main provincial towns in South Moravia Region – Blansko, Brno, Břeclav, Hodonín, Vyškov a Znojmo. Respondents were selected on the basis of quotas for specific socio-demographic characteristics (age, sex and net monthly family income). The responses of 450 participants who took part in the survey were selected for further analysis. The data were analyzed using the Pearson's Chi-square test of independence to test the null hypothesis. The null hypothesis was determined as follows: "Recognition of the regional brands Chuť a Zlatá chuť jižní Moravy in South Moravia Region does not depend on the chosen socio-demographic factor". The authors work in research with recognition of the brand, because regional brands aren't specific product brand. This approach is also applied by other brand researchers - e.g. Kögl and Tietze (2010) or Skořepa and Dušek (2010). This paper presents the results of the Pearson's Chi-square test of independence on the following hypotheses:

- H1: Recognition of the regional brands Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' gender.
- H2: Recognition of the regional brands Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' age.
- H3: Recognition of the regional brands Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' net family income.

Categorical data were obtained during the analysis of the questionnaire survey. Contingency tables were subsequently used as an easy way to display the relations between this data. Subject to the character of the data, suitable tests of independence were carried out (see Hendl, 2006). According to Řezanková (1997), for the purpose of a contingency table of the $r \times c$ type (r is the number of rows, c is the number of columns), the following test statistic was used the most often:

$$\chi^2 = \sum_i \sum_j \frac{(n_{ij} - e_{ij})^2}{e_{ij}} \quad (1)$$

Alternatively:

$$G^2 = \sum_i \sum_j n_{ij} \ln \frac{n_{ij}}{e_{ij}} \quad (2)$$

e_{ij} is the expected and n_{ij} the observed frequency. Either the test statistic χ^2 of Pearson's chi-square was used to test independence, or G^2 for the likelihood-ratio test. These two statistics are asymptotically $\chi^2_{(r-1)(c-1)}$ distributed. The null hypothesis of the test assumes independence. In order to apply the Pearson's Chi-square test, a maximum of 20% of the expected frequencies must be less than five (Agresti, 1990). Where this test could not be applied, Fisher's exact test was used or the simulated p-value of the χ^2 statistic was calculated (Anděl, 2005). The p-value for each hypothesis was calculated by means of the Statistica software. Where $p < 0.05$, the null hypothesis was rejected in favour of an alternative hypothesis on the basis of the assumption of the dependence of the variables.

4 Results and Discussion

The results show, that consumers in South Moravia Region do not rather know the brands Chuť a Zlatá chuť jižní Moravy. This brand is known by 52 (11,6 %) of the addressed respondents.

TAB. 10: Recognition of the brand Chuť a Zlatá chuť jižní Moravy according to respondents' gender

Recognition of brand Genuss Region	Answer "Yes" (%)	Answer "No" (%)	Total
Man	25 (11,90)	185 (88,10)	210
Woman	27 (11,25)	213 (88,75)	240
Total	52 (11,6)	398 (88,4)	450
	Chi-square	df	P-value
Pearson Chi-square	0,05	df=1	0,83

Source: authors

Table 1 shows that recognition of the regional brand Chuť a Zlatá chuť jižní Moravy does not depend on the respondent's gender. 25 men (11,90 %) and 27 addressed women (11,25 %) said they know the brand. P-value of Pearson's Chi-square test of independence came 0,83, thus the hypothesis of independence is not rejected on the level of independence 5 %. The hypothesis H1 Recognition of regional brand Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' gender is accepted.

TAB. 2: Recognition of the brand Chuť a Zlatá chuť jižní Moravy according to respondents' age

Recognition of brand Genuss Region	Answer "Yes" (%)	Answer "No" (%)	Total
18 - 35 years	29 (13,33)	130 (86,67)	150
36 - 50 years	16 (10,67)	134 (89,33)	150
51 - 65 years	16 (10,67)	134 (89,33)	150
Total	52 (11,6)	398 (88,4)	450
	Chi-square	df	P-value
Pearson Chi-square	0,70	df=2	0,70

Source: authors

Table 2 shows that according to results of the research the brand Chuť a Zlatá chuť jižní Moravy is best known by the youngest consumers of age category 18-35 years (13,33 %). But the brand is only little less known by the respondents of age category 36-50 years (10,67 %) and the oldest consumers of age category 51 - 60 years (10,67 %% knows this brand). When considering dependence of knowing the brand on age, P-value of Pearson's Chi-square test of independence is significantly higher than defined level of significance. Hypothesis H2 is not rejected at the level of significance 5%. The hypothesis H2 Recognition of regional brand Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' age is accepted.

TAB. 3: Recognition of the brand Chuť a Zlatá chuť jižní Moravy according to respondents' net family monthly income

Recognition of brand Genuss Region	Answer "Yes" (%)	Answer "No" (%)	Total
Up to CZK 25 000 incl.	17 (7,87)	199 (92,13)	216
CZK 25 001-50 000	26 (13,20)	171 (86,80)	197
CZK 50 001 and above	9 (24,32)	28 (75,68)	37
Total	52 (11,6)	398 (88,4)	450
	Chi-square	df	P-value
Pearson Chi-square	9,29	df=2	0,01

Source: authors

The results of Table 3 show that the brand Chuť a Zlatá chuť jižní Moravy is best known by the respondents with net income over 50 000 CZK (24, 32 %). As it comes to the respondents with income 25 000 – 50 000 CZK, about 13 % of them knows the brand. As for the respondents with income up to 25 000 CZK (7,87 %), those know the brand the least. Table 3 involves P-value of Pearson's Chi-square test being 0,02. The hypothesis Recognition of regional brand Chuť a Zlatá chuť jižní Moravy does not depend on the respondents' net income is rejected at the level of significance 5 %. In South Moravia Region, dependence of net family income on recognition of the brand Chuť a Zlatá chuť jižní Moravy was proved statistically.

4.1 Discussion

The results of the research show that consumers do not rather know the regional brand Chuť a Zlatá chuť jižní Moravy. This brand is known by only 11,6 % of all respondents. Compared to other the research results of the same region and the same coordinator (Regional Agrarian Chamber of the South Moravia Region)- the label Regionální potravina is known by almost half of all respondents and consumers (46.9%) (Rojík at all, 2016). There can be seen from other results that women in South Moravia region know the brand Chuť a Zlatá chuť jižní Moravy same often like men. This finding can be interpreted e.g. in connection with the results of agency Factum Invenio (2008) In Vysekalová, Mikeš (2009) saying that among Czech consumers, women prefer brands more often than men. Based on above mentioned results, it can be stated that given brand is known most often by the respondents in youngest age category, i.e. 18-35 years of age; it is proved fact that both groups when purchasing gain information from more sources and contrary to the other groups they use internet as the source of information (Rojík, 2015). The most interesting fact is that the dependence of the recognition of brand on net income is proved even statistically. The results show that the respondents with income over 50 001 CZK know the given brand the most. The lowest recognition is seen by the respondent with net income up to 25 000 CZK. Similar results can be also found by the label Regionální potravina, which one is coordinated by the same coordinator like brand Chuť a Zlatá chuť jižní Moravy. The results show that the most significant target group for both of those brand are customers with higher income over 25 000 CZK and younger customers up to 35 years, who may appreciate additional aspect of products labeled by this regional brand (Rojík at all, 2016).

5 Conclusion

Regional labeling in the Czech Republic (and the South Moravia Region is not an exception) is broken down into many partial systems, which many a time mutually compete with each other, particularly for sources of funding. The advantages of the regional labels Chuť and Zlatá chuť jižní Moravy is the direct link to the South Moravia Region, as a regional institution. In spite of this, the survey results show substantially lower awareness of this brand among the respondents. This is in spite of the fact that it is the oldest regional labeling system in this region and one of the oldest regional labeling systems in the Czech Republic. The authors assume that one of the major causes of this state of affairs may be the marginalisation of this system in consequence of the establishment of the Regionální potravina label, which is also coordinated by the Regional Agrarian Chamber of the South Moravia Region, and which enjoys marketing support from the Ministry of Agriculture of the Czech Republic through the State Agricultural Intervention Fund. For this reason, the authors assume that several scenarios can be applied to the future of this labeling system. The first is higher marketing effort and mainly promotion of these labels, which would lead to increase of their awareness among the consumers in the region. The second possibility is narrower specialization of this labeling system and clear definition of its content in relation to the Regionální potravina system since apart from tradition, the evaluation criteria, the content focus of both systems is also very similar. The third option is possible merger with some of the existing regional labeling systems, as is happening, for instance, in Germany or Austria. Concrete examples can be sought also in neighbouring Southern Austria, where the oldest labeling system was merged with the local alternative to the Regionální potravina system. However, in the Czech Republic a significant limitation in this respect is the actual setting of the award of the Regionální potravina label, which is competition and the label is thus awarded only to the winning products in the individual categories, not to all, who fulfil the required criteria. The authors see the last option as the possibility to associate this labeling system to the newly established systems of the Ministry of Agriculture. However, the semblance of these systems is substantially unspecific for the present. In any case, the actually weakest point of this labeling system is unawareness among the population in the region; thus, it cannot function fully as a marketing tool, and the coordinator should first focus on increase of awareness of this label. The authors see the regional municipality in the South Moravia Region as a suitable partner in this activity, particularly the Regional Office of the South Moravia Region, or its organisational units. Examples of positive cooperation results between the coordinators of the labels and the regional municipalities in this area can be observed in many countries.

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CSR IN RELATION TO LOCAL COMMUNITIES IN POLAND

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Abstract: *CSR reports are an integral part of an integrated report containing financial and non-financial data. Nowadays, so in the world as well as in Poland, non-financial data, informing about activities in social and environmental areas, is becoming more and more important. Significant stakeholders group of the company are inter alia: local communities. In the article the comparative analysis of selected Polish companies, in supporting, co-operation and information about activities in the area of CSR on local communities, was performed. Good practices were pointed out as applied to social environment and implemented in this area indicators. Aim was to show the level of enterprises awareness about local environment importance in the company value creation, by its positive image and strengthening brand. The article uses social reports from Polish companies and literature. Analysis of sources method, a descriptive analysis and a method of deduction were used.*

Keywords: *CSR reports, integrated report, stakeholders, local communities*

JEL classification: *M14, M40, M48*

Grant affiliation:

1 Good practices of Polish enterprises with respect to local environment

Corporate social responsibility is becoming increasingly important, and soon, for some entities, a compulsory part of financial report. Its preparation is regulated by a number of guidelines, both national and international, so far non-compulsory. CSR reporting is currently not obligatory from a legal point of view, however it results from conviction of enterprises of its necessity from the point of view of the image of company, competitiveness in the market, as well as in the context of cost reduction and new business opportunities (Kaputa, 2013). Non-financial reports concern mainly three areas: environmental, social and corporate governance, and are, in conjunction with financial statements, essential components of integrated reports.

From a strategy point of view, the aim of company is creating its value for all stakeholders based on held tangible and intangible assets. At the same time, businesses are expected to show greater sensitivity to social environment, business ethics, and respect for human rights (Biadacz, 2014, p. 58).

More and more emphasis is placed on the image and reputation that nowadays, stronger than in the twentieth century, determine the market value of companies (Kamela-Sowinska, 2014 p. 63).

Hence, social area narrowed down to local environment became the basis of this study. For comparison three reports of corporate social responsibility of industries: retail trade and finance, recognized as the best in 2015 edition of competition organized by the Responsible Business Forum, Deloitte and SGS have been selected. Retail sector is represented by: Castorama Polska, Rossmann and Tesco Polska; finance industry: Bank Zachodni WBK, Bank Millenium. Banks selected for analysis are included also in the Respect Index (an index of socially responsible companies - 23 companies) Table 1 consists priorities of companies associated with society and local communities, sometimes interchangeably stated in reports: foundations of responsibility, relevant topics, strategy, aspirations and values. Awareness of companies about importance of social capital and benefits associated with satisfaction and gratitude of local communities is evident in reports, both in terms of strategy and business priorities, and in relation to a number of specific actions.

TAB. 1: Analysis of CSR reports for priorities for companies associated with local communities

Company	Priorities for company
CASTORAMA POLSKA	local communities
ROSSMANN	society
TESCO POLSKA	foundations of responsibility: we support local communities
BANK ZACHODNI WBK	relevant topics: - increasing availability of products for disadvantaged groups, - impact on society of bank, santander universidades, activities of BZ WBK foundation, business sponsorship, participation in public life, presence of bank in cultural events, diversity management
BANK MILLENIUM	values: respect for stakeholders

Source: own study based on CSR reports: Castorama (2013-2014), Rossmann (2013-2014); Tesco (2012/13-2013/14), BZ WBK (2014), Millenium Bank (2014)

Implementation of these priorities is done through a series of actions and activities undertaken by company in the social area, among others local environment (table 2)

TAB. 2: CSR activities in the area of local environment

Company	activities in the area of local communities
CASTORAMA POLSKA	Specific issues: - cooperation with social partners and actions against social exclusion - education in tinkering - Majsterkowo program - inclusion of employees in social activities - Mikolajki, Children's Day, renovation of the house of people in need, supporting Celebration of Earth Day, organization of running event of alumni of care and education facility, transfer of gifts to an orphanage, help for victims of typhoon"
ROSSMANN	- participation and support of local events - cooperation with dozens of foundations, associations and institutions, usually by providing a gift in kind - supporting local competitions in special schools and kindergartens - supporting homes for single mothers and hospices - sponsoring and supporting events, for instance cultural - organization and involvement in numerous local and national actions, eg.:

	Rossmann for Children, Rossmann Run, Buy Bear, Gentlemen Calendar, Light Move Festival
TESCO POLSKA	<p>"We are good, responsible neighbor, significantly affecting development and quality of life of local communities. We provide not only material support, but also use our expertise and scale of action to initiate long-term social change. Education is especially important for us</p> <ul style="list-style-type: none"> - particularly children - and involving citizens in solving important issues for their communities"
BANK ZACHODNI WBK	<p>The most important social projects implemented by BZ WBK and BZ WBK Foundation named Stefan Bryła are:</p> <ol style="list-style-type: none"> 1) supporting education in the scope of financial knowledge and development of science (in cooperation with Polish universities) eg.: Competition for economical comic; Your family budget; Leaders of Europe; Santander Universidades; Academy of EFC; Business Zone 2) We care about full participation of people with disabilities in everyday life and equal opportunities: International Wheelchair Rugby Tournament „Mazovia Cup 2014"; Talking ATMs, Hotline without barriers; Information campaign „Here is OK"; „5 senses" - integration through art; "Barrier-Free Service" 3) building civil society: Chopin Competition; granting programs: Ambitious Youth Bank, Bank of Children's Smiles; Volunteering Staff; Buy from a neighbor, BZ WBK Press Photo"
BANK MILLENIUM	<p>Social activity:</p> <ul style="list-style-type: none"> - Social program Nikifory - overcoming isolation of people with intellectual disabilities through development and promotion of their creative activity. - Bug Bankers Financial Education for Youth - Charity Auction Handicraft - collected during an online auction amount is doubled by the Bank and transferred to charity - Charity Company Race - for treatment and rehabilitation of disabled children. - The Bank's employees for Children - collecting gifts for children from residential institutions <p>Promotion of culture:</p> <ul style="list-style-type: none"> - Bank does support selected programs; prefers cooperation in the framework of multi-annual programs with clearly described objectives and programs of so-called circle. high culture; - bank cares that these programs have wide public perception and are also available through media; - Examples of cyclical cultural projects: Golden Sceptre, Festival of Contemporary Music Sacrum Profanum, Remember Osiecka <p>Supporting education:</p> <ul style="list-style-type: none"> - Cooperation with student organizations, professional support and financial - AIESEC (Ambassador Program, Career Days); CEMS Club Warsaw (Graduate Programme day - Trade managerial programs) <p>Main educational programs</p> <ul style="list-style-type: none"> - Millennium Bankers - paid training program, - Millennium Academy - free workshops and training for students - Win an Internship

Source: own study based on CSR reports: Castorama (2013-2014), Rossmann (2013-2014); Tesco (2012/13-2013/14), BZ WBK (2014), Millenium Bank (2014)

Number and variety of these "good practices" show that companies understand social potential as a real good and capital, which is worth seeking. It is important to make what is shown in report not just

a declaration or a single activity on the border of philanthropy in order to improve the image, but rather a continuous activity, inherent to company's strategy.

2 Reporting measurement indicators with regard to local communities

All analyzed companies (except Rossmann) have prepared reports in accordance with GRI G4 guidelines which have been in force since 2013. Structure of performance indicators for reporting according to GRI include profile indicators, detailed indicators and sectoral indicators (tab.3).

TAB. 3: Indicators by aspect: social (subcategory: society - local communities) presented in analysed reports

Company	reporting indicator in social area
CASTORAMA POLSKA	G4-DMA - Disclosures on management approach with regard to social engagement
ROSSMANN	None
TESCO POLSKA	G4-SO9 Percentage of new suppliers that were screened using criteria for impacts on society
BANK ZACHODNI WBK	G4-DMA - Disclosures on management approach with regard to social engagement G4-SO1 Percentage of operations with implemented local community engagement, impact assessments, and development programs Society disclosures for the financial services sector G4-FS14 Initiatives to improve access to financial services for disadvantaged people
BANK MILLENIUM	G4-DMA - Disclosures on management approach with regard to social engagement G4-SO2 Operations with significant actual and potential negative impacts on local communities Society disclosures for the financial services sector G4-FS13 Access points in law - populated or economically disadvantaged areas by type) G4-FS14 Initiatives to improve access to financial services for disadvantaged people

Source: own study based on CSR reports: Castorama (2013-2014), Rossmann (2013-2014); Tesco (2012/13-2013/14), BZ WBK (2014), Millenium Bank (2014) and GRI G4- Sustainability Reporting Guidelines, 2015

In comparison with other aspects in economic, environmental and social sub-categories, aspect: local communities in analysed reports has a relatively narrow range of presented indicators.

3 Conclusion

Modern management trends indicate that it is the man who is most important element of enterprise market advantage. It is possible to copy business model, strategy, processes, products or sales channels however the human mind cannot be copied (Zakrzewska, 2013, p. 6). In the area of social issues, it is easier to measure company expenditures while it is difficult to measure effectiveness of such activities. Undoubtedly, they have a wide psycho-social dimension. Typically, a good reputation and image of company translates into good economic results. Analysis of reports revealed that

companies are aware of importance of cooperation and support of local communities, because they have major initiative in building good relations with this group of stakeholders. This is indicated by inclusion of local communities in the strategy of companies, as well as multiplicity and diversity of examples of good practices in this area.

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TEAM ROLES AND ATTACHMENT STYLE IN TEAM WORK

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Abstract: *Present requirements on working groups pose a challenge to making team work more efficient. At the same time, there is a discussion concerning which psychodiagnostic tools could predict team effectivity. The contribution deals with combination of chosen psychodiagnostic tools used in human resources and description of team efficiency. The aim of this research was to find link between chosen psychodiagnostic tools and team efficiency. The methods used for measurement were Close Relationship Scale (ECR) and Belbin Team roles questionnaire in comparison with the criteria of current teams' effectivity. The research took place between September and October 2014 in the Czech Republic. The researched groups consisted of a total of 41 respondents in 7 groups in one company. The research held in 2014 and 2015 revealed interesting findings and the results are considered applicable not only in the field of recruitment, but also in team development.*

Keywords: *Team, Belbin Team roles, Close Relationship Scale (ECR), Attachment theory*

JEL classification: *M54 Labor Management*

Grant affiliation: *IGA_FF_2015_022 Research in the field of psychology with focus on application*

1 Purpose

Currently presented research results follow a wider research topic investigated at the Department of Psychology, Faculty of Arts at Palacký University Olomouc, namely Attachment Theory in Work Environments. The research team has addressed the question of use of attachment in a work environment focused on both individuals and teams. Our contribution presents findings of a research conducted in 2014 and 2015, which are the first input into finding a psychodiagnostic instrument reflecting team efficiency. In the contribution presented, we specifically focused on a work environment and the use of attachment theory by means of Close Relationship Scale (ECR) and well-known Belbin Team Roles Theory.

A fundamental study in the research of attachment theory in a work environment was Hazan and Shaver (1990) in which the authors postulated parallels between the work of an adult and exploration of a child. It claims that work demonstrates the innate need to explore and that for an adult, it is a source of perceived competence. In accordance with attachment theory, the authors

described statistically significant differences between the types of bonds in selected work characteristics. Adults with a Secure attachment style were most satisfied at work, maintained a positive attitude to work, they had the smallest fear of failure, and the best work-life balance. The ambivalent individuals perceived their job as a means for satisfying emotional bonds, they preferred to work with others, felt undervalued, had difficulty meeting deadlines, and great fear of failure. Adults with an Avoidant attachment style preferred to work alone, they were the least satisfied with their work and felt being negatively evaluated by their colleagues. They tried to avoid social contacts through hard work.

Following this pioneering study, many studies were carried out focusing on e.g. team efficiency and attachment (Neustadt, Chamorro-Premužić & Furnham, 2011; Simmons, Goot, Nelson, & Little, 2009 in Harms, 2011; Ronen & Zuroff, 2010 in Harms, 2011). Based on the results, we can conclude that the link between efficiency and attachment theory is ambiguous, since different studies show different connections.

Another application of attachment theory can be found in superior–subordinate relationship (Popper & Mayseless 2003 in Mikulincer & Shaver, 2007). This relationship is specified by asymmetry, mutual expectations and interpretation of the relationship as "target specific" (Harms, 2011). Furthermore, it is obvious that the definition of the relationship in this dyad influences behavior of both members. The style of the leader's behavior affects every member of the team and the overall social atmosphere. The Secure attachment style leader plays the role of a relational person in a team, motivates, inspires, supports positive emotions, team cohesion, individual team members' responsibility, transparent communication, and trust (Seitl, 2014; Troth & Miller, 2000 in Harms, 2011; VanSloten, 2011).

Furthermore, in order to have an efficient team, its composition is crucial. Therefore selection of people is a key point of having a correctly assembled team and affects its operation in the future. The team should not be overly homogeneous, both in terms of gender, competencies, knowledge and skills, and also in terms of personality traits. One of the more common team role theories is a theory by Meredith Belbin (Belbin, 2010). M. Belbin defined nine team roles that should be represented in every effective team. Each role has its specific place and function. Mature individuals have 2-3 preferential roles which are prioritized according to the team they are in. Belbin Team Roles measure behavior, not personality, and so can be defined as "the tendency to behave, contribute and interrelate with others in a particular way" (Belbin, 2010). Although the team roles typology as devised by M. Belbin is subject to both praise and criticism in academia, we thought this division to be useful due to its familiarity in practice.

2 Design/Methodology

The research took place between September and October 2014 in the Czech Republic. The research was conducted in a manufacturing company specialized in injection molding, painting and assembling. The company's customers come from three different sectors: automotive, medical, and TV & Audio. It is a subsidiary of an international group, a family company with headquarters in Belgium, founded in 1900 and represented in the Czech Republic since 1995. Currently, the company in the Czech Republic employs approximately 250 employees. For our research, we have defined seven teams comprising a total of 43 respondents. The respondents were Czechs. All of them were approached to fill out Close Relationship Scale (ECR) in the Czech version (Seitl, Charvát & Lečbych,

2016) and Belbin Team Roles Questionnaire (original version as on Belbin.com in the Czech language). All the teams are considered to be effectively functioning teams within the organization. The largest team was composed of nine members and the smallest one of five members. All teams had a clearly defined leader and they already worked in the company. In total, there were 19 women and 22 men. 41 members completed ECR questionnaires and Belbin Team Roles Questionnaires and were included in the research results. Other respondents either did not fill out all the results completely or did not complete both questionnaires. Since engaging in the research was voluntary, it was not possible to supplement the total data with more respondents despite repeated requests. During data collection and evaluation, survey ethical principles were respected.

To analyze data, we used descriptive statistics as well as Pearson correlation coefficient, which measures the strength of a linear relationship between two variables. In selected variables Resource Investigator and Specialist, multiple regression with dependent variable was used experimentally.

3 Result

The calculations below are based on the results of 41 respondents in seven working teams. There are a total of 19 women and 22 men. The average age is 35.7 years.

The research results (see Table 1) show a correlation between a Resource Investigator team role and T-score Avoidance, and a Specialist team role and T-score Avoidance. This result can be interpreted as that a Resource Investigator team role type is more typical for a Secure and Anxious attachment style rather than for an Avoidant and Disorganized attachment style. A Specialist team role type is more typical for an Avoidant and Disorganized attachment style than for a Secure and Anxious attachment style. These results were also confirmed by the data calculated using regression analysis with dependent variable (see Table 2 and 3).

TAB. 1: Correlation - Pearson Correlation Coefficient

	Correlation			
	*. p < ,05000			
	N=41			
	Averages	s.d.	T-skor Avoidance	T-skor Anxiety
T-skor Avoidance	49.04878	9.52090	1.000000	.037850
T-skor Anxiety	50.78049	9.67345	.037850	1.000000
Plants	48.68293	26.02541	-.022637	.159693
Resource Investigator	26.70732	23.15410	-.327676*	-.182900
Co-ordinátor	45.58537	27.69203	.131312	-.133991
Shapers	32.63415	22.68232	-.136517	-.075575
Monitor Evaluator	46.02439	27.77273	-.236937	-.046042

	Correlation			
	*. p < ,05000			
	N=41			
	Averages	s.d.	T-skor Avoidance	T-skor Anxiety
Teamworker	60.51220	29.83800	.150305	.043447
Implementer	61.12195	28.42463	-.022470	-.034541
Completer Finisher	48.43902	28.67582	-.179646	.121393
Specialist	60.58537	26.21734	.481228*	-0,030236

TAB. 2: Resource Investigator – Attachment

N=41	Results of Regression Analysis with Dependent Variable		
	Resource Investigator team role		
	Adjusted R2= .09103391		
	F(2,38)=3.0030 p<.06154		
	b*	t (38)	p-value
T-score Avoidance	-.321213	-2.12931	.039768
T-score Anxiety	-.170742	-1.13184	.264794

TAB. 3: Specialist – Attachment

N=41	Results of Regression Analysis with Dependent Variable		
	Specialist Team Role		
	Adjusted R2= .19361231		
	F(2,38)=5.8020 p<.00633		
	b*	t (38)	p-value
T-score Avoidance	.483065	3.399792	.001597
T-score Anxiety	-.048520	-.341484	.734621

Another interesting result of our research is the correlation between different types of team roles. The results show that in the case of preferential role of a Plant, the other preferential role is not either a Specialist or an Implementer. A Specialist team role in our research group negatively correlated with the role of a Shaper and Monitor Evaluator. Last correlation was found in the Implementer and Specialist roles and this is the only positive correlation. In other words, a person who chooses the role of a Specialist will also have the role of an Implementer.

The research results can indicate the type of behavior of individual team members and their role. As stated in the previous studies and the theoretical background, all team roles should be represented in an efficiently operating team. At the same time, the Secure attachment style is preferable for functional interpersonal relations. Unlike a Resource Investigator team role, a Specialist team role is not primarily focused on supporting the interpersonal relationships within the group. On top of that, it is interesting that the role of a Resource Investigator was selected as the least frequent in our teams.

4 Limitations

The limitations of this survey are perceived in the number of respondents. Out of the total number of 43 respondents' answers, only 41 could be used, which we consider the pitfall of the research and its subsequent interpretation. The low number of respondents meant that it was not possible to identify whether all team roles were represented in the teams. Another limitation is the commitment to complete the questionnaires. In most cases, the respondents answered the questionnaires during the working hours, which could decrease their attention and their motivation for involvement in the research. Furthermore, the interpretation of the results gained in one organization only can be considered a limitation as well. Comparing the results across the companies' structures could be an incentive for a further research.

5 Practical Implications

The results can be made use of in the area of work and organizational psychology both for recruitment and also in team development and management. Other findings on the attachment theory and team roles can be a benefit for individuals in leadership positions.

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BALANCED SCORECARD CONCEPT IN ROMANIAN SMALL AND MEDIUM ENTERPRISES

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Abstract: *The purpose of this paper is to explore the implementation of a performance management system using the balanced scorecard (BSC) within Romanian small and medium sized enterprises (SME). This is a casebased methodological approach. This ensured that the issues were appraised in both an operational and a strategic context. The findings of this research are that balanced scorecards can be implemented within a SME context. However, the motivations for the adoption of the scorecard were both internal and external due to the heavily regulated nature of the organization. The paper analyses the application of the Balanced Scorecard (BSC) in Romanian Small and Medium enterprises (SMEs). Actions necessary for its implementation, obstacles and BSC development trends have been presented.*

Keywords: *Balanced scorecard, strategy, performance management, SMEs, Romanian enterprises*

JEL classification: *G30, M21*

Grant affiliation:

1 Introduction

The present national and international business environment, in the context of the knowledge-based economy, is influenced by numerous factors such as: globalization, the increasing of competition and increased importance given to customer satisfaction. The traditional approach of excellence in business, which included quality, time and costs is in this era of increased competition, further complicated by the addition of factors such as the ability to innovate, the ability to respond in a relatively short time and effectively to the market changes, social responsibility, ethics and impact on the environment. It has also proven without doubt that financial measures cannot be the only considerations when evaluating performance in companies. Performance evaluation models must also include non-financial measures and values that are to some extent intangible. Excellence is regarded as being the successful combination of resources, the way of organization and the effectiveness of management.

The European Foundation for Quality Management, (EFQM) Excellence Model has proposed to include the following fundamental concepts :

- Results orientation;
- Customers focus;
- Leadership and continuity in objectives;
- Management by processes and facts;
- Staff development and involvement;
- Continuous training, innovation and improvement;
- Partnerships development;
- Social responsibility of the organization.

Using Balanced Scorecard at the level of small and medium enterprises Identifying strengths and weaknesses at a company level is not always a straight-forward issue. It depends on many factors and also on the size of the enterprise. Measuring the current status of a company, by means of reporting and collating correcting available data is a necessity in order for top management to appreciate the current capacities of the company and plan for the future taking into account the current and future prospects. Many managers, question the validity of the data collected and the relationship to long-term objectives and goals. Thus the establishment of certain indicators has proven beneficial to organizations in assessing the current state, both internally and externally offering an overview of measurable attributes that can depict the status of procedures and management pertinent to individual sectors of the company, as well as the enterprise as a whole. In addition Key Performance Indicators (KPIs) offer information on the organization's ability to respond to new developments in the products and services the company offers, as well as an overview of the company, resources relative to the key points which need intervention and improvement.

Balanced Scorecard can be defined as a management system based on performances, which offer the enterprises the possibility to follow their strategies based on and tracking .

Being small is not always equivalent with being unimportant, especially when we talk about European companies. The SMEs are an important generator of employment and growth and measurements was recognized as the backbone to any economy. European Commission (EC) is sustaining the small businesses through its regional policy: helping them realize their growth potential, their importance in regional and global economy and creating a friendlier business environment. More than 20 million companies in European Union are SMEs and they play an important role in the dynamics of the national and regional economy.

Generally, the people that works in small and medium enterprises have a high level of knowledge about the Balanced Scorecard concept. 81,5 % from this persons have heard about this concept. From this 81,5 %, 34,1 percent dosen't know details about the concept and 18,5 % doesn't even heard about Balanced Scorecard.

2 Romanian enterprises that use Balanced Scorecard

In a recent case study, the 170 interviewed persons mentioned a total of 63 companies that are using Balanced Scorecard, in various industries.

The Balanced Scorecard's limited national use is reconfirmed by the lower percent of the respondents of this case study that are working in organisations that use the concept (17,3%).

Domains of use of Balanced Scorecard concept were following:

- Production (12,7 %);
- Financial institutions (11,1 %);
- IT (9,5 %);
- FMCG (Fast moving consumer goods) (7,9 %);
- Petrochemical industry (7,9 %);
- Telecomunications (7,9 %);
- Consultancy and training (7,9 %).

3 Case study on measuring the excellence of SMEs using the Balanced Scorecard tool

This case study presents the results from a questionnaire given to enterprises in the glass making field within the area of Gorj County in South West Romania. The main hypothesis was to assess the views and practices in relation to performance, strategy and goals, management options and evaluation and review. The second hypothesis was to estimate whether the BSC approach could be applied to these firms leading to new development strategies and SME improved competitiveness. The questionnaire was presented to the top manager and financial executive of the firm, in a structured personal meeting which took place at the enterprise offices. A personal meeting with top management was selected as the most efficient way to proceed with the questionnaire, since it was deemed important to include an introductory section to the questionnaire where a brief introduction to the concept and main structure of the BSC approach was presented (Todorut et al., 2013, pp. 174-180).

The questionnaire had the following questions:

- BSC prior knowledge by the company and/or the CEO.
- How does the company assess customer satisfaction.
- How does the company assess internal processes.
- How does the company formulate and apply growth and improvement.
- How does the company assess its financial situation.
- How does the company formulate its strategy.
- How is strategy formulation associated to performance evaluation practices in the company.
- Having explained the basic presumptions of BSC, how does top management view the benefits of BSC and the feasibility of implementation.

Throughout the personal meetings with senior executive officers of the enterprises, it became obvious that clarification of issues relevant to BSC had to be done in order to obtain the correct response to the questions asked. Thus the following issues became part of the structured interview:

- Setting objectives targets.
- Defining and calculating indicators.
- Measuring the current state of the company.
- Measuring deviations from established targets.

- Setting some degrees of importance for each objective from BSC and the calculation of a performance percentage for each and every perspective.
- Setting some degrees of importance for each perspective from BSC and the calculation of an overall performance percentage in the enterprise.
- Setting future initiatives and actions for increasing the company's commercial viability.

In the conditions of increased competition, the company's management team considered it necessary to apply modern management tools to assess the current state of the company, to control and improve the performance levels and establish the future improvements correlated with the company strategies. Therefore, the objectives were established, targets and indicators corresponding to the four perspectives were defined: financial, customers, internal processes, growth and improvement.

4 Conclusions

With notable exceptions, Romanian managers do not accept modern management techniques. They still trust the idea of executives involved in every detail, retaining all decision power (top-down management, with little attention paid to employees' suggestions for improvement). The strategy audit went smoothly only when the external consultant guaranteed full confidentiality to interviewed personnel, before they put on the table their critics and suggestions. Sustainability concerns are commonly regarded as slogans, the main problem being for next week's salaries and for not getting redundant. Communication improved dramatically during the BSC implementation. It meant also team-building, putting managers to work together, understanding each-other. Implementing BSC in an enterprise that already had quality and environmental ISO – certifications (TQM, EMS) has proven beneficial. The enterprises are on the way to become strategy-focused, having at hand a powerful management system, fully aligned to sustainability requirements. Elements of corporate culture (that existed in Romania before WWII) integrating all the beneficial components of sustainable development are just emerging in the enterprises that adopted BSC.

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EDUCATION AS A PREREQUISITE FOR EMPLOYMENT OF GRADUATES IN THE LABOR MARKET

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Abstract: Education is an ongoing process, the quality of which affects the development of society and the individual and is a prerequisite for long-term applicability on the labour market. The Slovak labor market is facing long-term high unemployment in comparison with other EU countries. Graduates are among the highest groups on the labour market, who are increasingly at risk of unemployment due to non-compliance of the education system and labour market requirements. The aim of this paper is the issue of education in the context of employment of graduates on the Slovak labour market. The paper deals with the overall unemployment rate and the unemployment risk which arises from differences in the employment of graduates in terms of the type of education, level of education and group training

Keywords: unemployment, jobseekers, graduates, courses

JEL classification: I2, J0, J6

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1 Introduction

Education is a systematic process, the quality of which affects the development of society and of the individual; it is the main prerequisite for a long-term employability. Education has recently been classified as one of the highly relevant issues in the Slovak Republic and in other countries of the European Union. In comparison with other EU countries, Slovak labour market has been facing high unemployment rate for a long time. Graduates form one of the vulnerable groups on the labour market, these groups are increasingly at risk of unemployment because of the mismatch between supply and demand for labour. Employability of graduates depends on several factors - macro-economic conditions influenced by interventions within different policies from the state economic

point of view. At the same time, it depends on actual circumstances of individuals to a large extent and also on their continuous improvement in the context of global changes the individual must respond to through continuing education. Current labour market requires skills differing from those offered by graduates.

The Constitution of the Slovak Republic defines the right to education for every citizen of the Slovak Republic in Art. 41 Paragraph 1. It is also the underlying legal document for the creation of an overall education policy of the Slovak Republic. Education policy is an integral part of social policy as education is a part of human and social development and it is also a factor affecting the social structure of society.

“The importance of education policy stems from the aim education fulfils in society. Education as a phenomenon is a result of two interrelated processes: upbringing and education. The core of education is not physical, it is just a quality of a person (a quality a person can use and develop). In certain specific historical conditions of each country, extent of education (distribution of education related to population), its vertical structure (education levels) and horizontal structure (education in different fields) and of course the quality of education and its content are always critical. (Krebs, 2010, p. 441).

2 Education as an investment

Investments in education system are important for the process of employability, competitiveness and social cohesion. Underfunded education jeopardizes the quality of education on all levels. A significant increase of the budget for education system is not expected in the near future, which is a reason why educational institutions will need to spend public funds on education very efficiently. The public sector needs to channel funds to the levels and forms of education with the highest rate of investment return, respectively with the employability of graduates on required level. Respected economists such as Kotler, Sedlák and others argue that the costs invested in education represent only a fraction of what educated workers produce in the course of their economic activity.

“Economic growth is closely related to positive synergy between the actual value of human capital on the one hand and the successful implementation of newly acquired knowledge on the other.” (Bitterová, 2010, p. 81). Benefits of education reflect in creation of commercial values, which then reflect in generating and growth of gross domestic product; at the same time, this also reflects in benefits of individuals, particularly in their earnings and increase of quality of life, which in turn can be used for their consumption or personal development.

Investing in education also brings a certain risk, which can rebound in unemployment of an individual or in a lower rate of investment return – this occurs when an income level of an individual is lower than expected. „The risk of investing in education expressed by unemployment rate reflects indirectly the demand for specific types of education on partial labour markets. The lower the demand for a certain kind of education on a partial labour market, the higher the unemployment rate and the lower the personal income“. (Hronec, Mihályi, 2015, p. 52)

3 Expenditures on education in an international context

Each country of the European Union is responsible for its own quality of education and training. Quality of education is directly related to expenditures on education derived from the level of GDP.

“Public expenditures on education include the part of expenditures of educational institutions from public sources, as well as transfers and payments from public funds for educational purposes of private entities, be they students or other entities (eg. scholarships, etc.).” (Ministry of Education, 2013, p. 9).

Public expenditure on education in the Slovak Republic is one of the lowest in all OECD countries. This is true not only for the index of expenses to the proportion of GDP, but also for the index of overall public spending.

Expenditures of Slovakia on training as a share of GDP amounted to 4.44% of GDP in 2011, while the average for OECD countries stood at 6.07%.

TAB.1: Expenditures on education as a share of GDP

Year	2000	2008	2011
OECD average	5.37%	5.78%	6.07%
Slovak Republic	4.06%	4.07%	4.44%

Source: OECD (2014). Education at a Glance 2014. Retrieved from www.oecd.org/edu/eag.htm.

Slovakia's lagging behind in the level of expenditure was mainly caused by a lower level of total public spending as a share of GDP. Size of the Slovak public sector accounts for only 75% of the average public sector in OECD countries. Another reason for the lagging behind is that spending on education as a share of spending in public sector is lower than in other countries. The OECD countries spend approximately 13% of their total public spending on education, while in the Slovak Republic this ratio only comes to about 10%. Although we have seen moderate progress in recent time, quality schooling requires constant and systematic investments in education. If the Slovak Republic does not increase spending on education systematically, the country will probably lose its comparative advantage represented by skilled workers, who will have problems with their employability in the future.

4 Current situation on the labour market in the Slovak Republic

4.1 Development of unemployment in the Slovak Republic

The Slovak Republic has long been classified as a member of a group of European countries (Italy, Cyprus, Portugal, Croatia, Spain, Greece) with the highest unemployment rate and with the highest rate of long term unemployment in particular, which, according to Eurostat, was 7.6% in 2015 (Greece 18.2%, Spain 11.4%, Croatia 10.3%). 2013 is seen as a turning point - unemployment ceased to grow and took a downward trend. The overall unemployment rate in the Slovak Republic reached the level of 11.40% in April 2016 and the registered unemployment rate stood at 9.64%, which represents 309 583 unemployed people; 261 914 of them are available jobseekers.

TAB. 2: Unemployment rate in April (in %)

Year	Unemployment rate according to the number of available jobseekers (in %)	Registered unemployment rate (in %)
2011	14.41%	12.94%
2012	14.73%	13.40%
2013	15.64%	14.41%

2014	14.46%	12.96%
2015	13.35%	11.68%
2016	11.40%	9.64%

Source: Central Office of Labour, Social Affairs and Family

“Long-term unemployment has been and is typical for some social groups, such as unskilled workers, young people, disabled people, members of ethnic minorities, rural residents. Long-term unemployment is in the center of attention of governments and states all around the world because of adverse effects it has on both individuals and on society in general.” (Rievajová, 2012, p. 206).

TAB. 3: Vulnerable groups on the labour market

April 2016		April 2015	
Long-term unemployed	160 041	Long-term unemployed	196 142
Above 50 years old	82 076	Above 50 years old	92 546
Up to 29 years old	81 873	Up to 29 years old	102 261
Up to 25 years old	44 209	Up to 25 years old	57 433
Graduates	14 909	Graduates	20 560

Source: Central Office of Labour, Social Affairs and Family

There is a clear regional differentiation on the Slovak labour market. The unemployment is particularly high in some regions of Slovakia; this is where social exclusion of certain population groups occurs (especially of Roma origin). Government must allocate huge financial resources mainly from the structural funds of the European Union for the reintegration of these groups of unemployed into society and on the labour market.

TAB. 4: Districts with the highest and lowest unemployment rate in Slovakia in month April 2016 (in %)

Districts with the highest unemployment rate		Districts with the lowest unemployment rate	
Rimavská Sobota	26.43%	Púchov	4.75%
Kežmarok	22.08%	Piešťany	4.69%
Revúca	21.32%	Bratislava I	4.16%
Rožňava	20.05%	Bratislava I	4.15%
Poltár	19.67%	Galanta	4.04%

Source: Central Office of Labour, Social Affairs and Family

The recovery of the Slovak economy can be observed in the number of vacancies. In April 2015, there were 16 646 vacancies according to the Central Office of Labour, Social Affairs and Family (COLSAF SR). In April 2016, there were already 39 999 vacancies registered. From the perspective of regions, the highest number of job vacancies could be seen in the Bratislava region (8 179) and the lowest in the Košice region (3 494). The most in-demand jobseekers are operators and installers of machines and equipment, skilled workers and artisans, workers in services and trade.

However, the business environment is facing a situation when it is difficult to find suitable skilled workers for a job opportunity created. This is due to the low willingness of workforce to migrate for work and due to inappropriate educational level of the workforce not meeting the needs of the labour market. Entrepreneurs must employ workers who do not meet all their requirements, which results in decrease of long-term unemployment. Although the share of long-term unemployed

people on the total number of unemployed persons fell from 67.3% to 62.6% year on year in the fourth quarter of 2015, it is still one of the highest in the EU countries.

4.2 Unemployment of graduates in the Slovak Republic

According to the Act No. 5/2004 Coll. on employment services and on amendments to certain laws, a graduate is “a citizen under 26 years of age, who completed an appropriate level of education of a systematic vocational preparation in full-time study less than two years ago and who has not had a regular paid employment before registering as a jobseeker” (§8 paragraph 1 of Act No. 5/2004 Coll.).

The imbalance caused by the mismatch between an increasing labour supply and growth of demand on the labour market is the reason for increase of the number of jobseekers; it also affected the employability of graduates. According to the Central Office of Labour, Social Affairs and Family of the Slovak Republic, the unemployed in the age group up to 29 years accounted for up to 26.45% in April 2016.

The rate of educational attainment reflects in the structure of jobseekers sorted by education. In April 2016, jobseekers with secondary vocational education accounted for the highest number of unemployed, representing up to 29.25% of all unemployed. Jobseekers with full secondary vocational education accounted for 25.02% and jobseekers with elementary education for 24.86% of all unemployed. Jobseekers who completed the third level of university education represented the smallest group of unemployed – with the share of 0.27%.

TAB. 5: Structure of jobseekers according to the level of education in April 2016

Jobseekers total	309 583
Unfinished elementary education	16 721
Elementary education	76 956
Lower secondary vocational education	5 447
Secondary vocational education	90 553
Full secondary vocational education	77 469
Full secondary education	11 939
Higher education	1 391
University education - Bachelor	5 323
University education - Master	22 855
University education – PhD.	727
Unspecified	202

Source: Central Office of Labour, Social Affairs and Family

Slovak graduates are experiencing the so-called overeducation, since up to 19% of them work on posts not suitable for their attained education. This is caused by increase in the number of university graduates for whom the labour market could not create jobs matching their qualifications. Underqualified, people working on positions higher than their level of education, form only approximately 3% according to the Institute of educational policy. Overeducation is mostly experienced in services, agriculture and veterinary sciences. Undereducation is the highest in health and social services and it also applies for teachers.

TAB. 6: Skills mismatch in Slovakia according to the field of study (in %)

	Undereducated	Overeducated
Slovak Republic	3	19
Teaching	6	15
Humanities and art	5	20
Social studies, trade, law	3	15
Sciences, mathematics, IT	3	14
Engineering, manufacturing, civil engineering	2	20
Agriculture, veterinary medicine	2	21
Health and social services	8	15
Services	3	26

Source: Martinák, D. (2016). Filozof úradníkom, učiteľ pokladníkom. Bratislava: Inštitút vzdelávacej politiky.

Graduates' unemployment peaked in September 2014, when its rate reached 8.15% of all jobseekers, which in absolute numbers represents 30 804 graduates. Since this period there is a continual decrease in the number of graduates caused by economic growth and a more favourable business environment. Slovakia has improved its position in the business environment mainly due to the acceleration of processes and reducing the amount of costs needed to start up a business as well as reducing processes related to the payment of value added tax. However, we must point out that Slovakia lags behind particularly in law enforcement.

"In 2015, growth of the Slovak economy accelerated to 3.6%. Domestic demand was the main driver of growth for the second consecutive year. The growth was caused mainly by public investments through accelerated disbursement of EU funds in the 2007-2013 programming period. Strong employment growth and declining prices led to an increase of real incomes and encouraged consumption of households. Government consumption contributed to the GDP growth. Job opportunities were created in all sectors of domestic economy evenly - with the exception of the construction sector. More than 14 000 workers found work abroad, which massively contributed to the decline of unemployment." (Ministry of Finance, 2016, p. 15).

TAB. 7: Number of unemployed graduates

Month/Year	Secondary schools total	Universities total	Graduates total	% of graduates of all jobseekers
12/2014	20 065	6 352	26 417	7,07%
12/2015	14 228	5 152	19 380	5,80%
4/2016	12 066	2 843	14 909	4,82%

Source: OECD (2014). Education at a Glance 2014. Retrieved from www.oecd.org/edu/eag.htm.

Amongst the various groups of unemployed graduates of secondary schools, the largest is the group of unemployed graduates of general secondary schools. They are followed by graduates of secondary vocational schools. Graduates of gymnasiums form the smallest group of unemployed graduates, due to the fact that the majority of these students continues to study at universities.

TAB. 8: Development of the median of graduates' unemployment rate

Graduates/season	2007/08	2010/11	2012/13	2013/14	2014/15
Vocational studies	9.1%	26.6%	23.6%	28.0%	25.5%
General studies	8.2%	23.8%	21.2%	21.2%	18.3%
Gymnasiums	2.3%	5.9%	6.6%	5.4%	5.6%
Secondary schools total	6.6%	19.4%	17.1%	18.0%	15.7%
Universities total	2.4%	5.9%	5.3%	8.3%	8.3%

Source: UPSVaR SR, CVTI SR

In terms of job seekers - graduates in context of groups of fields of study – we can conclude that the highest number of unemployed graduates (more than a half) were from following fields of study: social sciences - including economics, law, political science, philosophy, history, teaching, but also psychology and many others. The second largest group, which accounts for less than one-third of graduates, was formed by graduates of technical disciplines – civil engineering, architecture, electrical engineering, mechanical engineering, food, textiles etc. Another one is a group of agriculture and forestry, veterinary medicine, medicine, pharmaceutical sciences and arts graduates. The smallest number of students graduate from sciences.

Graduates of courses who are not employable in their field of study cause a so-called mismatch, which means that the graduate will eventually work in a field that he did not study. This mismatch applies to more than 38% of graduates. People who are specialized in agriculture, humanities and arts are the ones most affected by this mismatch. This means that they could not find a job within their field of study, but they are employed in another, based on the actual needs of the labour market. This situation is related directly to the excessive number of graduates in these fields.

5 Conclusion

There is no doubt that education affects unemployment rate and development of unemployment in each developed country. The society has to set up its education system so that it can ensure existence of highly skilled workers who will be employable in their respective fields of study. Educated people are much more dynamic and flexible in socio-economic life of society.

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REFLECTIONS OF SHELL MONEY IN THE CHINESE WRITING SYSTEM

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Abstract: *Shell money appears to have been used as currency in many parts of the world. It is generally assumed that China is one of these places. One of the reasons is the fact that Chinese culture has preserved a unique medium that retains evidence about ancient Chinese society: namely the Chinese writing system reflects the history of shell money. The importance of shell money in the Chinese trade network is supported by the fact that the primary character for 'shell' was extensively used as a semantic component in secondary characters relating to money or trade. However, in the course of time the original motivated relationship might have been disrupted, since the development of graphics and changes in character meanings largely went its own way. This paper presents a graphemic analysis of Modern Chinese characters containing the radical 'shell'. The aim is to determine the efficiency of 'shell' and to describe its semantic function in Modern Chinese signary.*

Keywords: *shell money, Chinese culture, Chinese writing system, radical 'shell'*

JEL classification: Z1

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1 Introduction

Historians presume that shells were used as the earliest currency during the Neolithic period in China. With the growth of trade activities, the barter system was not sufficient to serve increasing needs. Eventually, shells became a medium of exchange that enabled people to assess the value of goods. There are several factors that might contribute to choice of shell as currency. Firstly, limited accessibility of shells in Northeast China guaranteed their high value. Secondly, their small size, light weight and solid texture made them easy to carry and count (He, Hu & Zhang, 1995, p. 359). Archaeological findings, however, are not the only evidence of shell usage in ancient China. The Chinese writing system reflects this fact as well: the semantic component 貝 'shell' is largely used in characters relating to trade.

The complexity of Chinese character graphics indicates that there is more information hidden in one character than in one grapheme of an alphabetical script. Simply speaking, there are two essential

features that need to be mentioned. Firstly, the correlation between script and language is more complex. With few exceptions, every character carries its own meaning. That is the reason why it's generally stated that one character represents one morpheme (e.g. Kratochvil, 1968; Chen, 1999; Packard, 2001; Sun, 2006; Lin, 2007). Basically, this is not incorrect, however, one should realize that morphemes in Chinese differ from those in flecional languages: one morpheme almost always corresponds to one syllable. Therefore, a three-dimensional model can be identified: as for the graphic dimension, the basic unit is one character; as for the phonological dimension, one character corresponds to one syllable; as for the semantic dimension, one character has at least one meaning (for details see DeFrancis, 1986; DeFrancis, 1989; Švarný, 1998; Coulmas, 2003).

Secondly, Chinese characters represent a unique writing system that has preserved, in considerable measure, the link between the graphic units and their linguistic values. Originally, the graphic units of all characters were motivated. The first characters were created as graphical depiction of the objects they denoted. Although small in number, these characters are of great importance: they represent the core of the Chinese script, indeed, the basis for the whole system. They were used as semantic and phonetic components to construct the vast majority of Chinese characters. The analysis of characters included in the earliest grammatological study *Shuō Wén Jiě Zì* 《说文解字》 The Structure Analysis of Primary Characters and Meaning Explanation of Secondary Characters (121, Han dynasty) has shown that characters with two or more components, i.e. secondary or compound characters, account for over 95% of analyzed signary (Yu, 1995, p. 53, 58). Mostly, they combine one component used for its semantic value and one component used for its phonetic value (e.g. 烤 kǎo with meaning of 'bake, roast' is composed of component 火 used for its semantic value 'fire' and component 考 used for its phonetic value kǎo). Only about one tenth of the compound characters are combinations of two or more semantically motivated components that together convey the meaning of the character (e.g. 泪 lèi with the meaning 'tear' is composed of semantic components 氵 'water' and 目 'eye'). Compound characters of the first type are called phonograms, and those of the second type are called ideograms (for details see Uher, 2005, pp. 128–134; Uher, 2013, pp. 168–191; Slaměníková, 2013, pp. 24–32).

In the course of its development, however, the Chinese writing system went through several major changes. On the one hand, these changes led to a simplification of its graphics. On the other hand, it also led to the corruption of its originally motivated parts. This, together with the changes in the Chinese phonological system and changes in character meanings, caused a certain disruption of the original connection between graphic units and character meaning or pronunciation. This means, in other words, that a graphic unit used in Modern Chinese characters does not necessarily provide information about the recorded linguistic unit in each of its occurrences. In this paper, one of the frequently used graphic units is analyzed.

The earliest graphics of the primary character 贝 show a pictographic origin: it was created as a depiction of a sea mollusk covered by a partially opened shell (for details see Uher, 2013, p. 50). In the course of the time, however, the schematization of its graphics obscured the original distinctive graphic features. Nevertheless, the character 贝 is still used as a general term for small creatures with a soft body covered by a hard shell, such as clam, freshwater mussel and abalone in Modern Chinese (Xiandai Hanyu Cidian, 2002, p. 81). Although the character itself does not show a high frequency, it is an important constructional unit of Modern Chinese signary. There are

78 simplified characters listed under the graphic root, i.e. radical, 贝 'shell' in Xiàndài Hànyǔ Cídiǎn 《现代汉语词典》 The Contemporary Chinese Dictionary (2014, 6th ed.). The question that arises is whether the radical 贝 'shell' in these characters has the function of a semantic indicator or is just a meaningless graphic unit.

2 Analyzed signary

In 2013, the Ministry of Education of the People's Republic of China issued a new standardized list of 8,105 simplified characters used in Modern Chinese signary. The so-called Tōngyòng Guīfàn Zì Biǎo 《通用规范字表》 Table of General Standard Chinese Characters is divided into three levels containing 3,500 (henceforth labeled A), 3,000 (labeled B) and 1,605 (labeled C) characters. A-level characters are designated as frequently used, A- and B-level as common. The C-level contains characters of low frequency appearing in toponyms, antroponyms, technical terms and characters appearing in texts written in Classical Chinese used in primary education materials (Wang, 2013, pp. 16–17). Within the analyzed characters, 53 A-level characters, 14 B-level characters and 4 C-level characters were identified containing the radical 贝 'shell'. Seven characters listed in The Contemporary Chinese Dictionary are not included in the Table. This indicates their extremely rare usage in Modern Chinese, which was the reason to leave them aside the analysis.

Several dictionaries were used to investigate the possible link between the radical 贝 'shell' and the meanings of characters containing this radical. The Contemporary Chinese Dictionary and Xīnhuá Zìdiǎn 《新华字典》 Xinhua Dictionary (2011, 11th ed.) was used to determine the current meaning of characters, the etymological dictionary Hànzì Xíng Yì Fēnxī Zìdiǎn 《汉字形义分析字典》 Analytic Dictionary of Chinese Character Graphics and Meanings to analyze the development of character graphics, and Kuàisù Shí Zì Zìdiǎn 《快速识字字典》 Chinese Characters: Quick and Easy (1995) to examine the relation of the current graphics to the current meaning. As for the English equivalents of character meaning used in this paper, they are based on the English version of The Contemporary Chinese Dictionary (2002) and Xinhua Dictionary (2000), as well as the electronic dictionary Wénlín 文林 (2011). Only meanings relevant for the analysis are mentioned.

3 Results of analysis

Analysis has shown that the radical 贝 'shell' is used as a semantic component in 49 Modern Chinese characters. The absence of a semantic link was identified within 22 characters. There might be different reasons for this. For example within the character 赅 gāi 'subtle; abstruse' (B), 贝 is just part of another component, therefore it does not possess a direct link to the character meaning or pronunciation. In the character 坝 bà 'dam, dyke' (A) the original graphically complicated phonetic component 霸 bà was replaced by 贝 bèi (Cao & Su, 1999, p. 9), which in this case is used strictly for its phonetic value. As for the character 赖 lài 'rely; hang on' (A), the use of 贝 as a symbol for a valuable object was motivated by its original meaning 'gain, profit' (Cao & Su, 1999, p. 306). Sometimes, even more changes were made. The original meaning of the character 员 yuán (A) was 'round, circle'. It was composed of the semantic components 口 'mouth' and 鼎 'tripod', i.e. vessel with round mouth. Later, the graphically simpler component 员 was used instead of 鼎. Moreover, the component 囗 'surround' was added to record the original meaning 'round, circle' (now written as 圆; Cao & Su, 1999, p. 655). The current meaning of the character 员 is 'member'.

In more than half of semantically motivated occurrences, 贝 'shell' refers to a medium of exchange used for transfer of services or ownership of goods. First of all, it can be found in the general term for money and property 财 cái (A), as well as in another character with quite general meaning 资 zī 'money, expenses' (B), occasionally also written as 贐 (C). Consequently, 贝 'shell' can be identified in characters directly relating to an activity of buying and selling: 贸 mào 'commerce, trade' (A), 贾 gǔ 'do business, engage in trade' (A), 购 gòu 'buy' (A), 贩 fàn 'buy to resell' (A), 贐 shì 'buy or give on credit' (B), 赊 shē 'buy or sell on credit' (B). Even the character for objects of economic exchanges, i.e. 货 huò 'goods', uses the component 贝 'shell', as well as the specific term 赃 zāng 'stolen goods' (A). Also, the character for commodities that are given to show gratitude or respect, 贡 gòng 'tribute' (A), contains the component 贝 'shell'.

The use of the component 贝 'shell' is, however, not limited to above mentioned characters. It can be found in various characters whose meaning is somehow related to financial activities, such as 贮 zhù 'store, save' (A), 贷 dài 'loan, credit' (A), 赚 zhuàn 'gain, profit' (A), 贬 biǎn 'depreciate, devalue' (A), 费 fèi 'fee, expense; spend' (A), 账 zhàng 'account' (A), 赋 fù 'agricultural tax' (A). Money as a possible means to perform a specific action is the link connecting another group of characters with the component 贝 'shell': 贿 huì 'bribe' (A), 赍 qí 'bribe' (B), 贴 tiē 'subsidize, help financially' (A), 贍 shàn 'support, provide for' (A), 赔 péi 'compensate' (A), 赏 shǎng 'reward' (A), 赎 shú 'redeem; ransom' (A), 赁 lìn 'rent; hire' (A), 赌 dǔ 'gamble' (A). Adjectives 贱 jiàn 'cheap' (A), 贵 guì 'expensive' (A), 贫 pín 'poor' (A) all refer to amounts of money. The use of 贝 'shell' in another adjective, 贪 tān 'be greedy for' (A), can be explained as follows: wealth is one of the most desired things in life.

In addition to the above mentioned characters directly relating to money transfer, another large group of characters can be identified: characters that refer to possession transfer of something to someone without payment. 贝 'shell' in these characters can be interpreted as a valuable object involved in the transfer: 赠 zèng 'give as a present' (A), 贻 yí 'make a gift of something, present' (A), 赂 lù 'give valuable gifts; bribe' (A), 赐 cì 'present as a gift, grant' (B), 赍 jī 'present sth. as a gift' (B), 赙 fù 'present a gift to a bereaved family' (B), 赐 cì 'gift (from superior to inferior)' (A), 贐 zhì 'gift presented to an elder on one's first visit as a mark of esteem' (B), 赆 jìn 'gift at parting' (C). As for the character 贺 hè 'congratulate', two semantic components, 加 'add' and 贝 'shell', together refer to gift giving as a frequently occurring part of a congratulatory act (Cao & Su, 1999, p. 202–203). Another use of 贝 'shell' as a symbol for a valuable object can be seen in the character 贋 yàn 'false, counterfeit' (B): usually things of high value are counterfeited.

In cases when a character is composed of more than one semantic component, the semantic contribution of 贝 'shell' might sometimes be explainable only together with information provided by the other component. A list of these characters together with an explanation follows below. Even in these characters, 贝 'shell' is mostly used as a symbol for an object of high value. As for the character 则 zé 'standard, norm', 贝 'shell' stands for standardized currency. Considering the last character 败 bài 'destroy', 贝 'shell' might be interpreted as a symbol for an object of any kind.

贼 zéi 'thief' (A) is composed of 贝 'shell' and 戎 'weapon'. The original meaning of the character was 'destroy, smash', that is, use some kind of tool to smash a shell (Cao & Su, 1999, p. 670). As for the current meaning, 'shell' might be considered a valuable thing that is stolen by someone with a weapon in hand.

贞 zhēn 'divination' (A) is composed of 卜 'fortune telling' and 贝 'shell'. Valuable things were sacrificed to gods as an expression of gratitude for their prophecies (Yang & Zhu, 1996, p. 348).

赢 yíng 'gain, win' (A) is composed of [𠂔月凡] 'animals rich in meat' and 贝 'shell'. Valuable things and a lot of meat represent objects that are desirable to gain (Cao & Su, 1999, p. 638).

赉 lài 'grant, bestow' (B) is composed of 来 'come' and 贝 'shell'. To grant is to come and bring something valuable (Cao & Su, 1999, p. 305).

则 zé 'standard, norm' (A) is composed of 贝 'shell' and 刂 'knife'. 'Knife' is an instrument of division, and 'shell' represents the value of goods, which thus classifies them (Blakney, 1926, p. 268).

败 bài 'destroy' (A) is composed of 贝 'shell' and 攴 'beat' (Cao & Su, 1999, p. 11).

4 Conclusion

Both the graphic forms and meanings of characters have changed over the millennia, to the point that their graphic parts are not always reliable guides. Determining the level of motivation for Modern Chinese characters is one of the important tasks of Modern Chinese grammatology. As for the element 贝 'shell', graphemic analysis has shown that almost two thirds of its occurrences can still be considered semantically motivated. This result does not contradict the general tendency toward loss of motivation. However, it has to be mentioned that the use of 贝 'shell' as a semantic indicator shows a high degree of consistency compared to other components. The link connecting basically all the characters is a symbol of a valuable object (in general or in the form of money). The semantic image of components usually shows a higher level of diversity, which is one of the reasons why the semantic component system cannot be understood as a comprehensive system of semantic categories. Despite this fact, semantic components are still a significant tool that helps one to identify and master the graphemes of such an extensive writing system. As for future research possibilities, analysis of the economic lexicon might provide insights from a different direction and help to determine how the lexicological level correlates with the grammatological level.

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ACCOUNTING RULES IN THE GENERAL COMMERCIAL CODE

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Abstract: *The aim of the paper is to describe accounting rules in General Commercial Code of 1863 and analyse its value for accounting praxis during the Austria (Austro-Hungarian) Empire and the first Czechoslovak state. The research is primarily based on the historical analysis of accounting legal resources. The major benefit is the paper show stability of accounting rules despite turbulent changes of the political establishment and economic development at the end of the 19th and in the first half of 20th century in the Czech region.*

Keywords: *accounting, legislation, history, history of accounting, Czechoslovakia.*

JEL classification: *M41; N90; K19*

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1 Introduction

At the end of World War I in 1918, the independent Czechoslovak state was declared and, given the circumstances, adopted the legal system from the Austro-Hungarian Empire, including all of the regulations concerning accounting. Among the adopted pieces of legislation, the key legal regulation that shaped the accounting rules in the Austrian – and later Austro-Hungarian Empire until its collapse – was the General Commercial Code (1/1863 RGB). Despite some changes in accounting legislation which happened during the period of 1918 and 1945, the General Commercial Code remained the most important source of accounting rules till the end of World War II. (Puchinger, Slavickova, 2014) Finally it was replaced in 1946 by the crucial legislation No 205/1946 Coll. establishing a uniform accounting principles. With respect to these facts the aim of the paper is to describe accounting rules of General Commercial Code of 1863 and to analyse its value for accounting praxis.

2 Content of ADHGB

The General Commercial Code (Allgemeines Deutsches Handelsgesetzbuch - ADHGB) has been approved on 17 December 1862 and came into force on 1 January 1863. It was the first

comprehensive independent adjustment of commercial law in the Czech lands and Austrian Empire and laid the foundation of this branch of law in our region in general.

3 Accounting rules in ADHGB

This legal document did not explicitly use the terms accounting, accounting records or accounting books; the mandatory records of economic activity were referred to as commercial books. In terms of keeping records concerning the course and results of economic activities, the actual provisions of the Act contained facts which had up until then not been provided elsewhere. As a result, the Code, inter alia, defined the basic concept of keeping commercial books, defined economic entities obliged to respect the provisions of the Act, introduced for the first time the term accounting unit (however, in its contemporary form), which was obliged under the Code to keep commercial books and to annually compile a balance (balance sheet) of property and debts. (1/1863 RGB) Finally, the General Commercial Code provided a set of formal requirements to keep these commercial books. (1/1863 RGB, §§ 4-34)

3.1 Balance sheet

According to the General Commercial Code, an important element of accounting records was the duty to compile a balance based on data from the business books, "of which its trade and the status of its wealth can be perfectly ascertained." (1/1863 RGB, § 7) The compilation of the balance was also the most important element in terms of the need to quantify economic results. Generally, there were two basic methods to quantify the economic result (i.e. profit or loss), that is, either the difference between the revenues received and costs expended, which is not directly address in the Code by specifying the content of the buyer's or company's commercial books, or the difference between the size of net assets at the beginning and the end of the reporting period with net assets being defined as: the value of a net asset = the value of the property – the value of debts. Where the balance of the property and debts was compiled at the beginning and at the end of the reporting period, the positive difference between the net assets at the end and at the beginning of the reporting period constituted a positive economic result, i.e. profit. A negative difference then constituted loss. The Code also partially defined the basic structure of the balance only in the property part – assets – broken down into land, cash, receivables and other parts of assets, the other part of the balance being debts. (1/1863 RGB, § 7) Property records were kept in a commercial book referred to as the inventory.

However, those provisions concerning the balance did not address (and therefore disregarded) the well-known basic double-entry principle – the balance principle – because in order to compile the balance it did not require that economic result be shown as its part (liabilities), and the Code did not provide for the inclusion of equity value. We can assume that the absence of the explicit obligation to quantify and disclose the economic result were due to the persisting approach to trade secrets of traders from previous periods. In matters of keeping commercial books, the Code explicitly stated the names of only two books whose keeping was mandatory – the inventory and the book of transcripts. (1/1863 RGB, § 28) The specific types of other books used by the trader were at his sole discretion, keeping in mind that the records in the books had to be in accordance with the defined aim of the record keeping, i.e. perfectly ascertain the status of his wealth. The concept of the perfection of record keeping may include, in particular, the requirement for completeness which is fulfilled by ordered numbering of sheets in each book and binding the individual sheets into books,

and by not being allowed to keep empty space in the books which had to be covered with writing. Another requirement was clarity, to be achieved by not allowing any strike-outs or modifications leading to illegibility, while the entries had to be recorded using contemporary language and script ("living writing and speech" (1/1863 RGB, § 32). In addition, there was the requirement of conclusiveness which was fulfilled by the obligation to record the received and sent documents in the books in time sequence, along with the accuracy of the data, verified by inventory taking. Finally, traders had to ensure the stamping of the books. In this sense, the duty to stamp their commercial books can be considered an element that contributed to the required accuracy of commercial books being kept, because the duty to stamp had already been established in earlier legislation, namely the Act of 9 February and 12 August 1850 and the Act of 13 December 1862. If these specific requirements for commercial books were met, such books could be admitted in judicial disputes between traders as incomplete evidence which could be supplemented with an oath. Commercial books thus played a role referred to in accounting theory as an "evidence role"(1/1863 RGB, § 32).

4 Additional legislation

Another piece of legislation which shaped the rules of accounting records at the time of the Austro-Hungarian Empire was Act no. 220 RGB, of 25 October 1896, on direct personal taxes. This legal regulation was important for the field of accounting because it provided an overall and unambiguous specification of economic entities having the duty to "disclose public accounts" (220/1896 RGB) The Act defined the individual economic entities, dividing them into two groups. This breakdown did not follow from the primary need to keep accounting records, but from need to administer taxes, i.e. from the tax law. Two consecutive laws – Act no. 133 RGB of 1903 on the revision of gainful and economic societies and other association), and the Order no. 134 RGB of the Ministry of Law, Interior and Commerce of 1903 – had a different character, the latter specifying the individual procedures and the content of activities of inspectors. The wording of these regulations defined and also emphasized the basic aim of bookkeeping – accounting, i.e. the formulation "complete and correct picture of an entity's economic activities" (133/1903 RGB). One can see a shift in the formulation of this fact compared to the formulation provided in the Commercial Code of 1862, which defined the aim of bookkeeping as to "perfectly ascertain the state of its wealth" (134/1903 RGB). Over the course of time, nothing has changed on the formulation of the basic aim of bookkeeping as laid down in Order no. 134.

5 Conclusion

Generally speaking, at the end of the Austro-Hungarian Empire, these legal regulations emphasized the social need to verify information provided by accounting records kept by economic entities. (134/1903 RGB) In the period of the first Czechoslovak republic between 1918 and 1938, there was no significant legislative initiative in terms of scale in the making of regulations governing the rules for the keeping of accounts. This was due to the fact that general provisions of the General Commercial Code of 1863 were considered sufficient. After the end of World War II, the approach to the rules for the keeping of accounting records significantly changed. (Puchinger, Slavickova, 2014) Despite the turbulent development of economic and series of newly issued regulations fundamentally changing the content and structure of accounting, it was still being mentioned in new legislation as late as in 1949).

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Nařízení č. 134/1903 ř. z., prováděcí předpis k zákonu o revisi (Regulation no. 134/1903 RGB, an implementing regulation to the Act on revision).

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ANALYSIS OF PERSONAL INCOME TAX COLLECTION DEPENDING ON EMPLOYMENT RATE FROM 2005 TO 2015

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Abstract: *This contribution analyses the development of revenues generated by the state to the state budget through the personal income tax collection, depending on the development of employment growth and the development of the Czech economy. The analysis of trends in tax collections, employment and the gross domestic product are observed in the time series of eleven years in the period 2005 - 2015. Taxes on personal income are one of the most significant items which, in the context of income taxes account for a significant portion of the state revenues. In connection with the analysis of the personal income tax collections, the attention is paid to the tax burden, administrative heftiness and personal income tax rate development in the period of eleven years, influenced by direct debit. Source data are statistically processed. Applied method of linear regression and correlation analysis leads to a pivotal contribution to the outputs.*

Keywords: *unemployment rate, personal income tax collection, gross domestic product, correlation analysis.*

JEL classification: B22, C10, H24

Grant affiliation:

1 Introduction

Personal income taxes represent considerable item filling the state budget of the Czech Republic. This contribution deals with the development of revenues generated by the state to the state budget through personal income tax collection, in dependence on development of employment rate and development of economic growth of the Czech Republic. Tax collections analysis is observed in the time series of eleven years in the period 2005 - 2015. In the context of the personal income tax analysis, high attention is paid also to a tax burden, an administrative heftiness and a development of personal income tax rate, in the observed period of eleven years, which influence the tax collection. Marginal attention is paid to a tax avoidance and a fiscal sustainability. The whole volume of collected funds (tax collection) is influenced by the economic situation of the country and by the legislative changes accelerating or decelerating tempo of the tax collection increase.

Personal taxes react the most sensitively on legislative changes. Often and difficult legislative modifications of items lowering the tax base and decreasing the tax duty also considerably influence the personal income tax collection. According to Lajtkepová (2013), the main source of incomes of every country is made by its tax policy, as well as by tradition, mentality and economic advancement. In advanced countries with good tax morals the direct taxes are high and, on the contrary, countries with low incomes and with bad tax morals show higher indirect taxes.

2 Methods

In this contribution there were used source data from the statistics of the Ministry of Finances of the Czech Republic (Ministerstvo financí ČR, 2016) and from the Czech Statistical Bureau data (Český statistický úřad, 2016). There were used data in time series 2005-2014 (resp. 2015) which were divided into three basic data categories: Personal Income Tax Collections (further FO, in millions of CZK) in the Czech Republic; Unemployment Rate (in %) and Gross Domestic Product (HDP, in milliards of CZK). Time series source data were processed by the regression and correlation method according the classical linear model with application of linear and parabolic trend. For calculation of the trend function parameters there was used the lesser square method which provides the best nondeviated estimations (Hindls, 2006). Tightness of dependence was assessed by the correlation ratio (Novák, 2016). General regularity in the time series were analysed on the basis of findings given by Artl and Artlová (2009), whilst the time series analysis is characteristic for the methods describing dynamic systems and eventually to predict their future behaviour (Hindls, Hronová, Seger & Fischer, 2006). Further, there was used a delayed correlation method, where it is supposed the dependent variable values are a year delayed after the independent variable values. Whole spectre of these elementary methods is listed for instance by Hendl (2009). To study behaviour of variables there was used graphical visualisation which enables to recognise long-term tendency in the course of the time series, or some periodically repeated development changes (Marek a kol. 2007)

3 Results

As about development, personal income tax in the Czech Republic went through many changes. Numbers and tax rates were continuously changed, together with adjustments of a base of tax calculation. Personal income tax rate in the Czech Republic has been progressively sliding from 1993 to the end of 2007. It means there were limits set up, above which only the exceeding incomes were taxed. Since 2006 (in case of a dependent child since 2005), instead of the tax deduction the deductible items began to apply. Tax deductions mean deductions from the resulting tax, not from the tax base. Its reason was to regard a taxpayer's social position. Since 1st January 2008 the progressively sliding rate system was changed to the single linear rate. Single linear rate was set up at 15%. However, due to deductible items and tax deductions there still remained certain progression. According to Kozelský, this first-glance simplification and rapid rate decrease has its "typically Czech flavour". Besides this change, practically new term "super-gross wage" has been introduced. The super-gross wage is an employee's gross wage increased by a social security and health insurance, obligatorily paid by employer in favour of employee. Total rate of obligatory insurance was 35% in 2008, 9% of which was health insurance and 26% social security. Personal income tax rate in height of 15% of the super-gross wage represented in fact 20.25% (15×1.35) of the gross wage. In 2009 the total rate was reduced to 34% as a result of 1% reduction of the social security. Personal income tax rate in height of 15% of the super-gross wage represented in fact 20.1 % (15×1.34) of the gross wage. According to Kozelský it means that contemporary 15% tax rate is a reflection of just a certain

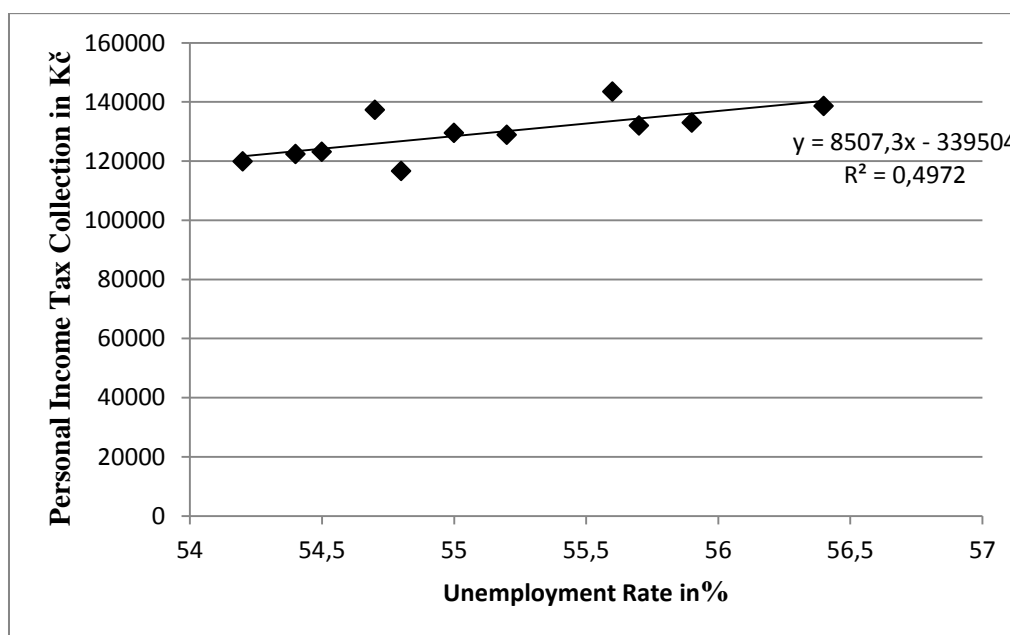
cosmetic modification of the tax rate of 20.1% of a super-gross wage in the Czech Republic. Further significant legislative change in field of personal income tax arrived by 1st January 2013. After five years of using a linear personal income tax rate the system came over again to progressively sliding rates. In Section 16a of the Personal Income Tax Act a solidarity increase was newly adopted, which creates another next rate and converts the linear rate system, valid in 2008-2012, to progressively sliding system. Solidarity tax (of a month wage above CZK 103.536) raised the personal income tax by further 7%. At the same time a basal tax deduction for working pensioners was abolished, as well as a health insurance ceiling. In 2014 a solidarity tax was set up to 7% of a month wage exceeding CZK 103.768, in 2015 of a month wage exceeding CZK 106.444 and in 2016 of a month wage exceeding CZK 108.024. Also this system showed out changes in tax deductions for working pensioners based on their discrimination. Also it is planned to abolish a super-gross wage, to raise a personal income tax rate, and to abolish a solidarity tax. Of course, it is not possible to judge its favourableness of the system only by height of tax rates. Besides tax rates it is necessary to judge also a taxable income which a tax is related to, and also further additional taxations (Kozelský, 2013).

Personal income tax belongs among very important state revenues, especially personal tax on earnings creates its large part regarding total taxation. Development of revenues gained by state from 2005 to 2015 through a personal income tax collection is influenced by economic efficiency, legislative changes, employment rate and, last but not least, by tax morals of the country. In the Czech Republic a personal income tax collection showed increase from 2007 as a result of raise of efficiency of the Czech economy. In 2008 collections decreased, but a crucial decrease showed in the course of 2009 - 2015. Such a rapid decrease was partly caused by global financial crisis, lowering the economic efficiency of the Czech Republic, partly by change of labour taxation to 15%, which evinced itself in increase of employment rate. From 2010 personal income tax collection increased very slowly. From 2014 the increase started to accelerate, and in 2015 height of collection reached the 2005 level. Positive development of personal income tax collection is evident in connection with a macroeconomic development and employment rate in the Czech Republic. In 2014, after years the Czech economy started to grow up again. Return to economical increase was caused partly by a domestic demand; there arose strong increase of investments, and in 2014 a domestic consumption also positively contributed to the increase. Surplus of business balance increased owing to favourable price effects related to an enormous fall of crude oil by the end of 2014. Inflation in the Czech Republic stuck on very low levels. According to expectations, real GDP should be continuing to increase in 2016. Source of the increase would be again a domestic demand, growth of investments and domestic consumption. Reduction of prices of crude oil should lead to the surplus of business balance and consequently to low inflation. Since 2009 deficit of public funding distinctively improved owing to cuts in public investments and increase of indirect taxes. But we can identify also shortcomings in the taxation system and in the fiscal frame. Reduction of sources of public revenues together with a business environment, negatively influence efficiency of tax collection and support tax avoidances. Present tax structure does not support an increase of economy, nor it helps to employment of the most vulnerable groups. Conception of the fiscal frame also does not perform effective fiscal policy. Long-time fiscal sustainability should get better thanks to more positive demographical prognosis and better macroeconomic presumptions. Present fiscal frame is rather weak. Force of fiscal rules is limited and enforcement is not too intensive. Budget documentation still lacks transparency and orientation. Since 2014 situation at work market in the Czech Republic is increasing, together with return to GDP increase. Employment rate among persons from 20 to 64

years of age still grows. Total unemployment rate decreases. Unemployment of juveniles from 15 to 24 years of age decreased, as well as unemployment of non-qualified workers. Also unemployment of women is descending. However, employment of women is still markedly lower than of men. Newly adopted strategy for equality of women and men in 2014 - 2020 should bring positive stroke for balance of men and women at the labour market. Also employment of juveniles, including supplies of labour in the frame of guarantee system for juveniles, has positive progress. The Czech Republic suffers from bad tax morals. Since 2014 a strong stress to keeping to the tax rules started to raise; in 2015 the state implemented a few measures to struggle tax avoidances. Concerning direct taxes, there was established a new reporting duty for subjects participating in transactions with joined individuals, in order to consider risks and set up tax searches. In 2016, implementation of electronic evidence of sales and implementation of the central register of bank accounts should aim at abolishment of tax frauds. Tax collection represents a big administrative burden both for the tax administration and for tax payers (EK - Zpráva o ČR, 2015). However, reduction of tax burden is more difficult, as a state security for citizens in case of illness, unemployment or pension is, in comparison to other world countries relatively high. Implementation of a social policy is demanding on sources, which means higher tax burden. There still exist reserves consisting in simplification and steam-line of the whole administration connected with tax payments.

The regressive and correlation analysis with usage of the linear trend for the independent variable "employment" and dependent variable "personal income tax collection" (Fig. 1) resulted in finding there exists a strong linear dependence between the analysed variables, where a correlation coefficient was 0.7. It is possible to claim that in almost 50% changes of the "employment" value can be explained by the tax collection values. Chosen linear trend with a linear trend function may be considered as appropriate; determination index value is 0.5.

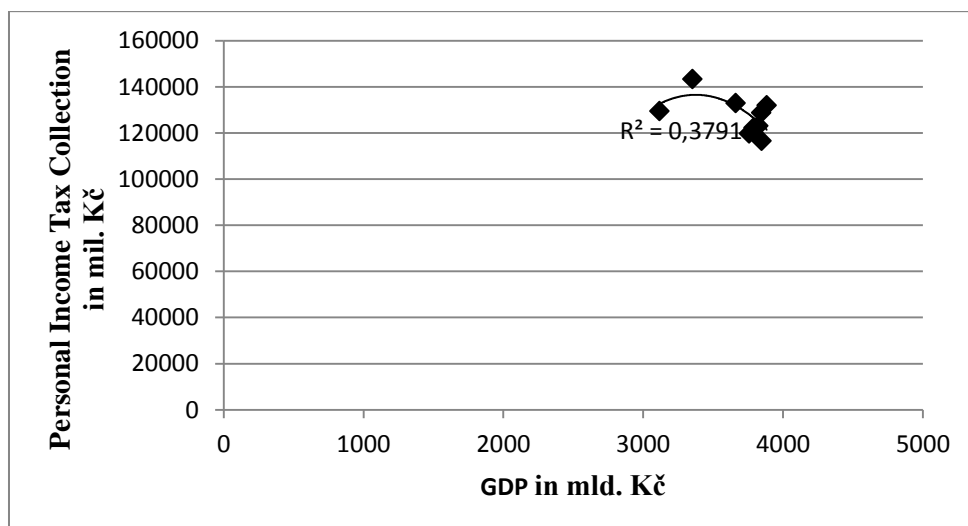
FIG. 1: Linear Dependence - Dependence of Personal Income Tax Collection on Unemployment Rate in the Czech Republic in 2005 - 2015



Source: self-elaborated

Delayed correlation method for an independently variable "GDP" and a dependently variable "Personal Income Tax Collection" confirms that tax collection is delayed in time after GDP. Coefficient correlation value was 0.62 which reflects a medium-narrow dependence. Factors influencing a tract of observed dependence are copied by a parabolic function (Fig. 2). Should the delayed correlation method not be applied, correlation coefficient value would be very low ($r = 0,2$).

FIG. 2: Delayed Correlation - Dependence of Personal Income Tax Collection on GDP in 2005-2014



Source: self-elaborated

4 Conclusion

Since 2007 collections of personal income tax in the Czech Republic increased owing to growing GDP. Decrease in tax collections in 2009 - 2015 was caused partly by the worldwide financial crisis which decreased an economic efficiency, and partly by the change of the labour tax rate to the current 15%, which aroused decrease of unemployment. Higher employment rate is a guarantee of tax revenues to the state budget and concurrently arouses a decrease of expenditures. In 2014 the Czech economy started to increase again, and also employment rate keeps showing ascendant tendency. Improving situation at labour market caused a raise of domestic consumption. Above stated finding is supported by regressive and correlation analysis where, along the study of dependence of tax collection on employment rate, there was found out considerably high correlation coefficient ($r = 0.70$) in linear regression. Delayed correlation between GDP (independent variable) and personal income tax collection (dependent variable) confirms a delay of tax collection in comparison to GDP. Correlation coefficient was calculated for parabolical trend which optimally copied the observed dependence; it was medium-narrow ($r = 0.62$). In 2016 acceleration of a real GDP slightly increased. However, in the field of taxes in the Czech Republic problems still remain. The country still records tax avoidances, and collection of the tax is expensive. Non-efficient tax collection harms to a total cost efficiency of the economy. Certain progress is noticeable in better observance of the tax rules and implementation of measures aimed to fight tax avoidances. Evaluation of efficiency of these measures will be possible as far as after their implementation.

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COMPETITIVENESS OF REGIONS AND REGIONAL DISPARITIES IN SLOVAKIA

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Abstract: *Competitiveness on a global, regional or local level is influenced by numerous factors, which are the subject of scientific research, but fact proven by the time and conditions is that balanced economic and social development of regions is determined by the portfolio of the structure of regional economy. Slovak Republic, as well other EU member countries have problems with inter-regional differences for a long time. The aim of this paper is to assess the competitiveness of regions in Slovakia and inter-regional differences in terms of selected macroeconomic regional indicators. We used the method analysis of issues, synthesis of information, spatial and temporal comparisons.*

Keywords: *Competitiveness, region, development, regional disparities*

JEL classification: *R11*

Grant affiliation: *IGS 1/2016: SMEs as a dynamising factor of regional development.*

1 Introduction

The concept of competitiveness is not clearly defined. Some authors use it only at the microeconomic level. The second group of authors, however, looks at the concept of competition in the broad sense - at the level of sectors, regions and countries. In recent years, increasing attention to regional development and regional differences in particular with regard to the perception of the EU as an association of regions. Stand out issues on regional development, growth and regional economies, comparison of regions and economies together.

Significant differences in socio-economic level of regions are clearly present the majority of European Union countries, including Slovakia. Balancing these differences is one of the main objectives of regional and structural policy. In Slovakia, the deepening of regional disparities manifested especially after the transition from centrally planned economy to a market economy. Transformation processes are reflected not only in the performance of prosperity and economic entities, but significantly affected the social development, human resources and regional infrastructure. Subsequently also affected the competitiveness of regions and the emergence of regional disparities.

The results of several research projects show that regional differences and regional disparities are characteristic of the current state of the situation in Slovakia. On the one hand, they formed developed regions with a predominantly urban structure. It is a territory with big cities, strongly developed Tertiary and Quaternary activities generating a suitable environment for investment activity, a modern social, technical and environmental infrastructure. On the other hand, they formed undeveloped regions, in contrast, act synergistically several factors adversely. We classify the districts with unfavourable parameters limit the potential underserved following the "large" transport infrastructure, with a higher proportion of the rural population, a growing share of the unemployed, underdeveloped and insufficiently diversified economic structure, lower level of education and so on. Disparities significantly affect regional development and they require the application of effective tools and policies to regulate inter-regional differences and the application of new strategies for effective regional development.

When analysing regional disparities requires selection of suitable observational units, the choice of appropriate indicators, selection of appropriate statistical tools and measures enabling space-time comparison.

When selecting observational units in the evaluation of regional disparities in Slovakia based on the current territorial division of the Slovak Republic and the breakdown of the tariff statistical units agreed by the Statistical Office and Eurostat.

For the needs assessment of regional disparities in Slovakia In our contribution we have chosen the following indicators: average monthly wage, the rate of registered unemployment and regional gross domestic product.

When measuring regional disparities can use static and dynamic measurement tools. Static tool gives us the ability to measure regional disparities at a certain date. Among the standard static analysis tools include the ratio of maximum to minimum, the coefficient of variation, the weighted coefficient of variation, Gini index, Theil index and Herfindahl index. Dynamic tool used to evaluate historical trends in time series. The most common methods of dynamic analysis include indicators of β -convergence and σ -convergence. In our contribution we choose instruments from static coefficient of variation and dynamic mechanisms of σ -convergence. Coefficient of variation is a relative measure of variability with respect to the diameter. It is one of the most widely used indicators of regional disparities. Sigma convergence indicator is the so-called absolute convergence when there is a reduction of disparities in the reported value of the economic performance of individual regions.

In this paper we focus on the assessment of the competitiveness of regions in Slovakia, to assess the economic level of the regions of Slovakia using the coefficient of efficiency of development. Next, we will analyse the inter-regional disparities in terms of regional macroeconomic indicators selected using statistical methods. Source of information for the analysis of the data of the Statistical Office. Analysed period is the time interval from 2007 to 2014.

2 Evaluation of regional competitiveness and regional disparities in Slovakia's regions

Increasing regional competitiveness is one of the objectives of regional policy in Slovakia. Regional policy instruments helping lagging regions to achieve the average level of developed regions and increasing the competitiveness of regions. The basic principle of successful regional development is

to develop and balance the three fundamental pillars: economic, social and environmental. (Jašková, 2015)

According to the Act no. 539/2008 on regional development support regional development defined as a set of economic, cultural and environmental processes and relationships that take place in the region and contribute to improving its competitiveness, sustainable economic development, social development and territorial development and to reducing economic disparities and social inequalities between regions.

The aim of regional development is to ensure balanced development of individual regions and to eliminate or reduce the differences between their levels of development. It also includes the need to increase the competitiveness and performance of regions. (Habánik, 2014)

Competitiveness of the region on the one hand definable indicators that determine the region's ability to compete with other regions, and on the other results that regional competitiveness brought respectively created. In fact, it is sometimes difficult to determine which factors affect the extent to which regional competitiveness and for this reason that many factors are also indicators of the results, while all other in many ways overlap or influence. It is also related to foreign direct investment that can stand in the position indicator and outcome.

Competitiveness of the regions, in addition to production indicators given the overall structure and concentration of production and innovation capacity of regions, the quality of human resources, quality and density of infrastructure, but also non-economic factors such as the availability and effectiveness of the use of information and communication technologies, the quality of the institutional environment and ecological sustainability of regional development , population, trends in population growth, density and structure of population, urbanization rate and so on. (Ivanová, 2013)

Regional competitiveness can be understood as the result of joint efforts on the most productive use of internal development resources interact with outsourcing and development opportunities in order to increase the production potential of the region. Finnish scientists Huovari et al. (2001) define regional competitiveness as the ability to promote the region and attract economic activity to the region to increase the standard of living of the population.

Regional competitiveness can be measured in two basic ways. The first is based on quantitative and qualitative description of the individual components of competitiveness, thus describes the facilities of the region infrastructure, availability of suitable land and buildings for business, skills and wage demands of labour, safety, quality of services, public administration and the like. The second option is to measure the actual effects of competitiveness, namely economic level of the region through indicators, for example. Gross domestic product, unemployment rate, average incomes and below. However, the measure competitiveness in this manner does not reflect the fact that the potential of the region has been really well used.

The level of development of the region, which is the basis of competitiveness, can be expressed by the coefficient of efficiency of development. The coefficient of efficiency of development (EC) compares labour productivity to the level of employment at the regional level and the entire national

economy. The indicator analyse both quantitative and qualitative aspects of regional development. Is the share of factor productivity (FP) and employment rate (ER). (Farkašová,2006)

TAB. 1: Coefficient of efficiency of development

EC = $\frac{FP}{ER}$	FP = $\frac{P0 / P}{S0 / S}$	ER = $\frac{Z0 / Z}{S0 / S}$
P0 - production region, P - production countries		
S0 - the population of the region, S - the population of the country		
Z0 - the number of unemployed in the region, Z - the number of employed in the country		

Source: Own processing by Farkašová 2006

If the coefficient efficiency has a value lower than 1, the region achieves a lower level of development than the national level if it is higher than 1, the region is more developed and therefore more competitive as a country. If the efficiency factor reaches the value 1, the level of the region, as the basis of competitiveness equivalent to that country

TAB. 2: Coefficient of efficiency of regional development for the year 2014

	Production in thousands euro	Average number of employees	Population (31.12.)	Factor productivity	Employment rate	Coefficient of efficiency of development
Bratislava Region	26246242	323165	625167	2,7708	2,0527	1,3498
Trnava Region	11504488	134005	558677	1,3589	0,9523	1,4268
Trenčín Region	9234226	147182	591233	1,0306	0,9883	1,0427
Nitra Region	6801379	156625	684922	0,6553	0,9079	0,7217
Žilina Region	13180375	159076	690449	1,2598	0,9147	1,3772
Banská Bystrica Region	4659519	137483	655359	0,4692	0,8329	0,5633
Prešov Region	3583961	140977	819977	0,2884	0,6826	0,4224
Košice Region	6942191	166894	795565	0,5758	0,8329	0,6912
Slovakia	82153381	1365427	5421349	--	--	--

Source: author's calculations based on data from <http://datacube.statistics.sk>

Tab. 2 contains the data necessary to calculate the coefficients as well as the calculated values of coefficients at the Slovak regions. Based on these results we can compare the effectiveness of the development of the region and thus its competitiveness, the effectiveness of Development as a whole.

From the calculated data we can see that in the four counties, according to the coefficient of efficiency higher level of development than in Slovakia. In the Bratislava region is a positive result of participating in equal measure both partial indicators. In Trnava, Trenčín and Žilina was a positive result achieved mainly through productivity.

TAB. 3: Development of average nominal monthly wage in the regions of Slovakia in the years 2007-2014 (EUR)

	2007	2008	2009	2010	2011	2012	2013	2014
Bratislava Region	1046	1140	1178	1160	1124	1159	1182	1286
Trnava Region	695	754	752	787	815	831	841	892
Trenčín Region	648	700	688	732	774	797	809	863
Nitra Region	622	684	678	707	753	783	782	829
Žilina Region	655	718	709	759	801	830	820	875
Banská Bystrica Region	634	688	675	702	756	783	779	837
Prešov Region	579	632	636	659	697	715	721	767
Košice Region	706	749	761	792	848	851	855	908
Coefficient of variation	0,1959	0,1963	0,2142	0,1867	0,1488	0,1487	0,1554	0,1641
Sigma convergence	0,0734	0,0731	0,0787	0,0706	0,0583	0,0579	0,0600	0,063
Standard deviation	136,73	148,84	162,74	147,04	122,17	125,46	131,90	148,91

Source: author's calculations based on data from <http://datacube.statistics.sk>

In tab. 3 we can see the evolution of the average monthly nominal wage by regions SR. There are considerable differences in the amount of wages in individual regions to the detriment of the eastern and southern regions of Slovakia. After 2009 due to the outbreak of the financial crisis begins to convergence regions. Reduce the regional disparities in the average wage. This trend, however, has not kept long after 2012 and again beginning to show significant differences between regions. Development of average nominal wages confirms the dominance of the Bratislava region in the whole observed period. The lowest level of wages in the Prešov region. (In 2014 the average nominal monthly wage in Prešov is 59% of average monthly salary in Bratislava).

TAB. 4: Regional GDP per capita in the regions of Slovakia in the years 2007-2014 (EUR)

	2007	2008	2009	2010	2011	2012	2013	2014
Bratislava Region	27648	29251	28897	30270	32386	32493	33679	33895
Trnava Region	13960	14461	12969	13645	14535	14943	14948	15476
Trenčín Region	10741	11442	10448	11103	11482	11823	11855	12130
Nitra Region	9678	10659	9914	10216	11585	11976	11936	12026
Žilina Region	9736	10973	10174	10790	11251	11544	11621	12079
Banská Bystrica Region	8663	9537	8628	9107	9162	9518	9887	9962
Prešov Region	6390	7412	6810	7141	7614	7951	8015	8363
Košice Region	9614	10424	9231	9848	10129	10480	10656	10929
Coefficient of variation	0,5156	0,4918	0,5391	0,5355	0,5457	0,5275	0,5425	0,5313
Sigma convergence	0,1756	0,1652	0,175	0,1744	0,1774	0,1727	0,175	0,1723
Standard deviation	6215,6	6404,1	6541,9	6836,1	7377,1	7302,4	7636,8	7628,5

Source: author's calculations based on data from <http://datacube.statistics.sk>

Gross domestic product measured the level of maturity of the economy and the living standards of the population. Regional GDP because of the comparison is converted per capita. This indicator takes into account the effect of commuting to work. This causing that the GDP per capita in the region where people commute to work from other regions is overstated. In the reporting period are the formations of per capita GDP in the regions varied to considerably differently. During the period analysed, we follow the upward trend regional GDP in all regions of Slovakia. Decrease was recorded

only in 2009, when the fallout of the crisis. The highest level of the monitored indicator reached again in Bratislava region, where the regional GDP is more than double compared with other regions. The lowest level of regional GDP is Prešov and Banská Bystrica regions.

Regional disparities in this indicator have deepens. It also indicates the increase in the value of coefficient of variation (in 2001 to 0.44 and in 2014 to 0.53 and sigma convergence (in the year 2001 to 0.15 and in 2014 to 0.17).

The unemployment rate is an important economic indicator of major social overtones. The high rate of unemployment, which is one of the highest in the European Union was and is in Slovakia is one of the most visible impacts of the economic crisis. As with previous indicators, in this case it manifests dominance of the Bratislava region, where the unemployment rate is significantly minimized. Throughout the reporting period 2007-2014, the difference between the lowest and highest unemployment rates well above 12%.

TAB. 5: Unemployment rate in the regions of Slovakia in the years 2007-2014 (%)

	2007	2008	2009	2010	2011	2012	2013	2014
Bratislava Region	1,98	2,27	4,36	4,63	5,41	5,72	6,17	6,13
Trnava Region	4,3	4,29	8,37	8,17	8,88	9,43	9,16	8,03
Trenčín Region	4,5	4,95	10,13	9,51	9,95	10,89	10,74	9,56
Nitra Region	7,1	7,41	11,72	11,76	13,27	14,08	12,52	11,21
Žilina Region	5,55	6,2	10,89	10,86	11,91	12,79	12,51	10,91
Banská Bystrica Region	14,1	14,25	19,19	18,86	19,83	20,81	18,26	17,22
Prešov Region	12,05	12,86	18,29	17,75	18,95	20,66	19,35	17,45
Košice Region	13,02	13,5	17,3	16,78	18,76	19,58	17,23	15,92
Coefficient of variation	0,5488	0,5306	0,3924	0,3847	0,3732	0,3697	0,3295	0,3347
Sigma convergence	0,2753	0,2638	0,2004	0,1915	0,1833	0,1828	0,1577	0,1538
Standard deviation	4,2947	4,3595	4,9173	4,7281	4,9909	5,2675	4,3644	4,0354

Source: author's calculations based on data from <http://datacube.statistics.sk>

Since 2009, when the economic crisis has started, unemployment began to rise. A slight decrease in unemployment was recorded only in 2014. This development was significantly regionally differentiated. Points out that the value of the coefficient of variation, which in 2001 was 0,353 and in 2008 was 0.530 (50% increase).

In tab. 6 we have summarized all monitored indicators, which in this paper we evaluate the economic level of the regions in Slovakia and hence their competitiveness.

Best values in all monitored indicators show Bratislava region, and it is this region reached the highest coefficient of efficiency of development. On the contrary, the last two places and is still in all monitored indicators Banská Bystrica and Prešov region. These regions have the worst values in all monitored indicators throughout the period analysed. Again, these regions have also achieved the lowest coefficient of efficiency of development. The second place is shared Trnava and Košice. Košice region achieves very good values in terms of regional GDP and the average monthly salary, but long-term unemployment rate is the highest among all regions.

TAB. 6: Unemployment rate, average nominal monthly wage and regional GDP per capita in the regions of Slovakia in the year 2014

	Unemploy. rate v %	Rankings	Average nominal monthly wage in EUR	Rankings	Regional GDP per capita in EUR	Rankings
Bratislava Region	6,13	1	1286	1	33895	1
Trnava Region	8,03	2	892	3	15476	2
Trenčín Region	9,56	3	863	5	12130	3
Nitra Region	11,21	5	829	7	12026	5
Žilina Region	10,91	4	875	4	12079	4
Banská Bystrica Region	17,22	7	837	6	9962	7
Prešov Region	17,45	8	767	8	8363	8
Košice Region	15,92	6	908	2	10929	6

Source: author's calculations based on data from <http://datacube.statistics.sk>

3 Conclusion

At present, more and more often it denied attention towards monitoring and evaluation of regional disparities. Regional disparities are the result of the differentiated social and economic development in different regions. Differences between regions are becoming more visible to the public view. This is due to the influence of global and regional changes associated with the process of decentralization, strengthening the competencies of local self-government and fiscal decentralization.

In this paper, we focused on assessing the economic level of the regions of Slovakia and related competitiveness of regions and regional disparities. Results of the analysis show a differentiated development in various areas. Regional disparities, which are exacerbated while existing spatial structure of the Slovak economy, which is inherently unbalanced does not create conditions for effective regional development and thereby are reduces the competitiveness of regions. In the Slovak Republic are particularly marginalized southeast regions of Slovakia (Prešov, Košice and Banská Bystrica). It is these regions have the worst results in all monitored indicators. Therefore, it is important mitigate the overall performance disparities between the prosperous West of Slovakia and the economically weaker southeast of Slovakia. Regional priorities of the Slovak economics should promote regional competitiveness, removal regional disparities in order to ensure increasing welfare in these regions.

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INFLUENCE OF GDP PER CAPITA ON THE AVERAGE GROSS HOURLY WAGES WITHIN SELECTED EU COUNTRIES

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Abstract: *The aim of papers is to provide synoptic comparison of GDP per Capita of the selected labour markets of these countries Czech Republic, Germany, Ireland, Italy, Austria and United Kingdom, together, with the differences in employees' wages within selected EU countries. The theoretical part includes theoretical background about the national economic factors and its current situation within the selected countries. In practical part were provided elaboration and testing of raised hypothesis of secondary data received from Eurostat source from 2002 till 2013. For hypothesis, that the higher GDP per Capita is, the higher mean gross hourly earnings for employees is in selected EU countries, there the heteroscedasticity of data tested by White's test. Then the F-test was used to obtain information whether the model is statistically significant. Afterwards the hypothesis about the dependence of two variables was tested by and expressed by correlation coefficient. The finding and conclusion summarize the obtained results and the differences on labour markets in selected countries.*

Keywords: *economic capabilities, labour market, gdp per capita, wages, remuneration.*

JEL classification:

Grant affiliation:

1 Introduction

In the year 1957 as per the Treaty of Rome, the European Economic Community was established with the main goal, the common market, characterised by free movement of goods, services, people and money (Eurostat, 2016). Nowadays after many decades of European integration the enlargement of European Union, despite widely discussed Brexit, approached almost whole Europe. However, there are still economic differences among the states (Barro, 2008, Ehrenberg, Smith, 2011, Bohlander, Snell, 2012).

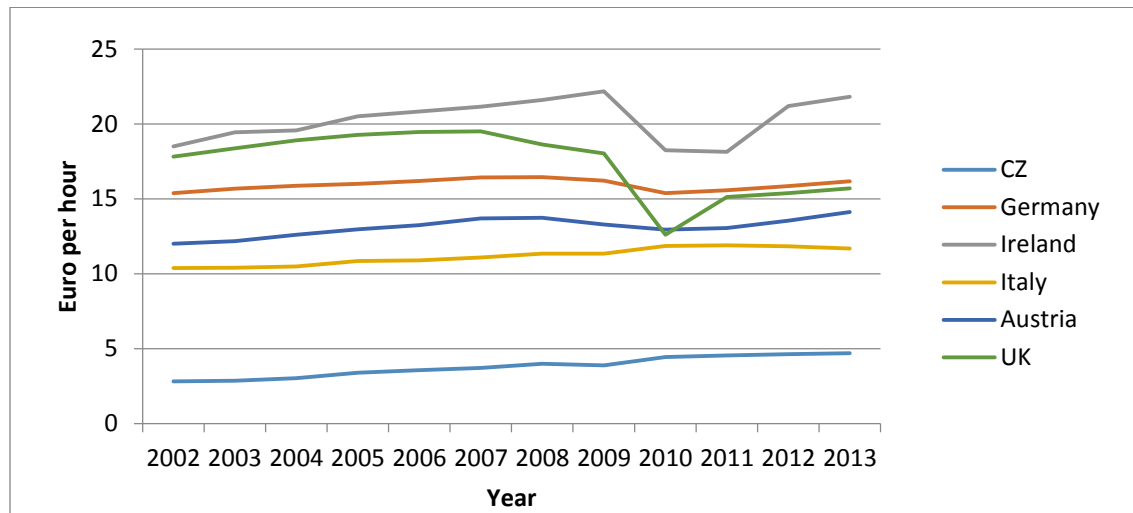
European labour markets tend to have problems since 1970's. Comparing to other developed countries such as USA, the situation on European labour market did not improve that significantly, especially due to excessive regulations and high real and nominal wages, which reduced the creation

of employment and increased the rate of natural unemployment. Beside the labour market issues, European Union is also considered to be less active in the field of development, research and innovations, which can slow down its economy. The European labour market is perceived as less flexible than labour market of United States, which is caused by many regulations of the companies by state, avoiding immediate adaption to market changes and trends (OECD, 2016, Hopkins, 2007, Di Domenico, Spattini, 2008, Hall, Lieberman, 2012). The large proportion of US labour force belongs to labour unions, which accomplish to push the gross wage above the market equilibrium level, causing the higher unemployment rate. (Mankiw, 2012, Carbaugh, 2011, Baumol, Blinder, 2012, Arnold, 2013). Beside the labour market issues, European Union is also considered to be less active in the field of development, research and innovations, which can slow down its economy (Mceachern, 2012, Potužáková, 2013). The Lisbon Treaty set up the strategy, which is helping to improve the economic growth of European Union countries increase employment and working conditions. Due to all these reasons the Lisbon Treaty set up the strategy, which should help to improve the economic growth or European Union countries increase employment and working conditions. At the beginning the economic growth and employment were increasing, but only until the year 2008, when the world economic crisis arose. Other important facts are the differences between particular countries of European Union. Some countries such as Norway, Sweden and Finland kept high employment rate even before strategy of Lisbon Treaty and some particular countries such as Czech Republic, Slovakia or Hungary lower rate of employment. The overall situation was worse by economic crisis in 2008. European Union started to focus on each particular country separately to be able to monitor all consequences and started the cooperation in this matter throughout all European Union (Eurostat, 2016, Treger, 2008).

2 The relationship and dependency of the GDP and Labour market

The Czech Republic has the lowest level of the earnings from all select countries, however despite the world economic crisis with continual increasing trend (CSU, 2015). Germany, Austria and Italy have had stable increasing growth of mean gross hourly earnings. Comparing to Ireland and United Kingdom, the decline in gross hourly earnings during the years 2008-2011 was rather weak. However, decline in average remuneration in Ireland and UK was very significant and although the mean gross hourly earnings rise again, they are still above its potential level from previous years (Eurostat, 2015).

FIG. 11: Mean gross hourly earnings in Euro per hour within the years 2002-2013 (source: own elaboration based on data from Eurostat)

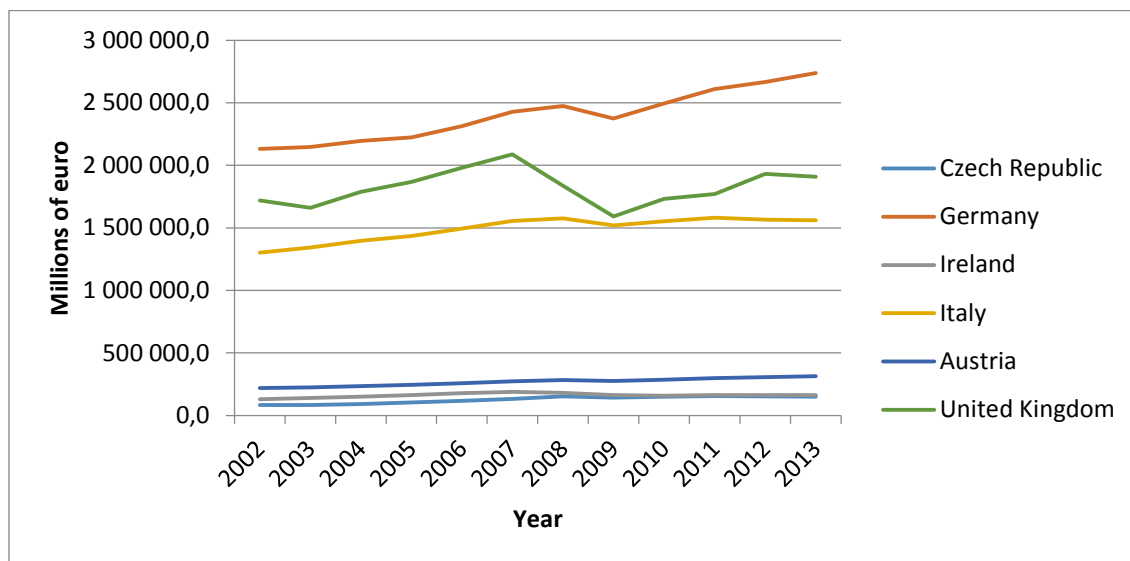


Throughout the literary sources several economic theories about financial remuneration arose. Labour theory of value, origins from Karl Marx statement that the market does not determine price of goods and service but the value of goods and services is determined by the necessary amount of labour needed for the production of these goods and services. Therefore, the content of work determines price of this work. Most of economists never accepted this labour theory of value and rather lean to demand and supply market theory (Nielsen, 2002). Armstrong Labour market theory is based on the buyers (employers) and sellers (employees) of goods (labour). The price of the goods is the remuneration level needed to attract and keep the employees in the organization. On such a labour market there exist demand and supply factors and inflation factors as well (Armstrong, 2010). Classical economic theory, also known as theory of balancing of differences, brought by Adam Smith, sets that the wages or remuneration of the employees are fully determined by labour demand and labour supply. When the labour demand is equal to labour supply, the wages will stay at the equilibrium level. This mechanism has the ability of immediate market clearing (Armstrong, 2007). “The whole of the advantages and disadvantages of the different employments of labour and stock must, in the same neighbourhood, be either perfectly equal or continually tending to equality.” (Smith, 1776). Human capital theory described the labourers as set of skills, which can be rented to the employers. All knowledge, skills and experience create the certain stock of productive capital. For the employees the expected return from investment to the human capital is higher standard of remuneration, higher satisfaction from work and certainty of future employment. For the employers the expected return from investment to human capital is higher productivity, flexibility, innovation skills and increasing level of skills of the employees (Ehrenberg, Smith, 2011). The Efficiency wage theory, also known as theory of high wages, says that firms will pay higher remuneration to its employees that the actual market remuneration is, with the aim to increase the productivity. The productivity will be increased by motivated employees with great performance. The higher remuneration above average market remuneration will attract better applicants, will decrease fluctuation of the employees and will show the loyalty of the company to its workers (Mankiw, 2009). Agency theory describes the different goals of owners—employers and the agents-managers, therefore managers can act differently than owners wish them to act. This phenomenon is called by economist transaction costs, the difference between the earnings in case owners were managers and earnings in case managers reaching their own goals (Bowie, Freeman, 1992). Bargaining power

theory negotiate about fair remuneration and amount of the work leads to consider correct amount of remuneration which has to be offered to employees. Perforce all employees are in the role of negotiators regarding the financial remuneration (Baumol, Blinder, 2012). According to book Minimum wages from Neumark and Wascher, the first countries where the minimum wages were established were Australia and New Zealand in 1890's, United Kingdom in 1909 and USA in 1938. In many countries the minimal wage was established as a protection to employees, so it could be prevented the companies will misuse their economic power and position with the aim to determine wages at very low level. (Neumark, Wascher, 2008). As per the book The fundamentals of Minimum Wage Fixing from Eyraud and Saget, the minimum wage is a pay protection for the employees. The minimal wage can negatively influence the unemployment in term that it is wrongly defined above the equilibrium wage. The employees with low qualification are not able to find new job and they become part of the long term unemployed group (Eyraud, Saget, 2005). In this paper, the minimum wage and its impact could not be analyzed due to the fact, that in Eurostat there are not data available for the Germany, Austria and Italy. These countries did not have the minimum wage set up by the law at the time of processing this thesis. However, in Germany in April 2014, there was the minimum wage raised to be 8.50 euro per hour, which should be in charge since 1st of January 2015. Till the 2014 the minimum wage was established as per the collective bargaining for each industry separately. Despite the Germany did not have minimum wage set up, their average gross hourly earnings still belonged to the highest from selected countries (Statistisches Bundesamt, 2014).

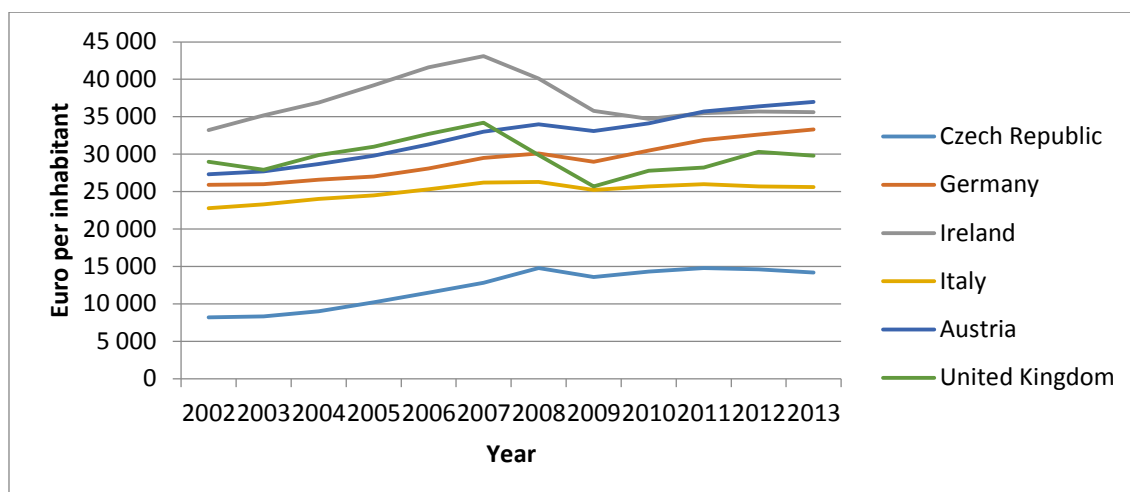
The Gross Domestic Product is basically value of economy productions, which can be obtained as the product of all goods and services and their prices. To be able to distinguish between growth of goods and service and growth of their prices, the nominal and real GDP has to be distinguished as well (Jurečka, 2010, Arnold, 2013, Barro, 2008, Musgrave, Kacapyr, 2009, Mankiw, 2012). Nominal GDP is obtained from current prices which are valid at the time when GDP is measured. Price changes decrease the ability of macroeconomic indicators to provide sufficient information and prevent from respectable annual comparisons. However nominal aggregates are mainly used while evaluating necessary amount of money in the economy (Kennedy, 2000). Real GDP is obtained from constant prices; it means prices adjusted from changes. The real GDP is currency value of the GDP within exact measured year in the prices of base year. From the magnitude of real products, it can be obtained information about real economic growth or decline. The real GDP can be obtained by 2 different methods: either all goods and services are evaluated by constant prices or that nominal product is adjusted by inflation influences (McEachern, 2012).

FIG. 2: Nominal GDP at current prices (source: own elaboration based on data from Eurostat)



Within years 2002-2013 the highest GDP of selected countries was reached in Germany. Overall through this whole period performance of German economy was the most stable and balance. The nominal GDP at current prices provide information about all goods and services produced within a certain time on a national territory. The German GDP has the highest value, as GDP at current prices does not consider the fact of number of inhabitants in the selected countries. To be able to compare GDP between the countries, it is necessary to compare date for GDP per capita. GDP per capita is total GDP of the country for given period of time divided by number of population (Tucker, 2012). For better comparison of national economic performance there is the figure 3, which indicates the differences in GDP per capita across the selected countries.

FIG. 3: Nominal GDP per Capita in Euro per inhabitant (source: own elaboration based on data from Eurostat)



Once the nominal GDP per capita is obtained, it can be observed that highest GDP per capita has been reached in Ireland. Although the financial crisis negatively affected overall economy of Ireland, Irish GDP per capita belongs to the highest within the group of selected countries. United Kingdom had second highest GDP per capita till 2007 when financial crisis arose. Since the year 2009 GDP per

capita of UK rises again, however it is still below the increasing trend before 2007. Although the economic crisis negatively affected most of European countries, Austria and Germany managed to return and continue on its potential level of GDP per Capita. From the figure it can be also observed that Austria and Germany have very similar trend of GDP per Capita. The Czech Republic has lowest level of GDP per Capita from all selected countries, however with increasing trend. Since the 2008 similarly like most of the European countries overall economic performance has static trend without significant economic growth (Eurostat, 2016).

3 Data and Methodology

The main objective of this paper was to provide synoptic comparison of GDP per Capita of the selected labour markets of these countries Czech Republic, Germany, Ireland, Italy, Austria and United Kingdom, together, with the differences in employees' wages within selected EU countries. The secondary data were received from the sources of ČSU and Eurostat in period from 2002 till 2013. The influence of GDP per capita on the average gross hourly wages within selected countries was tested and examined by White's test of heteroelasticity, by F-test about model significance and afterwards dependence of two variables were expressed by correlation coefficients. The wage was expressed by mean gross hourly earnings. The remuneration of employees will be expressed in mean gross hourly earnings in EUR within the selected countries of the European Union. Data regarding the remuneration were not available for all years as median gross hourly earnings; therefore, the mean gross hourly earnings were used instead.

The countries were chosen according to the year of their acceptance to the European Union and with the respect where the Czech workers migrate the most frequently because of work. As per Czech Statistical office the countries these countries are Germany, Austria, United Kingdom of Great Britain, Republic of Ireland and Italy (CSU, 2014, OECD, 2016). The research has counted in the UK as well despite their EU exit in June 2016.

4 Results

The hypothesis "High GDP per capita increases the mean gross hourly earnings in the country" was raised with the assumption that the higher GDP per Capita is, the higher mean gross hourly earnings for employees is. The GDP per Capita is connected with labour productivity. The rising productivity of labour should bring at the same rise in the wages for the employees. Therefore, the high GDP per Capita could achieve high wages comparing to other countries with lower GDP per Capita.

White's test of heteroelasticity:

H0: Errors are homoelasticity,

H1: Errors are heteroelasticity.

TAB. 1: Heteroelasticity for six selected countries, (source: own elaboration based on data from Eurostat)

Country	Heteroelasticity	
	p-value >	

	$\alpha=0.05$	
CZE	0.102217	Do not reject H0
GER	0.180007	Do not reject H0
IRL	0.226865	Do not reject H0
IT	0.063708	Do not reject H0
AU	0.383852	Do not reject H0
UK	0.197333	Do not reject H0

All data concerning GDP per Capita and mean gross hourly earnings for 6 chosen countries were tested for heteroelasticity of error terms. According to p-values, null hypothesis was not rejected, the errors are homoelastic.

TAB. 2: Heteroelasticity for six selected countries, (source: own elaboration based on data from Eurostat)

Country	F-emp > 4.3009	
CZE	258,17023	Reject H0
GER	1557,4016	Reject H0
IRL	1780,4383	Reject H0
IT	5687,7233	Reject H0
AU	1111,9423	Reject H0
UK	2041,0547	Reject H0

F-test hypothesis for model significance are following: H0: Model is not statistically significant, H1: Model is statistically significant

According values obtained from F-test, null hypothesis of F-test was rejected and it was proved the model was statistically significant. Correlation coefficients in the table below shows the common dependence and determination of two variables GDP per capita and dependent variable average gross hourly earnings.

TAB. 3: Correlation coefficients for six selected countries, (source: own elaboration based on data from Eurostat)

Country	Correlation coefficient
CZE	0,94061
GER	0,17559

IRL	0,47801
IT	0,81853
AU	0,83402
UK	0,45864

FIG. 4: ANOVA tab -Czech Republic

Factor				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Arithm. mean</i>	<i>Variance</i>
GDP Capita	12	146300	12191,66667	6904469,7
Wage/Hour	12	45,62	3,801666667	0,47148788

ANOVA						
<i>Source of variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P value</i>	<i>F crit</i>
Between Groups	891264320	1	891264319,5	258,170228	1,22E-13	4,301
Within groups	75949171,9	22	3452235,084			
Total	967213491	23				

FIG. 5: ANOVA tab -Germany

Factor				
Groups	Count	Sum	Arithm. mean	Variance
GDP Capita	12	350500	29208,33333	6566287,88
Wage/Hour	12	191,32	15,943333333	0,13829697

ANOVA						
Source of variation	SS	df	MS	F	P value	F crit
Between Groups	5113173803	1	5113173803	1557,40162	6,48E-22	4,301
Within groups	72229168,2	22	3283144,009			
Total	5185402972	23				

FIG. 6: ANOVA tab -Ireland

Factor					
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Arithm. mean</i>	<i>Variance</i>	
GDP Capita	12	446600	37216,66667	9325151,52	
Wage/Hour	12	243,28	20,27333333	2,06920606	
ANOVA					
<i>Source of variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P value</i> <i>F crit</i>
Between Groups	8301430062	1	8301430062	1780,43825	1,52E-22 4,301
Within groups	102576689	22	4662576,792		
Total	8404006751	23			

FIG. 7: ANOVA tab -Italy

Factor					
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Arithm. mean</i>	<i>Variance</i>	
GDP Capita	12	300600	25050	1322727,27	
Wage/Hour	12	134,19	11,1825	0,33120227	
ANOVA					
<i>Source of variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P value</i> <i>F crit</i>
Between Groups	3761654291	1	3761654291	5687,72328	4,68E-28 4,301
Within groups	14550003,6	22	661363,802		
Total	3776204294	23			

FIG. 8: ANOVA tab -Austria

Factor					
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Arithm. mean</i>	<i>Variance</i>	
GDP Capita	12	388100	32341,66667	11279015,2	
Wage/Hour	12	157,51	13,12583333	0,3994447	
ANOVA					
<i>Source of variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P value</i> <i>F crit</i>
Between Groups	6270807314	1	6270807314	1111,94231	2,49E-20 4,301
Within groups	124069171	22	5639507,775		
Total	6394876486	23			

FIG. 9: ANOVA tab -United Kingdom

Factor				
<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Arithm. mean</i>	<i>Variance</i>
GDP Capita	12	356400	29700	5180000
Wage/Hour	12	208,93	17,41083333	4,79226288

ANOVA						
<i>Source of variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P value</i>	<i>F crit</i>
Between Groups	5286336598	1	5286336598	2041,05471	3,43E-23	4,301
Within groups	56980052,7	22	2590002,396			
Total	5343316651	23				

From all observed countries regarding the dependence of average gross hourly earnings on GDP per capita, all countries have had direct dependency of average gross hourly earnings on GDP per capita, however the Czech Republic had the most significant correlation coefficient. Within the years 2002-2013 mean gross hourly earnings grew together with increasing GDP per capita. Similarly, high correlation coefficients were obtained in Italy and Austria. In Italy average gross hourly earnings grew together with GDP per capita till 2008. Since the year 2008 despite the fact GDP per capita slightly declined, mean gross average earnings kept increasing trend. In Austria GDP per capita was increasing each year till 2008 together with average gross hourly earnings. Although in the year 2009 GDP per capita and mean gross hourly wages declined, since 2010 both variables have increasing trend. As per the data from Eurostat, it was observed that dependency between average gross hourly earnings and GDP per capita is direct. However, Germany has very low value of correlation coefficient. This can be cause by the fact that GDP per capita has been growing through whole period 2002-2013, except the year 2009 when German GDP per capita declined. On the other hand, average gross hourly earnings declined in 2010 and stayed at the below level till 2013. In Ireland till the year 2007 mean gross hourly earnings were rising with the GDP per capita. Since the year 2008 and the financial crisis, even though GDP per capita has increased, there are still frequent fluctuations in GDP per capita and mean gross hourly earnings. In UK quite similar situation with GDP per capita and mean gross hourly earnings arose. From Eurostat data growth of GDP per capita and average gross hourly earnings could have been observed till 2007. Since 2008 fluctuations in both variables were observed till 2013.

5 Discussion

The hypothesis was raised with the assumption that the higher GDP per Capita is, the higher mean gross hourly earnings for employees is. The GDP per Capita is connected with labour productivity. The rising productivity of labour should bring at the same rise in the wages for the employees. Therefore, the high GDP per Capita could achieve high wages comparing to other countries with lower GDP per Capita.

Michael Hopkins stated at his book, that when wages, which are labour costs, exceeds the costs expected by marginal productivity, the country will not be able to compete on the international market and its export and employment will decline. (Hopkins, 2007)

As per the International Labour Organization (ILO), it was observed in countries with high labour productivity that average wages are at high level as well (Krugman, Wells, 2006). Differences in level of wages between countries are caused by different labour productivity and economic development of particular country (Boyes, Melvin, 2012, De Grauwe, 2009, Mankiw, Romer, 1998). Unfortunately, the economic growth and wages do not have direct straight dependency, as it could be expected (Heneman, Werner, 2005, Dwivedi 2010). As it was observed by International Labour Organization, its statistic shows that within the years 1995-2008 the real average wages increased slower than the economic growth did. It means growth of average wages was lower than growth of productivity. From the other point of view, it was advised by International Labour Organization that GDP per capita as indicator of labour productivity does not have to precise indicator and can be misleading under certain conditions. (International Labour Organization, 2008). According to data from Eurostat, it was observed that in all selected countries there was a direct dependency of mean gross hourly earnings on GDP per capita. The most significant coefficient of direct dependence was proved to be in Czech Republic, Italy and Austria. The opposite situation - the lowest dependence of mean gross hourly earnings - was proved to be Ireland, United Kingdom and Germany, which are the countries with highest mean gross hourly earnings from selected countries. In case of comparing of GDP per capita and average gross hourly earnings between the Czech Republic and Germany, it can be observed that in each year within the period 2002-2013 the difference in GDP per capita was lower than difference in wages. In other words, although on average the GDP per capita of Germany was only 2.47 times higher than GDP per capita in Czech Republic, the mean gross hourly earnings in Germany were on average 4.32 higher than in Czech Republic. In case of Ireland, although on average the GDP per capita of Ireland was only 3.19 times higher than GDP per capita in the Czech Republic, the mean gross hourly earnings were on average 5.48 higher in Ireland than in the Czech Republic (Eurostat, 2016, Word Bank, 2015).

6 Conclusion

The third hypothesis was raised with the aim to prove whether high GDP per capita, which is considered to be labour productivity of labour, increases mean gross hourly earnings. In all selected countries, the direct dependency of GDP per capita on mean gross hourly earnings was proved. The most significant dependence was observed in the Czech Republic, which can be caused due to catching-up process of eastern European countries with the western European countries. The least significant dependence of gross hourly earnings on GDP per capita was observed in countries with highest hourly remuneration in Germany and Ireland. While comparing the situation of Czech Republic with Ireland and Germany, where are the highest mean gross hourly earnings from all selected countries, it was observed that for each year the difference in GDP per capita was smaller than difference in average gross hourly earnings. It means, the proportion between GDP per capita and average gross earnings is not the same as in Ireland or Germany. Therefore, the Czech Republic has many open questions in the future how to approach towards western European countries, their developed economies and highly set up remunerations.

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SEMANTIC DIFFERENTIAL AND LINGUISTIC APPROXIMATION – IDENTIFICATION OF A POSSIBLE COMMON GROUND FOR RESEARCH IN SOCIAL SCIENCES

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Abstract: *Linguistic approximation is the process of transformation of mathematical objects (outputs of mathematical models) into natural language. It is a crucial step in decision support models and in fact in any formal models that are supposed to be used, understood, modified or maintained by non-mathematicians. In the paper we summarize the principles of linguistic approximation and semantic differential and point out the common goal of these two tools. We discuss the differences and the common ground of these two tools – semantic differential as a tool for the determination of connotative meaning or the assessment of attitudes and linguistic approximation as a “translation” tool between mathematics and common language. The aim of the paper is to suggest possible improvements of the two methods or a merger of the basic ideas behind them. This way we propose future research directions in the field of semantics modelling and suggest the incorporation of uncertainty in the semantic differential as a promising future research goal.*

Keywords: *Semantic differential, interval valued, scale relevance, linguistic approximation, uncertainty.*

JEL classification: C18, C44, C83.

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1 Introduction

Nowadays large amounts of data and complex data sets are available in almost all fields of science and human activity. The interpretation of these data sets, rule and knowledge extraction and hypothesis testing are tasks that need to be dealt with appropriately. Expert knowledge can play a significant role in the analysis and the interaction of formal methods and models for data analysis and human experts in the given field is becoming a topical issue. Tools for the presentation of outputs of mathematical models and for the design of linguistic rules understandable by practitioners

(laymen in mathematics) are now required more than ever. Knowledge extraction can play a role in theory building only if the researchers can understand and interpret the relationships correctly. Linguistic summaries and linguistic description of the outputs of formal models prove very useful in these tasks – providing the required interface between the formal representation of the modelled systems and the people utilizing the models and their outputs either in practice, or in research and theory building and validation (Stoklasa, Talášek, & Musilová, 2014; Stoklasa & Talášek, 2015, 2016; Stoklasa, 2014; Talášek & Stoklasa, 2015; Yager, 2004).

In this paper we aim to investigate two seemingly unrelated concepts that both deal with the meaning of words (linguistic terms) – the basic ideas of linguistic approximation and the approaches by Bonissone (1980) and Wenstøp (1980) are summarized in Chapter 2; the main ideas of semantic differential as proposed by Osgood, Suci, & Tannenbaum (1957) are presented in Chapter 3. We identify the common ground of these methods that can be further explored and utilized in research and theory building. The results of this are presented and discussed in Chapter 4.

2 Linguistic approximation

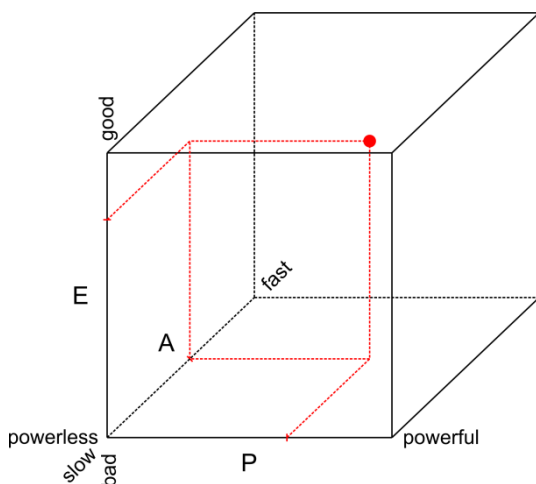
Linguistic approximation (or retranslation – see e.g. (Yager, 2004)) can be understood as a unifying term for all the methods that assign linguistic labels to the outputs of mathematical models. Even mechanisms of generating linguistic summaries and linguistic rules from data sets can be understood as linguistic approximation in the broadest sense. In linguistic approximation one is looking for the best linguistic term (label, proposition or rule) to represent the mathematical object with. A set of predefined linguistic terms is usually available and the meaning of each of these terms is known (represented as a mathematical object of the same type as the objects to be approximated – e.g. in the fuzzy modelling setting, the meanings are frequently supposed to be fuzzy numbers or Cartesian products of fuzzy numbers – see (Stoklasa, 2014)). The best fitting linguistic label is usually found on the basis of the semantic distance or similarity (distance/similarity of the mathematical meanings of the predefined linguistic terms and the approximated object is considered (Talášek & Stoklasa, 2015)), but more complex approaches considering several aspects of the meaning can be also found in the literature.

Bonissone (1980) and Wenstøp (1980) both deal with the linguistic approximation of fuzzy sets (see e.g. (Klir & Yuan, 1995; Stoklasa et al., 2014; Zadeh, 1965)) that is performed in two steps – first the semantic similarity is assessed identifying several prototypical characteristics of the approximated objects – such as location (e.g. centre of gravity or mean value), uncertainty, symmetry of the meaning etc. This is in fact a screening step resulting in the identification of such linguistic terms, the meanings of which are semantically close to the approximated object (the meaning are similarly placed, adequately (un)certain, adequately symmetrical etc.). The formal closeness to the approximated object based on a chosen mathematical distance or similarity measure is then assessed only within the preselected terms set. Although such approach seems to be intuitive, the practical usage of the first screening step has not been utilized in practice, since mathematicians are not well equipped to define the “prototypical features” and since the direct application of distances/similarities hand in hand with the increasing computation power available today does not necessarily require preselection in many cases. The resignation on the semantic level in linguistic approximation can, however, be dangerous (Stoklasa & Talášek, 2015; Stoklasa, 2014).

3 Semantic differential

Semantic differential is a method proposed by Osgood et al. (1957) to assess attitudes of people towards different objects (nouns, adjectives and even more complex constructs were examined). The method has been widely used in research and many application and validation studies exist in various fields of science. The basic idea of the method is to present the participant with a list of bipolar scales anchored by adjectives with opposite meaning at each end (e.g. good-bad, fast-slow, sweet-sour,...). The subject is then asked to assess where between these two endpoints he/she sees the meaning of the object under investigation. Providing several tens of scales to the participant and conducting factor analysis on the results Osgood et al. (1957) managed to identify three significant factors defining a three-dimensional semantic space. These factors are evaluation (E), potency (P) and activity (A). The factor loadings of each of the bipolar scales to each factor have been computed and thus a simple tool of identifying the position (connotative meaning) of the given object (or to be more specific the attitude towards it) can be identified and represented by a point in three-dimensional semantic space (see FIG. 1).

FIG. 1: The meaning of a given object represented by a point (red dot) in a three-dimensional space as obtained from the semantic differential.



The three factors have proven to be inter-culturally stable (Osgood, 1964) and are according to Osgood accounting for more than half of the total variance. Note that the three factors seem to correspond with the three-dimensional model of attitudes. There are also issues that still require attention concerning the semantic differential – such as the object-dependent appropriateness of the scales (see e.g. (Weinreich, 1958), also inter-personal difference in the perceived appropriateness of the scales for a given object can be observed). Nevertheless the performance of the semantic differential (and the validity of the identified three factors E, P and A) seems to be confirmed through time (see e.g. (Fennell & Baddeley, 2013) for a recent study linking the semantic differential with the history of past reward in a theory building framework).

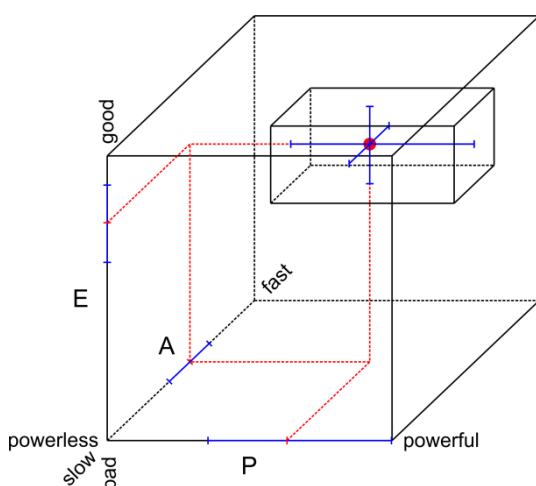
4 Where do the linguistic approximation and semantic differential meet?

Based on the information briefly summarized above, both concepts – that is the linguistic approximation and the semantic differential seem to share a common purpose – the identification of meaning of a given linguistic term. To be more precise, in the case of linguistic approximation it is the identification of the most appropriate linguistic label for a given mathematical object, which is sought

based on semantic similarity. Semantic distance can be defined as the Euclidean distance of two points in the semantic space (providing the factors E, P and A are considered to share the same scale and providing that there is no other significant factor that remains left out). Semantic similarity can then be defined as the complement of the distance (note that by design the scales used in semantic differential have natural minima and maxima, and so do the three factors). We should, however, also note, that the nature of the three factors E, P and A is evaluation in its essence and that the denotative level is not captured by the three coordinates of the corresponding point in the semantic space.

In the case of linguistic approximation, the shared features utilized jointly by Bonissone (1980) and Wenstøp (1980) are the position and the level of uncertainty. Since the values to be linguistically approximated are frequently numerical or fuzzy evaluations obtained as outputs of multiple-criteria evaluation models or decision support systems, they can be considered to represent values of the E (evaluation) coordinate in the semantic space. This would, however, reduce linguistic approximation to a 1-dimensional semantic differential utilizing only the E factor. The potency and activity are not directly utilized in the two approaches to linguistic approximation that stress semantic similarity. To be frank only very few papers acknowledge the possible existence of other relevant features in linguistic approximation. Yager (2004) for example discusses the “spin” level of linguistic approximation (retranslation) and the need to stress certain aspects of meaning, to mobilize attention, to motivate careful behaviour etc. These could potentially be reflected in the P and A factors suggested by the semantic differential. From this perspective it would seem that the mathematical point of view focuses on a single dimension of meaning neglecting the others, that have proven to be relevant in the context of connotative meaning or to carry the affective meaning so relevant e.g. in disaster management and all applications where higher values are at stake.

FIG. 2: The meaning of a given object represented by a point (red dot) and the possible uncertainty stemming from the perceived inappropriateness of the scales used for its determination (blue block) in a three-dimensional space as could be obtained from a generalized semantic differential. The uncertainty of the evaluation is represented by the blue line segments in each of the three axis that represent possible alternative values of the given coordinate in the semantic space.



On the other hand the mathematical perspective does focus on other dimensions of meaning, not directly reflected by the semantic differential. Possibly the most prominent one frequently encountered in fuzzy models is the uncertainty of the evaluations (or in other words the ambiguity,

uncertainty and overlapping of meaning of linguistic terms). Note that the semantic differential results in a triplet of real numbers as a representation of a connotative meaning of a word, whereas fuzzy mathematics and linguistic fuzzy modelling (introduced in (Zadeh, 1975)) takes the uncertainty associated with linguistic expressions for granted and focuses on its modelling. The crisp (certain/real-valued) representation of the position of a word in a semantic space seems counterintuitive from the linguistic fuzzy modelling point of view. Even more so considering the issues of scale appropriateness in the process of computing the semantic space coordinates raised e.g. by Weinreich (1958). It would be possible to reflect the appropriateness of the scales (as perceived by a given person with respect to a given word or linguistic expression) and provide an equivalent of confidence intervals in addition to the semantic space coordinates. This way, no information would be lost and the possible inappropriateness of some scales for the assessment of a given word (e.g. having to decide whether a pencil is sweet or sour might not be easy, or even meaningful, for the decision maker) could be accounted for – see FIG. 2.

5 Conclusions

It seems obvious that linguistic approximation and semantic differential share the interest in semantic similarity or simply the position of two or more linguistic terms in the semantic space (regardless of how ill-defined this space is). The semantic differential exhibits a surprising disregard for uncertainty even though its introduction into the differential might solve some of the well-known issues related to its use. On the other hand, linguistic approximation seems to be overly focused on a single dimension related to evaluation and the typical characteristics of fuzzy sets and their membership functions such as the uncertainty, symmetry etc., while disregarding other dimensions of meaning. The combination of these two points of view might benefit both methods – introducing the uncertainty in semantic differentiation and allowing the reflection of more features/factors of the meaning in linguistic approximation can provide solutions to some of the existing problems and enhance the overall performance of both methods. This will be the natural next step of our research.

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DO GENDER AND PERSONALITY TRAITS (BFI-10) INFLUENCE ATTITUDE TOWARDS GENETIC RESEARCH?

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Abstract: *There is a continuing trend of making genetic research commercially available. It is not only 23andme that offers various types of genetic tests anymore. People do not need to rely on doctor's opinion, they can purchase genetic testing kits and test themselves. Unfortunately, not all available tests are reliable; as the case of Theranos showed recently. The paper aims to investigate if there is any impact of gender and of personality traits on attitude towards genetic research. Big Five Inventory is used to measure personality traits.*

Keywords: *attitude, genetic research, personality traits.*

JEL classification: *I12, D12, C12.*

Grant affiliation:

1 Introduction

In the past, any genetic research required high investment and also high operational costs. The Human Genome Project (Delisi, 1988) was finished in 2003. Since then, sequencing was getting cheaper. DNA of James Watson, who headed the Human Genome Project (Palca, 1988), was sequenced for about one million dollars in 2007. It is possible to talk about commercialization of sequencing since then. In 2014, Illumina charged one thousand dollars for full DNA sequencing, i.e. 1000-fold decrease within 7 years.

But people differ only in a fraction of DNA, e.g. 23andme.com took advantage of it and offered a kit for about half a million base pairs for 399 dollars in 2009; the second version of the kit for about a million base pairs is currently available for 199 dollars in the United States and 149 dollars abroad. The price includes also annotation of genes with explanation of traits and health risks. At this price, even a middle-class person with required knowledge and skills could conduct some research using only his or her own savings.

23andme.com conducts research of certain genes using sequenced data of customers who give a permission to the company. These customers are then asked about health issues they experience. Currently medialized, by far not the first, outcome of this research is identification of genes linked to Major Depressive Disorder. Hyde et al. (2016) analyzed data from more than 75,600 people who had been clinically diagnosed with depression and from more than 231,700 people who stated that they never had depression. It illustrates that there is critical amount of data already available.

The aim of this paper is to investigate if gender and personality traits influence attitude towards genetic research. Personality traits are evaluated according to the Big Five Inventory. The attitude is according to Rosenberg and Hovland (1960) split into affective, cognitive, and behavioral (conative) components.

The rest of the paper is organized as follows: The next section describes the questionnaire and the analysis, the following section contains results, and the final section summarizes the findings.

2 Data and methodology

Data were collected in the spring semester 2014 using a broader on-line questionnaire dealing with personality traits. Respondents were students of Aalborg University. Of 186 students who started, 172 (of whom 106 were male and 66 female) fully filled in the questionnaire.

The research presented in this paper measures attitude towards genetic research using the following statements; the instruction was "Please indicate to what degree you agree with the following statements":

- affective component - "I am someone who is positive about genetic research";
- cognitive component - "I heard a lot about genetic research";
- behavioral component - "I am likely to take part in genetic research".

A 1-5 Likert scale was used where 1 meant strongly disagree and 5 stood for strongly agree.

Personality traits were measured using the Big Five Inventory-10, i.e. a 10-item version of the questionnaire for the Big Five Inventory, developed by Rammstedt and John (2007). The instruction was to rate "How well do the following statements describe your personality" with statements "I see myself as someone who..."

1. ... is reserved;
2. ... is generally trusting;
3. ... tends to be lazy;
4. ... is relaxed, handles stress well;
5. ... has few artistic interests;
6. ... is outgoing, sociable;
7. ... tends to find fault with others;
8. ... does a thorough job;
9. ... gets nervous easily;
10. ... has an active imagination.

on a 1-5 Likert scale where 1 meant strongly disagrees and 5 stood for strongly agree. Extraversion was calculated as an average of the 1st (reversed-scored) and the 6th answer, agreeableness as an

average of the 2nd and the 7th (reversed-scored) answer, conscientiousness as an average of the 3rd (reversed-scored) and the 8th answer, neuroticism as an average of the 4th (reversed-scored) and the 9th answer, and openness to experience as an average of the 5th (reversed-scored) and the 10th answer. Cronbach alphas for personality traits will not be reported since the Big Five Inventory-10 (Rammstedt and John, 2007) was not constructed with this statistics in mind.

This questionnaire was preceded by another questionnaire, approximately a week before, it contained the same Big Five Inventory-10, and respondents were asked to save the answers and provide then again later. So one of the questions not analyzed here is whether the respondents entered their answers from a week before or they filled in their current answers. Of 172 respondents, 63 personality traits ratings were from previous week, and 109 were recent.

A generalized linear model (GLM) is used to analyze impact of gender and of five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, openness to experience) on three components of attitude towards genetic research. A multivariate approach to testing is used. Parameter estimates tables will be provided (instead of ANOVA-style tables) in order to be able to see signs of parameter estimates (not only p-values). SPSS software was used for all the tests.

3 Results

Although the three components of attitude towards genetic research are positively correlated, they will be analyzed separately because Cronbach's Alpha is only .635, i.e. below Nunnally's (1978) threshold of .7.

3.1 Affective component

Parameter estimates for the generalized linear model analyzing impact of gender and of personality traits on affective component of attitude towards genetic are provided in TAB. 1.

TAB. 1: Parameter estimates for affective component - full model

Parameter	B	Std. Error	T	Sig.
Intercept	4.149	.615	6.746	.000
Extraversion	.056	.093	.610	.543
Agreeableness	-.088	.100	-.876	.382
Conscientiousness	-.021	.090	-.233	.816
Neuroticism	-.253	.087	-2.894	.004
Openness	.066	.089	.751	.454
Gender	.026	.137	.193	.847

The model per se is significant (p-value = .034), $R^2 = .079$, $R^2_{adj} = .045$ and neuroticism is the only significant variable.

Submodels were tested to see whether omissions of certain independent variables could improve p-values. Parameter estimates for the best submodel are provided in TAB. 2.

TAB. 2: Parameter estimates for affective component - streamlined model

Parameter	B	Std. Error	T	Sig.
Intercept	4.227	.201	21.062	.000
Neuroticism	-.266	.075	-3.561	.000

The streamlined model containing only neuroticism is significant (p-value < .001), $R^2 = .069$, $R^2_{adj} = .064$. To sum up, it means that less neurotic people have more positive opinion about genetic resarch.

3.2 Cognitive component

Parameter estimates for the generalized linear model analyzing impact of gender and of personality traits on cognitive component of attitude towards genetic are provided in TAB. 3.

TAB. 3: Parameter estimates for cognitive component - full model

Parameter	B	Std. Error	t	Sig.
Intercept	2.708	.746	3.629	.000
Extraversion	-.156	.112	-1.391	.166
Agreeableness	-.062	.122	-.511	.610
Conscientiousness	.225	.109	2.055	.041
Neuroticism	-.149	.106	-1.401	.163
Openness	.099	.107	.926	.356
Gender	.016	.166	.098	.922

The model per se is not significant (p-value = .228), $R^2 = .048$, $R^2_{adj} = .013$ and conscientiousness is the only variable with p-value below .05.

Submodels were tested to see whether omissions of certain independent variables could improve p-values. Parameter estimates for the best submodel are provided in TAB. 4.

TAB. 4: Parameter estimates for cognitive component - streamlined model

Parameter	B	Std. Error	T	Sig.
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Intercept	2.002	.359	5.577	.000
Conscientiousness	.194	.099	1.950	.053

The streamlined model containing only conscientiousness is border-line significant (p-value = .053), $R^2 = .022$, $R^2_{adj} = .016$. To sum up, it means more conscientious people know more about genetic research.

3.3 Behavioral component

Parameter estimates for the generalized linear model analyzing impact of gender and of personality traits on behavioral component of attitude towards genetic are provided in TAB. 5.

TAB. 5: Parameter estimates for behavioral component - full model

Parameter	B	Std. Error	T	Sig.
Intercept	3.190	.706	4.516	.000
Extraversion	-.161	.106	-1.513	.132
Agreeableness	-.194	.115	-1.681	.095
Conscientiousness	.181	.104	1.746	.083
Neuroticism	-.006	.100	-.059	.953
Openness	.073	.102	.716	.475
Gender	-.056	.157	-.358	.721

The model per se is not significant (p-value = .212), $R^2 = .049$, $R^2_{adj} = .014$ and conscientiousness and agreeableness are the only variables with p-value below .1.

Submodels were tested to see whether omissions of certain independent variables could improve p-values. Parameter estimates for the best submodel are provided in TAB. 6.

TAB. 6: Parameter estimates for behavioral component - streamlined model

Parameter	B	Std. Error	T	Sig.
Intercept	3.442	.363	9.474	.000
Agreeableness	-.192	.103	-1.861	.064

The streamlined model containing only conscientiousness is border-line significant (p-value = .064), $R^2 = .020$, $R^2_{adj} = .014$. To sum up, it means less agreeable people are more willing to take part in genetic research.

Although conscientiousness had a lower p-value in TAB. 5 than agreeableness, a model containing only conscientiousness would lead to a p-value of .387. In a model with agreeableness and conscientiousness, agreeableness would have a p-value below .05 and conscientiousness would have a p-value above .1.

4 Conclusion

The aim of this paper was to investigate impact of gender and personality traits on attitude towards genetic research. Although affective, cognitive, and behavioral components of attitude towards genetic research were positively correlated, the correlation coefficients were not high enough to create an attitude construct; therefore, components were analyzed separately.

The separate analysis of the attitude constructs turned out to be a good choice because each component was influenced by a different personality trait. Neuroticism had a negative impact on the affective component, conscientiousness had a positive impact on the cognitive component, and agreeableness had a negative impact on the behavioral component of attitude towards genetic research. Gender did not have significant impact on any of the components.

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CONDITIONS FOR DEVELOPMENT OF CZECH BUSINESS IN THE 1990S AND TODAY: ADDA PARIS, S. R. O., IMPORT OF FRENCH FASHION

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Abstract: *The paper compares the conditions for entrepreneurship development in the Czech Republic in the 1990s and the conditions today, specifically as regards the import of French fashion products. The 1990s were a specific period of the Czech history, which many consider ‘the golden age of business’. Nowadays there are new challenges entrepreneurs have to face, but there are also advantages to profit from that did not exist in the 1990s. The aim of this work is to present the specific features of both the 1990s and today. The paper uses the example of the 1990s business, ADDA Paris, s. r. o., to illustrate the entrepreneurial issues of the decade and, moreover, describes the current situation through a simulation of running such business today. Lastly, the paper defines the differences and similarities of both periods and presents an outlook for entrepreneurship in the Czech Republic.*

Keywords: *entrepreneurship, 1990s, Czech-French Business Partnerships, import of fashion*

JEL classification: *M210, O120*

Grant affiliation: *IGA_FF_2015_040 Continuities and Discontinuities of Economy and Management in the Past and Present 2.*

1 Introduction

After the fall of the communist regime in 1989, Czechoslovakia began to go through a series of changes. The early 1990s were characterized by political euphoria, building the market economy, and a fervent endeavour to catch up with the developed West. The 1990s are one of the most interesting periods in Czech history, especially as regards entrepreneurship. Since it is still a relatively recent period, it has not yet been adequately covered in academic writings.

The goal of this paper is to map the business situation in the Czech Republic in the 1990s and compare it with the situation nowadays. Particular phenomena will be exemplified with actual issues ADDA Paris, s. r. o., an Ostrava-based company, had to face. The company was founded during the period of economic transformation and specialized in importing Parisian fashion products. In the

paper, I will attempt to outline the conditions in which the company operated in the 1990s, as well as the conditions in which it would have to operate nowadays, were it to be restored.

The part of the paper concerning the 1990s predominantly draws on period articles from the weekly journal *Ekonom* (Economist) published between 1991 and 1993, as well as on my earlier study *Porevoluční „zlatá éra“ podnikání: rozvoj velkoobchodu v oblasti módního odívání (případová studie)* (The post-revolutionary "golden era" of business: the development of fashion wholesale (case study)). Moreover, information was also collected during interviews with ADDA Paris's owner, Jaroslav Šuhaj (conducted between 1 October 2014 and 5 April 2015), as well as from economic documentation, and the company's accounting records.

2 The Birth of Entrepreneurship in Post-Revolutionary Czechoslovakia

When the law that enabled citizens to start private businesses was passed in the May of 1990, the long lasting state monopoly ended, and the creation of a private sector was finally possible (Morávek, 1991, p. 18). At the time, start-up companies had to cope with technological, legislative, and tax conditions we would consider difficult from today's perspective. Moreover, the tax burden at the time was quite high in comparison with Western European standards (Benáček & Zemplerová, 1995, p. 444). In spite of that, however, entrepreneurship - a type of economic activity completely new and unknown to most Czechs and Slovaks – seemed quite tempting. It promised higher income, return to the economic tradition of the First Republic interrupted by communism, and liberty, with which entrepreneurship became synonymous in the minds of many at the time (Bedrnová, 1991, p. 60). Czech entrepreneurs often call this period 'the golden age of entrepreneurship'. It was characterized by C. Svozil, entrepreneur of the year 2013 in the Olomouc Region, in his lecture as a time of omnipresent enthusiasm, weak legislative regulations, and big 'market holes', which offered the new entrepreneurs a wide range of lucrative business opportunities (C. Svozil, personal communication, November 2014).

The post-revolutionary entrepreneur's excitement went hand in hand with lack of business knowledge and experience. The 1990s saw a generation of entrepreneurs who had to 'learn the ropes' all by themselves and who often only had low level education (the former regime had forbidden many people from studying and generally supported the working class and promoted manual jobs). Furthermore, there was no academic literature at the time that would deal with the problems of Czechoslovak economy (Urban, 1991, p. 5). Along with lack of knowledge of market mechanisms, there was lack of foreign language proficiency as well. In the early 1990s, educational and retraining programmes started emerging (in accordance with the Resolution of the Government of the Czech Republic No. 238, of 10 July, 1991), as well as support programmes for small and medium businesses. Nevertheless, many entrepreneurs were not informed about these programmes, or were incapable of presenting the business plan necessary for getting the support (Z. Puchinger, personal communication, April, 2015).

Another important step on the way to establishing a new business was passing the necessary administrative process. In order to found a *společnost s ručením omezeným* (the Czech variety of a private limited company, hereinafter 's. r. o.'), one had to have the minimal capital of 100,000 CZK at one's disposal. Another condition, and an integral part of the approval procedure, was to have business premises at the ready (according to the 2006 case study by Bradáčová and Ulrich, the average price for non-residential premises was around 1,500 CZK/square meter/year at the time). An

average soon-to-be entrepreneur had about 40,000 CZK in monetary savings and 300,000 CZK in real estate, which rendered founding a start-up company rather expensive for most; thus, many entrepreneurs had to rely on financial services when obtaining the necessary sum (Benáček & Zemplerová, 1995, p. 439-441).

2.1 The New Market's Attractiveness to Western Investors

Opening the borders brought about a sudden rise in both supply and demand. Experts and dealers both called it a unique opportunity that would not come again for another century (Sedlářová, 1992, p. 60). The market holes began to fill up with foreign products Czechoslovak citizens had craved for a very long time. Among the countries of Central and Eastern Europe, the Czechoslovak Republic was very attractive to foreign investors, since it offered the best initial conditions at the beginning of the market transformation process (Kunešová & Cihelková, 2006, pp. 229 – 232). The Czech market seemed lucrative mainly because of its cheap workforce, poor environmental regulation, and strategic position in the Central and Eastern European regions. Moreover, considering Czechoslovakia had been a part of the Eastern Bloc, its infrastructure seemed to be at a satisfactory level.

It is important to understand that the 1990s also meant a revolution in telecommunication technologies and the rise of the Internet. In Czechoslovakia, the state of the traditional telephone network was far from satisfactory; hardly a day went by without a telephone lines breakdown caused by overload. This, of course, made communication problematic, especially when calling foreign partners, whose telecommunication networks were far superior (Klánová, 1993, p. 33).

2.2 Establishing the Czech-French Business Partnerships

Czechoslovakia's business partnerships with France were among the most dynamically developing ones in the 1990s. In 1991, France was Czechoslovakia's 7th biggest foreign investor, with 1.2% share in all foreign investments. One year later, French investors' activity jumped up rapidly; with the lion share of 25.4%, France became the number one foreign investor. Over the course of the 1990s, Czech-French business partnerships were growing progressively. Even though France was disadvantaged by the geographical distance substantially greater than that of Germany or Austria, as well as by lack of proficiency in French on the part of its Czechoslovak partners, business partnerships between the two countries kept growing stronger (Hálek, 1993, p. 46).

French fashion products soon became one of the most demanded goods, which is hardly surprising. Modern fashion has always been considered one of the more obvious indicators of a developed country, and Czechoslovaks were desperate to improve the tragic state of fashion in their homeland, which could be regarded as the communist regime's 'cultural heritage'. Before the Velvet revolution of 1989, clothing was considered a marginal product; shops only offered a few basic mostly identical articles, not to mention the short supply thereof (Sedlářová, 1991, p. 60). Following the fall of the communist regime, Czechs and Slovaks began travelling to Western countries, where they noticed the drastic difference between their domestic market's supply and the supply available to customers abroad. Seeing the glamour and richness of Western fashion, at the time not as uniform as it is today due to globalization, caused Czechoslovak citizens to hunger after this newly discovered symbol of freedom.

The uniqueness of the situation led to unrest among many investors, who feared making a bad decision and thus wasting an opportunity. Since western marketing methods could not simply be

adopted and applied in the former Eastern Bloc, market analysis became crucial for the early development of the so called 'East-West marketing'. A thorough analysis was essential in order to manage the huge disproportion between the 'rich' West with its 30% product surplus and the East suffering from lack of (quality) clothing (Sedlářová, 1992, p. 60).

Any company wishing to establish a business partnership abroad needs information on both the particular potential business partner and the country the partner is based in. In Central and Eastern Europe, the availability of such information was very little, unless the companies managed to establish direct contact with the potential foreign partner. The databases used in the West were not accessible to Czechoslovak entrepreneurs, so many had to rely on paid services provided by information brokers, professional agencies, and chambers of commerce (Reuvid & Bennet, 1994, pp. 61-64). A more active way of finding the right foreign partner was visiting international fairs and expos on a regular basis.

In the spring of 1993, the Chamber of Commerce was approached by the Paris based company ADDA S. A., which was, along with many others, looking for a way to enter the Central and Eastern European markets. The owners of ADDA were recommended an entrepreneur from Ostrava, Czech Republic (Czechoslovakia split into the Czech and Slovak Republic, respectively, on 1 January 1993), who was interested in establishing a business partnership with a Western company. First of all, however, the Czech market had to be researched. Did the market have enough potential? Was its power parity sufficient for fashion products of Parisian quality? Would it serve as a good gateway to the Eastern market (especially the Russian one)? A study was conducted, showing positive results, but recommending to choose the business partner carefully. In May 1993, ADDA's director travelled to the Czech Republic to meet with the recommended partner and assess his abilities.

2.3 ADDA Paris, s. r. o.

After trial orders worth 1.5 million CZK were successfully processed by the Czech partner, the joint company was ready to be founded. Thus, on 26 August 1993, the private limited company with a capital of 100,000 CZK and 80% French share named ADDA Paris, s. r. o. began its existence. The company was based in Ostrava with branches in Prague and Pilsen and was completely directed by Czech management. The business had three direct employees and ten sales representatives, who worked on commission. The prices were set with regard to the products' quality and the principles of psychological pricing. In the early 1990s, people were willing to pay any price for French fashion products, and knowing this, the company was aiming at a solvent clientele, selling the highest quality goods. A product's final price was the sum of the purchase price, import duty, business margin, and the value added tax, whose rate was 23% in 1993/1994 (Černohausová, 2016). The average purchase price was around 325 FRF (ca 1,723 CZK at the time); the average selling price (margin included) amounted to 3,215 CZK. Competition was no real concern at the time, since ADDA Paris was a true pioneer in French fashion import in the region; for the first two years of its existence, it was the only company importing such high-end goods. ADDA Paris mainly focused on supplying the most select Czech and Slovak boutiques. The company also actively visited important international fairs and expos, such as those in Prague, Brno, Paris, Poznań, or Moscow, where it introduced its business.

Transport companies such as Čechofart (Czech) or Danzas (French) were entrusted with merchandise delivery. These transport companies were not only in charge of the delivery as such, but later on also took care of all customs-related administration. ADDA Paris mostly communicated with its Parisian

partners by telephone or fax; however, purchases and strategic meetings still required business trips to Paris (usually once every two weeks). Most of these trips were made by car, since airplane tickets were too expensive at the time (around 25,000 CZK). Moreover, a car enabled and facilitated transport of smaller goods right on the way back to the Czech Republic.

Over the course of the following years, the owner of the Ostrava-based ADDA Paris bought the 80% French share off his foreign partners, becoming the sole owner, which allowed his company to extend the range of offered merchandise beyond the ADDA brand. The most important new suppliers included such Paris-based companies as Vango S. A., Bagutti S. A., ROMY'S S. A., JEM-PLUS S. A., New Licence S. A., and Muratti S. A. Exclusive contracts were concluded with each of the listed companies.

Unfortunately, the difficult economic situation in 1997, when the Czech Republic entered a period of economic recession, made even worse by the flood in Moravia, Silesia, and East Bohemia (as well as in Poland and Slovakia), delivered ADDA Paris a devastating blow. Due to the damage caused by the flood combined with the overall negative situation on the market, almost 80% of customers were unable to collect and pay for their orders, although the company had already procured the goods. Furthermore, the demand for exclusive Western products had been more or less satisfied at that point, and the market began to fill up with cheap products imported from Asia. As regards the financial perspective, it seemed pointless to bail the company out and carry on, when the future seemed so uncertain. Instead, the management decided to attempt to sell the uncollected goods, pay any remaining liabilities, and close the business, which happened over the course of 1999 and 2000 (J. Šuhaj, personal communication, March 2015).

3 Current Business Environment in the Czech Republic

In general, the Czech Republic is nowadays considered a small saturated market with a high degree of specialization in the industrial sector and insufficient natural resources. In the annual Doing Business report, the World Bank praised the reforms made in the Czech Republic that decreased the minimal capital required of entrepreneurs to start a business (Kalínská, 2010, p. 171-182). Another of the factors facilitating the business-starting process is the ongoing effort to informatize some of the steps. Various turnkey businesses and readymade companies are also available these days.

Currently, the private sector is strong and entrepreneurship is a stable element of the Czech economic system. Along with other EU member states, the Czech Republic integrated the basics of business education into the overall educational system, states the 2012 European Commission's report. Today, entrepreneurs have knowledge of economics and foreign languages and have the opportunity to receive further business education. The numbers of entrepreneurs who completed vocational schools are decreasing (which is negative in some respects), while the number of entrepreneurs who completed secondary grammar schools, passed the matura exam (the Czech secondary school-leaving exam to some extent state-run and unified all across the country), or gained an academic degree is on the rise. The average age of Czech entrepreneurs, however, is also rising; mere 3% of them are aged 15-25, although in 1993 it was mostly the people from that age group who were not afraid to take the risk and venture into the then unknown world of private business. As regards the number of female entrepreneurs, there has been substantial development. In 1993, there were only 123,600 businesswomen; the number has more than doubled since then (Stražilová, 2014).

Along with educational programmes for entrepreneurs, many support programmes have also become available, and not only on the regional and state levels, but also internationally. Nonetheless, it should be noted that Czechs are not very successful in obtaining and using this support – they do not know it is available, or do not know how to get it, or cannot use it adequately once they have finally got it – which is heavily criticized by the European Union (Němec, 2015).

3.1 International Cooperation Development and Business Partner Search

In order to stimulate the economy after the difficult period of recession in the late 1990s, the Czech Republic made the business market more favourable for foreign investors and offered investment incentives in the early 2000s, kick-starting the economic growth (Jenerálová, 2011). Nowadays, the Czech Republic is considered to be one of the most open countries in the European Union. In comparison with other EU member states, the Czech job market is also very flexible. The website BusinessInfo.cz says that the annual labour market survey Hays Global Skills Index lists little state restriction and labour market-friendly government decrees as further factors making the Czech business environment attractive to foreign investors.

Between 1993 and 2013, foreign investors' contribution to the Czech Republic's economic performance went up from 2.9% to 25.3% (Dubská, 2015). After nine years, Germany became the Czech Republic's biggest foreign investor once again, replacing the Netherlands, while France is now fifth. According to a French-Czech Chamber of Commerce's press release, there has been a substantial development in business collaboration between the two countries in the last twenty years; import to the Czech Republic has been tripled, and export to France saw a twelvefold increase. The Czech Republic's accession to the EU played a crucial part in this growth.

We made an assessment of the potential ADDA Paris, s. r. o. would have, were it to be restored. In 1993, finding the right foreign partner was the main reason for founding the company. Today, the situation is reversed. If restored, ADDA Paris would be an existing company with a 100,000 CZK capital, a sum still perfectly adequate today. However, ADDA Paris has no business relations with France whatsoever, since 15 years old phone numbers are the only form of contact information available, and Internet searches for the former partners' names yielded no results. Therefore, we decided to turn to the French-Czech Chamber of Commerce (hereinafter FCCC), seeking their commercial services. An FCCC's consultant informed us that the FCCC does not have a sector list of French companies, and that they were unable to find any of ADDA Paris's 1990s business partners in their database (A. Paulů, personal communication, February 2015). Nonetheless, we were offered the standard solution, i.e. a custom market research.

On the basis of a form we filled in, pre-diagnostics of the according market sector was conducted. In the document we received as a result were also information on the available market-research related services, including description of the research methodology. ADDA Paris was offered two types of service – a market research and compilation of a list of potential suppliers. According to the FCCC, there are ca 200 French companies able to meet ADDA Paris's requirements. Furthermore, the FCCC also offers organizing the whole process of establishing the business partnership, i.e. making the necessary phone calls, preparing the presentation, accompanying the Czech party on the business trip, and language interpreting. The prices were as follows: 3,240 EUR for the first phase of the market research, 360 EUR per day for the business trip accompaniment, and 460 EUR for compiling

the list of potential business partners. The prices do not include VAT, and a 50% advance has to be paid on each.

3.2 ADDA Paris, s. r. o. Today

One of the potential partners recommended in the pre-diagnostics report was the Paris-based company GREGE. Having chosen six interesting articles of clothing on their website, we contacted GREGE with a partnership proposal. In response, GREGE sent a price list of their products and offered a 30% discount, which would depend on the amount of merchandise ordered (M. Attal, personal communication, March 2015). A comparison of selling and buying prices showed that GREGE offers its goods with a 200% margin. In the Czech Republic, however, the fashion market conditions do not allow for a margin this high. Setting the price is a crucial step before placing the product on the shelves, since the price affects the product's marketability and assigns it a certain position on the market. An Internet research showed that GREGE products are not available in the Czech Republic yet. Through benchmarking, we asserted that GREGE products would gain a position on the Czech market comparable to those of Max Mara, J. Crew, Lacoste, Heine, etc. On the basis of these assumptions and price calculation, we set the price with a margin similar to that from the 1990s, i.e. 88.50%.

Veste BETTY 39 EUR

T-shirt DAPHNEE 35 EUR

Pullover ISA 32 EUR

Pullover LUCY 29 EUR

Twinset LOUVE 69 EUR

Veste BONNY 39 EUR

FIG. 1: Setting the selling price (EUR = 27.03 CZK)

average purchase price	40.5 EUR	1,094.72 CZK
margin	-	88.50%
average selling price	-	2,063.54 CZK

The prices above are comparable to those of the competition and should ensure the desired profitability.

In order to restore ADDA Paris in reality, it would be necessary to rent business premises again, which would cost around 5,000 CZK/metre squared/year. All necessary communication as well as banking and any other agenda could be managed electronically today; in comparison with the 1990s, this would mean a great relief, especially as regards time and money. Moreover, the electronic communication would also substantially decrease the number of business trips to France the owner would have to make.

Merchandise would be delivered by one of the companies offering international transport. Calculating the costs for the delivery of an average 150 kg order from Paris to Ostrava, we arrived to the estimated price of 3,000 CZK.

One of today's challenges ADDA Paris did not have to face in the 1990s would be competition. Cheap Asian mass production and popular ready-made clothing make for a worthy opponent, especially with respect to those clients who still strongly prefer low cost to high quality. As our research

showed, there are luxury goods on the Czech market, which ADDA Paris would potentially be interested in selling. Such items are available online, too, and e-shops present another new phenomenon ADDA Paris would have to face. Clothing is a types of merchandise often bought online and according to the 2014 study by Shoptet.cz, e-shopping is gaining more and more popularity with Czech customers.

4 Results of the Study – Differences and Similarities

In the table chart below, we present comparison of some of the typical expenses. Advertising and other such expenses were not included, since these mostly depend on the particular entrepreneur's strategy.

FIG. 2: Comparison of selected ADDA Paris's expenses in 1993 and today

	1993	2015/2016
purchase price (Ø)	325 FRF = 1,722.50 CZK	40.5 EUR = 1,094.72 CZK
VAT (%)	23%	21%
average wage (Ø)	5,904 CZK	26,467 CZK
social insurance employer/employee (%)	26.25 % / 8.75 %	25 % / 6.5 %
health insurance employer/employee (%)	9 % / 4.5 %	9 % / 4.5 %
income tax		
corporate/personal (%)	45 % / 15 %	19 % / 15 %
customs duty (%)	5%	x
rent (Ø)	1,490 CZK/month*	20,000 CZK/month****
transport of a 150 kg order from Paris to Ostrava (Ø)	4,556 CZK	2,889.70 CZK
a business trip from Prague to Paris and back by plane (Ø)	25,000 CZK	4,000 CZK
communication (Ø)	5,000 CZK/month**	1,300 CZK/month***

* the monthly rent ADDA Paris paid as stated on invoice No. 45941

** fixed phone line

*** mobile phone + Internet

**** for non-residential premises of similar area

The comparison shows substantial changes in the cost of some of the items. Among the advantages from which ADDA Paris would profit today are the Czech Republic's membership in the duty-free Schengen Area, as well as lower taxation. Moreover, the development of telecommunication technologies and the Internet may be the biggest improvement, especially when considering the drop in communication costs. However, average wage increased, and there was a significant growth on the real estate market, too.

The negative factors of restoring the company today would be the increase in competition and the fact that the company would not be unique anymore, which used to give it a great competitive advantage in the post-revolutionary period. However, these factors could be compensated for with the new technologies and advanced means of communication, which allow entrepreneurs to get in touch with a much greater number of customers, and which save the entrepreneur a lot of time and money.

The reactions of both the FCCC and the Paris-based company GREGE confirmed that the fashion market is still bustling and that it is perfectly possible to start doing business in this sector, even though the conditions nowadays are completely different from those in the 1990s. Insufficient information availability, lack of skills and experience on the part of entrepreneurs, and extremely time-consuming administrative procedures are now things of the past; however, ADDA Paris would have to face some modern challenges, like the effects of globalization, outsourcing, and the oversaturated character of today's market.

4.1 Outlook

Although consumer confidence has been on the rise after the last economic crisis, it is still true that Czechs are not in favour of spending. A global survey conducted by the Nielsen Company shows that Czechs mostly try to save money on household expenses; however, with 40% of respondents, saving on clothes comes in second. Yet, new brands keep flooding the market, some of which are truly luxurious. These luxurious items, however, are still mostly found in lucrative areas, especially Prague, which leads to further retail polarization (Pichl, 2012).

As regards the French-Czech commercial collaboration, most French companies seem to have a positive outlook for Czech economy. According to an FCCC survey, 65% of respondents expect economic growth, and a third expect stability. Further investments are planned (47% of respondents), as well as hiring new employees (whose ranks should grow by more than 10%). The survey also mentions the obstacles the French investors take into consideration: Almost a third of the respondents worry about the complicated legal system, another third are afraid of low demand and strong competition, and 41% are concerned about insufficient work force.

5 Conclusion

The 1990s seem to have been a 'golden era' of entrepreneurship, which is supported by testimonies of entrepreneurs themselves, as well as by other evidence. The initial phase of market transformation was advantageous to entrepreneurs thanks to weak legislative regulation, but rather inconvenient as regards other factors, e.g. taxation. The Czech-French technological and infrastructural inequality meant another complication. The Ostrava-based company ADDA Paris, s.r.

o. was among those post-revolution businesses that managed to seize the new opportunity and, for some time at least, gain a stable position on the emerging fashion market, importing merchandise from abroad. However, ADDA Paris's competitive advantage turned out to be unsustainable from a long-time perspective, and it did not provide enough stability to help the company overcome the economic changes in 1997, nor the damage caused by the summer flood. Restoring the business after 15 years proved possible; nevertheless, the entrepreneur would have to be ready to enter a completely different market. The question remains whether the advantages provided by modern technologies would compensate for the now lost uniqueness the business had in the 1990s. Even well-established businesses struggle with the combined threats of low demand and strong competition; therefore, these threats could prove to be considerable obstacles for a start-up business. In sum, every period is specific for a number of reasons, of course, but the 1990s were undeniably unique, and it seems that the prediction made at the time was true – conditions like that will not come again in a very long time.

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AMORTISED COST IN ACCOUNTING OF FINANCIAL INSTRUMENTS

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Abstract: *Setting the amortised cost of financial instruments requires the knowledge of the effective interest rate. It is estimated based on the cash flows associated with the given financial instrument. Effective interest rates change as the level of interest rates jumps up or down (changeable interest). The amortised cost is used in the balance sheet valuation of categorised financial instruments for financial assets kept for the maturity date, given borrowings and financial liabilities. It most often regards the bond of borrowings kept to the maturity date, as well as given and contracted loans and credit.*

Keywords: *Financial instruments, amortised cost, effective interest rate.*

JEL classification: *M41, G12, G31*

Grant affiliation:

1 Introduction

In the accounting aspect, it is essential to adjust accounting policy of enterprises to the requirements of financial instruments. It takes place mainly in the area of financial instruments classification, proper representation in accounting books (Szydełko A., 2016, pp. 63-89), balance sheet valuation and proper presentation in the financial statement.

The purpose of the article is to present the balance sheet valuation of financial instruments, with particular emphasis on the amortised cost and the effective interest rate. The assumed purpose determined selection of research methods. The analysis has been made on the basis of critical review of the reference books and analogical reasoning.

2 Balance sheet valuation of financial instruments

The valuation of financial instruments should differentiate the date of entry in the accounting books and the balance sheet data (Szydełko Ł., 2015, pp. 290-292). If instruments are included in the books, the following prices should be assume:

- 1) Financial assets – price of purchase, which should be defined as the nominal value plus transaction costs or the purchase price, when purchase costs are insignificant,
- 2) Financial liabilities – according to the nominal value.

The valuation as of the balance sheet date is defined in different regulation (Rozporządzenie Ministra Finansów, 2008; Międzynarodowe Standardy Rachunkowości, 2007). Depending on the group to which a given instrument belongs, it may be valued according to the fair value or the amortised cost (adjusted price of purchase).

However, according to Art. 28 paragraph 6 (Ustawa o rachunkowości, 2013), the fair value is defined as the amount for which a given asset could be exchanged and the liability could be settled on market transaction conditions between involved and well-informed parties, not related mutually.

In practice, the fair value is most often the market value of financial instruments that are listed on exchange (stock exchange, commodity exchange, metal exchange, derivatives exchange), interbank market and Forex currency market.

If there is no possibility to estimate the fair value in a credible way, it should be done by specialised entities, or with the use a valuation model that uses data from the active regulated market. It means that in estimating the fair value, prices of similar financial instruments may be used. The issues related with fair value estimation are described in detail in numerous publications (Molenda, 2008; Frendzel 2011).

The amortised cost (adjusted price of purchase) is determined as the purchase price at which a financial asset or a financial liability has been first listed in the accounting books (initial value), reduced by the payments of the nominal value (basic capital), properly adjusted by the accumulated amount of the discounted difference between the initial value of the asset and its value on the maturity date, calculated using the effective interest rate, and also reduced by the write-offs.

The effective interest rate is in this case defined as the internal rate of return of the asset or a financial liability for a given period. It is calculated on the basis of cash flows related with the given financial instrument.

Tradable financial assets and financial assets available for sale are valued as of the balance sheet date according to the fair value. The instruments classified in the group of given borrowings and receivables as well as financial assets kept for the maturity date, are valued according to the amortised cost (adjusted price of purchase).

Accepting a proper method of valuation of financial instruments as of the balance sheet date in a certain way determines the method and course of settlement of the so-called balance valuation differences (overestimation of instrument value at the end of each reporting period).

In reasonable cases, financial instruments may be shifted between groups valued according to the amortised cost (adjusted price of purchase) and the fair value. The practice in this field implies accepting certain schemes. It is assumed that the last available amortised cost (adjusted price of purchase), determined according to the effective interest rate, becomes the basic (initial) fair value of a financial instrument. In the opposite situation, the last available fair value becomes the first amortised cost (adjusted price of purchase).

3 The issue of determining the effective interest rate and the amortised cost

Estimating the amortised cost may be carried out only if the effective interest rate is properly determined. There are numerous factors that have direct or indirect effect on these two parameters. The most significant ones most often include:

- 1) Initial fees and commissions,
- 2) Investment period or the time in which the financial instrument has been issued,
- 3) Type and frequency of charging coupon rates,
- 4) Nominal values, discounts, bonuses,
- 5) Cash flows related with the financial instrument and time of occurrence.

The amortised cost is most often used in valuation of financial instruments kept for the maturity date. In practice, the largest group consists of treasury bonds, municipal bonds and corporate bonds (Pielichaty, 2012, pp. 30-31).

Further considerations will refer to these debt financial instruments. Their sales on the financial market or outside are often followed by fees and commissions (Mobius, 2012, p. 5). They are received by agents (brokerage offices, banks). Received commissions and fees increase the price of purchase and constitute an integral part of the price.

Agents participate also in the issue of debt financial instrument. Also in this case they collect certain fees and commissions, amount of which depends on the content of the so-called investment agreement. In practice, there are two possible models of cooperation with the agent. Settlement of fees and commissions is done by deduction from the payment for issued debt financial instruments (money for issued debt financial instruments is transferred through the agent's bank account), or by charging the issuer by the agent (money from issue go through the issuer's bank account). In both cases, charged fees and commissions adjust cash flows. This, in turn, significantly affects the amount of the effective interest rate and the amount of the amortised cost.

Another factor that is also important in determining the effective interest rate and the amortised cost, is the investment period or the period for which financial instruments have been issued. It is usually assumed that the length of that period is related with the date of purchase of these securities. It is presumed that the financial instruments will be kept for the maturity date. Any departures from that principle cause that later on, after possible earlier purchase (earlier sale), valuation should be carried out on the basis of the fair value.

In case of debt financial instruments, the key element are also coupon rates. If they occur, they may be charged regularly with various frequency, e.g. once in a month, once in a quarter, every six months or once in a year. They are stable (the same amount throughout the entire period) or variable (depending on a parameter, e.g. in Poland according to WIBOR rate).

Each change of that parameter is followed by an adjustment of the effective interest rate and the amount of the amortised cost.

In case of debt financial instruments analysis, certainly the nominal value is also important (amount of issuer's debt during the issue, without the costs of transaction). Most often the issuer pays it to the investor on the date of purchase of a given financial instrument (Jajuga K., Jajuga T., 2012, p. 27).

In case of debt financial instruments, the nominal value is related with a bonus and a discount. The bonus is characterised by the fact that the investor buys debt financial instruments at the purchase price higher than the nominal value (gets the nominal value on the date of purchase), earning on the increased amount of interest rates. If the price of purchase is lower than the nominal value, a discount appears (the investor earns on the discount and any additional interest rates).

All described parameters have significant effect on the level and time of appearance of cash flows related with a given financial instrument (Fabozzi, 2000, pp. 88-90). Time distribution of cash flows has direct impact on the effective interest rate. This in turn determines the amount of effective interest rates, differences between effective and nominal interest rates, as well as the amount of the amortised cost according to which a given financial instrument is valued.

4 Conclusion

The amortised cost has a special role in the balance sheet valuation of financial assets kept for the maturity date as well as given borrowings and receivables. It is determined by the effective interest rate. That is in turn calculated as the internal rate of return.

In practice, debt financial instruments with changeable coupon rates gain significance. Changeability parameters are the source of problems in estimating the effective interest rate and calculating the amortised cost.

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COSTS OF THE MICRO COMPANIES IN POLAND

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Abstract: *The purpose of the study is to describe the major problems related with costs of business activity of micro enterprises in Poland. Particular emphasis is put on the criteria of classification of micro enterprises and simplification of the cost account of these entities. The study is an attempt to present the rules of structuring the cost account with reference to the simplified pattern of a micro enterprise financial statement, focusing on the particular role of selected categories of prime costs. Tax consequences of costs incurred by micro enterprises are also taken into account. The considerations have been based on the review and analysis of literature and legal acts. Conclusions have been based on the methods of deduction and analogical reasoning.*

Keywords: *Micro enterprises, costs, cost accounting.*

JEL classification: *M41, M49, K34*

Grant affiliation:

1 The definition and legal forms of micro enterprises in Poland

Recent amendments to the Accounting Act have introduced a categorisation of Polish enterprises into micro, small and larger entities (Ustawa o rachunkowości, 2013). To get the status of a micro enterprise, the entrepreneur must meet specific criteria defined by the balance sheet regulations. Meeting these criteria, and consequently gaining the status of a micro business entity, is related with certain obligations and rights in accounting. The status of a micro enterprise is determined by the legal form of the entity and the conditions stipulated in the Accounting Act.

The status of a micro enterprise is given to commercial companies (partnerships and limited companies, including companies in organisation) as well as private partnerships and other legal entities, except state-owned enterprises and companies of the National Bank of Poland – if such companies in a given financial year and the preceding year (in case of enterprises founded in the given financial year – the year in which they started business activity) do not exceed at least two of the following values:

- a) PLN 1,500,000 – regarding the total balance sheet assets at the end of the financial year,

- b) PLN 3,000,000 – regarding net revenues from sales of goods and products in the financial year,
- c) 10 persons – regarding the yearly average number of full time employees.

The enterprises of natural persons, private partnerships of natural persons, general partnerships of natural persons and limited liability partnerships gain the status of micro business entity if their net revenues from sales of goods, products and financial operations fall between the range from 1,200,000 euro and 2,000,000 euro (equivalent in Polish currency), regarding the previous financial year, and in case of entities that started business activity or keeping the accounting books according to the Accounting Act – regarding the financial year in which they started business activity or keeping the accounting books according to the Accounting Act.

2 Cost accounting in a micro enterprise

The scope of the financial report of micro enterprises is specified in Appendix No. 4 to the Accounting Act. The simplifications regarding expenditures are present in particular in the objective scope of the financial statement, the profit and loss account. Its pattern is presented in the Accounting Act. The following distinctions are found in the structure of the profit and loss account for micro enterprises:

- A. Primary operating activity revenues and equalised
- B. Costs of primary operating activity:
 - I. Amortisation
 - II. Consumption of materials and energy
 - III. Remuneration, social security and other benefits
 - IV. Other costs
- C. Other revenues and profit, including assets revaluation
- D. Other costs and losses, including assets revaluation
- E. Income tax
- F. Net profit/loss (A-B+C-D-E)

The simplifications in the statement profit and loss account provided by the Accounting Act have major effect on the principles of cost accounting in micro enterprises. It particularly concerns the costs of the primary operating activity.

The comparative version of the profit and loss account, dedicated for micro enterprises, brings to the conclusion that these enterprises should keep their cost register at least by cost type. It means that many micro companies will keep only a type-based cost account.

The cost by type account uses a layout of costs based on grouping by the type criterion (Szydełko A., 2010, p.58). Cost items of the profit and loss account of micro enterprises indicate a minimum scope of costs by type, that must include at least the following records:

- 1) Amortisation – costs reflecting depreciation of fixed assets and intangible assets used in the operating activity, as a result of wear or passage of time,

- 2) Consumption of materials and energy – costs of consumed direct and indirect materials, fuel, tyres, spare parts for machines and devices, office supplies, technical gases and powering substances,
- 3) Remuneration, social security and other benefits – costs of gross remuneration included in the personnel wage fund and the supplemental fund, paid in money or in form of services in kind, costs of social security premiums to be paid by the employer and other deductions set as salary overheads, as well as costs of other benefits provided by the employer to employees (e.g. cost of training),
- 4) Other costs – encompassing third-party services (cost of various service – repair, transport, communication, design, analysis and opinion, rent and hire, banking, etc.), tax and fees, including excise tax (cost-type tax and fees – excise tax, property tax, local fees, tax fees, notary fees, court fees, administrative fees, environmental fees, etc.) as well as other costs of the primary operating activity that were incurred but not included in the other type items.

In practice, the costs by type in micro enterprises should be specified in the following way:

- 1) Obligatory (minimum) scope of cost by type should be introduced, imposed by the requirements of financial reporting,
- 2) For decision-making and controlling purposes, further division of already categorised type items of costs should be made.

Eventually, the scope and the structure of costs by type are determined with reference to the reporting, controlling and managing requirements. A micro enterprise may particularise the minimum list of items (accounts) of costs by type, depending on the needs of different groups of stakeholders. The process of supplementing the data on costs by type will require adjustment of the accounting books, especially the general ledger and the subledgers (Szydełko A., 2016, pp. 63-89).

Cost by type accounting in a micro enterprise should provide data for the financial statement, tax settlement and supporting cost management.

A special role in enterprise management, also in micro enterprises, belongs to cost management. Choosing the complete variant of cost register enables conducting cost analysis that supports cost management in different areas (Nowak, 2016, p.68; Szydełko A., 2006, pp. 549-555).

In practice, many micro enterprises use a minimalistic approach to cost accounting, in particular partnerships, in which quite often the possibility or necessity to use the modern extended cost accounts is neglected. The reason for choosing this approach often lies in insufficient knowledge of their managers (Bromwich, Bhimani, 1994), as well as personnel problems and simple activity (Rubik, 2011, p.102). In many enterprises costs are included only in tax settlement, which may lead to crossing the limit of simplifications in the accounting system, which in turn leads to the loss of a realistic and factual view of the property and financial situation of a given enterprise (Wysłocka, Biadacz, 2014, p. 181).

3 Costs for tax settlement purposes in micro enterprises

The tax cost accounting is a cost accounting in which the subject are tax deductible expenses, according to the act concerning the corporate income tax (CIT) and the personal income tax (PIT), as stipulated in sections concerning the income from non-agricultural business activity. The primary

purpose of tax cost accounting is to provide data facilitating determination of the amount of tax deductible expenses, consistent with tax legislation, and as a consequence, the amount of taxable income or loss (tax result) in a given period. In CIT taxation, the enterprise – or the legal entity is the taxpayer, while in PIT taxation, taxpayers are individual owners of the enterprise.

Tax legislation does not provide a precise definition of tax costs, but describes them by specifying the major conditions that they should meet to be considered tax deductible expenses. These conditions are as follows: cost (expenditure) increase, purposefulness of cost (expenditure), deductibility, representation in tax register, no exclusion in the law.

In practice of enterprises keeping the records in form of accounting books, identification of tax deductible expenses, and consequently, taxable income or loss (tax result), is carried out in many ways. One of the easiest ways to determine the amount of tax deductible expenses is to make certain transformations (additional calculations and adjustments) of costs in the balance sheet form, to ensure consistency with the tax legislation. Micro enterprises conduct these transformations on the basis of special summaries prepared on the basis of a detailed analysis of Group 4 and 7 accounts.

4 Conclusion

The Accounting Act has provided micro enterprises with particular simplifications in the field of financial reporting and obligatory or facultative limitations in applying certain accounting rules. Particularly significant simplifications concern the statement of the profit and loss account, including the scope and the method of presentation of costs. For these entities, classification of costs by type is essential. However, for the purposes of cost management, it is also recommended that the cost account provide multi-dimensional data on the costs.

In micro enterprises that keep the records in form of accounting books, cost are treated in two ways: with reference to the balance sheet and with reference to taxation.

Many micro enterprises should also implement the principles of modern cost accounting, for example the activity cost account (Kaplan, Anderson, 2008, p.21; Szydełko Ł., 2009, pp. 221-228).

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KNOWLEDGE AND COMPETENCIES OF GRADUATES FROM TECHNICAL AND MANAGERIAL FIELDS OF STUDY

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Abstract: *This article focuses on the use of knowledge and competencies in practice. The paper provides results of repeated surveys on the level of use of explicit and partially tacit knowledge and competencies of students and graduates from technical and managerial fields of study. The surveys were conducted as a reflection on the knowledge and skills acquired especially through university education; and what are the most appreciated competencies in practice. The paper aims to answer the following questions: What skills are the most used in practice by graduates of technical and managerial-economic fields of study? What skills are most needed for the graduates? What skills of graduates are underestimated from the point of view of both themselves and of the educational system? The graduates are valued for their technical knowledge; however, their competitive advantage lies in their soft skills and competencies.*

Keywords: *knowledge, competencies, skills, soft skills, graduates*

JEL classification: M500, M540

Grant affiliation: IGA_Z9_02_2015 "Opinions of graduates and students to apply acquired knowledge to practice" and IGA_Z8_02_2015 "Job opportunities in regions".

1 Introduction

This article focuses on the use of knowledge and competencies in practice. The paper provides results of repeated surveys conducted at the Czech Technical University in Prague (CTU) in years 2003 - 2016 on the level of use of explicit and partially tacit knowledge and competencies of students and graduates from technical and managerial fields of study. The surveys were conducted as a reflection on the knowledge and skills acquired especially through university education; and what are the most appreciated competencies in practice. The paper aims to answer the following questions: What skills are the most used in practice by graduates of technical and managerial-economic fields of study? What skills are most needed for the graduates? What skills of graduates are underestimated from the point of view of both themselves and of the educational system? The graduates are valued

for their technical knowledge; however, their competitive advantage lies in their soft skills and competencies.

2 Theoretical background of knowledge and competencies

Knowledge is usually defined as information (i.e. data with some meaning to a person) filtered through a personality's experience, current knowledge, values, ways of thinking. Knowledge is always connected to a person, to his or her unique ways of thinking, of doing things, his or her activities and emotions. As an equation, knowledge = information + "x" (see e.g. Mládková, 2004, 25; Nonaka and Takeuchi, 1995). Knowledge is usually divided into two main categories: explicit and tacit:

Explicit knowledge is equal to information, as it can be formalized, written, drawn etc. We can imagine a user manual on how to drive a car with manual transmission - descriptions, figures, numbers. Tacit knowledge is then an interaction of explicit knowledge with personality, his or her experience, intuition etc. Tacit knowledge is the "x". We can relate that to the knowledge (or ability) of how to really drive a car: it is a routine, every driver has his own style, different moment of changing gears dependent on the sound of motor, different ways of reacting to situations, unique way to deal with emotions, unique driving style.

The process of learning, or the process of conversion, is called the SECI model (Nonaka, Takeuchi, 2001). SECI is the abbreviation of the four steps. Socialization means the development of a new tacit knowledge based on existing tacit knowledge (when we try to drive by copying a master's style who advises us), Externalization means the creation of explicit knowledge from tacit knowledge (when we try to write down a manual on how to drive; however, there is usually a problem here: much information is lost), Combination means new explicit knowledge created from existing explicit knowledge (new user's manual based on more resources), and Internalization means the process of developing tacit knowledge from explicit knowledge (learned ability to drive).

Mládková (2014) in her research revealed essential information for students: both men and women prefer externalization when dealing with explicit knowledge. Socialization was the least popular for women while internalization for men, contrary to expectations. As for knowledge sharing, internalization (and externalization as well) are the most popular way of sharing tacit knowledge. Students prefer to develop new knowledge based on explicit knowledge, but when they share it, they instinctively incline to tacit knowledge. As Mládková suggests, this may be the result of western culture and educational system, where explicit knowledge is valued, and students are not trained in knowledge sharing and thus do it naturally in tacit form.

Furthermore, there is a question of the connection of knowledge and competencies. The boundary between these two is very thin and sometimes permeating, especially considering tacit knowledge and behavioural competencies. Also the transferability of explicit knowledge is similar to technical competency but very hard for both tacit knowledge and behavioural competencies.

Competency is commonly understood as a set of knowledge, skills and attitudes that are required at a given position in a company, while it is also a person's set of knowledge, skills and attitudes. Competencies can generally be divided to behavioural competencies and technical competencies (e.g. Armstrong, 2007, p. 152, Armstrong, 2015). Technical competence and professional skills ("Technical competencies") are often based on formal education of a worker, usually translated as "hard skills" or "professional competence". Qualification is often related to the position held by an

employee, or the industry in which it operates, respectively. The behavioural competencies (the "Competencies") can be further divided as required, e.g. to:

- intrapersonal skills (personal) where we could include e.g. the ability to respond appropriately to the situation, independence, self-control, the ability to take responsibility, willingness to resolve problem situations, the ability to solve such situations with regard to the interests of all etc.,
- interpersonal skills (social), i.e. to work effectively, the ability to establish and develop relationships with the company and with people outside the company, the ability of active listening, negotiating skills etc.,
- managerial competency, i.e. the ability to lead people (to achieve the strategic objectives of the organization through the work of others), taking into account the individual needs of people and the people as part of a broader collectives, the ability to lead teams in a favourable working environment and the ability to create such an environment, the ability to choose team members correctly, to help them adapt, motivate them, assess, reward, train and develop the ability to solve conflicts, to coach, delegate, etc., in a nutshell, the ability to lead people appropriately (Doležal, Máchal, Lacko, 2012).

Several recent research studies (e.g. Rao, 2010, Kolláriková, Pongrácz, 2014) suggest that "soft-skills" are more important for graduates' future career, but are underestimated during university studies that focus primarily on hard-skills. Both these studies understand soft-skills as behavioural competencies in its definition.

3 Results and discussion

The records used as examples are data selected from longitudinal sociological research "Positions of CTU graduates on the labour market and their satisfaction" conducted in the time period from 1996 to 2013 at CTU (Šafránková, 1996-2013; Šafránková, Franěk, 2008). The representative sample was chosen randomly by faculty, year of graduation and sex. The number of respondents – CTU graduates varied: in the first year of research 2003 there were 1357 respondents (graduates from years 1994 - 2000), in 2005 there were 828 respondents (graduates from 1985-1993, 2001-2003), in 2009 there were 380 respondents (graduates from 1999, 2004, 2008), in 2010 there were 340 respondents (graduates from 2000, 2005, 2009), and in 2013 there were 460 respondents (graduates from 2008, 2012). For comparison, Table 1 shows also opinions of managerial students of CTU and College of Regional Development; this survey was conducted in 2016. This paper uses only data selected with respect to reflect the knowledge needed for good job prospects, or attractiveness at the labour market, or employment, respectively; the knowledge was assessed by the graduates from CTU from the viewpoint of their own experience; and for comparison, the viewpoint of students of these fields of study was added in the last column.

The results clearly show stable opinion on the need of particular competencies needed for good job prospects regardless the year of graduation. The graduates continuously highly appreciate the ability to solve problems and ability to work with information, which were highlighted by four fifths of graduates, and also current students perceive these abilities as important. The following abilities are the ability to communicate with people, ability to acquire new knowledge and ability to apply their knowledge. These two last abilities connected to knowledge reflect not yet fully understood importance of appropriate work with knowledge. Both the graduates and current students appreciate teamwork ability and the ability to think and act economically.

TAB. 1: Knowledge and competencies needed for labour market from the view of university graduates.

Year of survey/ Ability of CTU graduates in %	2005	2009	2013	2016 (students)
Ability to acquire new knowledge	79	83	69	55
Ability to apply the knowledge	73	79	63	57
Ability to communicate with people	67	79	50	79
Ability to adapt to business requirements	33	44	42	40
Teamwork ability	53	66	59	57
Risk capacity	35	54	55	36
Ability to solve problems	80	88	64	76
The ability to think and act economically/economic eligibility	56	52	50	56
Legal eligibility	35	42	45	44
Ability to work with information	.	88	70	76

Source: Šafránková, 2003 - 2013; Šafránková, Šikýř 2016; own calculation

TAB. 2: Assessment of knowledge acquired by graduates during their university studies.

Year of survey/ Knowledge of CTU graduates, assessed in % *	2003	2005	2011	2013
Technical thinking	80	85	79	63
Theoretical background	77	83	78	72
Orientation in branch	51	75	71	71
Work with computers	52	64	31	65
Special knowledge in branch	36	55	62	.
Practical knowledge and skills in branch	11	24	43	.
Ability to learn (to acquire new knowledge)	70	83	82	69
Analytical and conception skills	35	67	75	64
Teamwork ability	22	50	52	59
Ability of self-promotion, self-assertiveness	17	34	59	58
Language skills	12	20	31	42
Knowledge prerequisites for work with people	12	18	41	50
Knowledge and skills needed for business or independent activity	.	18	39	.
Knowledge of management and organization of work (human resources management)	14	15	40	45

Source: Šafránková, 2003 - 2013; own calculation. *The respondents assessed the particular knowledge on Likert scale 1 to 5 (1 as completely prepared for job and 5 as no knowledge at all). The data in table 2 represent only answers 1+2 calculated together.

In our research, we also investigated whether the knowledge acquired during university education matches the real requirements of graduates' jobs. Though the research as such did not operate with theoretical terminology, we can easily divide the clusters of questions into explicit and tacit knowledge (or hard skills and soft skills). In general, graduates appreciate the level of hard skills, namely technical thinking, theoretical background and overall orientation in their field of study. The only exception is language; almost two thirds of graduates perceive their knowledge of foreign languages as very poor. As concerns tacit knowledge, that is a complete opposite. Graduates, now employees, perceive their knowledge in human resources management as totally insufficient, and

would definitely appreciate to have gained such knowledge during their university studies. We can suppose that especially students of technical fields tend to disparage the importance of such knowledge for their practice during their studies, and that they reckon that this knowledge would come somehow naturally hand in hand with practice. However, finally they find out it is not the case.

Since the research has also revealed that graduates appreciate "collective" or group assignments as popular or more effective form of education than e.g. lectures, we would suggest implementing more group tasks into the educational process of university students, because teamwork brings more opportunities for training soft skills, behavioural competencies (managerial and inter- and intrapersonal), and gives more opportunities to build a competency of sharing knowledge not in tacit form, but also in explicit form.

5 Conclusion

The paper aims to answer the following questions: What skills are the most used in practice by graduates of technical and managerial-economic fields of study? The results in the long run confirm that in the opinion of graduates the most important abilities are: the ability to solve problems, to work with information, to communicate with people, to acquire new knowledge, and to apply their knowledge. The answers were almost identical for all the graduates from years in 1985 through 2012. So, what skills are most needed for the graduates? For graduates, the most important is the ability to work with acquired information and knowledge and their application in their everyday work. And what skills of graduates are underestimated from the point of view of both themselves and of the educational system? The knowledge and skills concerning teamwork and organization of work, or human resources management respectively, are perceived as insufficient, though the satisfaction of graduates with these skills and knowledge acquired at university is growing. Generally, the graduates are valued for their technical knowledge; however, their competitive advantage lies in their soft skills and competencies.

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THE ROLE OF DISTANCE/SIMILARITY MEASURES IN THE LINGUISTIC APPROXIMATION OF TRIANGULAR FUZZY NUMBERS

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Abstract: *Linguistic approximation is a common way of translating the outputs of mathematical models in the expressions in common language. These can then provide an easy-to-understand alternative to the numerical outputs of formal models. As such linguistically approximated outputs can facilitate the interpretability of the outputs of the models and reduce their possibility misuse. However, linguistic approximation remains an under-researched area and best practices in management, economics, decision support, social science and behavioural research are missing. The paper explores the performance of two selected distance measures of fuzzy numbers and two different fuzzy similarity measures in the context of linguistic approximation. Triangular fuzzy numbers are considered as the approximated entities, their symmetry is not required. We present the results of a numerical experiment performed to map the behaviour of the four distance/similarity measures under uniform output linguistic scales.*

Keywords: *Linguistic approximation, fuzzy number, distance, similarity.*

JEL classification: C44

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1 Introduction

In practical applications, it is often suitable to represent outputs of mathematical models not only in mathematical form (as numerical values), but also to provide the users of these models with an easy-to-understand representation of these results or their summary (Yager, 2004). This can be done using linguistic labels that describe the outputs of the models in natural language. This way the results become more understandable to the people who are not sufficiently familiar with the mathematical background of the models (Stoklasa, 2014). The process that assigns linguistic labels to mathematical objects is called linguistic approximation and is discussed particularly in connection with fuzzy models

and mathematical outputs that represent not only the values of the variables, but also their uncertainty. Usually a relatively small set of linguistic labels that are well understood by the user of the model is considered in linguistic approximation. Due to the fact that the set of possible linguistic labels contains only a small number of labels, the linguistic approximation can assign the same linguistic label to two different outputs of mathematical model (e.g. numbers 1.0 and 1.1 can be linguistically approximated as small). This is a natural consequence of the chosen granularity of the approximating term set. It is, however, clear, that the process of linguistic approximation has to be set up in accordance with the given application and its context. The scientific literature does not provide many insights into this topic. The goal of this paper is therefore to investigate, how different methods for linguistic approximation behave in cases, where the meaning of output of the mathematical model is close to two linguistic terms or lies directly “between” them.

In the following text we investigate how the choice of different distance/similarity measure affects the linguistic approximation of triangular fuzzy numbers using uniform linguistic scale. We recall the principles of linguistic approximation in Section 3 and describe four distance/similarity measures the performance of which is further analysed in Section 4 using a numerical experiment. We discuss the results of the experiment in Section 5 and draw conclusions in the last section.

2 Preliminaries

Let U be a nonempty set (the universe of discourse). A fuzzy set A on U is defined by the mapping $A : U \rightarrow [0,1]$. For each $x \in U$ the value $A(x)$ is called a membership degree of the element x in the fuzzy set A and $A(\cdot)$ is called a membership function of the fuzzy set A . $\text{Ker}(A) = \{x \in U | A(x) = 1\}$ denotes a kernel of A , $A_\alpha = \{x \in U | A(x) \geq \alpha\}$ denotes an α -cut of A for any $\alpha \in [0,1]$, $\text{Supp}(A) = \{x \in U | A(x) > 0\}$ denotes a support of A . Let A and B be fuzzy sets on the same universe U . We say that A is a fuzzy subset of B ($A \subseteq B$), if $A(x) \leq B(x)$ for all $x \in U$.

A fuzzy number is a fuzzy set A on the set of real numbers which satisfies the following conditions: (1) $\text{Ker}(A) \neq \emptyset$ (A is normal); (2) A_α are closed intervals for all $\alpha \in (0, 1]$ (this implies A is unimodal); (3) $\text{Supp}(A)$ is bounded. A family of all fuzzy numbers on U is denoted by $F_N(U)$. A fuzzy number A is said to be defined on $[a, b]$, if $\text{Supp}(A)$ is a subset of an interval $[a, b]$. The real numbers $a_1 \leq a_2 \leq a_3 \leq a_4$ are called significant values of the fuzzy number A if $[a_1, a_4] = \text{Cl}(\text{Supp}(A))$ and $[a_2, a_3] = \text{Ker}(A)$, where $\text{Cl}(\text{Supp}(A))$ denotes a closure of $\text{Supp}(A)$. Each fuzzy number A can be represented as $A = \{\underline{a}(\alpha), \bar{a}(\alpha)\}_{\alpha \in [0,1]}$, where $\underline{a}(\alpha)$ and $\bar{a}(\alpha)$ is the lower and upper bound of the α -cut of fuzzy number A respectively, $\forall \alpha \in (0,1]$, and $[\underline{a}(0), \bar{a}(0)] = \text{Cl}(\text{Supp}(A))$. The cardinality of a fuzzy number A on $[a, b]$ is a real number $\text{Card}(A)$ defined as $\text{Card}(A) = \int_a^b A(x) dx$ and can be considered as a measure of uncertainty of the fuzzy number A .

The fuzzy number A is called linear if its membership function is linear on $[a_1, a_2]$ and $[a_3, a_4]$; for such fuzzy numbers we will use a simplified notation $A = (a_1, a_2, a_3, a_4)$. A linear fuzzy number A is said to be triangular if $a_2 = a_3$. We will denote triangular fuzzy numbers by an ordered triplet $A = (a_1, a_2, a_4)$. A triangular fuzzy number $A = (a_1, a_2, a_4)$ is called symmetric if $a_2 - a_1 = a_4 - a_2$. Otherwise it is called assymmetric. More details on fuzzy numbers and computations with them can be found for example in Dubois & Prade (1980).

In real-life applications we often need to represent fuzzy numbers by real numbers. This process is called defuzzification. The most common method is to substitute fuzzy number by its centre of gravity (COG). Let A be a fuzzy number on $[a, b]$ for which $a_1 \neq a_4$. The centre of gravity of A is defined by the formula $\text{COG}(A) = \int_a^b x A(x) dx / \text{Card}(A)$.

A fuzzy scale on $[a, b]$ is defined as a set of fuzzy numbers T_1, T_2, \dots, T_s on $[a, b]$, that form a Ruspini fuzzy partition (Ruspini, 1969) of the interval $[a, b]$, i.e. for all $x \in [a, b]$ it holds that $\sum_{i=1}^s T_i(x) = 1$ and the T 's are indexed according to their ordering. A linguistic variable (Zadeh, 1975) is defined as a quintuple $(V, T(V), X, G, M)$, where V is the name of the variable, $T(V)$ is the set of its linguistic values (terms), X is the universe on which the meanings of the linguistic values are defined, G is a syntactic rule for generating the values of V and M is a semantic rule which to every linguistic value $A \in T(V)$ assigns its meaning $A = M(A)$ which is usually a fuzzy number on X . A linguistic variable is called a linguistic scale, if the meanings of its linguistic values form a fuzzy scale.

3 Linguistic approximation of fuzzy numbers

Let us now consider the task of finding an appropriate linguistic term from the set $\{T_1, \dots, T_s\}$ to represent the fuzzy set O on $[a, b]$, which is an output of a mathematical. Let us consider the linguistic terms are values of a linguistic scale V , i.e. $T(V) = \{T_1, \dots, T_s\}$, and $T_i = M(T_i)$, $i = 1, \dots, s$ are fuzzy numbers on $[a, b]$. The linguistic approximation $T_O \in T(V)$ of the fuzzy set O is computed by

$$T_O = \arg \min_{i \in \{1, \dots, s\}} d(T_i, O) \quad (1)$$

where $d(A, B)$ is a distance or similarity measure (in the case of similarity measure the $\arg \min$ function in formula (1) must be replaced by $\arg \max$ function) of two fuzzy numbers A, B . During the past forty years a large number of approaches were proposed for the computation of distance and similarity of fuzzy numbers (see e.g. Zwick et al. (1987)). It is necessary to keep in mind that the choice of distance/similarity measure will modify the behaviour of the linguistic approximation method. In the next chapter the following distances and similarity measures of fuzzy numbers A and B will be considered:

modified Bhattacharyya distance (Aherne et al., 1998):

$$d_1(A, B) = \sqrt{1 - \int_U \sqrt{\frac{A(x)}{\text{Card}(A)} \cdot \frac{B(x)}{\text{Card}(B)}} dx}$$

dissemblance index (Kaufman & Gupta, 1985)

$$d_2(A, B) = \int_0^1 |\underline{a}(\alpha) - \underline{b}(\alpha)| + |\bar{a}(\alpha) - \bar{b}(\alpha)| d\alpha$$

similarity measure (introduced by Wei & Chen, 2009)

$$s_{1(A, B)} = \left(1 - \frac{\sum_{j=1}^4 |a_j - b_j|}{4}\right) \cdot \frac{\min\{\text{Pe}(A), \text{Pe}(B)\} + 1}{\max\{\text{Pe}(A), \text{Pe}(B)\} + 1}$$

Where $\text{Pe}(A) = \sqrt{(a_1 - a_2)^2 + 1} + \sqrt{(a_3 - a_4)^2 + 1} + (a_3 - a_2) + (a_4 - a_1)$, $\text{Pe}(B)$ is defined analogically

similarity measure (introduced by Hejazi et al., 2011)

$$s_2(A, B) = \left(1 - \frac{\sum_{j=1}^4 |a_j - b_j|}{4}\right) \cdot \frac{\min\{\text{Pe}(A), \text{Pe}(B)\}}{\max\{\text{Pe}(A), \text{Pe}(B)\}} \cdot \frac{\min\{\text{Ar}(A), \text{Ar}(B)\} + 1}{\max\{\text{Ar}(A), \text{Ar}(B)\} + 1}$$

where $\text{Ar}(A) = 1/2 (a_3 - a_2 + a_4 - a_1)$, $\text{Ar}(B)$ is defined analogically and $\text{Pe}(A)$ and $\text{Pe}(B)$ are computed identically as in the previous method.

These methods represent a sample of the distance and similarity measures of fuzzy sets used in the best-fit approaches to linguistic approximation (Yager, 2004, Stoklasa, 2014). In the next chapter we propose a numerical experiment to analyse and compare the performance of these measures in linguistic approximation.

4 Numerical experiment

For the purposes of the numerical experiment, 100 000 triangular fuzzy numbers on $[0,1]$ $O_h, h = 1, \dots, 100\,000$, were randomly generate. No restriction was posed on the symmetry of these fuzzy numbers (asymmetrical as well as symmetrical fuzzy numbers were generated). These fuzzy numbers were then linguistically approximated by a linguistic scale containing five linguistic terms T_1, \dots, T_5 with the respective meanings $T_1 = (0, 0, 0.25), T_2 = (0, 0.25, 0.5), T_3 = (0.25, 0.5, 0.75), T_4 = (0.5, 0.75, 1), T_5 = (0.75, 1, 1)$ using all four distance/similarity measures d_1, d_2, s_1 and s_2 (therefore for each output O_h four linguistic labels were obtained using $\arg \min_{i \in \{1, \dots, 5\}} d_1(T_i, O_h)$, $\arg \min_{i \in \{1, \dots, 5\}} d_2(T_i, O_h)$, $\arg \max_{i \in \{1, \dots, 5\}} s_1(T_i, O_h)$ and $\arg \max_{i \in \{1, \dots, 5\}} s_2(T_i, O_h)$ respectively).

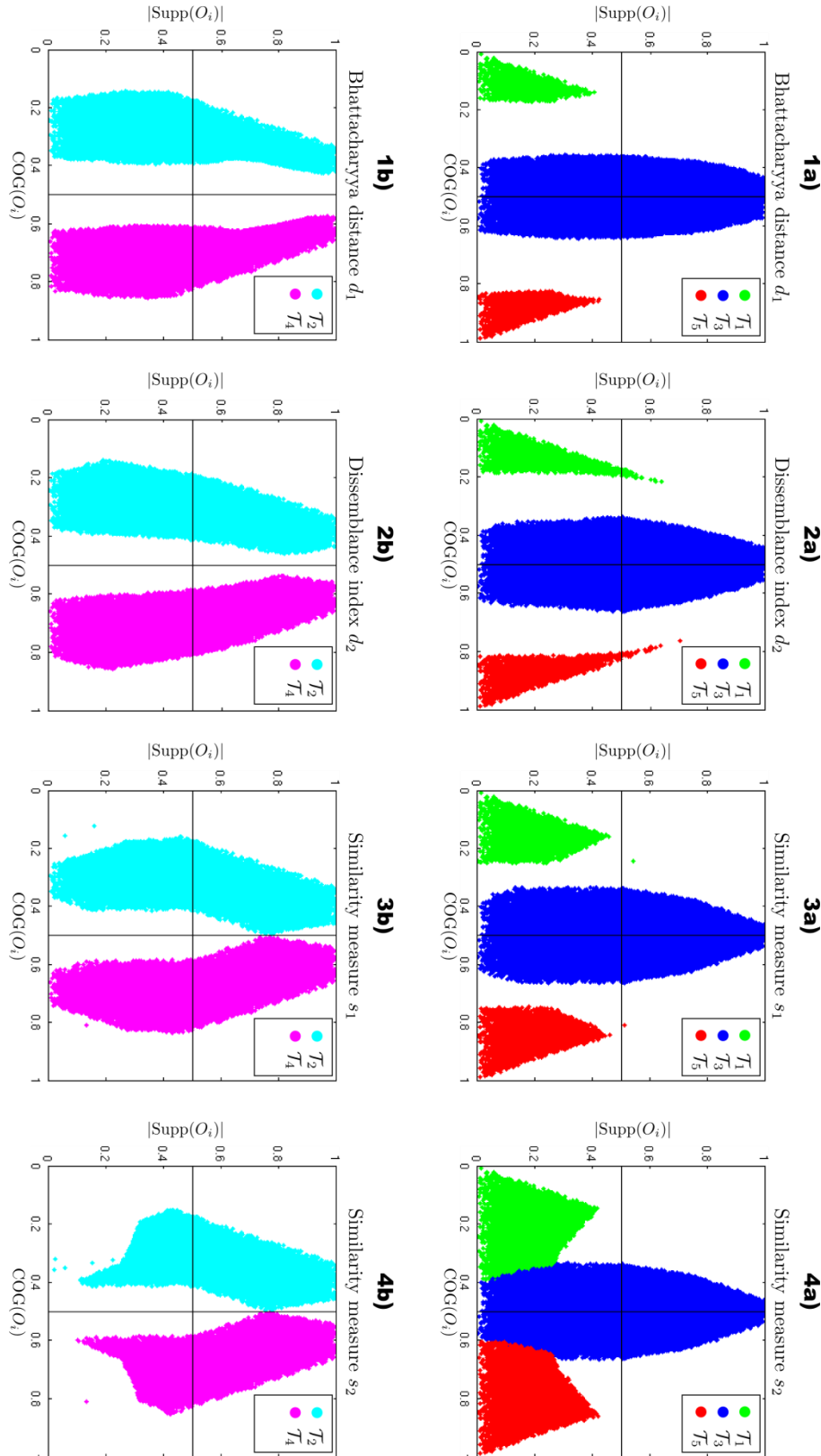
The results are summarized in Figure 1. Results for each distance/similarity measure are represented by two subfigures – the upper one depicts outputs approximated by linguistic terms T_1, T_3, T_5 and the second (bottom) one depicts outputs approximated by the remaining terms T_2 and T_4 . Each linguistic term is represented by a different colour. The outputs to be approximated O_h are represented in two-dimensional space by the centre of gravity ($\text{COG}(O_h)$ on the x-axis) and length of the support ($|\text{Supp}(O_h)|$ on the y-axis). Results were split into two subfigures, because the coloured areas corresponding with the neighbouring linguistic terms partially overlap.

5 Discussion

Based on the results of the numerical experiment we have identified several important differences in the performance of the four studied distance/similarity measures in linguistic approximation. Note that since the symmetry of the generated triangular fuzzy numbers was not required, the results reported in this paper differ significantly from the results reported in (Talášek & Stoklasa, 2016), where only symmetrical fuzzy numbers were considered. Due to the random generation of triangular fuzzy numbers for the numerical experiment reported in this paper, the set of objects that are linguistically approximated here contains both symmetrical and asymmetrical fuzzy numbers (although asymmetrical fuzzy numbers constitute the majority of the objects). The results can therefore be considered to be more general and more relevant for the purposes of linguistic approximation of the outputs of fuzzy mathematical models where symmetry is not required or cannot be guaranteed.

First, it is interesting to note that under the considered linguistic variable the dissemblance index is the only measure (out of the four considered ones) that assigns the most extreme linguistic labels T_1 and T_5 to fuzzy numbers with the length of support higher than 0.5 (see Figure 1, Subfigures 2a and 2b, green and red points above the 0.5 horizontal line). This way even a highly uncertain fuzzy output $O, O = (o_1, o_2, o_3), \text{Card}(O) > 0.25$ (i.e. $|\text{Supp}(O)| > 0.5$) can be approximated by T_1 or T_5

FIG. 1: Results of the numerical experiment. Linguistic approximations of randomly generated triangular fuzzy numbers $O_h, h = 1, \dots, 100\,000$ represented by points in two-dimensional space (centre of gravity (x-axis) and length of their support (y-axis)) computed using Bhattacharyya d_1 (subfigures 1a and 1b), d_2 (subfigures 2a and 2b), s_1 (subfigures 3a and 3b) and s_2 (subfigures 4a and 4b). Each linguistic term assigned as a linguistic approximation T_1, \dots, T_5 is represented by different colour.



even though these are the least uncertain linguistic terms ($\text{Card}(T_1) = \text{Card}(T_5) = 0.125$ and $\text{Card}(T_2) = \text{Card}(T_3) = \text{Card}(T_4) = 0.25$). The resulting linguistic approximation can therefore distort the information concerning the uncertainty of the approximated fuzzy number and suggest it is lower than it really is (even though there are more uncertain linguistic terms available for the linguistic approximation).

Second, the similarity measure s_2 under our experimental setting tends to distort the information concerning the location of the approximated fuzzy number (represented by the centre of gravity). For fuzzy numbers with low uncertainty located close to the centre of the universe (in our case 0.5; see the right part of the green area and left part of the red area in Figure 1, Subfigures 4a and 4b) it is possible to obtain extreme linguistic approximation (T_1 or T_5). This means that e.g. a fuzzy number $P = (0.649, 0.65, 0.651)$, $\text{Card}(P) = 0.001$, will be approximated by T_5 . Note that P is very close to the real number 0.65 for which T_5 seems to be a counterintuitive (too extreme) linguistic approximation. This effect is caused by the focus of s_2 not only on the location of the approximated fuzzy number but also on its shape. However in the above mentioned example a linguistic approximation best fitting in terms of uncertainty is suggested.

In the case of the Bhattacharyya distance the centre of gravity of the approximated fuzzy number seems to be the most important piece of information in the determination of the linguistic approximation (using a uniform linguistic scale). The vertical borders of the areas are almost perpendicular to the x-axis. Note that this feature of Bhattacharyya distance is even more apparent when symmetrical triangular fuzzy numbers are approximated. In this case the sole centre of gravity is a very good predictor of the result of linguistic approximation (Talášek & Stoklasa, 2016). The similarity measure s_2 also takes into account the uncertainty of the approximated fuzzy numbers – see the close-to-horizontal upper border of the green and red areas respectively in Figure 1, Subfigure 4a. Using s_2 fuzzy numbers with low uncertainty will almost never be approximated by T_2 or T_4 . The similarity measure s_1 behaves in similar manner as s_2 , the patterns in the data generated by the numerical experiment are just less distinct.

6 Conclusions

The analysis presented in this paper focuses on the performance of Bhattacharyya distance, dissemblance index and two selected similarity measures in linguistic approximation of triangular fuzzy numbers. More specifically a five-term uniform linguistic scale is considered to provide output values for the linguistic approximation. The results of a numerical experiment involving the random generation of 100 000 triangular fuzzy numbers and their subsequent linguistic approximation using the selected four distance/similarity measures are presented in Figure 1. The results confirmed that the measures perform differently depending on the requirements for linguistic approximation. The Bhattacharyya distance seems to be the method of choice when the most important piece of information is carried by centre of gravity (location of the output). On the other hand both similarity measures reflect also the uncertainty and shape of the approximated fuzzy numbers and hence tend to overemphasize the shape over location for low-uncertain fuzzy numbers. The dissemblance index is the only one of the analysed measures that assigns extreme linguistic approximations also for high uncertain fuzzy numbers. These findings are relevant for the design of model-user interfaces and appropriate presentation of data in application areas of fuzzy mathematical models, such as economics, finance, management, social sciences etc.

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TRAINING IN ORGANIZATIONS IN A COMPETITIVE MARKET ENVIRONMENT

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Abstract: *Science and technology have become inherent in today's performance-based society. Their development and progress facilitates work progress in various sectors, but on the other hand, places increased demands on the abilities, skills, and professional competence of employees. One of the attributes of knowledge-based society, by which organizations adapt to a competitive market environment, is education and training. Training and staff development thus become a tool for improving the competitiveness. This paper focuses on the issue of training in organizations, analyzing its significance and justification, it also points out the advantages and benefits of training for both the organization and the employee. The paper uses data obtained from the conducted questionnaire survey and from available statistical sources.*

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1 Education in organizations

Education in a society today is seemed as one of the essential factors that helps to realize economic objectives, social objectives and human notions about life. It provides an important moment for the career of a man. Education belongs to the essential requirements of our modern developing society. Therefore, people are "forced" to learn and develop their knowledge throughout their lives. Thanks to learning and acquiring new skills they change their behaviour, principles and values. There are many definitions that describe the essence and importance of education. Generally, education can be characterized as a learning process, where there is acquisition and development of new skills, knowledge and attitudes Kocianová R. (2010) distinguishes four types of education: 1. instrumental education, with an emphasis on better execution of work; 2. cognitive education aimed at improving knowledge and understanding of the case; 3. emotional education, leading to the formation of attitudes and feelings; 4. self-reflective learning, used to create new knowledge as a result of the formation of new ideas and thinking. Muzik J. (2012, p. 23) describes the concept of education as an

“activity aimed at the acquisition of knowledge, skills, habits and professional competence”. However, education cannot be understood as a means of gaining qualifications for profession. The purpose is mainly personal growth and development, the formation of human self-awareness. Therefore, education in the broadest meaning is the acquisition and development of knowledge, skills and personal qualities that allow each person to fit in the society. This lifelong process begins in school education institutions and in addition it also has educational aspect. This argument is also approved by Mihok J. and Trebuňa P. (2006, p. 109), according to who “education aims to develop skills, moral values and understanding that are required for all aspects of life, compared to knowledge and skills applicable only to limited scope of employee poles”. They also say that the purpose of education is to provide necessary conditions for young people and adults to develop understanding, traditions and ideas that are at the core of learning, communication, creativity and personal development.

Meanwhile, through the educational process, people are prepared for the future more difficult, broader and the, learners need to have set a clear direction as well as the feedback on how education is progressing. It can agree with Armstrong, (2007, p. 462) that, intrinsically motivated and self-motivating individuals can motivate themselves, but you need a mentor who will assist and encourage education of an individual. We see that the word education can be expressed by more definitions. However, all the authors agree that education is focused on the acquisition and development of knowledge, skills and personal qualities of each person. We learn throughout our lives, and therefore we can say that education is a lifelong process.

A major part of lifelong learning process comprises education realized by enterprises and companies. It must be initiated by strategic business plans. Employers' organizations approach the implementation of education for different reasons. Authors Vodák J. and. Kucharčíková an identify three approaches for implementation of company education:

- it must be pursued - they are essential requirements for education, often done by the legislation, without them it is impossible for staff to implement required work and to achieve identified objectives.
- It should be realized - as the skills that bring benefits to the enterprise, such as management skills.
- The company intends to implement them - the benefits may not be immediately visible, but are visible in the long terms, eg. producing the wanted corporate culture (Vodák – Kucharčíková, 2007, s. 63).

In generally, training staff in the company follows three directions:

- 1) Lifelong learning as a permanent process. It claims the process of continuous change of the work performed.
- 2) Retraining associated with structural changes in employment, with the requirement of the shifting employees to other types of work.
- 3) Education with the aim of training for a specific job (Sojka, 2008, p. 85).

The system of vocational education is a repetitive cycle, which builds on principles of corporate educational policy, pursues corporate strategy of education and relies on organizational and institutional conditions of education Sojka L. at al. 2008, p. 85). Throughout the enterprise of

education is focused on the worker, further training, retraining and development initiated and financed by business. (Vodák – Kucharčíková, 2007, p. 65-66). There are many specific reasons why the company has to pay the education and development of their employees, e.g. a clear focus on quality of products and customer service, or clients; an focus on development of information technologies and their use in the organization, whereas the constant technological development brings new inventions, discoveries and the original knowledge of people ages rapidly; globalization and internationalization of economic activity is clearly visible which implies the need to move, communicate and conduct business in an international environment.

The need for permanent education in the organization identifies on the basis of employee performance. This evaluation is carried out by superior and evaluated employee - in the form of an interview. It analyses the working activities of employees, their qualification for the job that is currently held, monitoring tasks provided in a previous period. The results of the analysis are written down in the assessment form and are available for inspection. In conclusion, there are set out new requirements for the employee on their professional development, which defines personal development plan. According to the outcome of the evaluation of employee, supervisor enters for inclusion employee training plan and these are subsequently reflected in the training plan. Substantial analysis is based on the discovery of the employees for the exercise of the activity with regard to the expected need for skills in the future, while emphasizing the new requirements of customers, clients and stakeholders on the quality of products, production processes and the services provided.

Education in organizations is effective if it is systematic and based on the overall strategy. It becomes a part of the HR activities, the organization that provides support and education of its employees. It is enabling them to increase their competitiveness in the labour market. By the organization support of its employees it contributes to increase the efficiency of internal processes and the development of the organization as a whole. Effective learning in organizations ultimately brings benefits in terms of competitiveness, there is improvement in individual and team performance in terms of quantity, quality and production efficiency. Education brings improvement of operational flexibility, expanding the class of employee skills, multidisciplinary or broader skills. The organization is able to attract quality employees by offering them opportunities for education and personal development, which will increase their loyalty and commitment and will be instrumental in creating a positive organizational culture and the organization will move to the next level. (Armstrong, 1999, p. 528).

Education helps employees to gain self-confidence, initiates self-development, ensuring social recognition, helps to enable personal goals and to improve work performance and least but not the last offers professional development for future (Tináková 2005, p. 65).

It can conclude that, the essential aim of education is to develop knowledge, values and competencies imposed in all areas of life. The goal of lifelong learning is to create such social, political and economic environment which enable each individual to fully develop their knowledge, skills and capabilities and gain practical experience (Vetráková et al., 2011, p. 127). However, the objectives of education should not be determined only by general terms, they should be determined by means of measurable outcomes to specific objectives.

The elementary objectives of education are:

- develop the skills of workers and improve their job performance,
- allow employees to grow and develop in organization so that the needs of human resources of the organization are met within internal resources,
- reduce of time required for training and adaptation of workers who start work in new jobs, or workers migrating to another job (Armstrong, 1999, p. 527).

The aim of education is to get qualified staff that meet the needs of the organization. It can be said that it is about investment in people in order to demonstrate improved performance. Investing the human capital is always a profitable one.

2 Methodology

To focus on a current situation was at the chosen employee organizations implemented a questionnaire survey, which aimed was to highlight the importance of education and its benefits. We also investigated the interest of the employees in the offered educational activities. A basic set was a selection of employees and organizations in the city Poprad. The sample was made up of employees of the organization who were able to participate in the survey and answer the questionnaire. To sample respondents were selected on the basis feature - sex. Empirical data were collected during the period of February 2016. Data collection was carried out directly in the selected organization where respondents personally filled in the questionnaire provided. Survey respondents actively participated in 70 of 78 respondents. From this, 43 women and 27 men, average age 42 years. The questionnaire consisted of 20 questions. The collected data were processed and analysed using standard statistical methods and practice with programs WINSTAT. All data are in percentages. The total of 100 % in some tables and graphs described form such as "do not know" or "answer (a)," "I'm not involved in training." The obtained data will be the basis for organization which will conduct a detailed analysis with emphasis on training program for their employees.

3 Basic findings

Education is an important element in building so-called learning organization. The survey showed that in 2015 most interviewed people took part in the training, employees surveyed organizations (97.14 %). Only 2.86 % of respondents were not interested in offered training. This group was made up of men aged 55-65 years, i.e. employees approaching retirement age. The most respondents (70 %) involves in learning, on average 1-2 times a year. More than 2 times a year, 27.14 % of respondents are educated.

The reason of the involvement of employees in education has been various. The most common reason was a requirement of the employer - reported 54.29 %. Voluntary (not at the request of the employer), the objective of further professional development in education attended by 34.29 % of the employees. For another reason, which respondents did not mention, the education took part within 8,57 % of respondents.

The most common provider of training for employees was their own employer. 58.5 7% of respondents participated in training provided by the employer. 12.86 % for education was provided with external company.

Respondents faced with internal learning methods during their training (instructions, mentoring, job rotation, coaching, consulting) -45.71 % external forms of education (lectures, seminars, simulations, role plays and games, case studies, brainstorming, self-study, workshops) - 51.43 %.

Education is of benefit if it is effective. It is considered so up to 77.14 % of those who attended it, and gained new knowledge and practical skills use in practice. However, 20 % of employees said that they do not use any information in practice.

4 Discussion

Education, formation of work skills, application of habits and skills acquired by education and their practical usage has become a lifelong process in modern society. Recently, great importance of education of individuals, encouraging and promoting individual learning, as well as creating an environment takes place in a great extent. Investment in quality education is essential for development of human resources and organizational development efforts.

Effective results and necessary changes always depend on the quality analysis of educational needs and the selection of the appropriate forms and methods of education. It is important that organizations know to predict the direction of the development of their business and specifically to prepare their employees for that. While making a choice of a quality educational institution has to be taken into account not only the attractiveness of offer, but also seriousness and quality of lecturers, the experience of training and so on.

Education and work skills of employees are becoming a decisive force for development, one of the major "strengths" of each prospering organization. It is obvious that only those organizations that recognize the importance of the human factor and which are ready to invest in development, education and work skills development staff can ensure the implementation of business plans, adequate market position and favourable position in a competitive environment. Any employee who wants to obtain or retain a place at work collective within organization has to try to maintain their knowledge and practical experience at the present time. As for the organization it is necessary to create space and conditions for each employee and their professional and personal development. The success of the organization is directly dependent on the qualification and skills of their employees. The organization, which has a serious interest in their own development needs to follow trends in their business. It must also ensure the continued education of permanent employees. A key decision is to determine which fields of education will be employees trained, it means knowledge that is necessary to meet strategic objectives. Searched organization regularly handles analysis of real levels of knowledge and skills, completion of educational activities of their employees and compares them with the requirements of a given job. This analysis serves as a basis for drawing up the training plan in the company, which is part of the strategic management of human resources.

5 Conclusion

The primary objective of learning in organizations is to achieve the set of objectives by evaluation of important resource in the form of employees. This is a personal development of employees, increase of their satisfaction and their competitiveness in internal and external market. Education is among the benefits provided with the employee. It meets the needs of the organization, but also the needs of the employees (Sojka, 2008, p. 64). This fact requires that managers at all levels, as well as all

employees are ready to respond to new challenges and tasks. If, as noticed M. Antošová, perception training alternates in time and space. It depends on social environment in which it is implemented and also in what extent school education prepares graduates for the needs of practical life, for further cultural and educational promotion of the population, for specific nature of work and used technologies (2006, p. 53).

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COMPETITION POLICY IN THE SLOVAK REPUBLIC AND SOME CURRENT APPROACHES TO IT

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Abstract: *The current globalisation trends in the world economy also affect competition policy. The world market is characterised by a fierce competition, which requires a response from national economies and their respective competition authorities. Competition policy is based on the respect towards the basic attribute of market economy, i.e. a healthy competitive environment. And where this mechanism fails, competition policy has to work in such a way as to maintain and support conditions ensuring an effective competitive environment. These facts also apply to the Slovak Republic as a member state of the EU. The Slovak Republic and its respective institution, i.e. the Antimonopoly Office of the Slovak Republic, always look for ways of making competition policy more efficient. The contribution focuses on changes in the field of restriction of competition which are in force in Slovakia since 2014, or which have been adopted later. These changes refine the Slovak competition law and align it with European competition law. For the sake of completeness, we also mention a new point in the agenda of the Antimonopoly Office of the Slovak Republic that was added in 2016, namely state aid. In the EU, state aid is the main pillar of competition policy.*

Keywords: *competition policy, competition, competition rules*

JEL classification: *L0, L4, K21*

Grant affiliation: *The contribution is an output of the VEGA project No. 1/0001/16 “The present and the prospects of employment changes and related processes in the context of fulfilling the targets of the European employment strategy” and the VEGA project No. 1/0277/04 “Innovations and competitiveness of the Slovak economy”. Use STYLE INTRO - in italics, font size 10pt, justified.*

1 Introduction

Each country aims for a well-functioning and effective protection of competition. This is a result of several factors, especially a modern and flexible competition law, an expert competition institution implementing competition rules and a qualified, informed judiciary. A combination of these factors should bring expected results, and also send out a signal to the effect that advantages arise from compliance with the rules of competition rather than the contrary. If any of the factors fail, or does not function in a standard way, the competition problems in the market will not be eliminated, the

consumers lose all the benefits of competition and the economy of the country in question is negatively affected as well. Naturally, the development trends also affect the area of competition. Therefore, the competition rules must always be adjusted and updated, and they should also correspond to the needs of the market. Moreover, the implementation of such rules should be improved (Tokárová, 2013, p. 175). The aim of this contribution is to point out and specify the most recent approaches to the competition policy in the Slovak Republic, which are based on the current needs of effective competition.

2 The basic starting points of the issue

Competition is a key mechanism of market economy. It secures optimal utilisation of resources in economy, thus exercising pressure on innovations and economic growth. Competition causes markets to function well to the benefit of consumers; the positive effects are widely recognised and documented by numerous empirical studies. The pressure of competition:

- maximises the benefit of the consumer and of the overall society,
- positively affects the production efficiency, stimulates the decrease of expenses, limits wasting in production, encourages more efficient ways of production, pushes less efficient entities out of the market,
- positively affects the dynamic efficiency, stimulates innovation and the creation of new products (Annual Report, 2001, pp 3-4).

Meeting the targets of competition policy is conditioned by choosing a policy capable of securing effective and beneficial competition, especially an optimal allocation of resources and the highest prosperity possible. This is the aim of the competition in Slovakia after entering the EU. New competition rules have brought significant changes in the field of competition policy in line with the community law. At the same time, they have increased the “European dimension” in the implementation of competition legislation.

From the legal point of view, the protection of competition in the Slovak Republic is enshrined in the Amendment No. 151/2014, in force from 1 July 2014, amending Act No. 130/2001 on Protection of Competition, and on Amendment of Act No. 347/1990 on the Organisation of Ministries and Other Central Organs of the Public Administration of the Slovak Republic as amended, and amending certain acts. Of course, since the year 1990 or 1991, the Slovak legislation on the subject has been gradually changing and improving. However, because of the extent of this contribution, this issue is not mentioned. We only deal with the most recent changes.

3 New approaches to competition policy in the Slovak Republic from the viewpoint of competition law

New approaches relate especially to the changes in the restriction of competition, i. e. anticompetitive practices.

3.1 Changes in the restriction of competition

Agreements restricting competition

According to the Amendment of Act No. 136/2001, an agreement restricting competition is not an agreement between undertakings, a concerted practice of undertakings, or a decision of an association of undertakings, if their effect on competition is negligible. The effect of an agreement between undertakings, a concerted practice of undertakings, or a decision of an association of undertakings on competition is negligible, if the market shares of the undertakings partaking in the agreement between undertakings, the concerted practice of undertakings or the association of undertakings do not exceed the threshold that shall be set by the Office by a generally binding legislative act. The effect of an agreement between undertakings, a concerted practice of undertakings, or a decision of an association of undertakings is not negligible, if their aim is to restrict competition (Novela zákona č. 151/2014 Z. z., 2014).

Thus, in the field of agreements restricting competition, the Amendment predominantly systematises and particularises the provisions of the Act. According to the above mentioned, the *de minimis* rule is being newly adjusted. What is meant here are the cases that are exempt from the ban of agreements restricting competition (as well as concerted practices of undertakings and decisions of associations of undertakings) because their effect on competition is negligible. This exemption applies to undertakings whose market shares do not exceed the thresholds set by the Decree of the Antimonopoly Office of the Slovak Republic No. 169/2014. The rule is being adjusted as follows:

- a) the total market share does not exceed 10% in the case of horizontal agreements and when the nature of the agreement cannot be defined either as horizontal or vertical;
- b) the market share of each of the parties does not exceed 15% in the case of vertical agreements;
- c) the total market share does not exceed 5% in the case of horizontal agreements and when the nature of the agreement cannot be defined either as horizontal or vertical, if the competition in the relevant market is restricted by a cumulative effect of agreements containing a similar kind of competition restrictions and leading to similar effects, and these parallel agreements relate to more than 30% of the relevant market;
- d) the market share of each of the parties does not exceed 5% in the case of vertical agreements, if the competition in the relevant market is restricted by a cumulative effect of agreements containing a similar kind of competition restrictions and leading to similar effects, and these parallel agreements relate to more than 30% of the relevant market;
- e) the total market share of undertakings united in an association making the decision in question does not exceed 10%. This exemption does not apply to agreements with the aim (not only effect) of restricting competition (Vyhláška PMÚ č. 169/2014 Z. z., 2014).

Agreements restricting competition can take the form of horizontal agreements between direct competitors, including cartels, or the form of vertical agreements, i. e. agreements between undertakings operating on different distribution network levels. Cartel agreements in public procurement, or the so called bid-rigging, are still the priority issue, as their existence threatens the purpose and aim of public procurement. Cooperation of tender participants may occur in various forms, for instance agreement on price, contracts allocation or other forms of coordination, agreements on non-submitting the bids or contract rotation (Annual Report, 2016, p. 13).

Abuse of dominant position

In the field of the abuse of dominant position, provisions on essential facility and the refusal of access to it (essential facilities doctrine) are being dropped. The abuse continues to be punished on the basis of a general clause prohibiting the abuse of dominant position, which enables a more flexible reaction to the development of application on the European level. Interventions against this practice have the aim of restricting the abuse of strong market position by dominant undertakings. There is an investigation of cases of abuse of dominant position, where the Office identifies the so-called “theory of harm”, i.e. that the competition rules are infringed by the dominant company, if its conduct has a real or potential negative impact on the consumer, either in the form of higher price level, lower quality, or reduced supply. The emphasis is given to exclusionary practices (Annual Report, 2016, p. 17).

Concentrations and their control

The field of concentrations is not subject to major changes. However, it is important to mention that even minor changes have a significant positive effect to the benefit of consumers. What is meant here is the so called more pro-client approach. In this respect, the Decree of the Antimonopoly Office of the Slovak Republic No. 170/2014 is applicable. It establishes the questionnaire design to report concentration, as well as a simplified questionnaire design to be submitted by the notifier of the concentration together with reduced extent of material in the case of:

- acquisition of exclusive control over an undertaking, over which another undertaking already exercises a shared control;
- non-existent horizontal or vertical overlapping of activities of parties in the Slovak Republic;
- joint market share of the parties in the relevant market in question not exceeding 15% in the case of horizontal concentrations, or if the market share of the parties or the joint market share of the parties in the relevant market does not exceed 30% (Vyhľadávka PMÚ SR č. 170/2014 Z. z.).

The turnover criteria for the purpose of determining the obligation to lodge a notification of concentration are not calculated on the basis of previous concluded accounting period any more, but on the basis of previous accounting period, even if it had not been concluded. The basis is formed by financial statements relating to the accounting year closest to the date of concentration verified by an auditor, should such a verification be required (Novela zákona č. 151/2014, Z. z., 2014).

The periods to issue a decision on concentration start to run on the day of lodging a notification of concentration, even if the notification is not complete. In the case of lodging an incomplete notification, the Office shall ask the notifier to complete it, while the period for a decision does not run until the completion of required materials and information. In case the incompleteness of the notification of concentration is only discovered during the proceedings, it is not possible to start a new period to issue a decision. This procedure is only used in case the notification of concentration included untrue information.

4 Other changes

Alternative solutions of cases of competition law infringement

Instead of the former non-binding guidelines, the institute of settlement is currently the subject of a separate provision of the Act, as well as the new Decree of the Antimonopoly Office of the Slovak Republic No. 171/2014. In cases when the findings sufficiently justify the conclusion that, except for procedural infringement, law was breached, the Office can, on its own initiative or on the initiative of a party to the proceedings, hold negotiations on settlement. If the undertaking confesses to its participation in the breach and takes over the responsibility, thanks to negotiations with the office, the fine can be decreased – by up to 30% in the case of horizontal agreements restricting competition and abuse of dominant position; and by up to 50% in cases of other infringements (including vertical agreements, failure to notify the Office about concentration or a premature implementation of concentration). It has to be said that there is no legal right to use the institute of settlement and it depends purely on the Office's assessment. In any case, it facilitates a faster and more efficient remedy on the market and at the same time it provides the opportunity for the party to the proceedings to lower the sanction (Vyhláška PMÚ SR č. 171/2014 Z. z.).

The Amendment specifies the already existing, but rarely used, institute of commitments. It is also applicable to cases of agreements restricting competition, abuse of dominant position, as well as other forms of illegal restriction of competition. If the Antimonopoly Office finds it appropriate and sufficient, it can, as a consequence of law breach, impose a commitment leading to the removal of restriction of competition on an undertaking, instead of imposing a fine.

Increasing the attractiveness of the leniency programme

Several changes have been made in the already used leniency programme. Thanks to this programme, if a party of a cartel agreement actively provides the Office with evidence, the fine can either not be imposed, or it can be lowered by 50%.

As a reaction to the efforts on the European level to increase the efficiency of private enforcement of competition law, the Amendment established a rule, according to which a successful applicant for not imposing a fine, i. e. for a complete immunity within the leniency programme, is also granted immunity against private claims on the part of the potential injured party. The undertaking can, together with the existing immunity in the field of criminal law, receive a complex protection against administrative, criminal, and private consequences of the breach of competition law, if it presents the Office with decisive evidence of the cartel agreement as the first one and on its own initiative. The Amendment takes into account the possibility of the applicant for not imposing or decreasing a fine to make an application for a marker with the possibility of presenting the evidence later.

The eligibility criteria of the applicant to receive complete or partial immunity within the leniency programme are adjusted as well. As opposed to previous legislation, a complete immunity from fines is also available for undertakings that initiated the conclusion of an agreement restricting competition, but not for undertakings that forced another party to partake in such an agreement. Lowering the fine by 50%, i. e. a partial immunity, is available both for the undertaking that initiated the conclusion of an agreement restricting competition, and an undertaking that forced another

party to partake in it. By contrast, a new condition that has to be met by the applicant for not imposing or lowering a fine, is the prohibition of informing another undertaking about making an application and its content. If the Office gives its assent, the applicant for not imposing or decreasing a fine can continue breaching the law even after making the application, should it be necessary to maintain the effectiveness of inspections that shall be made by the Office based on the information obtained from the application.

Instead of the former non-binding provision of the Office, the details on the leniency programme are currently the subject of the binding Decree of the Antimonopoly Office of the Slovak Republic No. 172/2014.

Information and its stricter protection

As a part of the protection of making information available and keeping the secrecy, the provision concerning inspecting files, protection of business secrets and confidential information has been consolidated. This adjustment reflects the requirements of the right of defence following the relevant case-law. The business secrets and confidential information can be made available for the purposes of defence only in strictly restricted and inevitable cases, and with the consent of the person providing such information; in case the person does not consent, the information in question can only be made available to the lawyer of the party to the proceedings. Each instance of making information available is covered by the obligation of secrecy (Tóth, 2013).

Inspections and their more transparent provisions

The rights and obligations of an undertaking in the case of a dawn raid by the Office are provided for in detail. Following the shortcomings in the practical implementation, the requirements for commissioning an inspection have been made more strict. Thus, the rights of the Office's inspectors and the related obligations of undertakings are now provided for by a more detailed and clear-cut provision. The Amendment also establishes separate fines of up to 5%, or up to 1% of the turnover for breaching the individual obligations during an inspection by the undertaking and fines of up to EUR 80,000, or up to EUR 25,000 for breaching the obligations by an individual (Novela zákona č. 151/2014 Z. z., 2014).

The institute of financial reward

The Slovak competition law contains a completely new institute focusing on the increase in acquiring important information and evidence for the Office with the aim of revealing the most dangerous forms of breaking the competition rules, i. e. cartel agreements. In Europe, a similar institute is rather rare, and exists only in some countries, such as the United Kingdom and Hungary. However, there is not much experience with its implementation (Tóth, 2013).

The concretisation of the institute of financial reward means that the notifier, who is not the undertaking or an employee of the undertaking, which is the applicant for not imposing or decreasing a fine within the leniency programme, and as the first one presents information about a horizontal agreement restricting competition, will have, if he requests it, the right for 1% of the sum of fines imposed on all parties of an anti-competitive agreement, but not more than EUR 100,000. The decision of imposing a fine must be legitimate and enforceable, alternatively also confirmed by an administrative court, and the fines must be settled. In case the undertaking does not settle the

fine, the notifier has a right to 50% of the reward he would otherwise obtain, but not more than EUR 10,000 (Novela zákona č. 151/2014 Z. z., 2014).

The institute of financial reward can be considered modern. The Office uses it to react to more and more sophisticated forms of cartels, which are hard to prove without relevant information and evidence.

Competition advocacy

A competitive environment develops also thanks to competition advocacy, which is focused on implementing competition principles into public policies with the aim of prevention in the field of protection of competition and increasing the awareness of competition principles among the non-professional and expert public. Competition advocacy contains a wide range of activities from the Office's comments within the inter-ministerial comment procedures, through statements, expert workshops and conferences, to communication with the public through media (Annual Report, 2015, p. 32).

State aid

State aid is a new item on the agenda of the Antimonopoly Office of the Slovak Republic. It is the Office's responsibility since January 2016. This proves that state aid will be an important pillar of competition policy in the Slovak Republic, similarly to the EU, where it has a direct influence on everyday life of citizens.

5 Conclusion

There are laws on protection of competition in every country with a market economy. This is true for the Slovak Republic as well. The legal framework of competition policy is based on the Amendment No. 151/2014, in force from 1 July 2014. The Amendment is a result of gradual development of our legislation, alignment of our competition laws with those of the EU, and reactions to conditions required by the market. It can be essentially said that it brings predominantly positive changes for the undertakings. Its aim is to contribute to healthy competition in the Slovak Republic, as it is one of the basic requirements for a well-functioning economy and economic growth, naturally, with a positive influence on the consumer.

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EDUCATION AS THE CORNERSTONE KNOWLEDGE-BASED ECONOMY

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Abstract: *Due to the expanding globalization, leading to the unification of the world market, question of competitiveness of individual countries has become a discussed topic. The development of the knowledge-based economy affects competitiveness criteria. One of the basic units of knowledge-based economy is education, which is also a part of the competitiveness of economies fuelled by fundamental factors and efficiency. Contribution aims to compare the achieved level of the education system (based on the study of the OECD - PISA) with selected determinants of the knowledge economy: government spending on education, the number of graduates of tertiary level of education in science and technology and human resources in science and technology sector.*

Keywords: *knowledge economy, government spending on education, the OECD PISA study, tertiary education, human resources in science and technology sector.*

JEL classification: *E 62, I 21, I 23*

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1 Introduction

The development of the knowledge economy is closely linked to knowledge. Currently, over one third of students within the EU to reach higher education. In some EU member states, it is even up to half of the students. On the other hand, we still have a relatively large group of people unable to finish secondary education, which is now an elementary prerequisite for entry into the labour market. While in general the economy in countries which expand the number of people with higher education is growing, people with low levels of education are problems of success on the labour market.

2 PISA 2012 results

From the theoretical basis of the knowledge economy, it explains the importance of the education system. Responds to the OECD PISA study, which detects learning outcomes in terms of labour

market requirements (the functional literacy of students in terms of the theory of lifelong learning) and focuses on students in the last years of compulsory schooling. The study aims to track the results of educational systems of participating countries and their changes over time and brings ideas to improve education policy. At three-year intervals, the results are studied at 15 years old pupils at primary and secondary schools.

TAB. 1: The results of PISA tests 2012 - mathematics, reading, science

mathematics		reading		science	
Netherlands	523	France	606	Finland	545
Estonia	521	Finland	524	Estonia	541
Finland	519	Ireland	523	Poland	526
Poland	518	Poland	518	Germany	524
Belgium	515	Estonia	516	Ireland	522
Germany	514	Netherland	511	Netherland	522
Austria	506	Belgium	509	United Kingdom	514
Ireland	501	Germany	508	Slovenia	514
Slovenia	501	United Kingdom	499	Czech Republic	508
Denmark	500	Denmark	496	Austria	506
Czech Republic	499	Czech Republic	493	Belgium	505
France	495	Austria	490	Latvia	502
United Kingdom	494	Italy	490	France	499
Latvia	491	Latvia	489	Denmark	498
Luxembourg	490	Spain	488	Spain	496
Portugal	487	Hungary	488	Lithuania	496
Italy	485	Luxembourg	488	Hungary	494
Spain	484	Portugal	488	Italy	494
Slovakia	482	Croatia	485	Croatia	491
Lithuania	479	Sweden	483	Luxembourg	491
Sweden	478	Slovenia	481	Portugal	489
Hungary	477	Greece	477	Sweden	485
Croatia	471	Lithuania	477	Slovakia	471
Greece	453	Slovakia	463	Greece	467
Romania	445	Cyprus	449	Bulgaria	446
Cyprus	440	Romania	438	Romania	439
Bulgaria	439	Bulgaria	436	Cyprus	438

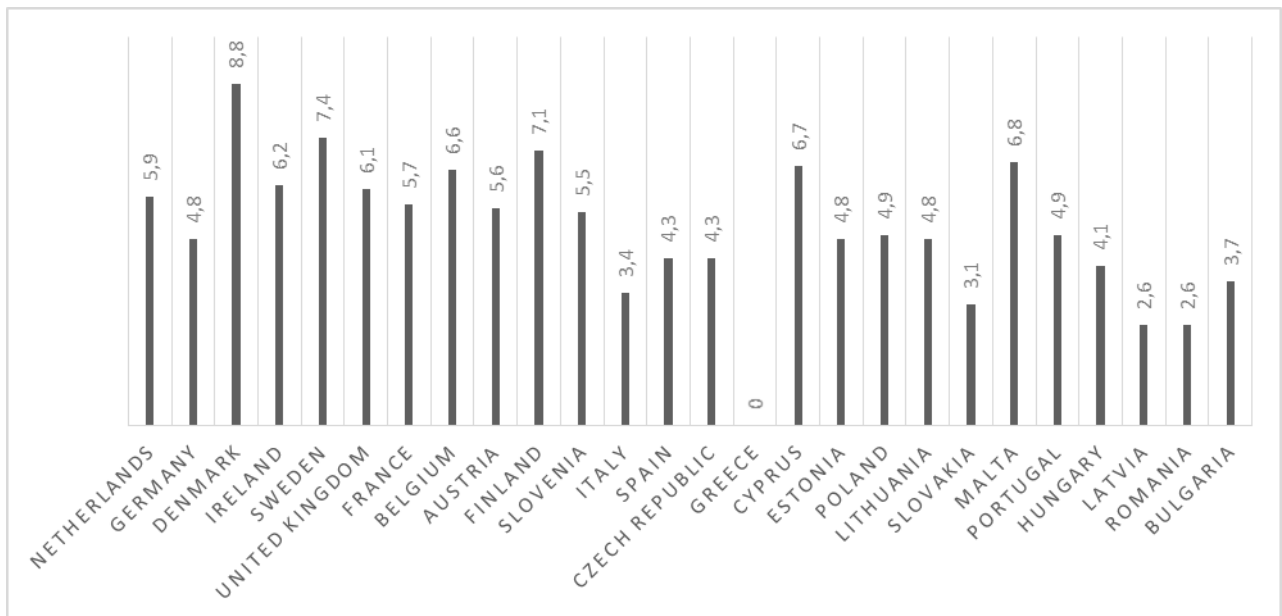
Source: OECD (2013)

The labour market is increasing the number of highly skilled jobs, while the number of jobs with low qualifications is declining. It is estimated that by 2020 almost 35 % of jobs will require high-level qualifications (Masters level courses). One of the main objectives of the Europe 2020 strategy is therefore to increase the proportion of young adults with tertiary education to 40 % (from the current 36 %). OECD statistics on education indicate that 84 % of people who have attained higher than secondary education get jobs, adults with a university degree earn on average about 70 % more than adults with upper secondary education.

2.1 Government spending on education

Issues related to the financing of education are the subject of lengthy controversy, just search for the optimal model.

FIG. 1: Expenditure on education, Public 2012 (% of GDP) %



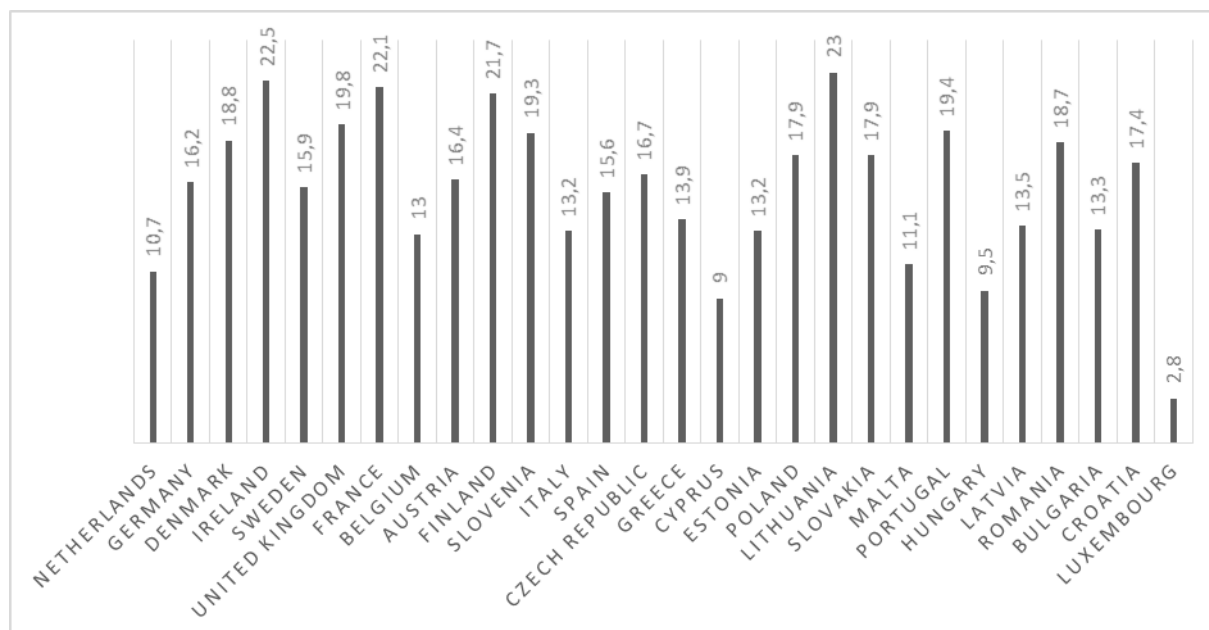
Source: own processing of data by Eurostat

In Figure 1 can be seen that Denmark, the country with the highest government spending on education reaches an average results of the PISA testing, and Cyprus has even placed in the worst positions of testing. For best results, the education systems reach Finland, Estonia, Ireland, the Netherlands and Poland. With the exception of Finland are spending more or less average. Except Cyprus, unsatisfactory results achieved Bulgaria, Romania, Slovakia and Sweden. In case of Sweden, which is the best knowledge-based economy by KEI economic indices in 2012, and which has a high government support for science and research, even the school system, this result is surprising.

2.2 Human resources in science and technology sector

Study at colleges and universities are an important prerequisite for the development of knowledge and its practical use after graduation. Not all graduates are engaged in research work, leading to increased productivity or generally applicable innovations and patents. The following Figure 2 shows the number of graduates from tertiary education in science and technology per 1000 of population (aged 20-29 years).

FIG. 2: Number of graduates at tertiary level in science and research in 2012 (per 1000 persons aged 20 – 29 years)

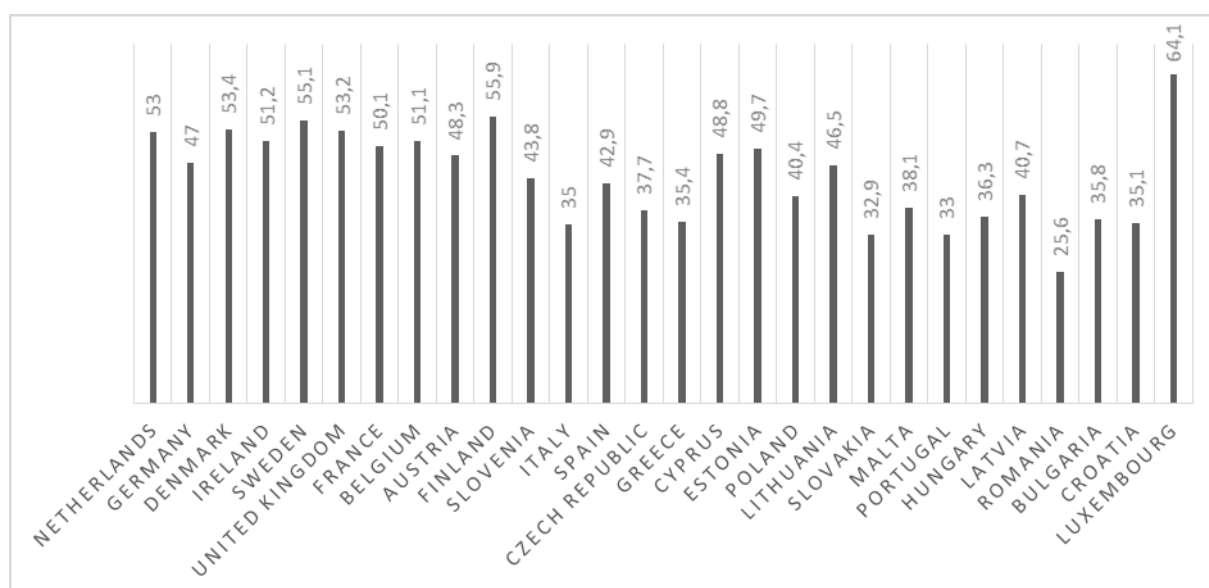


Source: own processing of data by Eurostat.

An analysis of the number of graduates (figure 2) implies some surprising facts. For example, Romania was placed in a good position, although in terms of expenditure on education in the EU-28 located at the end of the table and in the assessment PISA reached together with Cyprus and Bulgaria the worst results. In the future this may be acquired human capital to achieve in science and research, excellent results and the knowledge economy in Romania can thus experience a boom. However, there is a risk of so-called “brain drain”, which could occur due to their small support, especially financial. Similar surprise is Lithuania, which has even the most graduates. Among the countries which achieve the worst results in the PISA assessment with a small number of graduates in science and engineering disciplines has placed only Cyprus. On the contrary, it is no surprise of Finland or Ireland in the results of PISA testing, but also in the number of graduates speaking of the excellent education system and building human capital. The opposite result than the Netherlands has Romania, which is the number of graduates in the last place, although in terms of government spending on education reached leading positions.

In the EU-28 in 2012 was within the tertiary level graduates 17.1 graduates in mathematics, science and technology graduates training to 1,000 people aged 20-29 years. Particularly high ratios - more than 20 graduates per 1 000 people aged 20 to 29 years - were recorded in Lithuania, Ireland, France (data from 2011) and in Finland. This ratio should be interpreted with caution, however, because some graduates is reported in the country, may be foreigners who are studying for their return home. These students thus may distort conditions in the country, where they studied (push it up), and press down ratio to their country of origin. This can largely be explained by the very low ratio recorded in one of the smallest EU member states - Luxembourg (2.8 graduates) and also relatively low ratio recorded in Cyprus.

FIG. 3: Human resources in science and technology sector in 2014 (% of active population)



Source: own processing of data by Eurostat.

Figure 3 represents the human resources in science and technology sector as a percentage of the working population in 2014. According to this graph can be confirmed expectations of outflow of scientific researchers, for example in the case of Romania. Countries that have a small number of graduates of the department, such as Luxembourg, the Netherlands and Belgium, on the contrary, have the most number of employees. Finland is again the first places.

3 Conclusion

Education is one of the basic units of knowledge economy, and also part of the competitiveness of economies fuelled by fundamental factors and efficiency. Knowledge is an essential pillar for the development of the most competitive components.

To create a level playing field among all member countries, there should be a unified education system. According to the OECD PISA assessment, Finland is reaching excellent results. Many European Union countries can draw inspiration right here.

Major support from public funds for education has Denmark, which achieves average results in PISA testing. But what it is more surprising is that the countries that support the school system also by high expenditure of public finances, Cyprus and Sweden have found themselves at the end of the ranking, among all countries of the European Union. PISA tests are perhaps the only category in which Sweden, as a knowledge most advanced country is less than best, even satisfactory in reached results. The best in these tests stood Estonia, Finland, Germany, Ireland, the Netherlands and Poland. With the exception of Finland and Ireland are the countries with average expenditure on education, about 5-6%. Except Cyprus and Sweden, they are in last place, as well as Bulgaria, Romania and Slovakia. Number of graduates of universities or in scientific research area and the number of employees in this area demonstrates the great migration drain. Smart people feel an opportunity to assert themselves abroad while their home country has not built conditions for development in their area. Surprising results in all fields have countries of knowledge economy that have achieved last

places. For example, in the number of graduates are Romania, Portugal, Croatia and Slovakia in the first half, but in the number of workers placed last. Countries should encourage these graduates, they should create them favourable conditions for scientific research. Once invested public money this way into human capital it is a shame to let it go away this way. Nor the companies buy machinery and pass it to competitors, figuratively speaking. It is necessary that the scientific research personnel is provided a suitable job, and therefore should be encouraged by an active policy of employment, mainly graduates in knowledge sectors. This is true especially for the countries which knowledge economy lags behind other European countries.

Unified education system is very difficult to set up and it is questionable with what willingness would single countries approach, but modernization and certain reforms (for example, based on the digital progress in the education system) would be an appropriate beginning to build a common European human capital as the basic unit knowledge-based economy.

The structure of the world economy is changing rapidly and globalization only accelerates this process. For the majority of the industry, success depends on the creativity of companies and their capacity to use new technologies. In such world, workforce must be educated, able to adapt flexibly to new situations and above all have the ability to educate during their whole working life.

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THE ISSUE OF TRANSFER PRICING THROUGH THE LENS OF THE FINANCIAL ADMINISTRATION

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Abstract: *The contribution deals with the issue of transfer pricing, including the related issues in the context of the Czech tax jurisdiction. The issue of identification and proof of transfer pricing for persons engaged in the group in the Czech Republic is still a current topic. The contribution focuses on the documentation of transfer prices for the purposes of tax control. On the basis of thorough documentation for transfer prices, it is possible to eliminate the risk of an additionally assessed tax. This article identifies the transfer prices in General, from the perspective of the taxpayer and the Financial Administration. In relation to the collection of taxes is a transfer pricing issue which is important for both the taxpayers and as if for the Financial Administration.*

Keywords: *Related parties, tax control, transactional methods, transfer pricing.*

JEL classification: H 25, H 26

Grant affiliation: *The paper is treated as the output of a research project of the Taxation of the family business IGA_AS_01_08/2.*

1 Introduction

In the area of transfer pricing has occurred in the last few years a significant shift, both internationally and in the Czech Republic. Transfer prices affect all companies that are capital or otherwise associated. Can it be domestic companies, large multinational corporations, among which are the business transaction in goods, IT services, management services, interest from loans from the related persons, license fees and other kinds of services. The area of transfer pricing between the associated enterprises represents a serious problem, with which they must cope as taxpayers, as well as the Financial Administration of the Czech Republic. The current development of the determination of the transfer prices shown on increase of the Financial Administration activities, to prevent undesirable practices, such as avoiding tax, closing price agreements, the influence of tax obligations by using transfer pricing to countries with more favourable tax jurisdictions. A growing number of the associated companies and the negative balance of the public budgets have resulted in increasing of the frequency of tax checks, aimed at transfer prices the group associated persons. For the case of

a tax audit is required, within the group associated persons, to have a correctly set transfer prices in accordance with the applicable regulations.

2 Tax aspects of transfer pricing

Between associated companies run an internal business transactions that relate specifically adapted to transfer pricing. For tax purposes, the two companies considered to be related if one of them participates directly or indirectly in the management, control or property of another, when the two companies under common control. Prices of completed transactions within the combined companies are called transfer pricing. Transfer prices therefore means intercompany prices for goods and services contracted in transactions between related parties and their value must be adjusted in accordance with principles in force.

TAB. 1: Tax Advantages and disadvantages related parties

Related parties			
Advantages		Disadvantages	
Example	Act of Income Tax (ITA)	Example	Act of the Tax
Exemption of dividends and profit shares between parent companies and subsidiaries.	§ 19 section. 1 ze) first point 1.	Assessing the effectiveness of Tax the Act of ITA for financial costs.	§ 25 section 1 w), ITA
Exemption of dividends and profit shares in Czech companies from foreign companies.	under the conditions defined in § 19 section. 9	Costs of the parent companies, which are induced by holdings subsidiary companies.	§ 25 section 1, z), ITA
Exemption of income from the sale of shares and shares of parent companies to subsidiaries.	§ 19 section 1 ze) second point	A ban of the creation of statutory adjustments to receivables.	§ 8a, 8b a 8c Act no. 593/1992 Coll., on reserves for determining ITA
Exemption of income from the sale of shares in the stock company in the Czech companies from third countries.	§ 19 section 1 ze) second point and 9	Note. Value added tax for relations between related entities are not set specific guidelines or exceptions.	

Source: Own

Prices of internal transactions between related parties must comply with the Czech legal acts. For tax purposes, requires the system that prices have been tested by using the standard "normal market conditions" (adherence to market prices into related parties).

Correct setting of transfer pricing eliminates the risk of doubt on the part of the Financial Administration, subsequent additional tax assessment and related penalties. Relations between the related parties mean almost always the necessity of expending more tax care and specific assessment of certain situations, than if they enter into relations of persons unconnected. For example, company that receive investment incentive, the incorrect determination of transfer prices cause loss of incentives. If the taxpayer does not possess a documentation, a guide to removing doubts the correctness of the transfer prices may be the answer to the questions - whether trade agreements are in accordance with the policy of transfer prices, whether correspond to reality and

whether the company can pass tax control without co-payments. Therefore, the company should adhere to:

- the consistency of transfer prices for the purchase or sale of goods with the arm's length principle,
- soundness of charges for services provided by head office,
- deductible amount of payments for royalties,
- defensible interest rates on loans and the cash pool.

TAB. 2: Transfer pricing a tax risk

Consequences	Commentary	Note
Tax additional assessment	The inspection of the Financial Administration finds that the agreed price does not respect the principle of market prices. Following the new calculation according to the market price, the tax base is increased by the difference found and is calculated the additional assessment of the tax.	Connected with double taxation, the possible implications for VAT, customs duties.
Penalties of tax additional assessments	When the additional tax assessments notice must a tax entity to pay a penalty of 20%.	§ 251, Tax Code.
Default interest for a late payment	The taxpayer is required to pay interest for late payment (up to 5 years delay); the interest rate is an annual repo rate of the Czech National Bank.	§ 252, Tax Code.
Wrong procedure	Failure to comply with the principle of market prices, the inability to prove that transfer prices are set correctly.	Voluntariness of documentation for transfer pricing in the Czech Republic is not mandatory.
Conclusiveness	No exist of correct documentation for transfer prices, the taxpayer has no conclusive records to confirm the accuracy of transfer pricing.	

Source: Own

In case of doubt the taxpayer, "the taxpayer has the right to ask the relevant local authority the Financial Administration for a binding ruling on whether the expression of transfer prices between related parties is in accordance with the principle of market price" (§ 38nc, ITA). The basis for the elimination of transfer pricing risk management documentation is in compliance with applicable principles of the Ministry of Finance regulating the field of transfer pricing (D-332, D-333, D-334, and instructs the D-10), including EU directive.

2.1 Transfer prices and Policy of the Financial Administration

The Czech tax legislation solves transfer prices only in general terms in § 23, section/ITA. Without detailed instructions here determined, quote, "if different prices agreed between related parties from prices which would be made between independent persons in ordinary business relations under the same or similar terms, unless the difference is satisfactorily documented, adjusted tax administrator the tax base of the taxpayer for the discrepancy". Transfer prices are most often examined in the context of a tax audit or during the process of "removal of doubt". Since 2012 was founded a Specialized financial authority, which focuses on the management of the fiscally most important Czech companies and financial institutions with an annual turnover of over 2 billion CZK.

Smaller companies are checked by the regional offices of the financial administration. The ministry of finance states that the primary objective control of the actions of transfer pricing between related parties is verification of their regularity and the prevention of tax evasion or tax evasion. The course of the tax audit is regulated by law no. 208/2008 Coll., Tax Code, as amended. Procedure for tax inspection is regulated in § 85 of the tax code "the Subject of tax inspections, tax obligation, the claim of the tax body or other circumstances decisive for the proper findings and determination of tax relating to one tax management". Financial Administration during the tax audit focuses on verification of the correctness of the prices for transactions between related enterprises, further info other tax entities appropriate to verify transfer prices. During the tax audit, is the burden of proof on the side of the taxpayer. He must demonstrate that the prices agreed between related parties are in accordance with applicable regulations. Is recommended content for documentation:

- identification of the company), which have been tested for the assessment of transfer prices, comparative analysis, the processing period, functional and risk analysis,
- a list and description of the realized intra-group transactions,
- proof that the charged services, or profit margin fall within the interquartile range of the markups for comparable companies.

When the documentation for transfer pricing is conducted in accordance with applicable principles, so is the financial administration accepted as means of proof. Not if the documentation is available, the taxpayer is required to fill out a detailed questionnaire with over 50 questions, according to guideline D-334.

If it is found that the prices between related entities deviate from the market prices, the financial administration corrects newly adjusted basis, of the income tax. The tax is determined from the detected difference including interest and penalties of determined taxes. In this situation, has the taxpayer basically two options, accept the results of the findings of checks of the financial administration and pay, or the discovery dispute and provide documentation. Risk of this procedure is the financial demands and a certain degree of uncertainty of the result. In the case that the document the taxpayer is not recognized, there are tax payments especially in larger companies high, which can have a negative effect on the future existence of the company. According to the case law of the Supreme administrative court may not a taxpayer pay immediately. Financial administration has an obligation to invite the taxpayer to substantiate differences identified transfer pricing.

3 Conclusion

The issue of transfer pricing related parties is extensive, so a detailed analysis of individual situations is beyond the scope of this paper. In the Czech Republic it is an area where there are a relatively significant additional tax assessments notice. Due the amount of assessing additional income tax for year 2015, it is possible to say, that the determination of fair pricing of transactions between related parties has still some shortcomings. This situation affects the fact that the Czech tax regulations do not require mandatory documentation, definition of related persons. The goal of tax policy is to maximize the proceeds tax revenues to the state budget and prevent tax evasion practices. Tax audit of Financial Administration has led to additional assessment 2015,2016 for 950 million CZK. Therefore it can be expected that tax audit of transfer pricing will continue next.

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USING MARKOV CHAINS ANALYSIS IN TRADING

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Abstract: Millions of trading operations are performed on a share market daily. One of market characteristics is a permanent variation. There are periods of different lengths either of market-price growth or market-price decrease. Prediction of the variation and knowledge of future price is a dream of all investors. Technical analysis is one of approaches used for the prediction. Technical analysis is represented by a wide range of methods. We use Markov chains to describe daily changes of corn price and to deduce future prices based on the past prices.

Keywords: technical analysis, Markov chains, market – price.

JEL classification: C40, C44

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1 Introduction

Methods used to analyze market fall into two very broad categories: fundamental analysis and technical analysis. Fundamental analysis involves analyzing characteristics of a company in order to estimate its value. Technical analysis uses a completely different approach; it doesn't care about the "value" of a company or a commodity. "Chartists" are only interested in the price movements on the market. Technical analysis employs various tools, from statistic to some exotic ones, to describe and predict market movements by studying the market itself, as opposed to its components. Understanding of the benefits and limitations of technical analysis can give a trader or investor a new set of tools or skills. Commodity price development may be observed as a random movement. Creation of a stochastic model to represent the price changing at various time periods has long been a nature of interest in market, business processes, and others. One of the approaches is to simulate market as a random walk. According to (Kendall 1953) stock prices following a random walk implies that the price changes are as independent of one another as the gains and losses. Many scholars showed that modeling a market as a random walk was applicable and that a market may be viewed as having the Markov property. The aim of our article is to model the development of corn price as a

Markov chain, to obtain transitional probabilities, transition matrix, steady state probabilities, and mean recurrence times.

2 Mathematical model

Prices are the result of the functioning of the market and are determined by supply and demand, costs of production, costs of marketing, consumer preferences, and others conditions. (Kliestik, 2014) Generally, the vegetable price movement means that today's price value has increased or decreased or unchanged vis-à-vis the previous day's price. Prices of the market are considered discretely so that the daily price fluctuation of the market seems to be in a random movement. As a consequence of this manner one could obtain a basic method of analyzing this system, adopting Markov chain. (Jasinthan et al., 2015)

Formally, let define a discrete time set $T = \{t_0, t_1, \dots, t_n, \dots\}, n \in N$ and a finite state space $S = \{s_0, s_1, \dots, s_m\}, m \in N$. (Finite) Markov chain is a stochastic process $\{X(t_n)\}_{n \in N}$ with the property that for any $t_j \in T$ such, that $t_1 < t_2 < \dots < t_n$ is $s_{(t_j)} \in S$:

$$P[X(t_{n+1}) = s_{(t_{n+1})} | X(t_0) = s_{(t_0)}, X(t_1) = s_{(t_1)}, \dots, X(t_{n-1}) = s_{(t_{n-1})}, X(t_n) = s_{(t_n)}] = P[X(t_{n+1}) = s_{(t_{n+1})} | X(t_n) = s_{(t_n)}]. \quad (1)$$

This property of Markov chain means the probability that the chain moves from state $s_{(t_n)}$ to state $s_{(t_{n+1})}$ depends only on the state $s_{(t_n)}$ that it occupied before the step.

Let $p_{ij}(t_n, t_{n+1})$ denote the transition probability of going from the state s_i at time t_n to the state s_j at time t_{n+1} then

$$P[X(t_{n+1}) = s_j | X(t_n) = s_i] = p_{ij}(t_n, t_{n+1}). \quad (2)$$

The state vector $\vec{p}(t_n) = (p_{s_0}(t_n), p_{s_1}(t_n), \dots, p_{s_m}(t_n))$ describes the probability distribution of the states of the process at time t_n . The Markov property implies that the probability distribution at time t_{n+1} can be obtained from that at time t_n by

$$\vec{p}(t_{n+1}) = \vec{p}(t_n) \cdot P(t_n, t_{n+1}). \quad (3)$$

The Markov chain is homogenous (in time) when $p_{ij}(t_n, t_{n+1}) = p_{ij}, \forall n \in N$, so the transition probability does not depend on time. Let the $(m + 1 \times m + 1)$ matrix of elements p_{ij} (transition matrix) is denoted P , then

$$\vec{p}(t_n) = \vec{p}(t_0) \cdot P^n, \quad (4)$$

i.e., the initial state vector $\vec{p}(t_0)$ and the transition matrix P determine the state vector $\vec{p}(t_n)$ at time t_n so the future state vector $\vec{p}(t_n)$ can be evaluated if the initial state vector and the transition matrix are known.

A chain is to have a stationary (or steady state) distribution, if there exists a state vector $\vec{\pi} = (\pi_j)_{s_j \in S}$ such that

$$\vec{\pi} = \vec{\pi} \cdot P \quad \text{and} \quad \sum_{s_j \in S} \pi_j = 1. \quad (5)$$

Let the states of a finite Markov chain are classified according following definition: State s_j is said to be accessible from state s_i if s_j can be reached from s_i in a finite number of steps. If two states s_i and s_j are accessible to each other, then they are said to communicate. The period of a state s_i is defined as a greatest common divisor of all integers $n \geq 1$, for which $p_{ii}(n) > 0$. When the period is one, the state is referred to as aperiodic. If all states of a chain communicate and are aperiodic, then the chain is said to be ergodic. If a finite Markov chain is ergodic then

$$\lim_{n \rightarrow \infty} P^n = \begin{pmatrix} \pi_1 & \cdots & \pi_m \\ \vdots & \ddots & \vdots \\ \pi_1 & \cdots & \pi_m \end{pmatrix}, \quad (6)$$

where $\vec{\pi} = (\pi_j)_{s_j \in S}$ with $0 < \pi_j < 1$ and $\sum_{s_j \in S} \pi_j = 1$. Consequently expected (or mean) recurrent time μ_j for each state s_j (mean number of steps for the prime return to the state s_j) is given by:

$$\mu_j = \frac{1}{\pi_j}. \quad (7)$$

3 Construction of model

We used daily market prices of corn on <http://www.kurzy.cz/komodity/kukurice-graf-vyvoje-ceny/> from 23. 11. 2015 to 16. 5. 2016. This period was chosen in the estimation of the model, but the chain took into account the behavior of the market price for consecutive days, each classified as increase or decrease or remains the same.

3.1 Model 1

Let c_1, c_2, \dots, c_{120} denote closing daily prices. At first we calculated the mean value \bar{c} and the standard deviation σ : (Svoboda, 2015)

$$\bar{c} = 369.05, \quad \sigma = 10.30.$$

We defined state space $S = \{A, B, C, D, E, F\}$ for daily prices c_i as follows:

$$A: c_i < \bar{c} - \sigma; \quad B: \bar{c} - \sigma \leq c_i < \bar{c} - \frac{\sigma}{2}; \quad C: \bar{c} - \frac{\sigma}{2} \leq c_i < \bar{c};$$

$$D: \bar{c} \leq c_i < \bar{c} + \frac{\sigma}{2}; \quad E: \bar{c} + \frac{\sigma}{2} \leq c_i < \bar{c} + \sigma; \quad F: \bar{c} + \sigma \leq c_i.$$

We calculated transition probabilities p_{ij} between states. The maximum likelihood method has been applied to estimate the transition probability matrix under the certain assumptions (Bhat, 1971). Therefore the transition probability p_{ij} can be obtained by the relative frequencies observed in the sample, i.e. $\hat{p}_{ij} = n_{ij}/n_i$, where n_{ij} denotes the number of transitions from state s_i to state s_j and $n_i = \sum_j n_{ij}$.

Consequently, the transition matrix P (Markov matrix) was estimated:

$$P = \begin{pmatrix} 0.800 & 0.200 & 0 & 0 & 0 & 0 \\ 0.158 & 0.632 & 0.158 & 0.052 & 0 & 0 \\ 0.044 & 0.130 & 0.521 & 0.261 & 0 & 0.044 \\ 0 & 0 & 0.233 & 0.600 & 0.167 & 0 \\ 0 & 0 & 0.084 & 0.250 & 0.333 & 0.333 \\ 0 & 0 & 0 & 0.067 & 0.200 & 0.733 \end{pmatrix}.$$

The highest transition probabilities are those of remaining in the given state (p_{ii}). Transitions from a given state to neighboring states are only of little probability. Transitions over two or more states are of zero or around zero probability. We can conclude that daily prices of corn do not occur violent fluctuations.

The steady state vector $\vec{\pi} = (0.159; 0.151; 0.183; 0.234; 0.108; 0.165)$ was calculated by solving the system of equations (5). The highest probability is that of the state D – the negligible greater value than mean price, but the probabilities do not much differ, the probability distribution of the states is near to symmetric distribution, and all states are about to be equally probable. The prediction by this model is hard. 80 steps are needed (the 80th power of matrix P) to obtain a distribution of probability near to the steady state distribution $\vec{\pi}$ by using (6). It means that model needs a lot of time to stabilize. If we calculate the 5th power of Markov matrix P, we may predict the price in 5 days.

$$P^5 = \begin{pmatrix} 0.472 & 0.322 & 0.112 & 0.074 & 0.011 & 0.009 \\ 0.279 & 0.273 & 0.190 & 0.174 & 0.044 & 0.040 \\ 0.131 & 0.158 & 0.230 & 0.274 & 0.096 & 0.109 \\ 0.056 & 0.089 & 0.238 & 0.325 & 0.132 & 0.160 \\ 0.028 & 0.049 & 0.172 & 0.279 & 0.170 & 0.302 \\ 0.010 & 0.021 & 0.122 & 0.241 & 0.197 & 0.409 \end{pmatrix}.$$

If the considered price is now in the state A, the most likely it will be in the state A after five days (probability 0.472). Being in the state B, it will be the most expected in the states A or B with the similar probability. For the state C the most likely is to go to the state D or to remain in the state C. The price in the state D will remain in the state D the most probably. The price in the state E will be the most likely in the state F (probability 0.302), or in the state D (probability 0.279). The price in the state F with the high probability (0.409) will be in the same state.

3.2 Model 2

Let define absolute differences of closing daily prices: $z_j = c_j - c_{j-1}$, $j = 2, 3, \dots, 120$. We calculated the standard deviation $\sigma = 4.68$ for z_j . We defined six states space $S = \{A, B, C, D, E, F\}$ for z_j according to the standard deviation σ :

$$A: z_j < -\sigma \text{ (great decrease); } B: -\sigma \leq z_j < \frac{-\sigma}{2} \text{ (slight decrease);}$$

$$C: -\frac{\sigma}{2} \leq z_j < 0 \text{ (negligible decrease); } D: 0 \leq z_j < \frac{\sigma}{2} \text{ (negligible growth);}$$

$$E: \frac{\sigma}{2} \leq z_j < \sigma \text{ (slight growth); } F: \sigma \leq z_j \text{ (great growth).}$$

Similarly to the first model we calculated transition probabilities p_{ij} on the numbers of transitions between states and we formed transition matrix P:

$$P = \begin{pmatrix} 0.143 & 0.071 & 0.143 & 0.143 & 0.143 & 0.357 \\ 0.062 & 0.188 & 0.250 & 0.062 & 0.188 & 0.250 \\ 0.084 & 0.208 & 0.250 & 0.208 & 0.208 & 0.042 \\ 0.067 & 0.100 & 0.233 & 0.366 & 0.167 & 0.067 \\ 0.333 & 0 & 0.223 & 0.333 & 0 & 0.111 \\ 0.062 & 0.188 & 0.062 & 0.313 & 0.250 & 0.125 \end{pmatrix}.$$

It is seen if the price change in the previous day was great (state A), then in the next day we could expect the great growth of price (state F) the most likely. If the state of price change was B (the slight decrease), two possibilities are of the same value (0.250): the state C or F. If the price change was negligible (states C and D), we can expect that the next change will be negligible too. After the slight growth (state E) two possibilities are the most likely: the negligible growth (state D), or the great decrease (state A). After the great growth of price (state F) we can expect that the future price change will be the negligible growth (state D), or the slight growth (state E).

The steady state vector for price changes $\vec{\pi} = (0.121; 0.125; 0.203; 0.257; 0.159; 0.135)$ was calculated according (5). We may conclude that the states D and C have the highest probabilities, so small changes of price are the most likely. Compared to the steady state vector of the model 1 ($\vec{\pi} = (0.159; 0.151; 0.183; 0.234; 0.108; 0.165)$) it is seen that the ending states (A and F) have lower probability and the biggest difference is in the state E.

Using (7) we calculated the vector of the mean recurrence times $\vec{\mu} = (8.285; 7.978; 4.923; 3.895; 6.270; 7.431)$. For instance the value $\mu_1 = 8.285 \approx 8$ of the vector $\vec{\mu}$ means the average number of days between two great decreases, the value $\mu_6 = 7.431 \approx 7$ of the vector $\vec{\mu}$ means the average number of days between two great growths.

4 Conclusion

Operational state of a commodity market is subject to influence of various factors such as natural circumstances, weather, daily supply and demand, and psychological factors. Technical analysis attempts to find some regularities in price movement to predict future evolution. No single method can accurately predict changes on the commodity market, Markov chain analysis is not an exception. However, the calculation of probabilities of growths and decreases by using Markov chains may be useful for decision-makers to better understand the dynamics of a commodity market and assess the risk and the frequency of purchase and sale.

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WAGE LEVEL OR INTERNAL DISPOSITIONS - WHAT IS MORE IMPORTANT IN DETERMINING THE SATISFACTION OF EMPLOYEES ON DIFFERENT POSITIONS?

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Abstract: *The paper examines the mutual impact of both declared wages level and personal dispositions – core self-evaluations (Judge et al. 2003) on the perceived job and life satisfaction. Although the current consensus is that money does not guarantee happiness, a recent study by Kahneman and Deaton (2010) suggest there may be a positive money-life satisfaction relation, which is capped at a given level of income. The current study was conducted in 2015-2016 on a large sample (N=746) of Polish workers from different companies and organizational positions. The results, indicating that internal dispositions matter to a far greater extent than wages, are discussed in light of both selection and compensation practices.*

Keywords: *Wage differentials; Employee Satisfaction; Core Self-Evaluations*

JEL classification: *J31, M52; Y80.*

Grant affiliation: *The research was conducted without external funding.*

1 Introduction

There is a disagreement among scientist whether money can bring happiness. On one hand, most working people would likely declare that a pay raise would make them more happy. On the other hand, since Easterlin's publication (1974) we know that differences in earnings are not related to differences in happiness in the long run. A more recent study (Easterlin, 2001; Easterlin, McVey, Switek, Sawangfa, & Zweig, 2010) adds arguments to support the claim of a lack of relation between earnings and happiness. Yet there are some propagators of the opposite view. For example Sacks, Stevenson & Wolfers (2010) show in a direct contrast to Easterlin, that the rich are more happy than the poor, not only across countries, but also within a country, also across different time points. Kahneman & Deaton (2010) go even deeper in a search for an explanation to the so called Easterlin paradox. They zoom in on the different types of happiness, noted in the original Easterlin paper (1974). They distinguish two types of satisfaction. First, the emotional well-being, relates to the

feelings a person experiences on a daily basis. If there are more positive feelings (joy, pride, etc.), the person is considered happy. If the negative feelings prevail, the person is considered dissatisfied. Such type of happiness is also measured by Gallup poll questions like: “How do You feel in general these days”? The second type is the general life evaluation, as measured by Cantril’s ladder (Cantril, 1965). Kahneman & Deaton (2010) show specifically, that income relates strongly rather to the second type - the general life evaluation (as opposed to emotional well-being). On top of that, show that wage impact happiness evaluations only to a certain extent, which for the US sample of Kahneman & Deaton corresponds to yearly personal earnings of 75 000 USD. Beyond that point, authors conclude, earnings increases do not impact perceived life satisfaction.

The emotional well-being and general life satisfaction are not the only possible types of happiness we can distinguish, when considering work situations. When analysing wealth as impacted by wages, one should first and foremost ask about satisfaction derived from work itself. A quite interesting, yet simple tool to measure this type of satisfaction was proposed by Judge, Locke, Durham, & Kluger (1998). On the other hand, there were developments to general life satisfaction measurement as well. An recent proposal by one of the most important satisfaction scholars, Ed Diener, conceptualizes life satisfaction as related to general social–psychological prosperity (Diener et al., 2010), which in turn should be related to other types of well-being as well.

1.1 Study assumptions

According to Kahneman & Deaton (2010) wages should be related to general life-evaluation, and not so much with emotional well-being. Yet they do not link wages to job satisfaction directly. As many satisfaction theories relate well-being to average satisfaction derived from many dimensions (see for example Zalewska, 2003), we may assume that (H1) wages should have a higher impact on job satisfaction, and somewhat lower impact on general life satisfaction. On top of that, previous studies suggest (Judge et al, 1998; Wu & Griffin, 2012; Walczak, 2014), that internal dispositions (such as core self-evaluations) should have a deciding impact on employee happiness. Therefore the present study tests the assumption, that the internal dispositions have greater impact on job satisfaction (H2a) and life satisfaction (H2b) as compared to wage level. The effects are tested for employees on different positions: line workers, white collar workers and managers.

2 Method

To verify if there what is the impact of wages on work happiness and general life evaluation, an online questionnaire was created to gather the data.

2.1 Participants

The sample consisted of N=746 working adults, who were invited to participate in an online survey. Participants were recruited by students for additional course credits. All the participants filled an anonymous online questionnaire, composed of tools measuring various aspects of their jobs. Respondents were employed at a wide range of companies, large and small, both in private and public sector. The final sample consisted of 432 women (58%). The biggest group of respondents had high school education (35%), followed by a group with master’s degree (23%) and with bachelor’s degree (19%). The age of respondents ranged from 18 to 65 years ($M = 29.3$, $Sd = 9.8$), and the average length of employment was $M = 7.7$ years ($Sd = 9.3$). Average length of tenure in the current organization was $M = 4.6$; $Sd = 7.0$ years.

2.2 Tools

Wages were declared on a 6 level scale, ranging from minimum obligatory wage (at that time 1850 PLN, roughly 420 EURO/month, before social security and taxes) up to 5000 PLN or more (about 1136 Euro before taxes). The average country wage at the time of study was 4000 PLN, but the median country wage was 2800, roughly equalling the mid-point of the scale (3000 PLN).

Other tools in the study included the measure of Core Self-Evaluations (CSE, Judge, Erez, Bono, & Thoresen, 2003), in the polish adaptation by the author, Flourishing scale (Diener et al., 2010) to measure general life satisfaction, and a short, 5 item measure of job satisfaction - Brief Job Satisfaction Scale (Judge et al., 1998).

2.3 Procedure

Participants received a link to the survey, by the means of e-mail or social networking portal. After following the link they were directed to a web-page (on google docs platform), where they responded to the survey questions. Afterwards all the data was inputted to statistical software, and analysed.

3 Results

To check whether wages or internal dispositions (CSE) had a greater impact on job satisfaction and life satisfaction, two linear regression analyses were conducted (with the dependent variable either job satisfaction or life satisfaction), separately for each type of position (line worker, specialist and manager). Due to the fact that the results were not different for different organisational positions, they are presented in aggregation. For the job satisfaction (as measured by Brief Job Satisfaction Scale) the results are as follows:

TAB. 1: Linear regression analysis, with Job Satisfaction as dependent variable

N=742	Dependent Variable: Job satisfaction (BJSS) R=.515 R2=.265 Corrected R2=.263 F(2,739)=133.02 p<0.001;			
	b*	b	t(739)	p
Intercept		0.910	5.599	0.000
Wage level	0.022	0.012	0.657	0.511
Internal dispositions(CSE)	0.508	0.064	15.494	0.000

And for general life satisfaction (as measured with flourishing scale):

TAB. 2: Linear regression analysis, with Life Satisfaction as dependent variable

N=742	Dependent Variable: Life satisfaction (Flourishing)			
	b*	b	t(739)	p
Intercept		13.381	8.451	0.000
Wage level	-0.045	-0.255	-1.408	0.160
Internal dispositions (CSE)	0.570	0.725	17.999	0.000

Using a Logarithmic transformation for wages (as suggested by Kahneman & Deaton, 2010) did not yield any significantly different results, so only untransformed results are presented.

In both cases (for life satisfaction and job satisfaction), wage level had no significant impact, in comparison with internal disposition (core self-evaluations), where the influence was significant.

But, if wage was used as the only predictor variable, it was significant for both Life and Job Satisfaction, as the tables below show.

TAB. 3: Linear regression analysis, with Job Satisfaction as dependent variable

N=742	Dependent Variable: Job satisfaction (BJSS)			
	b*	b	t(740)	p
Intercept		3.289	53.251	0.000
Wages	0.161	0.091	4.431	0.000

TAB. 4: Linear regression analysis, with Life Satisfaction as dependent variable

N=742	Dependent Variable: Life satisfaction (Flourishing)			
	b*	b	t(740)	p
Intercept		40.283	64.287	0.000

Wages	0.112	0.639	3.057	0.002
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FIG. 1: Job Satisfaction (BJSS) on different monthly wage levels (with logarithmic curve-fit)

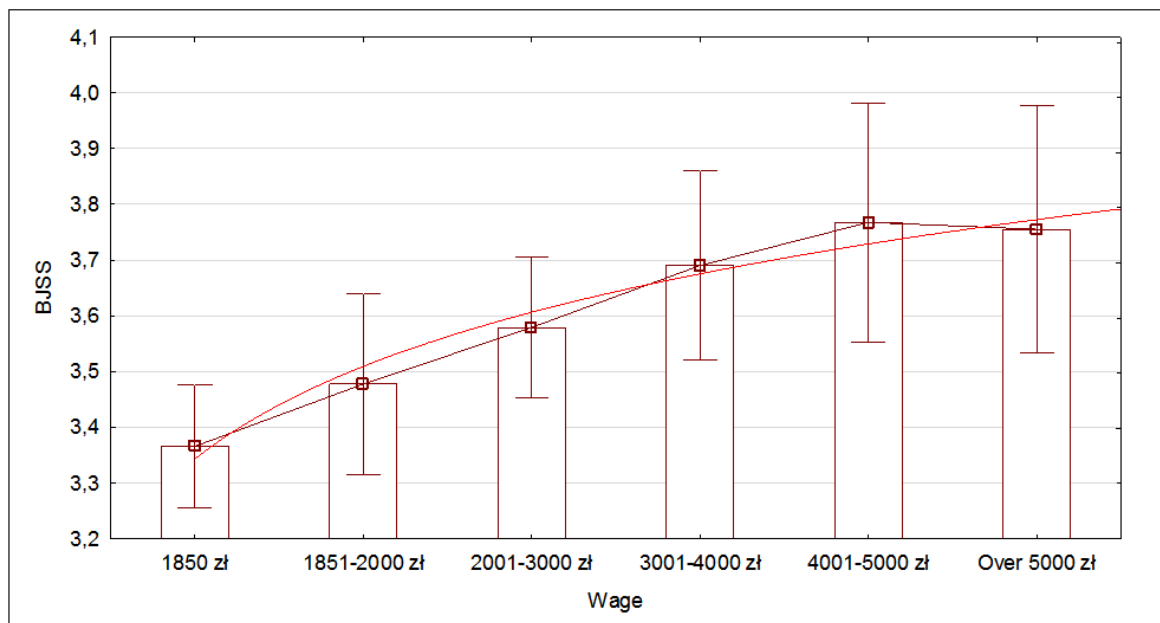
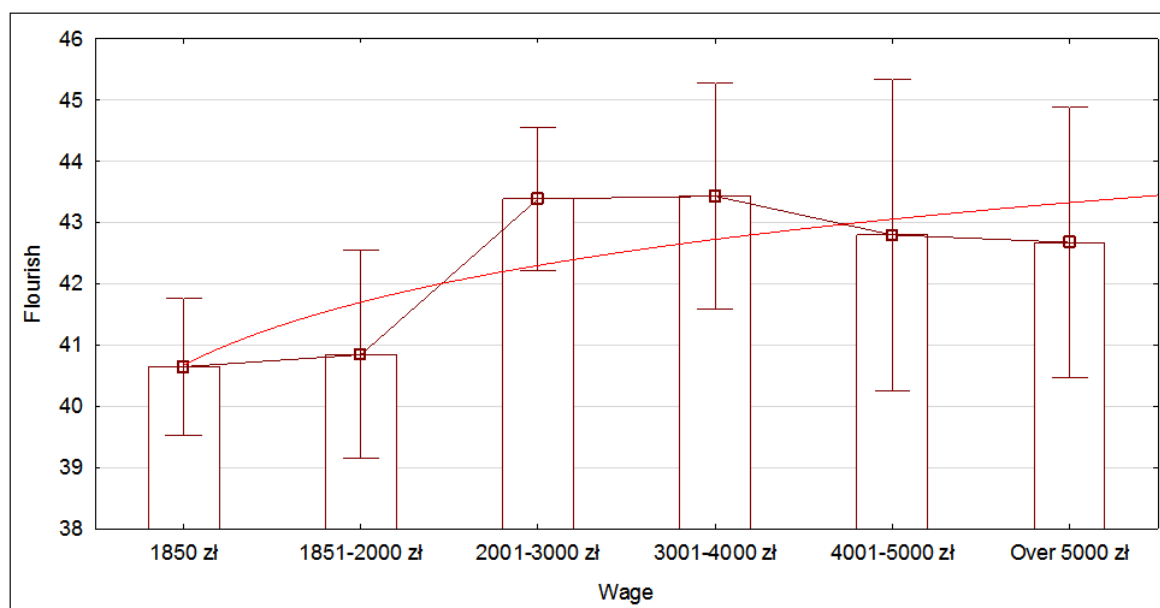


FIG. 2: Life Satisfaction (Flourishing) on different monthly wage levels (with logarithmic curve-fit)



A closer inspection of the graphical representation of the results suggest that the impact of wages of both types of satisfaction could be capped at higher wage levels, but a comparison of the presented analyses and those run for limited wages spread (up to 4000 zł) did not yield significant differences between the models ($p > 0.05$ for effect differences between both life satisfaction and job satisfaction predictions).

4 Discussion

The results show that wages have a far weaker influence on job and life satisfaction as compared to internal dispositions. Although analysed separately, wages did allow for satisfaction prediction, their predictive power was low. Interestingly, wages seem to have a greater influence on life satisfaction when they are low to average. On higher level, wages continue to impact job satisfaction, but their impact on life satisfaction is reduced (or maybe even reversed). Unfortunately the proposed way of measuring wages did not allow for direct testing of this effect. But if the results would be significant they would bridge the conclusions of Kahneman & Deaton (2010) with those of Easterlin (2001). As suggested by Kahneman & Deaton, the impact of wages is not linear, but seems to change on higher levels. On top of that, there are some differences of wages impact as dependent on different types of happiness measure (in the current study: job and life happiness). But if wages are analysed with other variable (in current study – core self-evaluations), their impact becomes negligible, which seems to fit with Easterlin's conclusions.

This together allows for some important business conclusions. Employees need to be able to have at least decent wages. Up to a given point (unfortunately impossible to calculate from the gathered data), people seem to be more happy with higher wages, both with their job, and consequently, with their lives. Beyond a specific threshold, the higher wages do not impact life happiness, but they still impact job satisfaction. Although this may seem puzzling, it may be related with the dual role of wages. They are not only a means of providing the necessary life resources (food, clothes, housing, etc.), but they are also means for positioning oneself in the society. It is not so rare, that people on the same position may have different wages levels. Provided their basic needs are met, those with higher wages will see their employer better, as compared with those who just earn enough to live. This may not impact the whole life evaluation, but it may be enough to rate the job better.

One of the most important results of the study is the strong and significant difference between internal dispositions (CSE) and wages in predicting satisfaction. Those results clearly show that it is far more important to have a positive self-image, than it is to earn high wages, in order to be satisfied with job and life. Although on the basis of the study it is not possible to judge the direction of the relationship (maybe people being more satisfied also evaluate their internal dispositions better), but the difference of relationships strength is obvious. Therefore it is advisable to check the self-evaluation of prospective employee's, as it may be a more important factor for their satisfaction than the wage they will earn.

As any study, the present one also has limitations. To list the most important ones – the sample of the study, although big, is not representative. The people in the sample, as compared to general public, are slightly younger and slightly better educated. But due to their young age and limited tenure, they also tend to earn slightly less than the national average (the scale in the study was capped on the high end, so a precise estimate is not possible). On top of that, all the scales used in the study are declarative, and thus subject to social desirability bias. Lastly, the relations reported are mostly or correlational nature, and thus it is impossible to predict the directions of impact.

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MARKETING BASED ON OPTIMALIZATION OF CONSUMER DECISION

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Abstract: *The paper deals with one type knowledge those are necessary for market use – knowledge about costumer wants and needs. A lot of producers are interested in what exactly costumers want or need. Some producers create by their goods and services new or changed needs and wants. But, from our point of view, producers pay not sufficient attention how they can optimize costumers' needs and wants. We believe if a costumer consumes goods and services that are really best for him/her (s)he is able to maximizes his/her utility. But it is not easy for consumers to find best bundle of goods and services. A consumer faces information uncertainty especially if (s)he wants to maximize utility not only in short run but in long run . Some consumers prefer short run maximization to the long run even if they have information about negative consequences of some consumption (e. g. smoking). We emphasize that producers can help customers in finding the optimal bundle and we analyse how they can it achieve.*

Keywords: *marketing, consumption optimization, productive aspects of consumption, rational behaviour.*

JEL classification: *D11, D82, M31*

Grant affiliation: *The paper is one of the outputs Specific research project “Qualitative financial analysis of firms, revenues and stock exchange activities” supported by Czech Ministry of Education, Youth and Sport.*

1 Introduction

Modern ethical markets do not try to sell anything to anyone, but they build on deep knowledge of needs of each and every men. A customer who notices that satisfaction of his/her need also has a dimension of an investment into his/her future, will reward them with his/her loyalty. It is not new that retaining customers his cheaper than attracting new ones, while the goods sold are the best advertising (e. g. Kotler 2007). The aim of this paper is to elaborate on the thesis above using an example of satisfaction of one of the most fundamental needs - eating. Eating is a crucial part of one's health regime having an elementary significance for prevention of illnesses. A timely individual diagnostics of even a moderate dysfunction of an organ can often be removed by a specific change of diet. Often, an increased or reduced (or eliminated) consumption of certain foods such as specific vegetables and fruits etc. is behind the change. Such marketing is based on the concept of a

productive aspect of consumption (Valenčík 2004)), which will only exist if the given consumer may optimize its eating decisions as shown in the paper.

This paper is based on the microeconomic approach to consumers as it is perceived by neoclassical economics with an extrapolation to productive aspects of consumption. The paper is structured in a manner to first deal with the definition of a consumer role and its assumptions only to analyze its productive aspects later. In the next section, the paper deals with the issue of consumer choice optimization, issue of freedom of such decision-making to finally summarize how to utilize such findings to define an effective marketing in the conclusion.

2 The consumer decision-making task

The consumer decision-making task deals with the decision-making of the consumer when he/she chooses suitable food to satisfy his/her need to eat. For our purposes, this decision-making role can be generalized despite the fact that it is a very complicated process with a very individual nature as people not only consume foods to eat thus avoiding the undesirable feeling of hunger, but it serves many other functions.

We will continue to assume that we have a rational consumer who takes decisions regarding the selection of suitable foods for his/her own benefit and elects rational objectives that are beneficial to his/her life within the scope of his/her knowledge. For the time being, we also assume that:

- a) Consumers are not entirely dependent on their knowledge, but can find relevant information regarding the impact of the consumption of relevant foods.
- b) People have their eating habits, however may change them if it yields a desirable outcome.
- c) They have a choice, i.e. there is an offering of foods, from which they will choose according to their preferences.
- d) Consumer may gather information concerning the impact of the consumption of certain foods even with regard to their current medical condition, without introducing an assumption of a cardinal utility measurement. Information on health effects of foods also includes the issue of effects of some combinations of foods that are beneficial and desirable and that are undesirable as, when they are combined, they form some new substances that are harmful.
- e) The consumer is able to differentiate between the consequences of the function of biological clock and therefore may react as to what time of the day or season he/she will eat.

3 Productive aspects of consumption

Productive aspects of consumption (Valenčík 2004), Heissler, Valenčík, Wawrosz 2010) are a concept based on an assumption that the consumption does not end with the satisfaction of a given need as it is understood by neoclassical economics. Therefore, we examine if a distinction can always be made between what is a consumption and what is an investment. E-g. a lunch with a business partner of the entrepreneur or businessman may be an example of such a hybrid activity. The lunch is certainly consumption, but in this case, the purpose of it is rather an investment in the relationship with an important business client. Upon a closer scrutiny of a need satisfaction we may establish that every consumption has some positive or negative impacts into the future.

Generally, it can be said that any goods we consume may have a dual form – both consumer goods, or goods providing a future income for us, or that broker the acquisitions of future goods intended for personal consumption, are not a marginal issue, but an issue of great significance, particularly for the following reasons:

- 1) If we abstract from the dual designation of goods that are consumed, i.e. if we do not take consideration of the productive character of the consumption, the economic theory will provide results implying that the real choice made on daily basis by people is different from the theoretical choice. In addition – the choice made based on the theory would be less "economical" than the choice that people actually make. Should the theory accept such state of facts, it will no longer be a mere imperfection, but a shame of the theory.
- 2) If we fail to recognize that the consumption has a productive character then the theory we will ignore an impact of the real economy to the development of the experience scheme. One may claim that this scheme is not part of the economy. However, we strongly disagree. Economy as science should not only be aware of the impact of experience scheme to economic behavior of people, but also of the impact of economic reality to the development of the experience scheme, as by this impact the regressive effect of experience scheme is significantly determined. Why? Due to the fact that the experience scheme is such that experience arise when a need is immediately satisfied, it has a tendency to translate into mediating elements (activities and situations conditioning that a need is satisfied). Therefore, the experience scheme is more flexible and "smarter than assumed the standard theory of utility (see e.g. Varian 2010, Perloff 2014, Besanko 2014).

4 Consumer optimization and free to choose

Not only is the satisfaction of the need to eat dependent on a momentary health and mental condition of a man, but also on the state of his/her knowledge or ability to find relevant information. This is significantly complicated by the fact that given their unique and complex nature, people are not identical. In spite of this, there is some virtual health model serving to distinguish health variations of people using diagnostics. Every consumer may optimize his/her choice of foods only in the scope of his/her varying breadth of knowledge.

However, the health in the form of optimal functioning of all organs that work in mutual harmony is one, regardless whether or not we can describe such ideal situation. Despite individual variations we assume that objectively, there is only one optimum. All other suboptimal states are subjective. Therefore, 100 % satisfaction of an eating need is achieved if we come as close as possible to this optimal state. Thus, the consumer choice optimization is at least two-fold, i.e. optimization within the given subjective knowledge and increasing knowledge within the meaning of its broader application aimed at its objectification.

The achievement of an optimal state means that all suboptimal variants are worse and as a result they yield some loss. The so-called missed opportunities are lower for all other alternatives. The rational consumer thus chooses an alternative with the best impact within his/her knowledge and minimum loss against any other alternative. If the consumer ignores the impact of each of alternative of his/her choice, he/she may feel that the free choice is such that it does not prevent him/her from choosing any of the alternatives he/she may choose. What about the free choice when the consumer can arrange alternative according to their future effects? Seemingly, the freedom diminishes and the

consumer may feel determined, as there is only one optimal alternative. In fact, he/she does not lose, but gains freedom. First, he/she will choose an optimal alternative freely, not under duress and secondly, should he/she satisfy the need to improve his/her health through eating, he/she will definitely have more freedom regarding his/her future actions. From this perspective, the quotation that "Freedom is a recognized necessity" will hold (for details see Kohák 2004).

5 Effective marketing

Effective marketing aims to retain the customer in the long run. It is not based only on the need to satisfy needs of the customer but to utilize the relevant productive aspect of consumption as well. To this end, not only it builds on emotions, but also on higher values, such as health and freedom of clients and customers in our case. The effective marketing targets a demanding, goal-oriented and thoughtful customer. Its basis is both to win customers and to retain them permanently. Although, more demanding forms of how to address and cooperate with client, such as consulting and education may need to be involved in the marketing mix, in return it will yield more permanent results that will pay off in the long run – as a result we will have a long-term and loyal customer.

In Chapter 1, we defined assumptions, on which the decision-making role is based. In reality, these assumptions are not often met. In case of eating: frequently, the consumer cannot find relevant information regarding the impact of the consumption of relevant foods, cannot procure true and first-rate information of what impacts does consumption of certain foods have in their current medical condition, where or not some combination of foods is harmful, he/she may do not know his/her biological clock etc. The producer or vendor, respectively, who will be able to help the consumer in the decision-making process, provide him with first-rate information, may gain an apparent competitive edge in the form of a client who will not buy his/her products in a single transaction, but on an ongoing basis. Let us emphasize here that the given information help to extend the customer's both productive and total age, during which he/she may be the customer of the given producer/vendor. Or to increase his/her satisfaction not to have so many stimuli to search for another producer/vendor.

6 Conclusion

The theory of productive consumption is based on the assumption that many goods that we consume do not yield only immediate benefits, but they impact our future income and other factors. Much as any given relationship may be indirect, it undoubtedly exists in case of eating – optimal foods having an effect on human health and as a result our economic (gainful) activities. The paper emphasizes that to eat optimally, a man must have a wide array of information. The consumer may not be able to obtain, process, store etc. this information (Pagano 2007). The producers and vendors may adjust comprehensive offering and corresponding promotion so that the consumer would be able to decide for such alternative that is beneficial to him/her from both short-term and long-term perspective, but it also helps to extend his/her productive life and total age. If such marketing is performed by producers and vendors they may win a loyal customer for many years to come. Undoubtedly, the given marketing is more demanding to resources (such as in the form of consulting, diagnostics and so on), but it is effective. From the perspective of the society as a whole, it accomplishes Pareto optimality - each and every customers obtains the best alternative for them, precious resources are utilised more effectively (They may not be used better).

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HUMAN CAPITAL - BASIC ELEMENT OF THE SUCCESS OF INNOVATION TECHNOLOGIES

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Abstract: *This paper concerns innovation infrastructure which has started up across all regions of the Czech Republic. The leader at the regional level is the South Moravian Region with its unique innovation infrastructure and its innovation processes. For the period of 2014 – 2020, the South Moravian Region has developed its fourth Regional Innovation Strategy which forms the fundamental strategic document for the region with respect to subsidies in the fields of science, research and development. The objective of this paper is to assess the Czech Republic with respect to selected education indicators as per international comparison of competitiveness of individual countries. The partial objective is to assess the quality of human capital readiness using the example of the South Moravian Region. The paper is built upon the analysis of the innovation capacity validation processes and knowledge of innovation, education and research centres at the level of the South Moravian Region.*

Keywords: *human capital, innovation capacity, public administration, education system, innovation technologies.*

JEL classification: *R58, R11, O25.*

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1 Introduction

The key element of any innovation system are businesses and human potential. Since strategic innovations form an integral part of corporate strategies, they represent the corporate vision and the strategy of their performance is the foundation stone for evaluating the innovation capacity of the economy. Linking global and local perspectives is highly important for a variety of reasons: an example may be a gradual shift of the centre of gravity of the global economic growth away from the developed towards developing economies. The accelerating speed of change in the global economy driven largely by new technologies and shortening innovation cycles thus increases the demands on ensuring adequate strategic intelligence to develop efficient economic policy. In the 20th century, research and development (R&D) became the crucial innovation stakeholders. The learning regions

were promoted as the future concept of successful economic development (OECD, 2001 Asheim, 2012, Boekama, 2001). Individuals as well as organisations are successfully involved in the process of learning and innovation is considered an essential component of economic performance.

Human capital along with the attractiveness of the region can be considered as the basic preconditions for establishing the traditional concept of regional competitiveness (Capello, Fratesi, et. al, 2011). Regional competitiveness can be generally understood as the ability to offer attractive and sustainable environment for businesses and population (Annoni, Dijskra, 2013).

A number of people perceive the concepts of innovation and invention as synonyms. Invention is an innovation or new technical solution. It is a tangible outcome of research and development. Only some inventions lead to innovation. A basic feature of innovation is addressing the specific needs in a manner that is economically viable - this means that users of innovations are able and willing to pay for innovation. The economic benefits of invention is decided upon by a number of factors. Innovation requires primarily an interconnection between market and technical competence. This interconnection occurs more often in businesses. For the innovations to be effective, it is up to the public administration to develop the professional grounds and facilities for the scientific and technological innovation - thereby establishing, in a maximum possible extent, conditions for educating high quality human potential (Csank, Jovanovič, Vozáb, 2016).

Innovation policy is thus viewed as a systematic innovation support that eliminates the negative impacts of market development or failure. In this respect, it helps the key stakeholders (businesses, research institutions, universities and others) to overcome the limitations and environmental barriers and thereby contributes to the dissemination of knowledge and innovation (Žítek, Klímová, 2015). Innovation business is understood as businesses of firms that pursue development and sustainable competitive advantages in continuous introduction of innovations. These businesses usually feature intensive development of new (their own) knowledge, which they use for their own innovations (Csank, Jovanovič, Vozáb, 2016).

2 Objective and methodology

This paper aims to contribute to the discussion on the evaluation of the Czech Republic in terms of the quality of human resources in the process of innovation policy and the selected region (the South Moravian Region) as one of the innovation infrastructure leaders and to evaluate how the Czech Republic compares in relation to the at innovation capacity (based on the education indicator) within the context of other countries. The author employs the analysis of the validation processes of innovation capacities of human resource and knowledge of innovation institutions in the South Moravian Region. These findings in the field of human resources can serve as an inspiration for implementing the regional policy objectives in all regions of the Czech Republic and in regions that not are at the cutting edge of innovation infrastructure in Europe.

3 Human capital: fundamental element of innovation processes

Given the importance of the knowledge and skills of people for the innovative capacity, the alarming finding is that the quality of education in the Czech Republic on the decline according to the internationally comparable criteria. According to international comparisons of the individual countries conducted by the World Economic Forum (hereunder WEF), the Czech Republic is rapidly dropping compared to other countries in relation to most of the education indicators (see table 1).

The deteriorated quality of university graduates and secondary school students is considered by many companies as a serious problem.

TAB. 1: Development in the CR position in selected indicators- Global Competitiveness Indicators (2008-2009, 2013-2014)

Indicator GCI	CR ranking 2008-2009	CR ranking ČR 2013-2014
Wages and productivity of labour	13th place*	19th place*
CR general position	33rd place	46th place
Quality of primary schools	15th place*	51st place**
Quality of education system	26th place*	67th place**
Availability of scientists and engineers	11th place*	64th place**
Scope of staff education	28th place*	68th place**
Quality of STEM education	8th place*	83rd place**
Brain gain (ability to attract talents)	-	87th place**
Brain drain (ability to retain talents)	43rd place**	109th place**

*above average evaluation compared to the total score

** Below average evaluation compared to the total score

Source: World Economic Forum (2013). Global Competitiveness Report 2013-2014. Geneva: World Economic Forum. Retrieved from http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf.

The comparison of the quality of educational systems amongst the countries is methodologically highly complicated. With respect to the innovative capacity of the country, the most promising group are those students who achieved the best results in mathematics, natural sciences and reading literacy. The Czech Republic has lost its competitive edge in terms of the favourable proportion of students with the highest level of mathematical literacy, whose share dropped from 18% in 2003 to 13% in 2012 (OECD, 2014). The leader in this area is now South Korea where these levels are reached by almost a third of students. The negative trend is also reflected in scientific literacy, where the proportion of students in the top two groups has dropped from 12% to 8% and the Czech Republic has thus declined from the average to below average. The recent results of international comparisons of IT literacy indicate that the Czech Republic is of a high standard; however, it is questionable to what extent this is the result of quality education.

If we take a business as the basic unit of innovative capacity, this leads us to the following two groups of findings:

1. People in companies represent the major area of innovation barriers: the companies experience various barriers to their innovation efforts, with the most frequent being barriers related to people. To a certain extent, the quality is perceived by each company as a various combination of education, skills, experience and motivation. A great issue for companies is to develop scientific and research capacities - these are mainly small businesses that realise that they can not compete with the subsidiaries of international companies and resign in terms of the development of their internal R&D capacities. The Czech market is perceived differently by the subsidiaries of foreign companies: these are companies of various sizes from small to large. A common characteristic of these companies is a high innovation and growth aspiration and these companies dedicate sufficient efforts to the workforce development within the company. These companies have, for example, sophisticated competency models linked to wage policy, they have focused internal programmes that promote personal fulfilment.

2. The existing educational system demonstrates a number of features that fail to support the innovation capacity of the CR: given the importance of knowledge and skills of people for the innovation capacity of the country, it is unfavourable for the Czech Republic that according to a number of findings its quality of education is declining based on comparable criteria (see table 1).

To improve the situation in relation to the care of the quality of human potential to support innovation, the cooperation between businesses and public research institutions may be of assistance. These are universities, institutes of the Academy of Sciences and other research organisations. In countries that are amongst innovative leaders, the so-called "soft infrastructure" supporting new ideas, sharing and dissemination of knowledge and talent concentration is a major asset. Some global companies deliberately locate their research, development and other strategic capacity in regions with developed infrastructures of this kind. These then further stimulate the economic development of these regions and countries.

4 Vision of the South Moravian Region: Top European schooling system

The South Moravian Region has been developing its Regional Innovation Strategy since 2002. The main achievements of the RIS of the South Moravian Region include strong regional investments in research and development (over 3.6 GDP), the South Moravian region concentrates 1/5 of the nationwide capacity of public research, and the education system and the development of young talents is one of the most developed in the CR.

The main vision of the Regional Innovation Strategy is to develop the innovation potential of the South /Moravian Region at the level of the most innovative regions in Europe (the indicator is the intensity of private investments in R&D, the number of European Research Council grants and the share of foreign university students).

Key areas for developing the innovation potential set in the RIS are the following:

1. Pro-innovation administration and management (governance)

2. Excellence in research

- improve the quality and problem orientation of public research in the SMR,

- maximise the economic benefits of public investments in R&D for the region.

3. Competitive innovative firms

4. European top schooling

- improve the organisational and material conditions for improving the quality of primary and secondary education in the SMR,
- increase the quality and relevance of education while respecting the needs of businesses engaged in the key sectors in the SMR,
- formulation of a new educational policy of the SMR as part of the care of long-term prosperity of the region,
- improving the quality and relevance of the university education in the region,
- improving the quality of attractiveness of the preparation to teacher profession in the region,
- improving internationalisation, openness and penetrability of universities in the region.

5. Attractive region (communication)

- Creating a new image of the SMR region/ Brno as a space featuring advanced knowledge economy with talented, creative and active people, top-level scientific teams, globally competitive knowledge-based companies with unique products and services, all this with the support of modern public administration,
- Building a new image of the SMR region/ Brno as a space featuring advanced knowledge economy: centre of innovative business, centre of research and development, centre of quality education (JIC, 2014).

5 Conclusion

The article assesses the Czech Republic in terms of human potential with the possibility of developing innovation policy and introduces the South Moravian Region as one of the leaders of innovation infrastructure as part of the objectives of Vision 2020. Based on selected indicators of educational policies, the Czech Republic drops in the international comparison of various countries conducted by the World Economic Forum in certain comparative education indicators (e.g. the indicators of the quality of primary education, quality of the education system, quality of staff training).

The driving forces of innovation capacities include mainly the increasing number of companies that invest in innovation processes and the expansion of scientific-research activities of multinational companies in the Czech Republic. The Czech Republic can offer, as part of partnership with the multinational companies, attractive conditions such as the position at the heart of Europe, quality human potential and industrial tradition of the Czech Republic. Conversely, there are some barriers here that must be reacted to (e.g. the legislative environment).

In the future it is necessary to evaluate the current form of the educational system so as to make sure that the human potential will become the driver of innovative technologies in the CR. This is related to the development of scientific and research capacities in cooperation with businesses. The development of mutual relations between businesses and research and educational organisations may be considered as an indicator of innovation ecosystem. However, this is not the main goal. It is

necessary to consider not only the extent, but also the content of the cooperation, to distinguish between various forms of collaboration and commercialisation and finally avoid over-generalisation.

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CZECH QUALITY LABELS IN TOURISM

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Abstract: *The paper presents and analyzes a variety of quality brand, which currently can be found in the Czech tourism market. By having such label demonstrates organizations that they care about the quality of service and satisfied customers. The idea of building the National System of quality tourism services in the Czech Republic is part of the Concept of national tourism policy for the period 2007 - 2013 as one of the key activities. The aim of the paper is to analyze and to compare different labels available. In partial analyzes are available number of holders of these labels, their market price and focus. In conclusion, the author summarized the issue of quality labels in the Czech Republic using SWOT analysis.*

Keywords: *Labelling, Quality, Tourism, Services.*

JEL classification: *Z32, M31*

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1 Introduction

Quality labels and other types of certification are becoming increasingly important in the tourism industry. These labels are originally designed for better customer orientation and distinguish quality of products and services. These labels can have different nature - regional, national or international. The basic principle of all labels is their voluntary principle. The beginnings of certifications are in the manufacturing industry. With more direct and measurable environmental impacts began to appear clearer operating systems and larger organizations (Tribe et al., 2000).

This paper is an analysis, which is based on statistical data obtained by the Czech National Statistical Office and the various organizations that offer quality labels. The aim of this paper is to analyze the quality labels in tourism, their focus and meaning and compare their individual parameters. Research assumption is a statement that in addition to the concept of national quality labels there will be a

variety of different regional quality labels. Methods used in paper were primarily an analysis and comparison.

2 Czech national tourism labels

Building a national system of quality in tourism industry in the Czech Republic was part of the concept of state tourism policy for the period 2007 - 2013. It is a component of the system of quality and innovation in tourism called CzechQuint, through which the Ministry of Regional Development and CzechTourism seeks a systematic approach to the development of tourism in the Czech Republic. Other partners are the Association of Commerce and Tourism, Association of Hotels and Restaurants, Czech Camp Association, Association of Tourist Information Centres and the Association of Cableway Transport (Czech system of quality, 2016).

Czech National System of Quality Tourism Services is inspired in a specially created standards for the various segments of tourism (hotels, gastronomy, public transport services, mountain resorts, beaches, travel agencies, etc.) that were created in different countries - such as Switzerland or Spain. These are based on the standards ISO 9001 and ISO 14001 and further specialized adaptations for tourism as the Spanish norm UNE 182001: 2008 Standard for hotels and tourist apartments or UNE 183001: 2009 for the services in rural tourism. Czech system of quality of service was created using a German license service Quality System Deutschland (SQD), which is more than ten years contributing to the development of quality services in Germany (Czech system of quality, 2016).

Ministry for Regional Development is responsible for the quality system at the national level. It has the role of guarantor and implementer of the entire system. Promotion is provided nationwide through CzechTourism agency, at regional level are autonomous tourism organizations, so called Destination managements.

Standard requirements for the Czech system of quality service in organizations are differentiated according to the demands of used tools for improving the quality of services to the Level I and Level II. Each grade standards represent the level of implementation of the organization and its interest in developing quality.

Czech National Quality System should help organizations in tourism (Czech system of quality, 2016):

- Providing methodological and counselling assistance in defining the quality standard of services to the participating entities and the subsequent application of these standards,
- To train selected personnel of organizations not only in theoretical knowledge of quality implementation, but especially in the practical application of tools to improve the services provided, professionalization - the introduction of modern methods of quality management,
- Pointing out to the perception of quality from customer perspective - who are our customers and what they expect from us,
- Setting effective communication between management and employees,
- Learn how to set action plans for organizations and how to these plans implement measures with the aim of continuous improvement of the organization.

Current statistics of companies which are certified by Czech national system of quality in tourism (from June 2016):

- 679 currently certified, a total of 680 certified
- 2.539 trained coaches
- 3.451 registered companies
- 1 certificate is terminated due to closure of a cafeteria

TAB. 1: Percentage of tourism companies using label Czech national system of quality tourism services

	Czech Republic
Total of registered companies (2016)	3.451
Total of subjects in tourism (2012)	91.727
Percentage of certified	3,8 %

The most famous labels of tourism quality in the Czech Republic are the stars, which mark accommodation facilities. These stars are awarded by the Official united classification of accommodation facilities in Czech Republic. It has been operating since 2004 and currently applies these criteria uniformly on the basis of the same criteria of 15 European countries: Germany, Austria, Sweden, Czech Republic, Hungary, Switzerland, Netherlands, Luxembourg and the Baltic countries - Lithuania, Latvia and Estonia, but also Malta, Belgium, Denmark, Greece and in 2015 joined Lichtenstein (Hotelstars, 2015).

Accommodation facilities are classified as * Tourist, Economy **, *** Standard **** First Class ***** Luxury. Accommodation facilities that meet within individual classes of more than just the mandatory criteria and the minimum number of optional criteria, they can get besides star rating additionally designation "Superior".

Example of services requested for 5-star hotel are 24-hour reception, multilingual staff, porter services or utilities parking, concierge, porter or bell boy, spacious reception hall with several seats and beverage service, employees welcome each guest with flowers or gift in the room, minibar and offer of food and beverages through Room Service 24 hours a day, ironing service (return within 1 h) and shoe-shine service.

Requirements for individual stars are given as a minimum, therefore, services or facilities must be the same or higher levels than indicated as satisfactory for the class. It is therefore a voluntary instrument. Stars indicate offer of transparent services and facilities, confidence in what that class accommodation guarantees for consumers. Prices for certifications are from 2.000 to 20.000 CZK depending on the capacity of accommodation (number of rooms) (Hotelstars, 2015).

TAB. 2: Percentage of accommodation facilities using official certification stars

2016	Czech Rep.	Olomouc Region	Praha
Total of certified companies	270	22	24
Total of accommodation facilities	9.362	476	789
Percentage of certified	2,9 %	4,6 %	3,0 %

Other national tourism labelling is called "Cyclists Welcome". Cyclists Welcome is a national Czech certification system that verifies tourism facility in terms of cyclists needs. It is made for catering

services and accommodation, camping sites and tourist destinations. Tourist facilities that pass through certificate are marked with a green sign with a smiling around. Certification includes standards comparable systems in other European countries (such as Bett & Bike in Germany or in Austrian RADfreundliche Betriebe). To obtain the certification label object must meet specific criteria, some of them are mandatory and other are optional criteria. There are currently 1247 places certified in the Czech Republic.

3 Czech regional quality marks

Regional label is used for product or service that is unique to the region by its character, traditions, culture and history, and its uniqueness which has great potential in tourism. The system of regional labels is in the Czech Republic since 2004 and involves 26 regions of the country. Most regional labels are constituent part of the Association of Regional Brands (ARZ) (Kazmierski, 2013).

Quality labels are typically linked to products. Certain regions use the labels to support accommodation and catering facilities, in Jeseníky, Šumava, in the Moravian Karst and the Czech-Saxon Switzerland it stands also for experiences. Regional labels can be used for craft products, food and agricultural products and natural products. Label can obtain traditional and new product if it meets the above criteria and certification committee decides to grant it. Currently there can be found 814 certified products, 86 certified services and 21 certified experiences. Products and services can be purchased in 167 places throughout the Czech Republic.

TAB. 3: Example of regional quality labels from Association of Regional Brands

In addition to the mentioned regional labels, there are also other independent quality labels such as such "Tradition of White Carpathians", "True Wallachian", "The original product of Slovácko", "The regional product of Giant mountains", "Regional Product Lusatian Mountains and Macha region" and "Local product from the west Bohemia".

TAB. 4: Other regional labels from the Czech Republic

Tradition of White Carpathians	Regional product of Czech Paradise	Traditional product of Slovacko	Regional product of Giant Mountains	True Wallachian	Regional product of Lusatia Mountains and Macha region
					

3.1 Label: Tradition of White Carpathians

Tradition of White Carpathians is regional label for products and services that are unique for the region in the protected area of White Carpathians. The main objective is to preserve the gene pool of unique regional varieties of fruit trees. It is the first cross-border label in Central Europe - the products are labelled in Moravia as well as in Slovakia. It currently owns 68 manufacturers in this field, 18 of them from Slovakia. To obtain this label is needed to stand to the principles: Quality, tradition of production in the region, local sourcing, manufacturing in the region and respect for the environment. Fee is CZK 500 to CZK 2,000 per year, according to the applicant type and amount of employees. Moreover, it is necessary to pay a single fee of CZK 500 for the first application.

3.2 Label: Regional product of Czech Paradise

This label is giving to local manufacturers which meet strict criteria of the product origin in the region, originality, ecological thrift and proportion of manual work. Certified producers may be bearers of local traditional crafts - jewellers, manufacturers of ceramics, glass and textile products, farmers and producers of food and other natural products. The number of carriers is 47. The manufacturer has an obligation to mark their certified products - for this purpose may use the tags, stickers, or incorporate logo to the label or packaging of the product (or on the product itself), and if not possible, to ensure marking another way. Certification is granted for two years for CZK 1000 - 2000. Recertification costs are 500 - 1000 CZK.

3.3 Label: Traditional product of Slovacko

Label Traditional product of Slovacko presents the region through its specifics. The main task is the promotion of traditional products and manufacturers. Label aims to identify the products and their links with the region, increase interest in folk traditions and traditional products and help manufacturers through the public interest increase. Label owns currently 52 producers. The certificate is valid for 2 years from the date of issue. During the validity manufacturer guarantees continuous performance of criteria, which are listed in the conditions. In the first year is membership for free and in the coming years is a fee of CZK 500 / year.

3.4 Label: Regional product of Giant Mountains

Regional product of Giant Mountains is proof that the product comes from the area of Giant Mountains, often local ingredients that originated with a large share of manual work and without a devastating impact on the local environment. The brand was established in 2010 as the project by the local action group, aimed to promote local producers. The aim of the labelling is improving the quality of regional production, increasing the feeling of belonging to the local inhabitants with the

region and promotion of the region especially in tourism. There is published catalogue of label holders in the Internet (www.jizerske-vyrobky.cz) and also printed map.

3.5 Label: True Wallachian

On the territory of Wallachia is regional label with the name True Wallachian. This label refers primarily to agricultural and food products, local specialties and handicrafts from the region of Wallachia. The aim of the label is to support local artisans, farmers and food producers whose products are made from local ingredients or are handicraft, whose production is mainly handmade and are associated with the local culture and traditions. Holders of the labels meet regularly to present news and activities of the regional label. They are getting selling stalls at farmers' markets and shops at several places in the region. Holders are part of the catalogue and other label promotional materials. Currently there are certified 38 products, of which 7 are farms.

3.6 Label: Regional product of Lusatia Mountains and Macha region

Regional product of Lusatia Mountains and Macha region is the labelling of food, natural or craft product that is produced in the municipalities in territorial Lusatia Mountains and Macha region. The product comes mainly from domestic raw materials and exhibits of regional and qualitative characteristics described in the certification criteria. Currently there are 20 manufacturers who have approval of label for two years. Registration fee is set at CZK 500. There is also need to pay an annual fee for use of the label from CZK 200 to 400.

3.7 Label: Local product from the western Bohemia

Local product from the western Bohemia is another Czech regional label. The certificate is granted by working group composed of representatives from Czech West - Local Partnership and representatives from local producers. Certification would like to support local producers, artisans, folk artists - private entrepreneurs, small businesses, but also those who operate craft for pleasure at leisure. This label own currently about 24 Czech producers and 31 manufacturers partner region Tirschenreuth in neighbouring Bavaria.

4 Summary

Based on the analysis of labelling in tourism sector in the Czech Republic, it was found several conclusions. Quality labelling in tourism in the Czech Republic has not a long tradition, some labels are up only in recent years. This means also that consumers do not known these labels much. With few exceptions, cannot be traced sufficient information to its price or amount of holders. Often for obtaining the label is enough to send relevant documents and get approval by the commission, without the control of compliance with the various certified properties.

Nowadays getting any label could be a great competitive advantage. There are many labels in the market so that know each of them in detail is almost impossible. As is illustrated by the stars awarded to accommodation facilities, the market situation is unclear.

See the next table for SWOT analysis of labels in Czech tourism market. Table summarises the findings from the analysis.

TAB. 5: SWOT analysis of labels in the Czech market.

Strengths	Weaknesses
Encourage customer loyalty	Certification itself does not raises revenues, it is necessary to work with
Supports enterprise credibility among stakeholders	Many certification, in which the consumer gets lost
Gaining prestige	The need to pay a fee
It is possible to apply voluntarily and cancel at any time needed	Usually it is on each company to show the relevant evidence for obtaining the label
Many types of quality labels (national, transnational, regional)	Little pressure on sustainable development / sustainable products and services
There is a public promotion for all holders (brochures, catalogues, etc.).	After obtaining certification is mandatory to label all products and services
A competitive market advantage	Many manufacturers create their own labels (difficult to distinguish from the real ones)
Marketing tool	Labels are sometimes owned by private companies
	Lack of physical checks, for most brands will be decided only on the basis of materials/evidence supplied by the company
Opportunities	Threats
Involving more companies in the market	Too many brands will lead to the overcrowding of the market
Consumer education about the benefits of products or services with labels	The introduction of the label raises the price of a product or service
Pressure on quality from the consumers side	Consumers will look only at the price and will not care about label
Label support from the government or the EU	
Entering the labelling as a compulsory	
Creation of courses on how to get the label for companies	

There are more than 100 eco-labels for tourism services worldwide, overlapping each other in the sector and geographic extent. It's dated back to the 80s of the 20th century, but their major development have occurred in the nineties (Font & Buckley, 2001). There are plenty of labels of different quality, criteria, content and extent. This situation is causing market disorientation that some consumers may prefer to ignore them (Lubbert, 2001).

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HONEY BEES (APIS MELLIFERA) COMMUNICATION PRINCIPLES AS A PATTERN FOR EFFECTIVE INFORMATION TRANSFER IN THE KNOWLEDGE SOCIETY

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Abstract: *This paper deals with possibilities of using bees communication principles as a pattern for increasing information and knowledge transmission efficiency in the knowledge society. Contemporary society's everyday life is largely influenced by access to sources of information and knowledge. At the same time substantial information overpressure treating society which leads to communication noise upgrowth and also to recipient's attention overfulfilment. This article aims to introduce the main principles of information exchange in the colony and find the possibilities to use some of those principles as a way to increase information transmission efficiency in the knowledge society.*

Keywords: *Bee, Knowledge Society, Information, Knowledge, Communication.*

JEL classification: *C61, D83*

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1 Introduction

For average human being there aren't so many opportunities to use animal life principles in his everyday life. In the colloquial speech, there is possible to find many analogies of human and animal behavior, but in reality, they are far away from the real animal behavior. The situation is similar in case of the honey bees, although people are attributed by positive characteristics there. For instance the well known idiom „be as busy as a bee“ could be considered as a nonsense as there is only a small chance to find a human being who will be willing to be voluntarily worked to death. Yes, there can be argued that in the Japanese culture is possible to find specific syndrome called Karōshi when people literally overwork themselves to death (Jobin et. al, 2014). But this is given by specific culture and society pressure rather than by natural driven instinct as it can be seen at honey bees (Apis Mellifera).

Natural instincts of honey bees could be interesting inspiration for logically minded people, as well as they can help them to deal with solving and understanding of specific issues. However, besides the aforementioned comparisons, bees are often used as a metaphorical tool in Parent-Child sexual communication (Byers, 2011). However, with the knowledge of all life struggles of drones, this example is certainly not appropriate. But there are far more other bee swarm behavioral principles which can be valuable for solving sundry types of human problems. So therefore the aim of this paper is to answer the question whether is there a chance to find solution for the issue of information sharing in the knowledge society.

2 Methods

For this article was used a descriptive research – the major purpose is description of the state of affairs as it exists at present. It is a report of current state.

The research is based on following steps (Ranjit, 2011):

- Formulating the research problem.
- Literature Survey and Data Collection.
- Case Study Analysis.
- Interpretation and Conclusion.

3 Results

There are plenty different types of Knowledge Society definitions (Carlaw et al., 2006). One of the most used and well know says that: "...[K]nowledge society generates, shares and makes available to all members of the society knowledge that may be used to improve the human condition. A knowledge society differs from an information society in that the former serves to transform information into resources that allow society to take effective action while the latter only creates and disseminates the raw data." (Castelfranchi, 2007).

Even though there is possible to find different sources describing knowledge society, however the will that we would like to be a part of the knowledge society is in some cases still just nothing more than a pure wish. For successful implementation of knowledge society principles, basic dealing with issue of information society is strongly inevitable (Tapscott et al., 2008). Same as it's written in the previous paragraph, there are a lot of definitions of information society. One of the simplest says that information society is "based on the integration of information and communication technologies in all areas of social life to such an extent which fundamentally change the social relationships and processes." (Jonák, 2003) Whereas increases in amount of information sources and ways of communication flows is increasing to such an extent that people are not able to cope with existing information and communication technologies.

Information and information technology overload eventually leads to paralysis and a substantial reduction in the efficiency of man. US statistics show that before the iPhone has been invented, people were connecting to the internet five times a day on average. Nowadays, with smartphones in their hands, they are connecting themselves to the internet twenty-seven times a day. The average American teenager sends or receives 3 500 digital messages per month (Třešňák, 2016). Just using basic calculations you can get interesting number - roughly every seven minutes of daylight period they get one message.

Really alarming is the fact that each such beep announcing received message leads to a significant loss of attention to any currently focused activity. This is well known phenomenon called "saw-blade effect". Also distraction presented by the will to win an unrelieved pursuit of to stay informed in the information overpressure environment is another stressful factor which might lead to even more sketchy worldview and disorientation of a human.

Inability to choose information that is really important and relevant is also the limit for the business. Stimuli congestion does not lead not only to procrastination but what is more it leads to decreasing work efficiency and in final account to financial losses. Jackson et al. (2001) describe that email messages do have some disruptive effect by interrupting the user - more than is generally assumed. Approximately every five minutes an average office worker gets an email. Compared to common opinion that workers will read the emails in his free time (DeMarco T. and Lister T. 1999), in actual fact they read an email in six seconds after mail announcing. In comparison to the telephone call recovery time for email is just a little over a minute while for telephone it is nearly 15 minutes (Jackson et al. 2000) But when taking into account the amount of incoming emails and the incoming frequency, one minute recovery time will be significant when accumulated over a whole day (Jackson et al., 2001).

All kinds of distraction connected with information overload in fact lead to significant deceleration of society development. But as long as the society needs to accept the principles of knowledge society, all issues of information society has to be solved beforehand. Only in that situation in which people will be able to orientate oneself effectively in the information noise environment there further society development will be possible.

Human being, as a top of the pyramid of all the species, should sometimes look down there at his smaller mates in order to get some inspiration. The ability to share, collect and process information by the members of the bee swarm is in comparison to the human almost incredible. Maybe as the most interesting part of the bee communication could be considered situation when bees communicate about food sources. It's amazing how they can effectively transmit the most important facts to the rest of the hive.

In summer period there are approximately about 50 to 60 thousands of bees forming the colony in the average hive (Seeley, 2009). Every bee in this huge community has its own exactly predetermined role. Within the intentions of this article the foraging bees will be mentioned. Foraging bees are bee workers mostly older than 41 days of life and they are responsible for pasture finding and to forage nectar and pollen (Rueppell et al., 2007).

But before they can start to forage pollen and nectar, there is obvious need to find sufficient source of pasture. Bees are really efficient and they want to find some bountiful source for collecting vital nourishment. Driven by this force honeybees are searching for rich and undivided single variety nectar and pollen resource from one type of flower rather than to fly from one kind flower to the different one (Přidal, 2005). In order to do this, with the rules of efficiency on mind of course, there has to be well organized behavior in the bee colony as well as excellent abilities of individual bees.

As it was already written above there are about 50 thousands bees in the hive. In doing so, only one of them is Queen, the reproductive female in the bee colony. Also there are several hundred of drones, a male kind of honey bees and the rest are all kinds of worker bees. (Seeley, 2009)

Approximately about a third of the total number of working bees are employed foragers, worker bees that are engaged in exploiting a patch of flowers. (Seeley, 2009)

At this point the bee's efficiency starting to be inspirational for humans. In actual fact only 5-10% of forager bees are involved in the process of forage sources searching (Seeley, 2009). Because every flight consumes sizable amount of valuable energy, the rest of workers stay at the hive waiting for crucial information about sufficient sources or still working on previously discovered flower patch.

Those forager bees, searching for appropriate flower patch, are certain kinds of bee colony envoys. They are needed to deliver complete information about food source in proper time. However, as soon as they find forage site, they spend additional time by searching the shortest way from forage site to the hive. According to Peroutka (ČRo Radiožurnál, 2014), they do the flight even ten times in order to find the shortest route. By doing mentioned flights, they have to record an additional information necessary to further navigation of other bees. Not until after the bee evaluate all possibilities and calculate most economical route, she is ready to transmit all important information to the rest of the hive.

When forager bee returns to the hive she has precise information about discovered food source stored in her brain. With this information she also brings to her nestmates a sample of food stored in her pollen baskets and honey stomach. (Seeley, 2009) Sharing this knowledge with other hive inhabitants is possible thanks to so called "bee waggle dance" communication behavior. (Frisch, 1967) As it was found in later years, besides dances there is also pheromone based way of communication. And also transmission of vibrations plays a role. (Kirchner and Towne, 1994) But this is not so important because specific forms of information transmission are more important rather for biologists than economists. For the purpose of this article is more important general way of dealing with information.

The bee involved in food searching and following information transferring, also has to bear in mind specific day time when her colleagues will fly for pasture. So she provides them with information about distance between flower path and their hive and - what is really important - the relative position on the angle between the hive and the sun precisely corrected by the time of day. (ČRo Radiožurnál, 2014) When she conveys her nestmates about the profitability of founded food source, she flies as a guide and other ones just follow her. She is real competent knowledge holder. (Seeley, 2009)

As it was already mentioned before, there are thousands of bees in the hive. And several hundreds of them do the same job as the bee described above. Thus those bees are constantly updating the information on the food sources and about their profitability. Though it may seem there is a huge confusion in the hive, the information exchange between the bees flows fluently.

4 Discussion

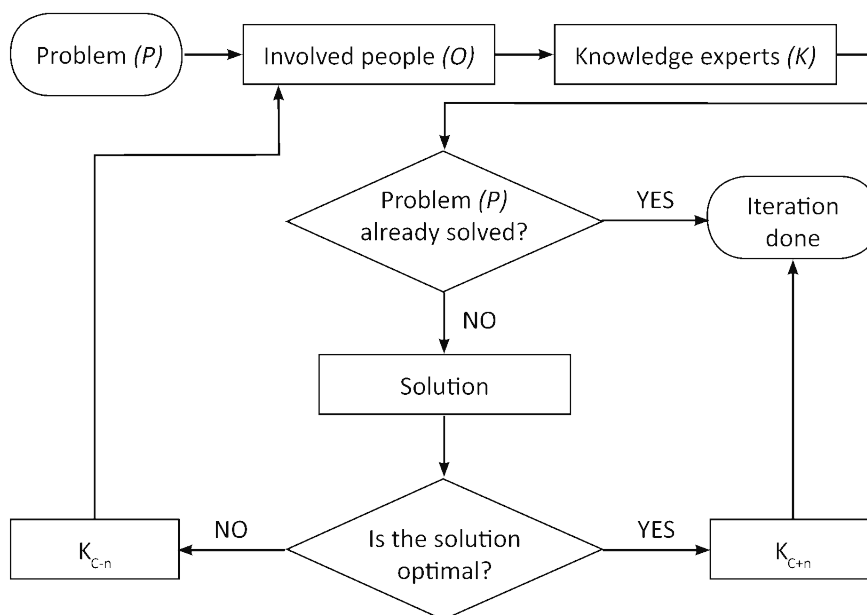
In the first part of this paper the issue of information overload in information and knowledge society was described. Transformation of the information society into the knowledge society is inevitable in order to achieve the desired aims society development. But without the ability of process information effectively there will be congestion in the information space and transfer of knowledge will be slowed down in the ambient information noise. So the question is whether humans can use some of the bee communication principles to uplift their information and knowledge transmission?

The answer is yes as there are already some optimization algorithms based on the intelligent behavior of honey bee swarm. Well known one is the Bees Algorithm which was developed in 2005 by D.T. Pham (Pham et al., 2011). Originally it's a method designed for optimizing continuous and combinatorial functions, but also clearly describes the issue of information exchange and elaboration. After some adjustments this algorithm may be used for interpersonal communication and knowledge and information sharing improvement.

Let's have model where P is some problem, mostly represented by the need to find important, truthful and relevant information in an information overload environment. Also let's imagine there are two groups of people. One group examines the surroundings and brings information, whereas the second group waits till the information is processed and then consumes it. The first group consists of different kinds of knowledge experts on a different quality levels, let's mark them as $K_1 - n$. Second group, let's mark them as O , consists of the rest of the involved people, wherein there is $O = H - K$.

The process itself is shown in graph below (Figure 1). Chain of events and their flow is simple however solutions will vary depending on the specific situation. At the beginning there is a Problem (P) which has an effect on Involved People (O). They postpone the problem to be dealt by Knowledge Experts (K). The first judgment step is represented with questions whether the Problem (P) is relevant enough. If yes, they are working on solution which hereupon is forwarded to the group of Involved People (O) for further evaluation. If majority of the Involved People (O) indicate the proposed solution as applicable, than the Knowledge Expert might get improve their quality level and get higher credit and impact for the next iteration ($C+n$). On the contrary, the ineffectual solutions and their authors will be downgraded and their impact for the next iteration will be low but possible ($C-n$). It might also happen that Knowledge Experts (K) will indicate the given Problem (P) as already solved and thus the process will be closed. The iteration is repeated so many times, until the optimal solution is found.

FIG. 1: Process of problem solution under the influence of the Bees Algorithm



The usability rate of previously mentioned bee principles must be set by practice. But at least the bee colony is an incredibly cooperating social unit which is worth to learn from. As Don Tapscott (Tapscott et al., 2008) stated in his book Wikinomia, collaboration within the knowledge networks is necessary in order to successfully follow the path of society and economic transformation.

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PATHS TO COMPETITIVE STABILITY OF A COMPANY AT THE BEGINNING OF THE 21ST CENTURY – CONTINUITY AND DISCONTINUITY OF THE APPROACH TO MANAGEMENT OF COMPANY ACTIVITIES

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Abstract: *The contribution is focused on the selected changes of objective circumstances for the realization business activities in the current period. The continuity of the directing company activities ensures a relatively high stability of the firm's goals. On the contrary, the authors see discontinuity like a necessary program of changes. These changes are reflected in the managerial approach; of course must be respected the real situation in the external environment. The imperative for competitiveness of the company is seen in digitization business activities - a tool that was originally seen as the most important element for the future development.*

Keywords: *company activities, company goals, continuity, discontinuity*

JEL classification: *O33*

Grant affiliation:

1 Introduction

Currently, companies must simultaneously cope with a full range of issues whose successful resolution depends on many factors. The majority of managers are well aware of this fact. If they want to succeed on the market and fulfil their fundamental goals, it is necessary that they realistically consider the means by which they will carry out their basic (principal) company activities. A fundamental criterion for success of such activities is the given company's dynamic stability in a turbulently changing environment. At the same time, ability to appropriately respond to significant changes within the firm and, to a decisive extent, in its surroundings is also important.

Which issues are and in the near future will be prerequisites for the competitiveness of companies? To what kind of challenges will managers have to respond? In the limited space available, the authors of this article will attempt to at least indicate some of the essential aspects of this issue.

Part of this article comprises pilot research on the issue in question.

1.1 Competitiveness as a multidimensional category

The issue of companies' competitiveness and its continuous enhancement is the result of an interdisciplinary approach in which there appear not only economic, psychological and marketing elements, but also the actual situation influenced by other, related perspectives that would be necessary to comprehensively examine. Our view is focused at this time primarily on whether the fundamental goals of firms are changing in a newly established environment, which basic conditions will influence the business environment in the near future and what will decide whether current firms will maintain their competitive position on the market.

Competitiveness is defined as "the ability to assert oneself in a particular field in comparison with others".

Other authors are currently contributing to the definition of this term, for example Marinič (Marinič, 2008, p. 15), who states that "competitiveness at the company level can be understood as the ability to produce and sell a particular product under the condition of maintaining profitability." Pavelková (Pavelková, D., 2009, p. 27) points to the same issue, stating that "the competitiveness of a company is derived from particular advantages that the company has gained by its method of production and operation on markets in comparison with its competitors on the market."

In the meaning giving above, the term "competitiveness" appears to be an aggregate of aspects focused on a company's operating ability in its area, as an external requirement. As a pure form of struggle with the surroundings. The authors point to the fact that, in their opinion, this is not a form of struggle with the surroundings, but primarily a matter of the company struggling with itself. In order for a company to succeed in externally defined competition, it must first successfully create conditions over the long term.

Based on the above-mentioned defining opinions, which define a company's competitiveness in terms of the company's relationship to its surroundings, the authors of this article reached the conclusion that it is possible to define this also as a process of forming a complex of competencies, characteristics, events and happenings (of an economic and non-economic nature) that influence the particular market position of a company in a given market segment, and determine and define its possibilities and the nature of its goals both in the present and in the future. This always involves a specific and unrepeatable process with respect to constantly evolving internal and external conditions. Thus more or less as processes taking place on a priority basis within the company, mastery of which enables successful external communication – competition.

Competitiveness is an issue connected with the strategy for building a company's value.

The company's future prosperity is not directly and exclusively related to the issue of reducing costs, but is rather directly related to the company's ability to innovate its internal processes (at least, at the beginning, the decisive and principal processes). Innovation of these processes is necessary primarily because of the innovation of customers and their needs and requirements.

The customers of today and tomorrow (both individual and institutional) are better informed, have greater possibilities to obtain information relating to their own purchasing decisions and are more demanding. They can better and more precisely define and demand not only value of the required

product, but also value added of the product or service. The key word “quality” always stands at the centre of customers’ and suppliers’ (producers’) attention, but another requirement – time – is just as strong an imperative for the present period.

Companies must manage far more activities, monitor planned and ongoing processes in greater detail, manage large amounts of information, and evaluate and sort large amounts of data. Within this activity, they must be precise and productive, and mainly prepare everything at the right time. That does not mean that they always have to be first, but they must be able to work with the given process at the moment when it is important and profitable.

1.2 Continuity of goals and discontinuity of the environment

“A person equipped only with a ‘classical education’, even if such person improves on such education himself, will not have a chance to fully apply himself in the digital world.” (see Strategy of Digital Education to 2020)

In the changing social environment, through all turbulent changes, there are currently no reasons to doubt the fact that the basic goals of companies will remain the same. Successful companies will continue to increase their market value, stabilise their activities in the given market segment and strive to generate positive economic profit.

Basic discontinuity is, of course, connected with the characteristics of the environment in which these activities take place. The ability to compete will be decided to a significant extent by how able individual companies are to cope with the massive rising trend which has undoubtedly foreshadowed the competitive environment in the coming years. This phenomenon is digitisation of company processes, operations and activities.

2 Digitalize

The fourth industrial revolution offers firms both tremendous opportunities and tremendous risks. A company that does not latch on to the digitisation trend risks extinction, which is something that mainly large Czech and multinational firms already understand. The whole process of digitisation will now be carried out continuously in all types of firms.

Which areas are problems for domestic firms that stand at the threshold of digitisation of company processes? What do they mostly lack?

- a) Defined principal processes and absence of knowledge of difficult problems – lack of preparedness to resolve such problems.
- b) Precisely defined resources – financial, personnel, technical and technological.
- c) Clear, defined and tested processes in the event of the occurrence of primary difficulties.
- d) Risk management – there are no systemically anchored activities with content prepared in advance (momentary operation predominates).
- e) Continuously conducted and evaluated external and internal analysis of the market segment.
- f) Defined system of quality in specific conditions.

It is possible to agree with the statement of Kateřina Smejkalová (SMEJKALOVÁ, K., 2016): “The digitisation process cannot be approached as a naturally occurring element that we are at the mercy of. On the contrary, it is necessary to understand it as a process that we can actively shape in order to minimise risks and maximise opportunities.”

In many firms, especially large corporations that have teams of ICT specialists, these processes have already been started. Problems will become apparent with respect to insufficient digital literacy mainly among small and medium-sized firms, where implementation will depend on individuals or smaller teams.

Which areas will most clearly be affected by the digitisation process? Based on experience, we can only infer that such segments will be primarily the following:

- Circulation and management of company documentation – the so-called “paperless firm” concept, wherein routine tasks will gradually be digitised and, for example, the human factor will be eliminated in the area of the error rate due to fatigue, overwork, unsuitable working conditions, etc. Among other things, this concept will also enable different circulation and management of information of a technical-administrative character in the form of clouds.
- IT support for ongoing assembly processes according to sets prepared in advance.
- Systems of analysis, planning and management of defined processes, operations and activities.
- Optimisation of the supply process, the system of relations with suppliers and customers, and the company logistics system.
- Asset management and maintenance.
- Integration and use of databases, etc.

Digitisation will to a significant extent influence the labour market and the required knowledge, skills and experience of employees. More than at any other time, there will be the danger of so-called “digital exclusion” among groups of future employees who lack the basic prerequisites for working in a digitised firm. According to some estimates, this could affect up to 15-20% of employees in future. In this regard, access to the system of lifelong education, which a large percentage of employees including younger workers consider to be burdensome and superfluous, must be completely changed.

This also raises the question of which positions are most threatened by digitisation. According to Chmelař, such positions are the following:

Position	Digitisation threat index
Office workers for processing numeric data	0.98
General administrative workers	0.98
Motorcycle and automobile drivers (other than freight vehicles)	0.98
Cashiers and ticket vendors	0.97
Skilled workers in forestry and related fields	0.97

Forgers, toolmakers and workers in related fields	0.97
Other office workers	0.96

Below, we can see where digitisation does not affect the labour market. It is apparent that managers needn't be too worried.

Position	Digitisation threat index
Managers in retail and wholesale	0.000
Physicians (excl. dentists)	0.001
Nurses and obstetric assistants with specialisation	0.002
Managers in the area of education, healthcare, social welfare and other areas	0.002
Managers in the areas of sales, marketing, research, development, advertising and public relations	0.005
Teachers at universities and colleges	0.008
Managers in the area of information and communication technologies	0.008

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In 2004, Mr. Nový successfully completed his doctoral studies at the Faculty of Economics and Logistics in Vyškov in the field of economics of national defence, when he addressed the issue of effective use of resources in the conditions of the Czech military. From 1989, he worked as an instructor in the military training system at the Military University of Ground Forces in Vyškov and the University of Defence in Brno. He successively held the positions of head of the economics subject group, deputy head of the department head, from 2005, head of the department of economics and the economics of national defence. He repeatedly served as the chairman of the faculty's academic senate. He left the military university system in 2010. Since 2013, he has worked

as the head of the department of economics and management at Unicorn College in Prague, where he focuses primarily on the issue of corporate economics and management of corporate financial systems based on the use and application of ICT in such systems. He also focuses on analysis of the economic-security systems of the state, companies and individuals.

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