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Preface

In the times of dynamic global changes and uncertainties, companies, regions and whole countries are trying to stay competitive and successful in a long-term perspective. In this context, the current management reflects the related issues at a theoretical as well as practical level and there is a need to pay attention to domestic, regional as well as international particularities and new growing markets in the light of research.

The success of a company consists in a persistent effort to gain or maintain a leadership position in the market and it plays an important role to measure the quality of management.

The conference proceedings comprise of the research papers which address all the significant areas of current managerial, economic and other issues. It offers the latest results of the scientific research activities supported by the most important theoretical background.

The publication consists of nine sections. The structure of the publication properly corresponds with the mentioned ideas and it includes all the important areas of modern management theory and practice.

The first section is dedicated to the areas of business and management and human resources management. The second section covers the topics from the field of economics and finance. The next part focuses on the issues of regional development. Innovations in the relation to marketing are included into the fourth section.

Another dominant conception of the publication is represented by the section of tourism, hotel and spa industry which play a significant role in the special area of management. The issues of environmental management and informatics comprise the next two sections in the structure of the publication.

The eighth section consists of the research papers which address various legal, ethical, cultural, psychological and other aspects of modern management. The last section is dedicated to the issues of econometrics and quantitative methods used in managerial practice.

We believe that the new findings collected in the research papers in this publication can be seen as a decisive tool in a decision making process to determine the development and success of companies and not only as a theoretical collection of studies and they could be transferred into the practice of organizations to help them manage and organize their activities in order to achieve their main goals and to reach the desired positions in domestic as well as international markets

We also believe the conference proceedings can contribute to maintain or improve the high academic standards of all economically oriented universities and faculties of management.

September 2016

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1. Business & Management, Human Resources Management

Business Environment in Developing Countries

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Abstract

This paper seeks to encourage potential and existing entrepreneurs to do business, even in economic crisis and global recession. The global economic crisis strongly affected less developed areas, especially small entrepreneurs in these areas. In such conditions there is not much space left for successful entrepreneurship, entrepreneurs are forced to search new opportunities, and to do businesses with higher risks. They must have a modern approach to entrepreneurship, which tries to discover new opportunities in an innovative way. The paper shows that crisis and recession can provide new opportunities that need to be detected at the right time Competitive advantage may be gained if the entrepreneur is able to offer something valuable and important to the market, and if it differs from the competition in a way that offers better quality. In addition, there must be many other sources of competitive advantages which should support the main source of competitive value. The aim of the paper is to help entrepreneurs to find sources of competitive advantage in time of economic crises.

Key words
Doing Business; Economic Crisis; Competitive Advantage

Introduction

The goal of every company is to achieve sustainable profitability, and the goal of every business is profit. In order to achieve this there must be a basic orientation of the company and its operations. Through the realization of defined goals potential profit potential will be converted into real, even in times of economic crisis.

Every successful business brings a contribution to social welfare. However, a low level of agreement between theoreticians and practitioners about what social entrepreneurship is exists (Trivedi & Stokols, 2011). In fact, Marković et al. (2011) argued that the whole business environment changes, and accordingly to these changes the organization and structure of the company changes too. Fast flow of information becomes a key point of any business success, and when technological solutions are well-established then the business mostly depends on abilities and skills of entrepreneurs. Eeckhoudt et al. (2011) debated that the existence of high correlation between risks should increase the value of information. However, effects of recession had a significant impact, but entrepreneurs shall not be discouraged to invest in businesses. Crisis management is a systemic approach that engages the whole organization in efforts to avert crises that may affect the firm. Pearson (2002) argued that optimal crisis management is crisis aversion, but there is no way to ensure that an organization will escape economic crises.

New business opportunities in economic crises

In economic crisis, when the business environment seems to be confined, and when it seems that it would be extremely unreasonable to search new business opportunities, a new business opportunity always exists. In addition, successful companies with business tradition exist at the market, what may discourage potential small businesses to establish and develop new businesses. But in the other side, the belief that there is always a better, more creative and more innovative way to do things in business encourages. New business opportunities open the way to do something different and better, and innovations allow doing business activities differently and better. Wickham (2001) argued that no one can defend from creativity and innovation in a long-term, what leads to discovery of new business opportunities.

In the situation when the industry is declining, and when all significant industrial sectors are declining, a new business must be highly innovative, usually offering high quality products, and/or related services, which are developed and adopted to new business.

Lifetime of Business in Crisis

The analysis of business lifetime is based on analysis of the lifecycle of the product/service in the market, and represents a period when a new product/service does not face significant competition in the market. (Levy, 1998). For any product, especially for market-oriented innovative products, there is an opportunity for market exploitation, even in economic crises. But, the business opportunity is constantly narrowing, and the lifetime of the product is shortened, competition grows, which appearance is increasingly frequent, and additionally the economic crisis weakened the market. In the other side, to get knowledge to be produced by markets may be highly innefficient (Stiglitz, 2010). In some cases, one can succeed in doing so, but the societal costs of using a market mechanism may be large. It is worth to mention that the SME sector is the most dynamic sector, and the effects of the crisis first are reflected in this sector. Businesses in the SME sector depend on well-functioning state institutions to build a good invstment climate and deliver basic services competently (Goldin & Reinert, 2012).

Sources of Competitive advantages in economic crisis

A key question is why some companies gain a long-term competitive advantage and others do not. One view focuses on internal resources and capabilities as sources of sustained competitive advantage for companies (Zhao et al, 2014). The sources of competitive advantage in economic crisis could be costs, knowledge, relations, and structure (Dollinger, 1999). The main approach to sources of possible competitive advantages is orientation to strategic capabilities and competence of the enterprise. In times of economic crisis, we will not only witnesses of an impressive growth of SMEs, but also large enterprises must restructure in order to survive in the market. SMEs are key generators of employment, and drivers of innovation and growth. In EU they count over 99% of all enterprises (OECD, 2009). SMEs can increase employment and economic output, which drives the economy out of the crisis (Krugman, 2012). Given their importance in all economies, they are essential for economic recovery.

Entrepreneurs and people who want to establish new enterprises or take over existing companies need a start-up equity. To boost establishment and acquisitions, the required volume of incentives is higher than by usually saving incentives (Brūmerhoff, 1996). Such an incentive could be more favorable lending terms, particularly lower interest rates than those that exist in the market. In many cases, it turned out that companies that have used some of support programs are more dynamic then other companies which did not use incentives. Ideas are the most powerful influence on development (Goldin & Reinert, 2012). Ideas are the transmission of distinctive intellectual constructs in any field that can have impact on production systems, management practices, and technological trends. Ideas are fundamental to the future progress of development (Meier & Stiglitz, 2001).

Effects of delayed market entry

Many management books talk about adoption to the market and business environment, which are changing. But, if you are adopting you react, you are waiting to see what will happen, and then you adjust (Adizes, 2009). It can work if the change is very slow or at least so slow that your reaction is faster. While you adjust to the environment and to the market it could change again, and you always will lag behind.

Developing a product can require five to ten times the time, expense and effort required to produce a device (Phillips, 2001). It also requires market orientation. In the other side, if the crisis is a problem that is not solved, and is waiting to be solved, then the enterprise must address problems that arise proactively, and if the company addresses the problems successful they will not turn into a crisis. The longer you wait the problem becomes more complex and difficult to solve. The crisis persists, businesses are shutting down, employment is falling down, and the result is that the demand falls, and crisis threatens to grow into a global depression.

Figure 1: Effects of delayed market entry
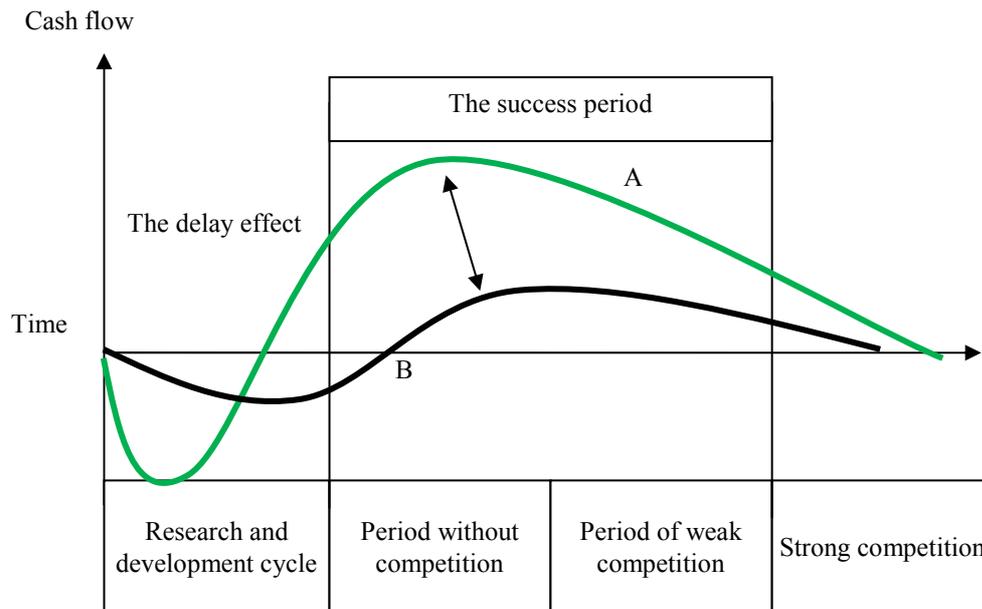
At the picture can be clearly seen the effect of delayed market entry in a particular market. Enterprise B is late in reacting in the field of research and development. As a consequence, the enterprise is constantly faced with competition, and with poor utilization of business opportunities. On the other hand, company B has reacted on time, and took in the right way the business opportunity in the market, especially in the period without competition.

For current and future entrepreneurs

To succeed in business today, it is necessary to redeem a drain flock. (Riderstrale & Nordstrom, 1999). It takes an innovative business, different, unpredictable and full of surprises. It takes also a new paradigm of management theory, a universal theory that is independent of culture, economically neutral and non-elitist, which leads to superior economic performance (Adizes, 2011). The management process is too complicated for any individual to be able to become excellent in each of its segments. Successful management is a team process. True, one leader, primus inter pares, but without others, its individual decisions can take the entire organization in the loss. Do not forget to create a crisis plan with your team, and incorporate it into your operations manual (Fredricksen, 2012).

Do not get inspirited from Asian models (China), where the success of the economy is paid almost with slave-like position of employees, who meet high standards with minimum wages. Get inspired from the development model of western countries. Invest in research and development, create high-quality and innovative products, develop services, and smoothly shift to the service sector, offering demanding and specific services.

To cope with challenges, executives will be required to redefine their managerial mind-set (Rhodes & Stelter, 2010). They will need to reexamine the context in which they make decisions and act as leaders. A leader in economic crisis should:
1. Be visible
2. Set clear tasks and expectations
3. Keep expectations real
4. Use the extended leadership team
5. Invest in retention
6. Track progress – communicate any change of direction.

Conclusion

Generally, business is the ability to initiate action, to take action in order to achieve certain goals, with willingness to accept accompanying risks, and to fight against all obstacles and unforeseen difficulties (Dragičević, 1994).

An entrepreneur must possess talent, great will, very good education and continuous vocational training (Marković et al., 2011). A modern entrepreneur must start from customers, from market research, and not from production lines. The modern approach to business is based on the customer and from him back to production or procurement, depending on the type of the business.

To have a successful business in economic crisis, the business must be innovative, modern, and designed in a way that offers something new, different, and better. The interactive relationship between the enterprise and its environment becomes a key point as suggested by (Phillips, 2011) and the orientation of the enterprise towards external environment should be the major preoccupation. Enterprises and business should adapt to changes in environment, respond to changes in environment, respond to market demand, and in this way fight crisis.

Today, after collapse of global economy, almost everybody is telling that the need for regulation or at least for more regulation than was the case before the economic crisis exists (Stiglitz, 2010). The crisis would be less frequent, less expensive, and the costs of the regulation would be lower. Again, in theory, markets were supposed to provide discipline, but in today's dynamic world, the discipline of the market is compromised. However, our epoch is still the closest to the dream of general leap of humanity from rule needs to rule of freedom thanks to modern economic science (Medema & Samuels, 1996).

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Diagnosis of the Situation of Family Businesses in Poland

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Abstract

Family businesses play very important role both in the individual national economies and the global economy. Despite this, in many countries still they are underestimated, there are paid little attention to them and there are not noticed their specific characteristics, needs and terms of functioning. In Poland relatively recently there are started to pay more attention to this topic and noticed uniqueness of family businesses. However, there are still many things to do in this area - ranging from more precise estimating of the impact of these entities on the Polish economy, by changing the perception of family businesses in the community, to increasing of scientific support. Despite this deficiencies, family businesses are developing their activity and some of them can even successful operate on foreign markets. The purpose of this article is to present situation of family businesses in Poland, most important problems of their functioning and their perception of their own future.

Key words

Family business, entrepreneurship, Polish enterprises

Introduction

Family businesses have been gaining interest of the world famous researchers since the seventies of the past century. In the 21st century they have been given more and more attention. Despite a considerable amount of time devoted to this issue, nothing like a uniform and accepted by all definition has been created so far. The differences in definitions are vast and have impact on basic issues, such as specifying the number of family businesses and their participation in the general structure of companies and, as a consequence, their actual influence on the economy of particular countries, as well as global economy.

Researchers trying to define the notion of „family businesses" most frequently draw attention to such aspects as: ownership, management, family involvement in business and family succession (Sułkowski 2011). The criterion that is often assumed in the research is subjective (when the owner specifies his business as a family one) (Małyszek 2012). These criteria may be assumed individually or together, whereas most researchers defining family business refer to at least two criteria (most often - ownership and management). One of the most commonly assumed definitions says that: "family business has a free legal form, the company capital is totally or to a considerable degree in the hands of the family, and, at least, one family member has a decisive impact on the management or holds managing position himself with the intention of keeping the company in the hands of the family" (Polish Agency for Enterprise Development 2009, 50).

Family business in Poland

In Poland the issue of family business has gained attention considerably recently. Though the first research was conducted at the end of the last century, it has been continued by a very small group of researchers. Family businesses were put aside, for long their meaning was depreciated. It may result from the fact that throughout the tens of years of communism in Poland, private ownership was not welcomed and the society was instructed not to be in favour of any type of entrepreneurs, as they made capitalists and exploiters. However, the latest research has shown that family businesses are assessed by the Poles positively and are associated with such features as: tradition, high quality, reliability and credibility. The main motivation of buying products from family businesses has been the feeling that the owner himself watches the product quality (Nikodemska-Wołowik 2015).

The lack of a more considerable interest in the subject of family businesses and the problems connected with defining the issues cause that it is really hard to judge how many family businesses actually operate in Poland. The Office for National Statistics does not specify the category of a "family business" in its registers and that is why there are no certain and verified data. Due to the above, in certain studies different numbers are quoted. Moreover, in some studies there are different,

excluding values. It is the case with e.g. the report prepared upon the order of the European Commission in 2008. The share of family businesses in the general structure of companies in Poland is specified, according to the experts' opinion at 70-80% or at least 50% (Mandl 2008). Other numbers are found in the study of Polish Agency for Enterprise Development (PARP) of 2009 - there was estimated that family businesses made only 36% of micro, small and medium enterprises (MSMEs) (Polish Agency for Enterprise Development 2009). The reason for the differences is assuming different criteria of recognising the subject to be a family business. PARP assumes that family businesses are the companies of any legal form, registered and active in Poland that meet the following conditions:

- at least two family members work in the company,
- at least one family member has a significant impact on management,
- family members have a meaningful number (majority of) shares in the company.

However, as in was stated in the report, if the subjects conducting economical activity as natural person, that do not employ workers, had not been excluded from the statistics, the share of family businesses would have increased to 78 % (Polish Agency for Enterprise Development 2009).

Based on the research results of PARP of 2009, it can be assumed that an average Polish family business operates in the MSMEs sector, is conducted in a form of economical activity of a natural person, makes the sole ownership of its owner and is managed by him with mainly the members of the first generation working there and, finally, the owner is planning to hand it over to a successor, though does not have a particular plan of succession (Polish Agency for Enterprise Development 2009).

The situation of family businesses in Poland is best specified by the companies themselves. The opinions of family businesses in Europe have been examined by KPMG with the cooperation of European Family Business. The Polish version of this research has been done in the cooperation with Family Businesses Initiative. The research of information does not only concern the actual functioning of family businesses, but also their plans and considerations concerning the future. On the graph 1-4 selected result of the research are presented.

Graph 1. Activity in the last 12 months
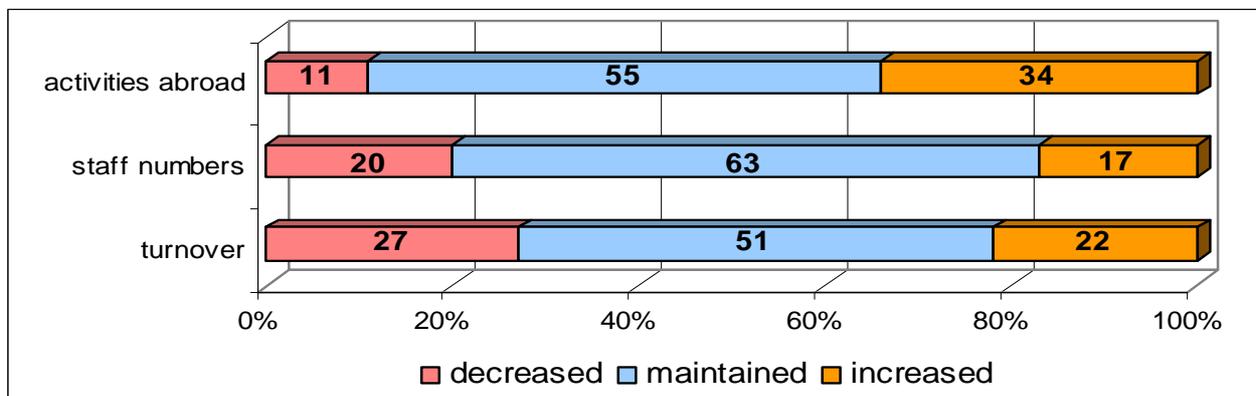
Source: own study based on: KPMG 2015.

In the case of the majority of the examined companies the last 12 months have not brought changes within turnovers, employment and foreign markets activity. Analysing the general data for all family businesses, it can be noticed that the situation of these companies has worsened, as in the bigger number of companies, decrease of income has been observed (27%), rather that increase (22%). A similar problem concerns the issue of employment. Only in the case of foreign activity we come across a positive phenomenon, as the number of family businesses that have increased their presence in the foreign markets is 3 times bigger than the number of family businesses that have decreased their activity in that field. It must be stressed, however, that only 3/4 of companies taking part in the research conduct international business activity.

Graph 2. Economical situation in the perspective of 12 months
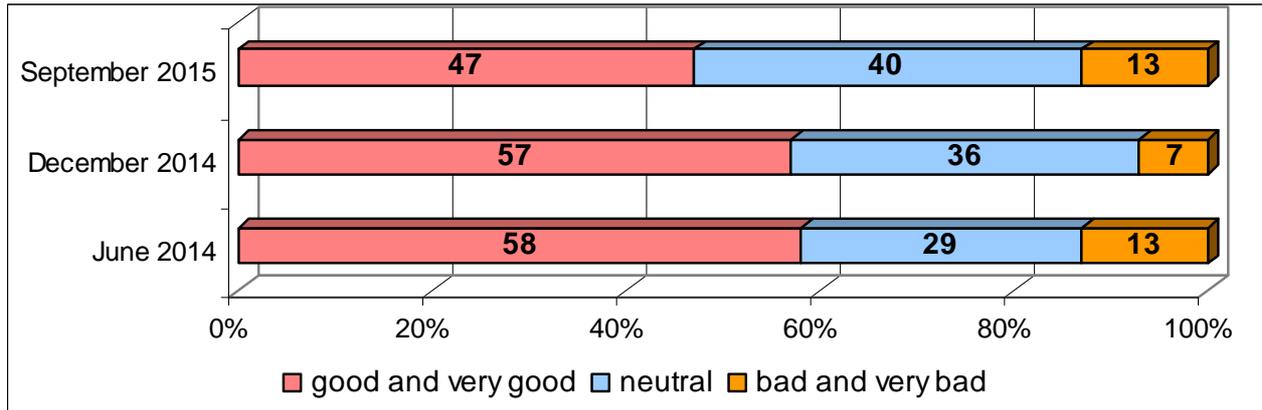
Source: own study based on: KPMG 2015.

Predictions concerning family businesses as for their future economical situation are less positive. Over a year the percentage of companies forecasting their future situation as good and very good has dropped of 11 percentage points. After a momentary drop of the share of companies that assess their future economical situation negatively in December 2014, in September 2015 their number increased again. More and more companies assess it as neutral that can mean that they cannot really specify what they may expect in the next 12 months.

Graph 3. Investment planning
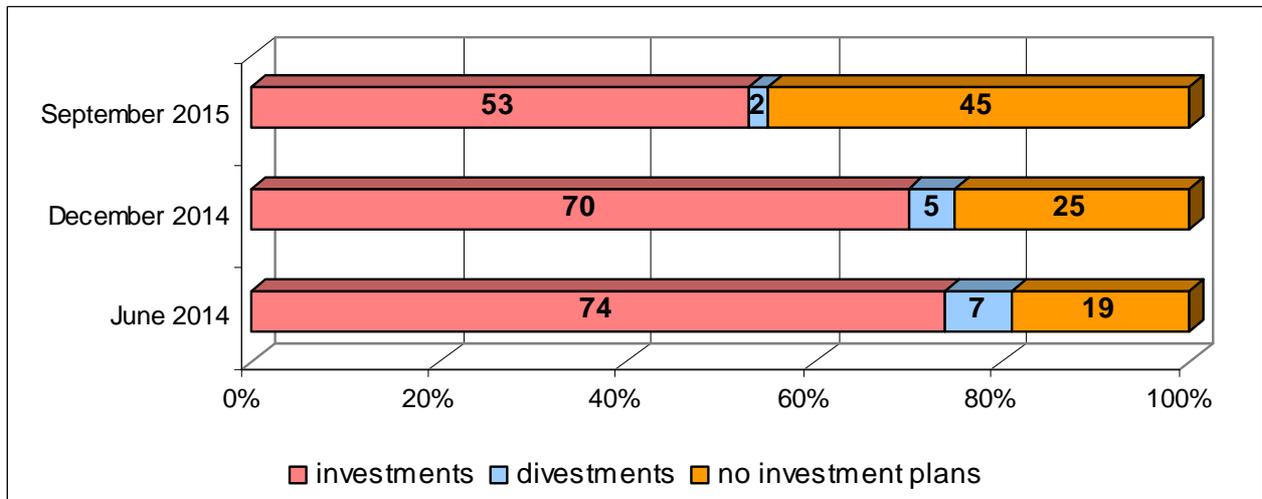
Source: own study based on: KPMG 2015.

The percentage of companies that are planning to realise new investments in close future has been dropping systematically. Between June 2014 and September 2015 it has decreased of 20 percentage points. The group of companies that do not have investment plans has considerably increased. It can be connected with a less and less optimistic perception of the future economical situation by the family businesses. Not too many companies are planning to complete investments (their number is decreasing in the analysed period). Thus, it may be assumed that the investments undertaken by the family businesses are usually well considered and, due to it, economically effective and do not cause loses.

Graph 4. Strategic changes considered within next 12 months
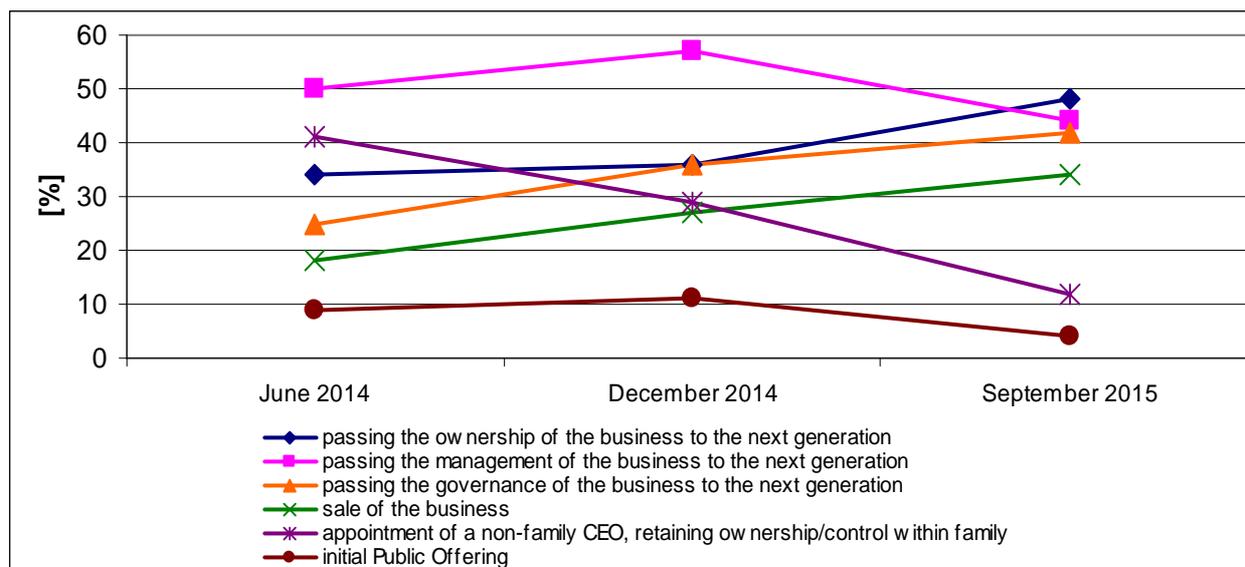
Source: own study based on: KPMG 2015.

In September 2015 38% of family businesses have been considering the introduction of strategic changes. This result is worse than in June and December 2014 (42 and 39 %). Most frequently planned strategic changes in September 2015 were connected with the cession of ownership, management function and authority over the company to the next generation. The percentage of companies with the cession of management positions to the next generation has been lowered. It may result from the fact that this process has already been realised. The data show that the issues connected with succession have gained key meaning in the Polish family businesses. The reason for such a condition is the fact that the majority of owners of these companies (that now make their owners and directors) is slowly coming to the retirement age and is more likely to make the cession of the business to the successors.

In the analysed period, the group of companies that are planning to appoint the non-family CEO has considerably decreased. It can, however, similarly to the cession of management function to the next generation, result from the fact that such strategic change has already happened. The percentage of companies the owners of which consider their sale has been increased. The reason of such a state of matters can be e.g. financial needs, however, it can also result from the lack of a proper successor who could overtake the company successfully. Unchangingly the possibility of initial Public Offering has gathered little interest.

Biggest challenges and barriers of the family businesses development in Poland

Family businesses deal with a number of problems, their development is impeded by numerous barriers. In KPMG research, family businesses considered the increasing employment costs (51%), increasing competition (35%) and political instability (31%) to be the biggest challenges (KPMG 2015). These problems can be seen as common for all companies, not only family businesses. However, family businesses also deal with specific barriers, connected with the problem of succession. The importance of this issue is indicated by them - in the research conducted by Blackpartners, succession is considered to be the most vital problem by 20% respondents (Blackpartners 2015). The problem of succession was stressed even more in the research of PwC and Family Business Institute - it reveals that 50% of companies consider succession to be the key challenge, while 60% of owners have already chosen their successor and 37% are planning to execute succession within the next 5 years (PwC 2015). Also, analysing the strategic plans of family businesses, it is clear that succession will make one of the main challenges in these businesses.

The Polish law misses the mechanisms of support that could facilitate succession. It makes the process difficult, causes many problems and often takes place over a longer period of time. Recently a chance to improve the situation has appeared. In the *Responsible Development Plan* accepted on 16 February 2016, prepared by the Ministry of Development, working out the mechanisms of family businesses succession has been indicated as one of the activities (Ministry of Development 2016). If it really happens to be

fulfilled, it will make a considerable facilitation for the family businesses. Also other activities indicated in this plan such as "Business Constitution" or a package of facilitations from MSP will have a positive impact on family businesses functioning.

A considerable barrier of family initiative drive in Poland may be the lack of proper scientific and academic support. Despite the fact that management makes one of the most popular faculties, still little attention is drawn to the issues of family businesses. Only a few universities have units that deal with this problematic, also only some academic centres conduct postgraduate studies, specialties or, at least, subjects concerning family businesses. It makes a considerably too small support. Regarding the specifics of family businesses, it must be remembered that managing them differs from the management of other subjects. The present managers and successors are unable to gain theoretical background that could be put into practice. The lack of academics that specialise within theoretical knowledge causes a small number of research in the field. To compare, in Spain Family Business Faculties are active at 36 universities (Masny-Dawidowicz 2013). Thanks to it, family businesses in Spain are not only well-researched but they can also count on solid academic support and constant inflow of qualified management personnel.

The lack of academic support is somehow compensated with different types of initiatives and organisations of family businesses. They organise conferences and meetings, make projects that are to facilitate contacts and solve problems. The most important are: Family Businesses Initiative (established in 2006), Family Business Institute (established in 2011) and Family Businesses Foundation (established in 2011). PARP that undertakes many initiatives for the benefit of these companies also make a considerable support. The flag project is: "Family businesses" educational and advisory project that is to increase the market competitiveness of family companies. So far two editions of this project have been organised and they gathered considerable attention of entrepreneurs.

The significance of initiatives of such a type is stressed by family businesses themselves. Among the entrepreneurs taking part in the research of Blackpartners, 61% belong to the association of family businesses and further 15% is planning to enter it in the near future. These organisations help to initiate and maintain contacts (54%) and the solution of problems that appear in the company. Only 4% of respondents think that such organisations are not valuable (Blackpartners 2015).

All of these activities are insufficient in comparison with the needs of family businesses. As long as family businesses do not gain proper academic support and their specifics is not included in the economical programmes, they will not be able to fully use their potentials.

Poor promotion of „family value" as such should also be considered an important issue. Family businesses do not stress this feature that, in the light of recent research, constitutes a mistake. It comes out that Polish consumers have such a positive attitude towards family business that they are able to pay more for their products. Such an approach is declared by 35 % of consumers (over 10% of them have made decisions about it). A contradictory opinion is expressed by over 22% (Nikodemska-Wołowik 2015). "Family value" is appreciated and that is why entrepreneurs should strongly stress this feature, while the reality shows this value is neglected. Only 22% of consumers admit that they had a chance to encounter a designation that indicated the family business background of the product. Others either have not seen such a designation or cannot state it (Nikodemska-Wołowik 2015). For entrepreneurs it is a clear indication that, as far as the designation of products showing family relation is concerned, there is still a lot to be done.

Another barrier in the development of family businesses is the lack of formal mechanisms of management - still over 20% of companies do not have such mechanisms (KPMG 2015, Blacpartners 2015). It makes company functioning more difficult, especially in conflict situations. What is more, it can cause such situations as the lack of transparent, clear rules facilitates conflicts. The existence of certain formal mechanisms of management is particularly important in the case of succession, as they help to implement the process faster and more effectively.

Conclusions

Family businesses in Poland, after the years of marginalisation of their meaning, have slowly started to gain bigger and bigger interest and support. There are more and more organisations and societies that gather subjects helping them to initiate business contacts or solve specific problems. It must be stressed that family businesses have to deal with a number of inconveniences that are not experienced by other companies.

The first problem is to specify the influence on economy. The lack of reliable data estimating their number and share in the structure of companies in Poland makes the specification of their impact on social

and economical issues impossible. A lot is to be improved in law, especially in the issues connected with succession that is now becoming a key challenge for most family companies. In the new economical programme this aspect is taken into consideration, however, no certainties have been known so far. The countries of the Western Europe (e.g. Spain) should be examined as an example. Individuals that deal with the problem should be indicated at universities and the problematic should be introduced to the teaching canons. It would allow for a better examination of family businesses and recognising their specifics but also creating staff that is able to manage these companies.

Favourable approach of a consumer towards family companies makes a very positive phenomenon. Entrepreneurs conducting family businesses are considered to be hard-working, trustworthy and caring for the quality of products. This advantage must be used and more attention must be paid to the issues such as e.g. stressing family character of a producer clearly on the products. So far this aspect has been strongly neglected. A considerable role should be played here by the societies of family businesses the task of which is promoting designations of family businesses and education of consumers within this scope.

Polish family businesses have a long way ahead to go in order to fully use their potentials. However, clever and reasonable actions, supported by family businesses associations, academic and research environments interest and clear law have a green light.

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Management is not Leadership:
What it Takes to Lead People Successfully in the 21th Century

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Abstract

Management can be distinguished from leadership insofar as the latter does not solely rely upon structural power and management techniques but upon relationship-building and trust. Leadership research has clearly identified positive as well as negative effects of leader's personality and leadership styles on organizational outcome variables. This article sketches some of these findings. It also refers to the question whether successful leadership behaviors can be trained. Finally, conclusions for practitioners in human resource management, and for higher education are sketched.

Key words
Human resource management, leadership behaviors, leadership and organizational outcomes, leadership development in higher education.

Content
1. Introduction: Structure of the article and definitions
2. Leader's personality and organizational outcomes
3. Leadership styles and organizational outcomes
4. The role of human resource management and higher education
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1. Introduction: Structure of the article and definitions

Complex and dynamic profit as well as non-profit organizations implement leadership functions to facilitate and accelerate decision making processes. Thus *trust* becomes a precious social good: decisions can be made by a single individual but these decisions are only accepted as long as stakeholders trust in decision makers. Trust is crucial with regard to relationship development as will be stressed further now.

Leadership can be understood as the effective, respectful and fair support for employees, colleagues and clients regarding the achievement of organizational goals which are meaningful and important for all stakeholders. Thus management can be distinguished from leadership insofar as the latter builds upon *informal influence as well as trust* whereas management relies on structural power and management techniques (Barling, 2014). In this sense, leadership is about *treatment of employees and mutual relationship-building*.

What is considered good leadership of course is dependent of different variables such as cultural background (Brodbeck & Eisenbeiss, 2014) or individual beliefs. In Germany for instance „good" leadership is associated with attributes and behaviors like long-term perspective, building trust, being dynamic, encouraging, motivating, making decisions, improvement oriented, achievement oriented, intelligent etc. (Eckloff & von Quakebeke, 2008, p. 173).

These culturally framed ideas of leadership again have an impact on the readiness for being influenced by leaders. Eckloff & von Quakebeke (ibid.) showed that openness for leadership influences is stronger in employees whose perceptions of leadership are similar to the above mentioned ideal leadership prototypes (ibid., p. 169).

Another well-known leadership concept concerning subjective beliefs is called romance of leadership (RoL; Meindl, Ehrlich & Dukerich, 1985). RoL refers to the fact that some individuals over-attribute organizational performance to leader's personality rather than taking for instance market development into account. Felfe & Schyns (2014) found that individual's motivation to lead also depends on these ideas of leadership. The more biased or "romantic" the ideas, the more motivated were individuals take leadership positions. The correlation was stronger for individuals high in self-efficacy and high in personal initiative (although these effects were strongest for a student sample). Besides subjective theories such as RoL we

should also take into consideration the reciprocal nature of leadership. The quality of leadership for instance is represented in the leader-member-exchange approach (LMX; Grean & Uhl-Bien, 1995). Due to space restrictions we cannot go into further details, for a comprehensive overview see Barling (2014).

The next section deals with important aspects of leader's personality and organizational outcomes whereas section 3 shows impacts of leadership styles on suchlike variables. Implications for human resource management and higher education are highlighted in section 4.

2. Leader's personality and organizational outcomes

Personality can be considered relatively stable behavioral tendencies of adults in which individuals systematically differ. These differences are measurable and in part based upon genetic factors. For example, extraverts usually approach other people with greater ease, they tend to talk more than the average person, they are sociable, often humorous and like to be in contact with people. This psychological construct has its roots in the psychoanalytical work of C. G. Jung (Neel, 1986) and the seminal work of Hans Juergen Eysenck, a British researcher of German origin (Pickering et al., 2013).

Eysenck and his colleagues in the late 50ies and 60ies of the last century postulated biopsychological activating or inhibiting subsystems in the human brain which regulate perception as well as general action tendencies. Thousands of scientific articles have been written since and many parts of his theoretical approaches proved to have a true core, some are still researched. Nowadays the psychological taxonomy of behavioral tendencies or personality most frequently used is called the *big five factors of personality* (Costa & McCrea, 1992[a]). Besides the above mentioned extraversion we find agreeableness (being nice to others, caring, supportive), openness for experiences (being interested, open minded, innovative and creative), conscientiousness (being punctual, precise, making strong efforts to keep deadlines), and emotional stability (not being worried, keeping calm under pressure, controlling emotions).

Judge et al. (2002) showed correlations of leader's personality factors with measures of success (e.g. turnover and supervisor assessment; correlation coefficients in brackets, starting with the highest correlations): Extraversion (.31), conscientiousness (.28). emotional stability (neuroticism, -.24), openness to experience (.24), and agreeableness (.08). Maximum explained common variance thus was about 10% in the case of extraversion. Bono, Shen and Yoon (2014, p. 203) state that together with self-monitoring (being able to monitor and change own behavior due to social cues) the big five traits "explain approximately 15-25 percent of the variance in leadership effectiveness and behavior". Hough and Dilchert (2010) showed correlations of management effectiveness with other aspects of personality such as dominance (liking to take charge; .27), level of energy (being energetic and active; .20), and achievement orientation (setting high goals; .17). In terms of common variance, the maximum amount explained is about 7% for a single predictor (dominance).

All in all, these results may be considered moderately impressive, yet much stronger effects cannot be expected for several reasons. First, a direct and massive impact of personality on any behavioral outcome is not very likely in general due to the fact that the personality-action-link might be influenced by other variables such as skills, cognitive abilities and motivation. Second, the action-outcome-link can be blurred by variables such as organizational background, market situation and the like. Third, leader-follower relations are seldom a "one-way street", the reciprocal interactions are often neglected in studies (cf. Graen & Uhl-Bien, 1995). Fourth, explicit measures of personality by definition do not capture implicit aspects of personality such as motives, although explicit-implicit discrepancies are predictive in terms of manager's well-being (Kazen & Kuhl, 2011). Employee related impacts of leadership behavior are highlighted now.

Dark triad and leadership

Three other concepts related to personality have instigated numerous studies within the last 15 years. They are labelled the dark triad (DT) of personality (Paulhus & Williams, 2002; Furnham, Richards & Paulhus, 2013). It consists of

- subclinical narcissism (being selfish; arrogant; using abasement of others to feel good etc.)
- subclinical psychopathy (having no empathy; being violent and charming etc.)
- machiavellianism (focusing own career at all costs; networking; exploiting others; seeking own advantage etc.)

Being led or rather confronted with leaders who score high in all three traits and/or behaviors can be disastrous as will be sketched now. DT variables correlate with a variety of organizational outcomes as shown by several authors (Chatterjee & Hambrick, 2007; Kish-Gephard, et al. 2010; O'Boyle et al., 2012) regarding employees as well as leaders: peculation, fraud, aggression and in case of leadership narcissism: a strong risk propensity (which in some cases can be positive for companies, depending on the market situation). Some authors indirectly state that machiavellianism might be considered necessary to gain leadership positions (Bono, Shen & Yoon, 2014). Others argue that machiavellianism per se is prone to be associated with non-compliance and other negative leadership behaviors including ignorance regarding employee's well-being (Brosi & Spoerrle, 2012).

In an own research project, we found that even students at a pre-bachelor level who score high in narcissism saw themselves as successful leaders to-be – without any fact based reason to do so (Bildat & Martin, 2016). About 100 students filled in a questionnaire regarding self-views of narcissism, machiavellianism, error management, self-efficacy, and an objective measure of intelligence (main variables).

Some results in a brief overview:
- Narcissism showed moderate positive correlations with machiavellianism and general and leadership oriented self-efficacy as well as moderate negative correlations with error strain (narcissists being less emotionally stressed by own failures).
- Narcissism was not associated with intelligence or academic performance (grades).

Table 1: Ex-post analysis: Linear regression of narcissism, self-efficacy and employee orientation on leadership specific self-efficacy (block wise)

Variable	B	SE	ß
Narcissism	,256	,383	,413**
Self-efficacy	,207	,070	,275**
Employee orientation	,077	,068	,103

Notes: N = 90; corrected R-square = .284; B = non-standardized B-weight;
SE = Standard-error; ß = standardized B-weight; **= $p < .001$.

In an ex-post analysis, we calculated predictors of leadership self-efficacy (Bildat, unpublished scale). Table 1 shows a linear regression of narcissism, self-efficacy (sensu Bandura, 1982) and employee orientation (German leader-member-exchange scale, Schyns & Paul, 2010) on leadership specific self-efficacy. Narcissism and general self-efficacy explain roughly 28% of the common variance. This underlines the role of self-enhancement in self-assessed leadership competences.

After statistical correction for low reliability regarding the leadership self-efficacy scale we also found a bivariate correlation of .67 with narcissism, bolstering again the research finding that the claim for leadership seems to be a part of the construct (Leising et al., 2013; Morf, Horvarth & Torchetti, 2011). In our study men showed higher scores in narcissism than women, this fits well into other findings (Paulhus & Williams, 2002). Brosi und Spoerrle (2012, p. 276) state within this context:

> "Such results were not perturbing for practice if individuals with narcissistic personality traits did seldomly emerge in leadership positions. Unfortunately, literature shows that narcissistic individuals get into leadership positions easier due to their striving for power [...]." (translated by LB)

For sure not every mild form of narcissism in leaders is 'toxic' per se, dose-dependency seems important here. Yet if all three variables of the dark triad emerge in leaders, companies can have a problem in a long-run perspective.

Machiavellianism can be classified somewhere between personality and attitudes, because on one hand it shows moderate to strong correlations with personality aspects (.59 with psychopathy, .30 to narcissism; O'Boyle et al., 2012), on the other hand items in typical scales are attitude-like ("It is not important how to win, but to win at all.", Henning & Six, 2010, translated by LB). Dahling, Kuyumcu and Librizzi (2013) brought together what is known about the associations of this variable with unethical behavior. Due to space restrictions we will just focus upon some central findings.

In dyadic contexts employee perceptions of supervisor machiavellianism are associated with less supervisor credibility, less motivation, and job satisfaction of employees (ibid, p. 188). The authors also mention positive effects of this variable, such as being more liked by peers. This may be due to the fact that Machiavellians tend to use manipulative tactics like flattery or positive reinforcement of employee behavior to get along quicker. Employees do report also more abusive supervision in case of supervisor machiavellianism. Employees who score high in this variable furthermore tend to act less compliant and ethically sound.

Leadership and intelligence

Judge, Colbert & Ilies (2004) found correlations between intelligence and leadership of .21 (uncorrected for range restriction) and .27 (corrected for range restriction). Several reasons might be responsible for this surprisingly small correlation. First, as mentioned above, mediators such as organizational constraints may be of importance. Second, self-efficacy or skill-based variables like micro politics might have an impact on the relationship between intelligence and leadership outcomes, thus serving as moderators. The next section focuses on the effects of leader behaviors regarding different organizational outcomes.

3. Leadership styles and organizational outcomes

We will now introduce a well-known leadership construct and some recent findings regarding its impact upon several organizational outcomes.

The concept of transformational leadership

Leaders who act in a transformational way "transform" organizational goals into employee's action, by inspiring and supporting them (Avolio, Bass & Jung, 1999, also the following). Four behavioral aspects are important within the concept of transformational leadership (TL). 1. *Idealized influence*: leaders act ethically sound as role models. 2. *Inspirational motivation*: leaders create visions, trust employees and set high but achievable goals. 3. *Intellectual stimulation*: leaders are able to seek different solutions for problems and they encourage employees to see problems from different perspectives. 4. *Individualized consideration*: Leaders focus the strength of employees and their development within the organization. Transformational leadership is weakly or moderately positive associated with extraversion (.23), emotional stability (-.16), agreeableness (.12), and conscientiousness (.11). With the exception of extraversion, those effect sizes are nearly negligible (Bono & Judge, 2004).

Transactional leadership is addressed separately within this approach. It consists of contingent reward (tit-for-tat; you get what you deserve in terms of bonuses etc.), management by exception (managers only interfere in case of problems), and laissez-faire management (no leadership at all, a weak or no reaction in case of problems). Transactional leadership by some authors is not considered leadership at all (Barling, 2014) but management as mentioned above. Yet contingent reward and TL can be exerted simultaneously (Judge & Piccolo, 2004).

Is TL successful?

A metaanalysis by Sturm et al. (2011) with about 31.000 participants from 56 primary studies (from 2001- 2006) showed moderate positive effects of TL on subjective criteria like commitment, effectiveness, work satisfaction, perceived fairness of leader-follower-interaction as well as on objective measures like fluctuation, turnover and profit. The effects were also measurable but weaker for transactional behavior such as contingent reward. Negative correlations were found with laissez-faire leadership. These findings match relatively well with older results (see also Judge & Piccolo, 2004, for in-depth discussions regarding the augmentation effect of TL and transactional aspects).

Zwingmann et al. (2014) found in a large scale multi-level analysis with more than 90.000 participants [sic] and about 11.000 teams within 16 nations

> "[…] strong support for the health promoting effect of transformational leadership (r = .16 to r = .50), contingent reward (r = .14 to r = .48) and health hampering effect of laissez-faire leadership (r = -.15 to r = -.43) within the analyzed 16 nations." (ibid., 2014, p. 1)

The researchers also took the effects of power distance into account, a measure that focuses the importance of hierarchies within different cultural backgrounds. In countries with high power distance transformational leadership behaviors had an even stronger positive impact (see also Brodbeck &

Eisenbeiss, 2014). It should be noted that not in every case does 'good leadership' (employee orientation) show ameliorating effects on employee mental health (Madsen et al., 2014). All in all, women tend to lead more transformational than men (Eagly, Johannesen-Schmidt & van Engen, 2003).

Authentic leadership

This concept has emerged in science recently (AL; Avolio & Gardner, 2005) and certainly much earlier in practice. Authentic leadership (AL) has to do with self-awareness, transparent decision making, and openness to others. Authentic leaders are transparent regarding their work related ethics, values, attitudes and motivation. Thus their actions are predictable by their followers. Wang et al. (2014) found positive associations of AL with follower's performance, especially regarding followers who scored relatively low in optimism and self-efficacy. Thus AL seems to be especially useful for individuals with a lack of "psychological capital" such as hope and resilience (PsyCap; Luthans & Youssef, 2004). To be authentic of course in some groups might be more difficult than in others, depending on the group's desire for independency and task performance. It might be more challenging to lead for example a group of subject matter experts than a group of novices (Goffee & Jones, 2006).

Dysfunctional leadership (styles)

Schyns & Schilling (2013) conducted a metaanalysis and found ample evidence for the negative impact of what they call "bad leadership" on a large variety of organizational outcomes. Due to space limitations we will only briefly refer to some major findings: destructive ('tyrant') employee treatment by supervisors like insults or social undermining was associated with low job satisfaction and well-being. Tyrant behavior was also negatively correlated with organizational commitment. Furthermore, this behavior was correlated with measures of stress and counterproductive work behavior like sabotage or theft. A one-dimensional view upon CWB as a trait-dependent behavior (Hough & Dilchert, 2010) could be short sighted in the light of these findings. Skogstad et al. (2014) found evidence for the impact of leadership behavior on job satisfaction of employees. In two studies (n= 741 and n=2539) they found negative effects of tyrannical leadership and laissez-faire leadership over time (the latter being the sole predictor over 2 years). Positive forms of leadership behavior did show weaker effects, suggesting that negative effects are stronger than positive ones [sic] (cf. Baumeister et al., 2001).

Leadership behavior and health related outcomes

This section gives only a brief overview over some impressive studies regarding the impact of (bad) leadership behaviors on employee health. In a large-scale-study with more than 5.000 participants Theorell and colleagues (2012) found evidence for health impairments like depressive symptoms through *non-listening* as well as *self-centered leadership*. *Non-listening leadership* is similar to laissez-faire leadership whereas *self-centered leadership* is akin to narcissism (see above). Those negative leadership behaviors were predictive over 2 years with high stability. This was especially the case for *self-centered behavior* (controlling for sociodemographic variables and income). It must be added that the relationships were stronger for participants with lower educational levels (they scored higher in emotional exhaustion).

Westerlund et al. (2010) also found evidence regarding the influence of leadership behavior on health status of employees in a large international sample of more than 12.000 workers (forest industries). Besides subjective assessments, one 'hard' outcome measure was sick-leave days. Leadership behavior was labelled *attentive managerial leadership* (and thus related to individual consideration of TL). This is related to employee-orientation/individual consideration. Low scores in attentive behaviors in all sub-groups were associated with measures of high strain, and more sick-leave-days (although weaker).

Besides the moral issues that are touched by the above mentioned phenomena it might be difficult or impossible to estimate the real impact of bad leadership on a macro-economic scale. Notwithstanding we can be sure that the economic impairments of "unhealthy leadership" together with other forms of unethical behavior are immense. After diagnosis there should be treatment, thus the next chapter sheds some light upon the possible remedy.

4. The role of Human Resource Management and higher education

Human resource management must care about selection and training issues (Wilkinson et al., 2010). With the help of modern methods, it is possible to minimize wrong decisions in hiring processes as will be sketched now.

4.1 Personnel selection

Leising et al. (2013) found that "the claim to leadership" is a part of narcissism. Nevertheless, it is possible to capture this variable by using sound selection tools. First, it might be useful to use biographic data to check for an unusual self-focus and a constant and stable internal attribution of own success (Weiner, 1985). This of course includes a "scan" of social media sources. Second, it is highly recommendable to use psychometric tests of integrity and occupational self-descriptions of personality focusing agreeableness (+) and conscientiousness (+; see above), and using forced-choice answer modes (Hough & Dilchert, 2010; Salgado & Táuriz, 2014) within the selection process.

Good providers who offer scientifically proved, reliable, valid and objective tools can be found in the market. It is recommendable to thoroughly scan these providers for their validation studies and board members with psychological expertise/scientific background. Third, realistic job previews are of great use as well. If organizations clarify what exactly awaits the new hires in case of a leadership position, emphasizing trust and relationship building, narcissists might start to realize problems ahead. Forth, based upon realistic job previews situational interviews can be used to stress critical situations which can only be solved with good socio-emotional skills such as individualized consideration and conflict solving skills.

Every organization should possess a large quantum of up-to-date critical incidents (Flanagan, 1954) for each job family that can be used for selection purposes or the development of competency models (Campion et al., 2011). Behavior oriented interview techniques are well established and prove to show moderate or good predictive qualities (Hough & Dilchert, 2010).

4.2 Personnel development

Frese et al. (2003) showed that aspects of TL can be trained. This was especially the case for charismatic aspects of speeches, and the study also showed stable learning effects over time. Thus it is highly recommendable to systematically train aspects of TL in companies – and within higher education as will be stressed further below.

If narcissism in organizational contexts has to be taken seriously because of its potential for negative effects, one central question remains: can it be 'cured'? Empathy training has been proved to be successful at least in young offenders (Hepper, Hart & Sedikides, 2014). It has not been researched extensively within a leadership context to our knowledge, but maybe we see an interesting field for research and practical use in the future here. Leadership trainings should have an early onset; this will be stressed further below.

We consider it also useful to train employees with regard to their sensitivity regarding bad and/or dysfunctional leadership behaviors. Early implementation of leadership related whistle-blowing systems is recommendable because it is very likely that effects of bad leadership behaviors are longer lasting and stronger than *any* effects of positive leader behaviors (cf. Baumeister et al., 2001). It is possible to install a suchlike whistle-blowing system together with the use of 360-degree feedback systems (Atwater, Brett & Charles, 2007).

4.3 Higher education and leadership development

Should we offer leadership trainings in higher education? We start with an open question here because many scholars and university teachers might think it inadequate to train leadership issues in colleges and/or universities. With regard to the findings mentioned above (Bildat & Martin, 2015) as well as recent approaches regarding leadership development in higher education (Komives & Dugan, 2014), we nevertheless believe it can be useful.

First, some students seem to claim leadership without good reasons due to their narcissism or machiavellianism. Some of them might be willing to sign in programs that focus leadership due to their tendencies for self-enhancement. Thus they (and others) might profit a lot from realistic previews of what leadership really is about. Of course teachers and/or trainers should be *credible role models*, thus practitioners can be of great use here. Second, big companies usually offer leadership trainings as well, and they evaluate leadership performance for instance by using 360-degree feedback systems (see above). Individuals high in narcissism and machiavellianism usually get into trouble from a long-term perspective if they are constantly monitored by employees and supervisors alike. Thus, again, typical narcissists but also other interested individuals would profit from well-designed trainings in the field of leadership.

One approach for theory-driven leadership development in higher education has been outlined recently by Komives and Dugan (2014) who refer for instance to the seminal contributions of E.H. Erikson and Uri

Bronfenbrenner, both developmental psychologists. Without getting into details here, important constructs are *life-span and maturity perspectives* as well as *interaction processes in social sub-systems*.

Leadership development programs based upon a life-span perspective take into account that *leadership emerges more or less everywhere* and in different phases of life (school, sport-club, communities, university etc.). Influencing others can be done in a more or less mature way, subjective ideas of leadership (see above) usually develop or unfold over time. Maturity can be seen for example in the attribution of leadership success: a pre-mature understanding of leadership would be very leader-centric (RoL) whereas a more mature view upon leading others would take reciprocity and team work into account.

The systematic evaluation or diagnosis of subjective leadership theories and developmental stages and a consecutive training or workshop program focusing reflection, knowledge and hands-on approaches (e.g. role plays) would be of great use here. Leadership trainings in higher education thus should concentrate on reflection of action as well as behavioral components and evaluation aspects alike. Skilled trainers are probably needed more here than academic staff.

This could be a challenge not easy to cope with in the field of higher education. We think that joint-ventures of training providers and academic organizations are a good opportunity to create win-win situations. Commercial providers could develop skills regarding scientific evaluation and evidenced based backgrounds, whereas academic organizations could profit a lot from behavioral and practical aspects of the trainings, including unique research opportunities.

A *curriculum for the development of leadership skills* should focus upon competences, and it should be based on scientifically sound competency models of leadership (Bartram, 2012; Campion et al., 2011; Schmidt-Huber, Dörr & Maier, 2014). A stepwise core-curriculum for leadership skills which can be launched during the final stages of any study program on Master's level is briefly sketched now (missing details due to space limitations):

1. Inventory of active and passive leadership experiences. Reflection regarding leadership experiences and meaning of leadership (sports, university etc.).
2. Scientific definitions of leadership and research findings regarding outcomes (see above).
3. Work with leadership practitioners and identification of critical behavioral aspects of everyday leadership (theory based and practical issues).
4. Training sessions concerning communication/interaction as well as performance measurement and personnel development (use of video feedbacks etc.).
5. Go live: students leave university/college and are monitored (mentoring on the job and online).
6. Follow-up after alumni have gained (further) leadership expertise (minimum 12 weeks after end of program) plus online or face-to-face coaching.
7. One-day refresher program (after 6 months).
8. Follow-up after 1 year.

It remains to be seen whether organizations for higher education gain a pole position with regard to early leadership development or run behind already existing more or less professional organizational practices.

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Analysis of the Theoretical Basis of Motivating Employees

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Abstract

Requirements related to increasing competition, rapid development of technology and the globalization of economies generate a huge pressure associated with achieving adequate efficiency of economic entity actions. It is unambiguous with the constant necessity to search for new ways of doing business, even in motivating employees. This article is just dedicated to the issue of motivating the staff. Currently, the problem of motivating is very important both from a scientific as well as practical point of view. Therefore, the general aim of this work is to establish a basic understanding of motivation. For this purpose, the elaboration is divided into two main parts, which are a logical entire. First, the nature and types of motivation are discussed, while the second part is devoted to present the basic models of motivation.

Key words

Motivation, nature and types of motivation, models of motivation, workers, businesses

Introduction

Motivation is a term which has many meanings. It is a broad subject understood as a state of readiness of man to take a specific action. According to this concept, people have a greater motivation to work, others for sport or for discussion. A unit strongly motivated undertakes activities aimed at improving the capabilities needed to achieve a particular purpose, and tries so hard to succeed (Kostema, Kownacki, 2010, 311-316).

All organizations have their own motivation system, namely the system that impacts on their employees. The aim of such actions is to encourage employees to take appropriate decisions and to avoid negative decisions from the point of view of the entire organization (Griffin, 2004, 457). Therefore, without a doubt, motivation stimulates, activates, directs and reinforces the actions of the company's employees (Godziszewski, Haffer, Stankiewicz, Sudol, 2011, 259).

The nature and types of motivation

Motivating the unit is based on a set of interactions that lead to the effective implementation of the mission and goals of the organization and the functions and responsibilities as well as the adoption of attitudes from the point of view of the interests of the company (Targalski, 2014, 190). Motivating the unit highlights many aspects. First, it indicates the need for efficient and effective motivation. Most often it elicits the use of the entire team of the motivation measures to make a positive impact. It comes down not only to wage motivators, because as a rule, they are not enough. The second aspect is the aim of motivating and fulfillment of the mission of the organization and implementation of tasks related to the purpose. The organization should not be guided by their own interests or desires of the leader e.g.: assigning themselves an employee. Thirdly, motivation should be moral to the purposes and forms of intent. It is unethical to manipulate employees, urging someone to illegal activities, then this is not the motivating but persuading to commit the crime (Oleksyn 2001, 233-234).

The essence of motivation is of interest to many sciences such as sociology, education and especially psychology. For this reason, we can emerge three basic approaches to motivation, which are presented in the following diagram 1.

Diagram 1. Basic approaches to motivation
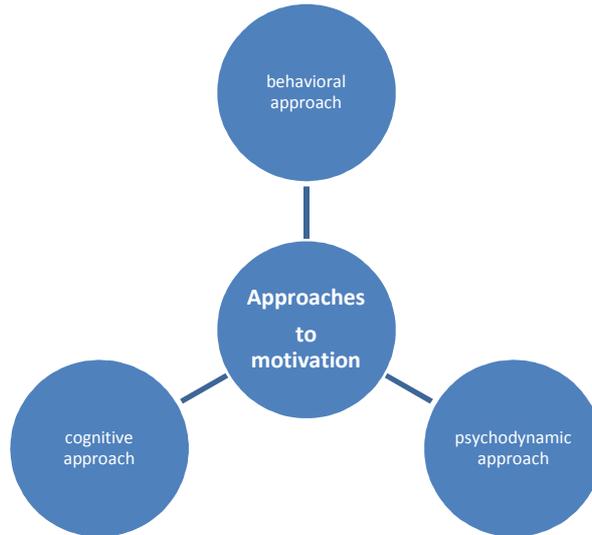
Source: own work

Behavioral approach is the one in which external factors have a dominant role in explaining the behavior of the employee. The behavior of staff can be determined as reactions affecting stimulus from the environment, they can be divided into positive and negative stimulus. The first are called the prizes, while the second ones are punishments. The award-winning behaviors of employees have been reinforced, and the punished behaviors are eliminated (Kosterna, Kownacki, 2010, 311-316).

Psychodynamic approach shows the role of internal determinants in the behavior of the worker, in particular the needs and emotions. External stimulus no sooner than after "treatment" take the specific motivation nature. Representatives of the psychodynamic approach created many concepts of human needs. The main concepts may include A. Maslow's pyramid of needs. He claimed that the employee is motivated by a hierarchical system of concepts of human needs.

Cognitive approach draws attention to the function of information as a motivating factor. In its assessment, the scope and structure of the information that the human has, create a cognitive network. This network gives a shape throughout the life of a human being under the influence of information from the outside and inside it. A man is an active being, they can not only receive information, but they also search, select and process information (Bednarski 2001, 225).

Motivation is a complex process and its management requires a lot of knowledge and skills. A proper understanding of motivation therefore requires taking into account the cognitive process of active role of the employee as well as the world around them. Recognising motives that show a human action at work is getting to know results that are supposed to be achieved. This demonstrates the effectiveness chance of workers' activities direction, and those objectives are formulated according to some assessments: what is good and bad, true or false, cost-effective or contrary to their interests. The motivation may be promoted by all possible means, even through the use of positive or negative incentives. Therefore we can distinguish four types of motivation. They are discussed in detail in the following Table 1.

Table 1. Types of motivation

Types of motivation	
negative motivation	it reinforces on the fear of anxiety to work therefore it stimulates to effective work by creating a sense of danger, e.g.: threat of losing part of wages if the efficiency of work declines, reducing appreciation as well as the threat of reprehensible and the possibility of moving to a less well-paid job with a much smaller prestige;
positive motivation	It involves creating perspectives for the employee and better and better realization of their objectives as far as meeting the employer's expectations, e.g.: the desire to achieve ever-higher wages, changing working position, greater self-reliance, going to work abroad;

intrinsic motivation	these are emerging stimulus that make mobility of people in a certain way in the right direction. These incentives can be distinguished as: the feeling that the work is important, as well as exercising control over oneself, freedom of action, the ability to use skills in development and getting a promotion;
external motivation	it typically occurs while their activity is taken away under the external pressure. With external motivation we can combine expanded in various ways system of rewards and sanctions connected with a detailed consideration of information about the conditions for receiving ones or anothers.

Source: Own study based on literature

In practice, activities are often stimulated by negative stimulus. The sense of danger directs to stronger desires and releases more energy, and therefore they are less expensive and it is easier to take away something from the employee than to threaten with the loss of benefits which they have. In this case the employee is focused to minimize discomfort, while, as far as positive action is concerned, to gain more and maximize pleasures. A negative motivation is the way to avoid something unpleasant. It stimulates the employee to act in a certain way by seeking work in an adequate company, keeping quiet mode tasks, as well as avoiding difficult situations. Therefore, despite the undeniable aspects, it leads to dissatisfaction and demotivation.

Positive motivation contributes to the achievements of high results and to pursue goals and high responsibility. Employees incessantly seek to meet the required actions, activities and achievements. Success is considered as the natural way leading to public approval and recognition, admiration for their knowledge and ability to act, and also offers employees prestige in the eyes of others (Penc, 2000, 137-143).

Models of motivation

For years, scientists and practitioners think about the phenomenon of human activity and the method of stimulating it. This issue is analyzed from the point of view of different scientific disciplines (usually from psychology point of view). Current knowledge is not able to predict human behaviors, where wealth and diversity contribute to the fact that the motivation gives extensive scope and interpretation. There are motivations to work, to changes, to progress, but there are also destructive actions even against the law. These considerations motivate and interact actively on the efficiency and effectiveness of functioning of the unit. Therefore, at this point we should introduce more general and structured approaches to employees' motivation, which were formed at different stages of economic practice. They take the name of the models to motivate. Amongst them we should distinguish three main models that are presented in the following diagram 2:

Diagram 2. Basic models of motivation
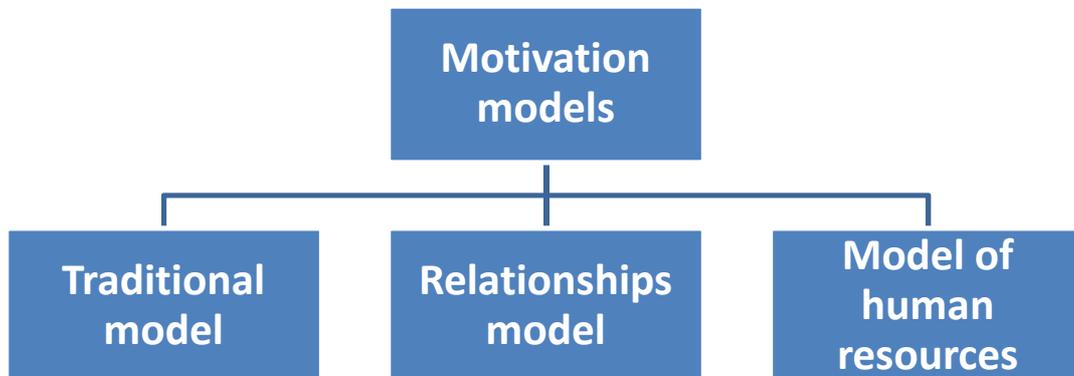
Source: Own study based on (Kozioł, 2002, 26)

The traditional model derives from the direction of scientific management. Representatives of the traditional model believed that an important element is the role of the manager who could ensure that every worker performed their tedious tasks as swiftly as possible to get more and higher performance.

Managers determined the way of performing the commands and applied a system of wage incentives to motivate employees.

Striking view on this matter presented F.W. Taylor, who believed that the best way to motivate an employee was financial compensation, while his only required action was his job. So Taylor pointed to the widespread use of an incentive pay system. He thought that the leadership had more knowledge about the work at different positions than an employee performing their work and that is why he assumed that money is the main force of motivation.

The premise of this model is the conviction of praxeological value of an employee adaptation to the nature of the work. Every employee represents the specific structure of a genetic or acquired predisposition. The individual in this sense was treated as an attachment to the machine and, therefore, Taylor as a researcher was mainly interested in the physiological productivity of an employee, with little regard to their personality or emotions and needs. Workers were undergone tests with the original approach. Back-office employees, in his opinion, minimized their intellectual contribution to their work, so he thought that they should have received precise instruction that determined the pattern of actions of the individual steps. Therefore, this technical management style was eventually subjected to harsh criticism and it was replaced with another style, which included psychological aspects of employee's needs, which took into account the approach of interpersonal relations (Kieżun, 1999, 50-51).

Relationships model - representatives of this approach emphasized the essence of social processes in the environment of work. Their objectives were to identify that the employee feels the need to be useful and important to be able to do some responsibilities themselves.

The representative of this model is primarily D. McGregor, the founder of the so-called XY theory. In his opinion, the theory of X is characterized by scientific ideas, and Y is a theory relating to all managers.

Basic discoveries in science were presented by E. Mayo made on the basis of his research, which include relationships. Together with his assistants, he studied the relations among the employees and the way managers treat their subordinates. As a result of these studies he had the impression that material goods are not a necessity for motivation, but the decisive element is the human factor that determines the behaviors and attitudes of the employee. These assumptions of human relations refer to the concept of human organization. This concept is presented from the point of view of management and organization, it absorbs universal ways of conducting the institution and its functioning. This direction determines the theory of approach to organizational matters.

According to T. Bata employee works with the same diligence, saving and energy as well as an independent entrepreneur. He assumed that employees can be divided into e.g.: creative employees, average and lazy ones. Therefore, the employee should be rewarded in the best possible way.

Model of human resources is modeled on human resources. It assumes that an employee in the unit is the most precious value, that is why we should pay attention to the creation of a man (more Ujwary-Gil, 2009, 11-23). The employee is usually able to perform better job than it is really required. This direction shows the specific tasks to managers. Teaching and upgrading skills is the responsibility of every member of the organization.

The situation in which a person is able to raise their professional qualifications should not be misperceived by the management. However, it sometimes happens that in just such a case, the employee becomes a "thorn in the side" of the manager. Because subordinate should not see in the continuing education employee an opponent. The manager should share with the employees responsibility for the major goals for which all of them worked. It should be noted that as part of the theory of human resources, the situational approach in the concept of motivation was created. This approach is the result of the work of managers, consultants and researchers, who applied the concepts of major schools occurring in reality.

With the mainstream of human resources we can combine the view of the human personality created by E.H. Schein. It is a complex man concept whose personality is very ambiguous what makes each person different from each other. In the opinion of E.H. Schein a man is not only a complex being, but also a variable one. Needs and their hierarchy can be changed in different periods, and the individual theme interacts and creates all combinations. His pattern of behavior arises in the process of interaction of given commands, abilities and experience. The author believes that there is not one good management strategy that will be effective in relation to workers for the entire period. This statement seems to be very right. However, the presented concept should not be regarded as a universal solution that ensures the effective motivation (Wajda, 2003, 208-213).

Summary

Current views on the process of motivation focus on popular strategies of motivation. Reflections on motivation strategy, will explain how managers should act towards their employees. Every manager, who cares about the motivation of employees, should use specific strategies that have been developed from the theory.

More and more often we hear about the role of motivational technique that uses the change in the nature of work activities and various alternatives associated with the workplace. First of all, it is about the use of the elements of the motivation program when extending the workplace as well as enrichment work content and approaches from the characteristics of jobs.

Many organizations use the role of a factor that enhances motivation and increases the powers and participation. When employees have greater powers and in the full extent participate in the management, they are able to fulfill all the needs important to them as individuals. Involvement in the organization influences and facilitates the process of motivation, and the acquisition of valuable prizes for the employee increases the commitment and contribution to the activity of the organization, and it provides a positive impulse for further, increasingly effective actions.

In summary, the role of motivating the staff has an increasing impact on the proper functioning of the entire economic entity. Thus, the determination of an appropriate strategy to motivate may be the direct cause of business success, or otherwise it will be a prerequisite to bear defeat. So, it can be firmly stated that at present the issue of motivating employees is an integral issue of running every enterprise. So that increasingly this problem gives many entrepreneurs or people indirectly associated with the business sector sleepless nights.

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Analysis of the System of Planning, Management and the Assessment of the Work Performance of the Academic Staff Members

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Abstract

Planning, management, monitoring and the assessment of work performance are the key HR management processes in an organization. The strategic goals of an organization are implemented within this process through the achievement of the required work performance of employees. The following contribution analyses the system of planning, management and assessment of performance of academic staff members in the departments of the Faculty of Corporate Strategy of the Institute of Technology and Business in České Budějovice.

Key words

System, planning, management, assessment, work performance, academic staff member, university

Introduction

Planning, management and assessment of work performance is, according to Urban (Urban, 2004), a continuous process, which is also aimed at the future and should contain all the aspects of work performance (the performance itself, the work and social behaviour, assessment of planning and the development of required general and professional competences), in compliance with the set goals of the company/organization. This procedural act should be motivating, it should be a constructive dialogue between the assessor and the assessed person and linked to the remuneration of the assessed person. Koubek (2007) sees the assessment of employees as follows: "The assessment of employees is a very important personnel activity dealing with: finding how an employee performs their work, how they fulfil the tasks and requirements of their position or role, what their work behaviour is like, what their relations are to colleagues, customers or other people they meet in relation to their work life; whereby notifying the individual employee of the results of the findings and discussing the results with them with a view to looking for ways to improve their work performance and implement measures that would help in achieving that". Martin (2007, p. 77) sees in regular assessment/assessment of work performance an opportunity for an employer and an employee to mutually discuss the performance and development of the employee, whereby their possible drawbacks in performance or their future educational needs in relation to the particular position can be determined. Armstrong (2006) points out the difference between the assessment of work performance and the management of work performance, whereby he takes a more sceptical view of the assessment of work performance, it being a bureaucratic process in which an HR department plays a more important role than the employee´s line managers. According to Armstrong, the management of work performance is a much more complex process, in which a manager plays more the role of a coach, not of a judge. According to Urban (2013), the assessment of employees follows on from the need to check their work, however it is not a process that should seek to correct or regulate a certain procedure or the behaviour of an employee, but should rather document and summarize the performance of an employee within a certain period. Barták (2011) sees a difference between the traditional approach to the assessment of employees, which concentrated on the quantity and quality of the performed work (it stressed the quantified form of work performance), and the modern approach, which is more complex and in addition to the work performance itself also includes the work behaviour of the assessed employee (their approach to work, willingness, further education, ability to adapt, flexibility, adherence to working hours, etc.). Bláha *et al.* (2013) see the assessment of work performance as having an important role to play in the stabilization of company culture. It is clear from studying specialized literature that there are differences in the interpretation of terminology, namely with regards to the terms "work efficiency" and "work performance". Němec, Bucman, Šikýř (2014) state that work performance is the result of work expressed in terms of its quality, quantity and completion within a specific deadline. The assessment of employees can be done by all those who are able to assess the work of the assessed person or are in contact with the employee. Bláha *et al.* (2013) give the following possibilities: line managers assess their subordinates; employees assess their line managers; team or group members assess one another; employees assess themselves

(self-assessment); employees are assessed by external assessors, mostly by external customers; 360° feedback; or multisource assessment. Barták (2011) distinguishes between the following forms of assessment: cyclical assessment; 180° assessment; 360° assessment (includes assessment by a subordinate); 540° assessment (in addition it includes assessment by customers and suppliers). Quality, quantity and punctuality of fulfilment are the basic and universal criteria for performance assessment. In the assessment of work performance further criteria should also be taken into account. These criteria include behaviour (both work and social), as well as the abilities, skills and qualities of the assessed individual (Koubek, 2007). Bláha (Bláha *et al.* 2013) comments on the possibility of using methods of performance assessment as follows: "A large scale of methods can be applied to the assessment of employees. Some are more suitable for the assessment of work results, others focus more on the behaviour or competences and the potential of employees." He divides the performance assessment methods into the following two large groups: comparative methods (based on the comparison of employees between one another e.g. the order method, the method of the appointment of scores, the pair comparison method, the forced distribution method); non-comparative methods (e.g. the method of management by objectives (MBO), assessment scale, BARS method, BOS method, method of key (critical) events, assessment centre and mystery shopping). Urban (2013) also presents the possibility of carrying out assessments on the basis of permanently valid standards, checklists and a personnel audit. Barták (2011) classifies the assessment methods according to their characteristics into three basic groups: verbal methods (those that utilize free or structured description); non-verbal methods (those that utilize assessment scales, which express the level of the particular assessed abilities numerically or graphically); combined methods (those based on assessment scales and accompanied by a verbal explanation). According to Dvořáková (Dvořáková *et al.*, 2007), the basic classification of employee assessment methods is represented by those methods that focus on the past (management according to set goals, comparison with standard work performance, testing and observation of work performance, assessment questionnaire, assessment scale, BARS method, method of critical events, assessment reports and comparison of employees) and employee assessment methods that focus on the future (self-assessment, assessment centre). From the point of view of time, continuous and regular employee assessment can be performed, as well as assessments after the completion of a project and the assessment of employees during and before the termination of their trial period (Urban, 2013, p. 96). According to Barták (2013, p. 80), we distinguish between informal assessment (part of a manager's everyday activities, continuous monitoring of work tasks) and formal assessment, which as a standardized form, is periodical and of which records are taken for later use. According to Koubek (2007), the process of employee assessment has nine phases, which may be divided into three consequent time periods: preparation period (setting the subjects, principles, rules and the procedure of assessment, preparation of forms, analysis of jobs, their possible revision; formulation of the criteria of performance and its assessment, definition of the key period; informing employees on the assessment being prepared and its purpose; the period of collecting information and inputs, finding information, preparation of unified documentation on the work performance and the filing thereof), the period of assessment of the information on the work performance (assessment of work results, work behaviour, abilities and further qualities of employees; an interview with the assessed employee on the assessment results); follow-up observation of the employee. The assessment interview, which should have a fixed content structure and fixed time plan, is considered a crucial part of the formal assessment process of an employee's performance. If an assessment interview is to be useful to both parties, the assessor and the assessed employee, they must prepare carefully. An employee should be informed about the content of their assessment in advance. Self-assessment by employees is becoming a more and more usual part of regular assessments because it contributes to the higher objectivity of the assessment (Urban, 2013,). Wagnerová (2008, p. 82-98) for example, deals with the assessment interview in detail. Whilst presenting a model scenario and the important principles for the conducting thereof, she also mentions the psychological aspects of an assessment interview and the importance of non-verbal factors, taking the opportunity to point out the main mistakes assessors make. Plamínek (2011) puts forward the proposal to start the assessment interview with the results (performance), then to deal with the developmental issues (plan for the future – particular focus on maintenance and development of human resources) and relations (acceptance of the fact that a human being cannot be approached like a machine). According to Wagnerová (2008) an assessment interview has roughly the following scheme: creation of positive atmosphere; employee's self-evaluation; discussion about a future performance plan; discussion on educational needs; setting the approximate term for the next evaluation;

encouragement of the employee; formal record of the course of the interview in written form. Němec, Bucman and Šikýř (2014) state that the regular training of assessors substantially contributes to the quality of the assessment interview and the whole process of work performance evaluation. Wagnerová (2008) lists the main spheres of use of the assessment outputs in the Czech Republic as follows: remuneration; promotion; determination of the educational needs of an individual; improvements in the organization of work; education of the organization as a whole; and career.

Buchelt (2015) deals with performance management in Polish companies internationalizing their market activities. Mellahi, et al. (2015) describes performance management practices within multinational enterprises in emerging markets. Abdolvand, et al. (2015) present performance management on the basis of a value-based customer-centred model. The study by Awang, et al. (2015) shows the impact of training on an employee's job performance. Türk (2016) looks in-depth at the performance management of academic staff and its effect on the quality of teaching and research at Estonian universities. Various Czech and international models for the evaluation of the performance of academic staff are also introduced and analysed, for example by Stoklasa, Talašová (2010), by Talašová, Stoklasa, Holeček (2011) and by Talašová, Stoklasa, Müller (2012). Vrbka and Vochozka (2014) evaluate the effectiveness of management at the Institute of Technology and Business in České Budějovice.

Institute of Technology and Business in České Budějovice

ITB is a professionally orienteduniversity . At present, approximately 4,500 students attend the school. The activities of the departments are controlled by the faculties within the organizational structure: Faculty of Corporate Strategy; Faculty of Technology; and the School of Expertness and Valuation. The institute currently offers five Bachelor study programmes and two Masters study programmes. Almost half of the students study at the Faculty of Corporate Strategy. The Faculty controls the activities of the following departments: Department of Economics; Department of Management; Department of Tourism and Marketing; Department of Foreign Languages. ITB in České Budějovice is a public tertiary school, which applies Management by Objectives (MBO)[1]. The school has a well-established long-term plan with a clear vision and mission and has set and defined clear goals at the strategic, tactical and operative levels for the individual periods in relation to them.[2] It is therefore logical that planning, management, monitoring and the assessment of work performance are carried out at all management levels.

Methodology

The focus of this article is the system of planning, management, monitoring and the assessment of work performance in the departments that make up the Faculty of Corporate Strategy. The analysis is based on the internal written documents of the examined organization. These documents include strategic documents of ITB and internal standards: directives; regulations; Rector's orders. The results of a questionnaire survey conducted among the four heads of departments within the Faculty are also used to support the analysis. In addition, there will be reflections on information garnered from formal and informal interviews with individual department heads, as well as records and information from official meetings of departments, the management of the faculty and the ITB top management. All the addressed department heads participated in the questionnaire research on planning, management and the assessment of the performance of the departments in the Faculty of Corporate Strategy. The questionnaire was administered through Google-disc at the end of the third week of June 2016 and was anonymous. The questionnaire contained a set of questions focused on planning, management and the assessment of work performance of the academic staff within the departments. The detailed results of the research are presented later in the article.

The process of planning, management, monitoring and the assessment of the work performance of the departments in the Faculty of Corporate Strategy

The system of planning, management, monitoring and the assessment of work performance reflects the goals of the Faculty as defined for the Faculty Director in the managerial contract.

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[1]Institute of Technology and Business in České Budějovice. *ITB Strategy 2010-2015*. České Budějovice, 2010.
[2]Institute of Technology and Business in České Budějovice. *Long-term Plan of Educational and Scientific, Research, Development and Innovation, Artistic and Other Creative Activities of the Institute of Technology and Business in České Budějovice for 2016-2020*. České Budějovice, 2015.

The defined goals deal with the following activities:
- pedagogical and administrative activities (all the activities related to teaching on regular study programmes and within the Lifelong Learning Centre and the provision thereof: e.g. teaching of subjects in full-time and combined forms, consultations with students, guaranteed subjects, preparation of teaching modules, awarding term assessments, exams, etc.);
- research, development and creative activities (activities necessary for accreditation and additional funds);
- publication activities – publications scored in RIV, publications in SCOPUS, ERIH databases;
- project activities of ITB (important tasks and grants);
- contract activities of ITB (involvement of experts in contracts entered into by ITB);
- balanced budget;
- accreditation activities.

The fulfilment of the goals at the operative level is delegated through the Faculty Director to the individual department heads so that the Faculty meets the set goals as a whole.

The operative goals are specified as particular outputs that should be achieved during a calendar year by members of the academic staff. For this purpose, department managers are recommended to prepare Performance Plans for Members of the Academic Staff, which in particular contain measurable performance outputs (pedagogical, administrative, creative and contractual activities), requirements for professional and general competences and qualifications and to some extent also the expectations in the field of work and social behaviour. The acceptance of such a plan by a member of staff establishes an Agreement on Work Performance (in oral or written form). The department heads monitor the performance of the staff throughout the calendar year, taking appropriate measures where it appears that a plan is (potentially) not being fulfilled. A partial assessment of the performance of members of the academic staff is conducted mid-year. The outcome of this assessment determines the member of staff´s bonus payment or, as the case may be, whether an extraordinary bonus should be paid. A comprehensive assessment of employees follows at the end of each calendar year.

Our research shows that all the department heads consider the items "measured performance of an employee in the ETMS, module Activity", "work and social behaviour" and "development of personal competences and qualifications" to be an integral part of the performance of a member of the academic staff.

Our research also found that two of the four department heads prepare Performance Plans, which the members of the academic staff accept by entering into an "Agreement on Work Performance". However, this result does not correspond with the fact that all four department heads consider the planning and management of performance in their departments as being systemic.

The focus in this article is on the three components of performance mentioned above, namely on how they are planned, measured, monitored and assessed at present and whether it is a standardized process.

Measured performance of an academic staff member

The performance of the academic staff of the departments, including external members of staff, is recorded and measured on a continuous basis by means of a central tool within the "ACTIVITY" module. This module, as well as additional modules, form part of the electronic complex managerial system for the management and monitoring of the activities of employees and sections of ITB in České Budějovice (Excellent Top Manager System "ETMS").[3] Figure 1 shows the basic functions of the system.

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[3]Directive No. 5/2014. *Internal Standard of the Institute of Technology and Business in České Budějovice: EXCELLENT TOP MANAGER SYSTEM (ETMS).* Current version. České Budějovice: Institute of Technology and Business in České Budějovice, 2015.

Figure 1: Complex managerial system for the management and monitoring of the activities of employees and sections of ITB
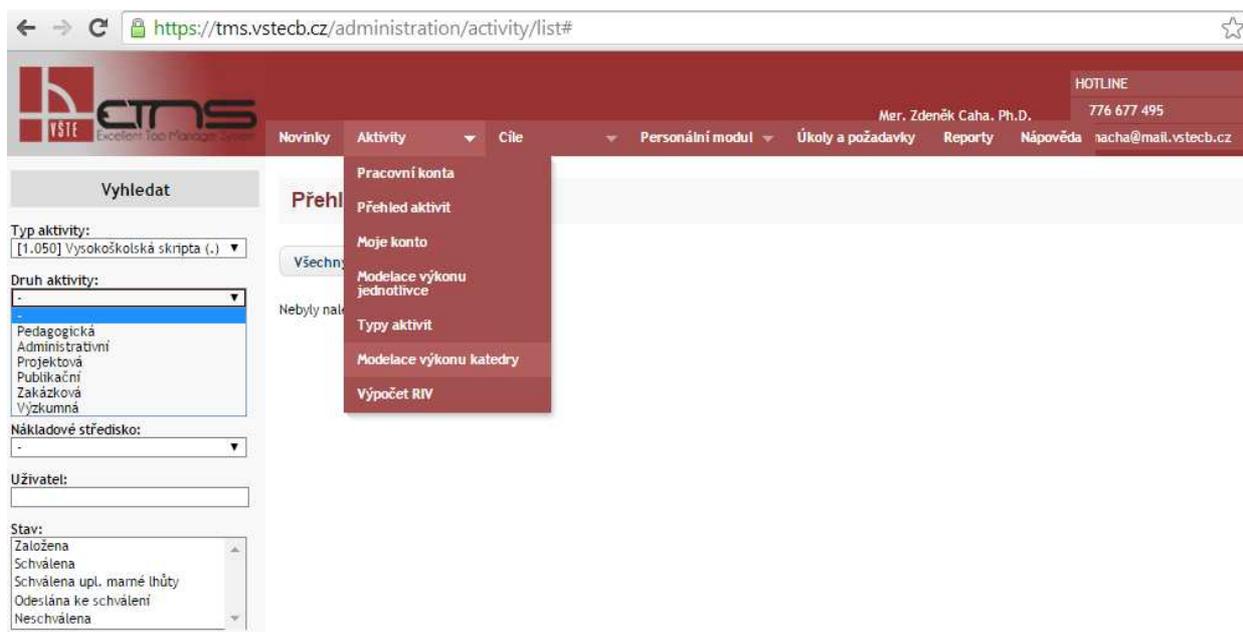
Source: ETMS of ITB in České Budějovice (access for authorized users only)

Each department employee has a so-called individual work performance account in the virtual environment of the Activity module and is obliged to fill in the account with their activities.

The measured performance units are, for example, an hour of teaching, a standard page of a monograph, one article in the SCOPUS, ERIH databases, the number of term assessments given, etc. A list of activities with scores is a part of the so-called Activity Enumerator, which is prepared and updated in accordance with the priorities and goals of the institute. Figure 2 shows examples of the activities in the field of creative activity (publication, research, project and contract activities) with their relevant performance score. Figure 3 shows examples of assessed pedagogical and administrative activities. Each member of the academic staff, as well as the department head, have the opportunity to check and monitor their individual performance fund scores in the Activity module at any time.

Table 1: Extract from the ITB Activity Enumerator – the field of creative activities (as of 1/7/2016)

Examples of creative activities	
Activity type	**Coefficient in scores per measurement unit**
A monograph, a technical book, a chapter in a monograph, or a technical book	3.9 per standard page, maximum 150 standard pages
A chapter in a technical book	3.9 per standard page, maximum 150 standard pages
A reviewed article in a specialized periodical included in the WS with impact factor	350 per article
A reviewed article in a specialized periodical, included in the SCOPUS database	350 per article
A reviewed article in a specialized periodical, o included in the ERIH Plus database	150 per article
A reviewed article in a specialized periodical	90 per article
A reviewed technical article	20 per article (only one a year possible at assistant level)
An article in a collection – SCOPUS, ERIH	150 per article

Table 2: Extract from the ITB Activity Enumerator – examples of pedagogical and administrative activities (as of 1/7/2016)

Examples of pedagogical and administrative activities	
Activity type	**Coefficient in scores / measurement unit**
Subject guarantor (3 months/1st period)	7 per guaranteed subject
Member of the ITB Academic Senate	2 per membership
Member of the ITB AC and AC of another school, membership in scientific and research councils of schools, organisations and institutions of the ITB Lecturer's Collegium, ITB DK	1 per membership
Exercises, laboratory exercises	1.15 per lesson (45 minutes incl. preparation)
Teaching in combined form of study	1.15 per lesson (45 minutes incl. preparation)
Consultations with academic staff	1 per consultation (max 2 hours a week)
Award of a term assessment	0.3 per student
Leading Bachelor theses	10 per student
Courses within the LLL Centre	1.15 per lesson (45 minutes incl. preparation)
E-learning module – foreign language	30 per module
Foreign language translations – general texts	1 per standard page
Foreign language translations – technical texts	1.6 per standard page
Corrections (smaller scale)	0.3 per standard page
Contract activity	Performance scores calculated in accordance with the financial volume of the contract

100% fulfilment of the so-called **individual performance fund** is essential for each member of the academic staff because 50 % of their bonus payment is based on it. The individual performance fund of a member of the academic staff is a multiple of the number of working days for the period appropriate to the assessment of their performance and 6 performance scores. The performance fund expressed in performance scores is the same for each member of the academic staff with regards to their number, however it differs in the required structure of recorded activities. Each member of the academic staff is actually assigned a minimum proportion for creative activities. For an assistant lecturer this proportion is 15%, for a lecturer 30%, for an associate professor 45% and for a professor it is 57.5% (the minimum proportion for creative activities is also confirmed in the job descriptions for academic positions). If an employee fails to achieve the required proportion of creative activity, the scoring under the item "other activities" within their virtual account (including pedagogical and administrative activities) is reduced proportionally according to an internal directive. After the end of each period, the virtual account of an employee is closed and the resulting performance is determined in percentage terms. The head of the department then receives the result with regards to the fulfilment of the performance fund together with a generated proposal for the bonus payment of the employee for the consequent period. An internal standard deals with the calculation of the bonus payment of an employee on the basis of the resulting performance. The department head can modify the proposed bonus payment, whereby such modifications must be substantiated by the line manager, who finally approves the amount of the bonus payment.

A **department performance fund** is the sum of the required performance funds for the members of the academic staff and is expressed in performance scores. A sum for the real performances of external workers is also a part of the fund.

There is an important factor to take into consideration with regards to the performance measurement system: the budget of a department and therefore also of the faculty is determined by the extent to which the department fulfils the department performance fund. The value of a performance point for a member of the academic staff depends on their academic position and is set on the basis of an internal performance point pricing policy (for an assistant lecturer it is CZK 263 per performance point, for a lecturer it is CZK 296 per performance point, for an associate professor it is CZK 504 per performance point and for a professor it is CZK 749 per performance point). If a department fails to meet the required creative work as a whole, the budget is reduced by a proportional part according to the applicable internal directive.

Strong points of the Activity module:
- existence of a standardized and transparent tool for the measurement of predefined outputs (teaching, term assessments, consultations, being a guarantor, publication, etc.);
- existence of an electronic managerial tool for planning, management, monitoring and the assessment of the work performance of members of the academic staff;
- connection of the system to financial remuneration;
- creation of competitive environment among employees;
- existence of a motivation tool, particularly for creative types (very good remuneration for high quality creative outputs).

Weak points of the Activity module:
- the system is currently focused on the measurement of outputs, not inputs and processes. Inputs in this context refers mainly to the achievement of new competences, whilst processes means the assessment of the work and social behaviour of employees and their approach to work (willingness to accept tasks, to cooperate, to behave economically, to adhere to given rules);
- possible demotivation of the staff to perform activities that are underestimated from their point of view or are not included in the activity enumerator;
- technical problems and limited options to adapt the system to changing needs;
- some activities have to be entered manually through delegated sections and this leads to errors or the late entry of some performances.

Planning the development of the general and specialized competences and qualifications of the academic staff

Planning the personal growth of members of the academic staff is always carried out in the departments at the end of an assessed period. This involves planning the requirements for further specialized and general qualifications and competences. The extent to which such requirements are taken into consideration in the assessment of an employee depends on the department head, who has the option to reflect this in the bonus payment or to provide an extraordinary bonus. As yet, the process has not been fully standardized and unified within all the departments.

At this time, a HRM module, which is one of the modules of the ITB complex managerial system, is dedicated to the assignment and fulfilment of the requirements for qualifications and competences of members of the academic staff. This module is currently only in the initial implementation phase. Qualification requirements and requirements for further general and specialized competences for individual members of staff are determined within the module in order to meet the qualification criteria for the accreditation of study programmes (requirements for degrees, requirements with regards to the quality of publications by subject guarantors, study field guarantors, etc.). The requirements for meeting some general and specialized competences are entered into the system centrally on the basis of job descriptions, the fulfilment of which is obligatory for all members of the academic staff (e.g. leadership training for Bachelor theses, training in the operation of the school information system, etc.). The fulfilment of these requirements by employees is entered into the system on a continuous basis and in real time by a school clerk upon the presentation of evidence to the fact. A department head can therefore continuously monitor the fulfilment of these requirements and take it into account in the assessment of an employee´s work performance.

Assessment of the performance of members of the academic staff

The departments use both informal methods for the assessment of members of the academic staff (on a continuous basis whilst completing partial operative tasks or extraordinary achievements) and formal methods of assessment, which are conducted twice a year and as soon as possible after the end of an assessment period.

For the assessment of the performance of a department and therefore that of the department´s employees too, a calendar year is divided into two periods, one from 1 January to 20 June and the other from 1 July to 31 December.

At present, the following main criteria are applied to the formal assessment of the performance of members of the academic staff:

- the resulting (measured) performance of a member of staff with regards to pedagogical, administrative and creative activities (basic criterion);
- work and social behaviour (complementary criterion);
- fulfilment of the requirements for specialized and general competences and qualifications (complementary criterion).

The final (measured) performance of a member of staff

The final measured performance of a member of staff is expressed by the number of performance scores on the one hand and in the percentage fulfilment thereof on the other. The department head has both pieces of data available to them and a generated proposal for a bonus payment for the next six-month period.

Assessment of the work and social behaviour of members of the academic staff

This is a complementary assessment criterion in the process of department work performance assessments. It is within the competence of a department head to decide to what extent they take this item into account in the process of the formal assessment of an employee, which is subsequently reflected in the employee´s bonus payment or potential extraordinary bonus. Their proposal is however subject to the approval of the faculty director, who may request the appropriate substantiation.

Department heads try to include the work and social behaviour of employees in their formal and informal assessments. An informal assessment involves a form of oral or written notification of the possible shortcomings of an employee, or praise for the fulfilment of urgent or demanding tasks.

A system for the recording and assessment of the work and social behaviour of an employee on the basis of, for example, an assessment scale or score assessment, has not yet been introduced. Such a system would enable the positive and negative aspects of the work and social behaviour of an employee to be summarized within a formal assessment. Our research has shown that two of the four department heads would consider the clear definition of criteria and scoring useful for the work performance items "work and social behaviour" and "development of general and professional competences and qualifications". The remaining two department heads did not consider this would be useful.

In the assessment process, the following items are particularly taken into account by the department heads in relation to the work and social behaviour of an employee:

- punctuality and the quality of the fulfilment of important tasks (a TASKS AND REQUIREMENTS module is available to the department heads within the above mentioned comprehensive system of assessment of ITB employees for the assignment and monitoring of the fulfilment of tasks). This module is used to ensure the fulfilment of the operative goals assigned to individual departments by the ITB management;
- adherence to the rules for registering ones presence in the workplace (presence is recorded electronically through the Vema system - employees check-in on arrival and check-out on departure by placing their chip card on a terminal (the system monitors adherence to the obligatory 40-hour working week);
- punctuality and the quality of the fulfilment of operative (smaller) tasks;
- punctuality in the fulfilment of tasks is recorded by the department secretary, the quality is assessed by the department head or the deputy;
- willingness to accept tasks (assessed by the assignor of the task i.e. the department head or the deputy);
- willingness to cooperate, deal with people, relations to colleagues and customers, behaviour towards superiors/subordinates (assessed by the department head or the deputy);
- satisfaction of customers through feedback e.g. satisfaction of other sections (in reality this represents an assessment by colleagues or external companies with regards to the quality of translations, interpretation and/or teaching in courses);
- satisfaction of customers (students) with the quality of teaching (determined on the basis of the so-called subject questionnaire at the end of a term).

Assessment of the development of general and specialized competences and qualifications

This is also a complementary assessment criterion in the process of department work performance assessments because it is assumed that an employee chosen for a position has at least the minimum required competences and qualifications. Most of the standard requirements for professional and general qualifications and competences form a part of the job description (the job description of an assistant lecturer, a lecturer, an associate professor, a professor).

Department heads include the fulfilment of the requirements for professional and general qualifications and competences in both the formal and informal assessments. A HRM module, which is one of the modules of the complex managerial system (still in trial operation), is used to assign and check the fulfilment of the requirements for qualifications and competences of employees. The general and professional qualification requirements for individual members of the academic staff are set by the department head within this module in order that they meet the qualification criteria for the accreditation of the study programmes (requirements for degrees, requirements with regards to the quality of publications by subject guarantors, study field guarantors, etc.). The requirements for meeting some general and specialized competences are entered into the system centrally on the basis of job descriptions, the fulfilment of which is obligatory for all members of the academic staff (e.g. leadership training for Bachelor theses, training in the operation of the school information system, etc.). The fulfilment of these requirements by employees is entered into the system on a continuous basis and in real time by a school clerk upon the presentation of evidence to the fact.

A department head can therefore actively monitor the fulfilment of these requirements and take it into account in their formal assessment of an employee and in their decision making with regards to a bonus payment.

Assessment interview

A department head has an assessment interview with the individual employees at the end of each assessment period i.e. twice a year. The obligation to conduct assessment interviews is actually not prescribed in any internal directive, but is widely considered as useful because it is a means by which to determine an employee´s bonus payment for the next period, or the payment of an extraordinary bonus. Our research revealed that the heads of all the four departments perform assessment interviews at six month intervals.

The interviewed employee and the department head receive in advance the results of the employee's performance fund fulfilment as well as the state of performance of the tasks and the requirements for specialized and general qualifications and competences. The assessment interview takes 20-30 minutes. The results of the fulfilment of the employee's performance fund and the extent of their fulfilment of the requirements for qualifications and competences are reviewed in brief. The work and social behaviour of the employee is also discussed during the interview. Any new performance goals and requirements for specialized and general qualifications and competences are set at the end of the interview. A more detailed plan is consequently drawn up of the employee's creative work for the next period in relation to particular outputs so that the department as a whole fulfils the goals set in this sphere. Our research revealed that two of the four department heads require a self-assessment report, in which the members of the academic staff are required to assess all the components of their performance before the assessment interview. Our research also revealed that three of the four department heads apply a fixed structure to the assessment interview and that two of them make written reports of the interviews.

Analysis of the system of assessment of departments

The strengths and weaknesses of the system of assessment in the departments are summarized below:

Strengths:
- the approach to assessments in the departments is basically systematic and based on criteria prepared in advance and which reflect present trends: performance (this is in compliance with the goals of the organization, work and social behaviour, competences and qualifications);
- formal as well as informal assessments are conducted;
- assessments are conducted at regular intervals (twice a year);
- the assessment is closely related to the remuneration of employees (bonus payments and extraordinary bonuses);

- numerous components of work performance are assessed, including 540° feedback i.e. a multisource assessment (customers, superiors, colleagues, self-assessment);
- the assessment involves an assessment interview during which the employee has the opportunity to comment on their assessment;
- the overall assessment of an employee and the remuneration proposal are determined by the department head, who knows the employee best;
- the remuneration of the employee is closely related to the work performance, however it is not based on a "one-sided decision" of the department head. The final decision on remuneration lies with the faculty director.

Weaknesses:
- work and social behaviour is admittedly a part of the assessment system, however this part of the assessment is not fully standardized either on the faculty or the department level (exact specification of criteria, assessment scale, scoring are still missing);
- the assessment interview is principally conducted in line with present standard procedures, however this procedure is not subject to fixed written rules yet and comprehensive written records are not always taken (special or general competences,);
- a written self-assessment report by an employee is not always required before the assessment interview. (Subject guarantors only submits self-assessment reports on the quality of the teaching in a given subject for the purpose of meeting the accreditation criteria at the end of each term.);
- the "central" system for the measurement of the performance fund of an employee does not include the so-called adaptation process for new employees (a department head takes this fact into account, in particular with regards to the structure of a new employee's performance, and does not apply any sanctions during the first period after the commencement of their job should the new employee not fulfil the extent of their creative activities as required).

The link between the assessment of a member of the academic staff and their remuneration

The remuneration of members of the academic staff in the departments is closely related to their performance. The funds available for the department´s budget are fully dependent on the department´s performance as a whole, namely on the extent to which the performance fund has been fulfilled.

The (measured) performance of the departments/individuals is essential and is reflected to a high extent in the remuneration of the staff, namely in the bonus payments and potential extraordinary bonuses.

The salaries of an assistant lecturer (CZK 15,300.-) or a lecturer (CZK 17,340.-) are considered to be quite low. The bonus payment and the value thereof therefore plays a very important motivational role in the achievement of the required performance. If an employee fulfils their performance fund (100%), the recommended bonus payment according to the applicable internal standard is 50% of the predetermined salary. Where the performance is even higher, the bonus may reach up to 100%. Our research has revealed that three of the four department heads consider the assessment of the work performance of members of the academic staff by means of the "Activity" module as a standardized process, one of them does not.

The extent to which the work and social behaviour of an employee are reflected in the remuneration of academic staff is the responsibility of the department head, who assesses this on the basis of their records and observations. This performance component is reflected in the bonus payment. Our research has revealed that three of the four department heads takes the item "work and social behaviour" into account in the bonus payment - two of them up to 20% and one up to 5% of the bonus payment.

The extent to which the requirements for specialized and general qualifications and competences of an employee are reflected in their salary is dependent on the achievement of a Ph.D. degree, associate professorship and professorship. The extent to which work and social behaviour, as well as further requirements for competences and qualifications, are fulfilled, is taken into account by the department head. This can have an impact on the bonus payment in terms of hundreds of crowns and possibly higher with regards to potential extraordinary bonuses which are dependent on the department´s economic results. Our research has revealed that all of the four department heads take into account the performance item "development of professional and general competences and qualifications" in the bonus payment - one of them up to 5%, one up to 10% and two to 20%.

Summary

The analysis of the system of planning, management, measurement and the assessment of the work performance of members of the academic staff of the Faculty of Corporate Strategy at ITB in České Budějovice has shown that it is performed by the departments of the faculty, but that it is not a completely standardized and clearly defined process for all activities. The process is most standardized for the measurement of work performance for pedagogical, administrative and creative activities, for which a central system of performance measurement exists (the Activity module within the ITB complex managerial system). With regards to the work and social behaviour of the members of the academic staff and the development of specialized and general qualifications and competences as components of work performance assessment, we can say that they are monitored and assessed to some extent, but that this process needs to be more standardized in the form of clearly defined assessment criteria, including financial criterion. It will also be necessary to standardize the assessment interview. **Figure 4** shows the cycle of planning, management, monitoring and the assessment of the performance of members of the academic staff which the department heads should follow.

Figure 2. The cycle of planning, management and assessment of members of ITB academic staff
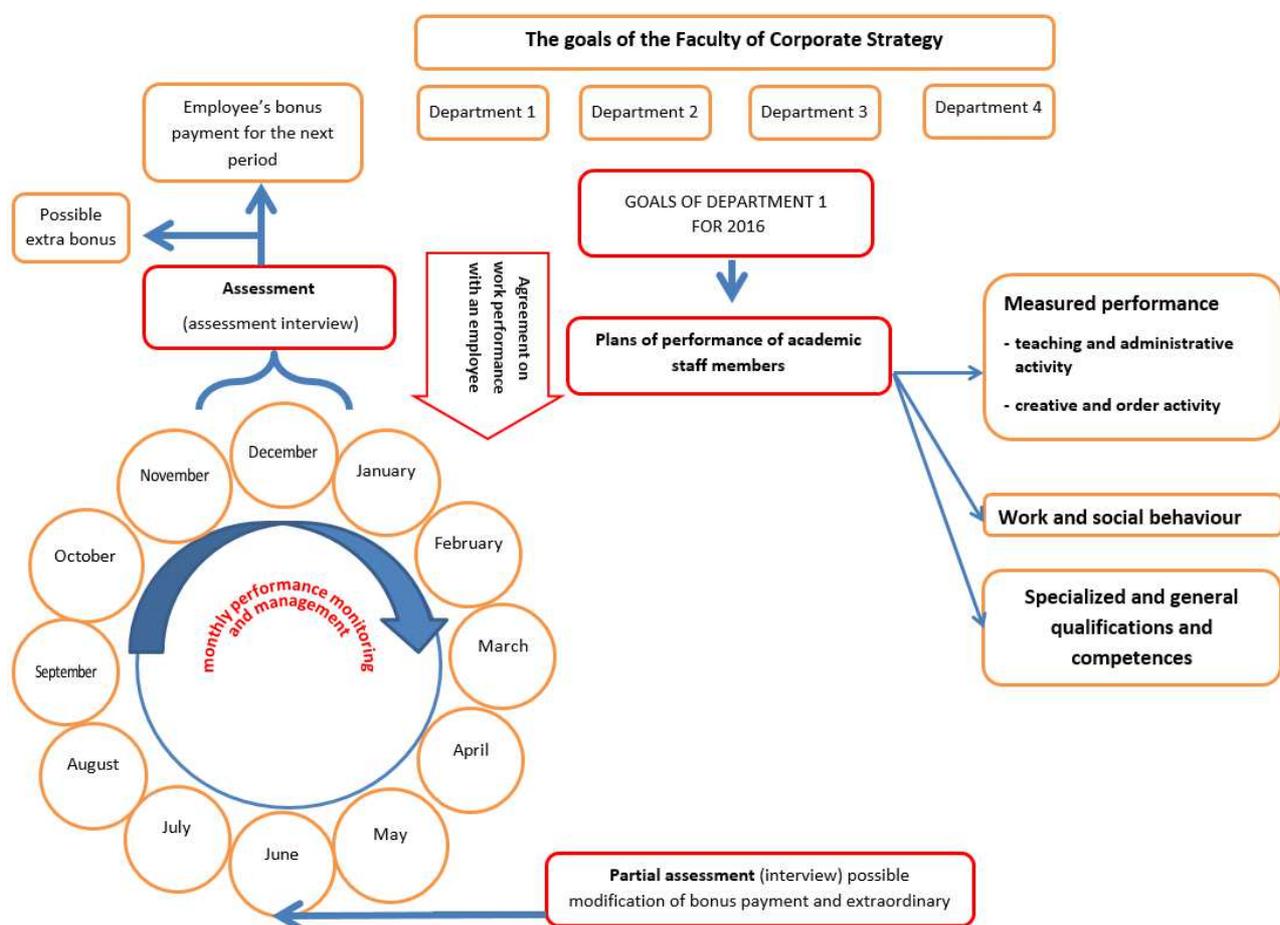
Source: author

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Analytical View of the Rewarding of Employees in the Position of Expatriates in Multinational Companies

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Abstract

Human resource management in multinational companies has several specifications, which are mainly due to the management of different types of employees. The specific category of workers are expatriates, i.e. employees who are seconded from the mother country and operate in the host country. The paper focuses to the issue of rewarding of this category of workers and highlights the various approaches that multinational companies may apply to the rewarding of expatriates.

Key words

International human resource management, multinational companies, rewarding, expatriates.

Introduction

Most international businesses based its global integration until about the 80 years of last century on working abroad. For these workers it has been delegated responsibility for the management of local employees, including rewarding in order to achieve business goals, and projected profits. The role of the central budget was approved by the wages and social benefits, salary increase of local executive or establish new benefits. Rarely interfere in the decisions of the local wage structure or details of providing employee benefits (Reynolds 1997). In the last decade there have been some changes. In a number of multinational companies to the forefront is discussion concerning:

- the growing influence of labor costs of the local subsidiaries on their outcomes,
- the need to motivate employees worldwide to implement business objectives and to improve competitiveness,
- the introduction of a uniform rewarding policy of the expatriates, which is related to the increase in the number of transferred employees,
- outsourcing of routine administrative activities related to the rewarding of the expatriates and their securing by multinational companies,
- the impact of national and organizational culture on the rewarding system and benefits (Reynolds 1997).

Specifics of rewarding of employees in an international environment

Increased complexity in the global rewarding includes the increasing use of outsourced activities, different needs of valuation work, deciding on the level of centralization and decentralization of incentives, benefits and pensions, increased technical requirements for personnel information system and the need for more accurate and detailed performance indicators, particularly for international missions (Wright 2004).

As reported by White (In: Armstrong 2009), best practice suggests that global rewarding should not be seen very separately. He also stresses that the design of each program pay requires an integrated approach, whereby each individual element of the rewarding supports the others in order to achieve the business objectives. He adds that the different procedures in the local market, regulatory and culture are indicators that one degree sufficient to cover all the system can not be effective.

The strategy for international rewarding is linked to the creation of an integrated approach to building policy of compensation practices that are beyond the mother country. This approach should be integrated in the sense that it takes into account the business goals of the mother country while adapting to strategies of other countries. But it is necessary to address the extent to which the rewarding strategy should be centralized or decentralized (Armstrong 2009).

Many multinational companies are forced to address the issue of transfer rate of rewarding practices to the host country. Obvious problems are related to deep-seated national and corporate values that affect the rewarding system, thus posing some challenges regarding their universal application (Poutsma, Ligthart, Schouteten 2005).

For multinational businesses successfully manage staff rewarding require to have knowledge of the following aspects (Dowling, Festing, Engle 2008):

- Employees.
- Tax and other laws relating to rewarding.
- Customs of the host country.
- Common practices in various foreign countries.
- The current rate of fluctuations.
- The impact of inflation on rewarding.

Given the objectives and goals of the international enterprise and a worker is, obviously, the complexity and potential problems if some of these objectives will not be achieved on both sides. Milkovich and Bloom (1998) state that companies must apply the traditional view in which local conditions should determine the rewarding of international strategy.

Successful implementation of the rewarding of workers in an internationally operating organization requires sufficient knowledge standards in the field of labor law, tax law, the specifics of personnel practices and the resulting practices in different countries (Štefko, Krajňák 2013). The high level of knowledge of local conditions often requires specialist advice, leading international organizations in many cases to use of the various advisory firms and provide these activities through outsourcing. In developing policies of international rewarding, the company pursues several objectives (Dowling, Festing, Engle 2008):

1. The rewarding strategy should be consistent with the overall corporate strategy, structure and needs of the multinational companies.
2. The rewarding strategy must be attractive enough to get quality workers.
3. The rewarding strategy should take into account the transfer of employees.
4. The rewarding strategy must accept the request of equality and simplify administration.

Approaches used in rewarding of expatriates

1. The market-based approach ('going rate' approach).

In application of this approach is a basic salary of expatriate designated depending on the reward structure of the host country. The multinational company usually receives information from local surveys on wages in the host country on the basis of which decides on determining the basic salary. In the event that the host country is very low wage levels, a multinational company usually compensates for the lack of use of the additional benefits and allowances (Dowling, Festing, Engle 2008).

One advantage of this approach is to ensure equality with local residents, which is very convenient especially for those employees in the country where the wage level is lower. The approach is simple and clear to understand and expatriates are able to better identify with the host country, it also ensures equality among expatriates of different nationalities. Another benefit of the approach is also relatively simple method of calculation, it helps to easy identification of the expatriates with the host country and also the expatriates from different countries, while ensuring a level playing field for all categories of workers in one host country (Dowling, Welch, Schuler 2004).

As for the disadvantages, this process can cause some pay disparities between workers in different foreign missions and among the inhabitants of the same nationality. This approach can also be less attractive incentive for employees who could work abroad. Problematic may also gather information on the rates of the labor market in the host country as a basis for determining the level of wages or salaries (Armstrong 2009). Strict application of this approach can lead to rivalry on locations where expatriates can act. This approach can cause problems even in case of repatriation, if the pay of expatriates after returning to the home country is lower than that of the host country. This is mainly a problem of American expatriates, since the US is the world leader in the height of executive pay. For example, research by Towers Perrin, which aimed to compare the salaries of top managers globally proves that the best paid managers are in the US (Dowling, Festing, Engle 2008).

Similarly, the author Frazee (1998) describes in her paper on the same principle based approach to pay, which is referred to as so-called „host-based" approach. The system determines the salary of the expatriate according to the level of pay of local employees working in a similar position. Basically the expatriate gets a basic salary to which then gets bonuses.

2. The balance sheet approach

Balance sheet approach is referred to as the most frequently applied method of rewarding by American multinational companies. This is evidenced by the Waterhouse's Price survey from year 1996, which shows that 92.1% of 370 surveyed respondents use one form of balance sheet approach (Dowling, Festing, Engle 2008).

This approach was created soon after the 2nd world war as a method of rewarding employees working abroad. Essence lies in the fact that the employer maintains the standard of living of its employees during their international activities and family of expatriate is in no way affected by the relocation. In practice, this approach is often modified, more or less firm in general only protects the employee if the level of maintenance costs is higher than in the home country. The main objective of this approach is to maintain the standard of living of the mother country for internationally active employees, including the provision of financial incentives in order to increase the desirability of remuneration of those employees. The basic salary is in contrast to the market-based approach determined depending on the salary structure in the mother country, as for employees of the parent country, as well as for employees of third country nationals (Dowling, Festing, Engle 2008).

Reynolds (2000) states that the balance sheet approach presents the system designed to offset the purchasing power of employees in comparable positions serving abroad and in home country and providing incentives to compensate qualitative differences between localities, in which employees operate. For expatriates operating abroad is made so called rewards package that includes salary and optimization of taxation, which is protection against increased taxes in the host country. Furthermore, in the package and bonuses are calculated according to the parent company, the risk premium and, finally, vouchers, which are reimbursed relocation costs and other essentials that provide an adequate standard of not only expatriates but also members of his/her family (Štrach 2009).

The advantages of this system are that the conditions for the staff are the same in all countries. This approach provides equality between different locations and between the expatriates of the same nationality. Another advantage is that the repatriation of expatriates is much easier course, as expatriate does not feel any difference in pay after returning from a mission to the mother country. This method facilitates easier expatriates returning to the country and it is more acceptable for expatriates (Dowling, Welch, Schuler 2004).

One disadvantage of this approach is that it can cause a noticeable disparity between the expatriates of various nationalities and between employees of the parent and the host country. Problems arise when international staff are paid differently for the same or very similar to that of the host country in comparison with the salaries of local staff. These differences can cause a number of problems and conflicts between the expatriates and workers from the host country. Another problem with this approach is that it is very administratively demanding, which is based on different, especially legislative conditions of the host country (taxes, pensions) (Dowling, Festing, Engle 2008).

The author Frazee (1998) states two most common methods of applying the balance sheet approach. Access to the domestic base is based on the determination of salary based on the comparison of expatriation within its native area. The second method, known as a method based on the company's management (ie. Headquarters based system), determines the salary based on a comparable job in the area where the headquarters of the company. (For example, expatriate of the Dallas branch of the company based in New York would receive a salary corresponding to the level of salaries in New York. It is the same as in the case of expatriate of London acting in Tokyo).

Frazee (1998) discloses a process for calculating the salary of expatriates in applying the balance sheet approach:
1. Start with a domestic gross income, including bonuses, allowances and the like.
2. Subtract domestic tax, social, health, eventually pension contributions.
3. Add or subtract the so-called post COLA (cost-of-living).
4. Increment housing allowance.
5. Increment incentive premiums, including premiums for mobility and activity abroad.

6. Added to or subtracted so called equalization tax (as a safeguard against double taxation in the home and the host country).

As reported by the author, there are several modified versions of this approach.

3. Hybrid model

This approach is a combination of both methods. This example uses a combination approach with a stronger balance sheet taking into account the local environment.

The hybrid method is usually a compromise between the balance sheet method, and market-based access rewarding. Typically, a hybrid approach may be a variation of the home or the host system where the balance sheet approach compared to the equivalent local market rate. Another approach is to pay the sum of expatriates in the host country, which equals income workers nearby, but follows the payment of the parent country, which allows the employee to maintain their spending on life and savings (Armstrong, Murli 2007).

Table 1. A comparison of the advantages and disadvantages of balance sheet approach and market-based approch in rewarding of expatriates.

Balance sheet approach	*Market-based approach*
Advantages	
- Equality between the expatriates of the same nationality. - Hassle-free repatriation. - Simple explanation to employees.	- Equal to local employees. - Identification with the host country. - Equality between different nationalities.
Disadvantages	
- The risk of disparities between the expatriates of different nationalities. - Creation differences between the expatriates and local employees. - Partially administratively demanding.	- Creating differences between the expatriates of of the same nationality in different countries. - Potential problems with repatriation.

Source: own processing according to Dowling, Festing, Engle 2008.

As for the choice of the most appropriate regime for the rewarding of expatriates, it is necessary to consider three different groups (Frazee 1998):
1. Co-expatriates in the mother country.
2. Co-expatriates in the host country.
3. Foreign collaborators expatriates.

Subsequently Frazee (1998) states the following alternatives:

1. Equality of expatriates with colleagues in their home country.
It is recommended the application of the balance sheet approach, which ensures the equality between the expatriates and their colleagues in similar job positions in the mother country. In this case, this approach allows for a smooth transition expatriates back home. Balance sheet approach should be applied in one-off international missions.

2. Equality of expatriates and co-workers in the host country.
Application of the balance sheet approach in this case often leads to a perception of expatriates as a special, more favoritism categories of workers, particularly if the level of salaries is significantly higher in the home country than in the host country. If the aim of the international community is to apply the principle of equality the expatriates and local workers and level of salaries is between the parent and the host country very different, in this case it is preferable to apply market-based approach.

3. Equal co-operating with foreign expatriates.
If the company aims to ensure equality of its staff involved in international missions and if at the same time employing expatriates of three or four different nationalities, it is important to design equal the

reward package for the group of expatriates. In this case, it is appropriate to apply the method based on the company's management (ie. Headquarters based system).

Particular approach to rewarding of expatriates should be selected based on one of these objectives that the international company pursues reinsurance principle of equality.

Summary

The problem of rewarding of employees in an international environment is due to their specific features one of the most serious issues that must be addressed by an international organization. Addressing the issue of the rewarding of workers in general is difficult, even more so in the resolution of the rewarding of workers in positions of expatriates. The decision on setting up the administrative system of rewarding needs to have sufficient knowledge of the legal legislation of the host country, which regulates the issue of pay and taxation, as well as on certain practices characteristic for the country or sector in which the organization operates. In addition to the conditions of the external environment, which affect the determination of the rewarding of expatriates it is necessary that the multinational company takes into account other factors that are specific just for the position of expatriates. The complexity of the problem is demonstrated by the existence of different approaches that multinational organizations currently apply in determining rewarding of their employees. However, it is important that the rewarding system takes into account the pros and cons of action in a foreign country and to act as a sufficient incentive for business activity outside the home.

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Factors Affecting Tax Collection in Slovakia

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Abstract

Within the frame of the research on this matter, we came out form the existing functional organizational structures and tax administration systems not only in Slovakia but also in Hungary, Poland, Czech Republic and Slovenia, whereas the fundamental prerequisite of investigation was increasing efficiency of the system globally. On the basis of trend analysis we assume that upcoming reform of Tax and Customs administration will significantly contribute to the increasing efficiency of the system and in the end to the positive perception of taxes as socially unpopular obligations.

Key words

Taxes, Tax reform, Tax administration, Efficiency, Process management

Introduction

The management of the Tax Administration in Slovakia is governed by principles introduced after 1989[13]. Despite the effort of recent years to decrease the number of employees, the system of administration of taxes in Slovakia can be considered as inefficient in terms of increasing competitiveness of the state [14]. At present, the general tendency is to complain about the rigid, unfriendly bureaucratic apparatus, which brings about unwillingness of the citizens to comply with tax obligations and more and more strict regulations of the state. The final consequences of such conditions lead in to the mentioned decrease of competitiveness of the state and decrease of its credibility in the eyes of its citizens[15].

Trends in the Management of the Tax Administration in the Slovak Republic

The starting point of the up-coming trends in the Tax Administration of the Slovak Republic is the Programme Declaration of the Government from 4 November 2002 which in its Section „Economic Policy" determines following objectives in the area of the administration of taxes: simplify tax legislation, amend parts of tax laws which allow for ambiguous interpretation, simplify the system of penalties in the tax area, decrease direct taxes, shift the tax burden from the direct taxes on to the indirect taxes, review and reevaluate the application of property tax rates, unify income tax rates, analyze possibilities of introducing a single tax (rate), strengthen own tax incomes of municipalities, determine own tax incomes of higher territorial units, ensure strict, direct, just and efficient tax collection and decrease tax rates, reduce tax evasion, create new system of horizontal financial settlement[3].

The Slovak Republic, not only thanks to the last tax reform from 2004, introducing single tax rate, has joined the progressive states of the European Union and has significantly strengthened its attractiveness and competitiveness [4]. From the point of view of levels of managing taxes within the Slovak Republic, the current situation can be defined as official two-level management system; however, by transposing some of the competencies of the Tax Directorate of the Slovak Republic on to the Branch Offices of the Tax Directorate of the Slovak Republic (hereinafter "BO TD"), it actually is a three-level management system, based on the need of efficient management of 102 local tax offices which cannot be assured form one center [3]. Such organization of the Tax Administration is not optimal from several reasons, which follow[5]:

- the performance of main business processes is scattered throughout the whole territory, when each local tax office (whether small, middle-sized or large) carries out all processes related to the administration, audit and enforcement of taxes, disabling thus the optimization of the performance of these processes as well as costs for their performance from the point of view of the tax administration as a whole [6],

- the system of the distribution of local tax offices is not flexible enough because it does not enable to adjust the allocation of the main organizational units to the needs of the taxpayers [7],
- BO TD have become an administrative level of management within the current system of management, and for quite some time the need to concentrate the performance of certain processes (such as book-keeping, salaries) is becoming obvious as these are unnecessarily split between TD SR and BO TD and thus increase the administration and communication intensity (e.g. demand excessive administration and communication) [8],
- in performing the work tasks of the employees of BO TD, some problems occur which are typical for those organizations who apply other levels and types of management apart from the linear management (such as project, technical, methodological etc.) [5].

Based on the above mentioned, the outline of the planned reform takes into regard the principle of justice, neutrality, simplicity and un-ambiguity, efficiency and elimination of double taxation. Analyses of the Institute of Financial Policy from years 2001 – 2004 show the reasons and obvious need for a reform [1]:
- complicated tax legislation – intelligibility,
- too many exceptions, exemptions and allowances leading to social ineffectiveness because the production and consumption is not governed by the demand and offer but by the tax advantages,
- variability of setting tax base enabling optimization on the side of the taxpayer is increasing administrative costs and decreasing the efficiency of control.

From the point of view of management and organization of the Tax Administration, further reasons can be:
- complexity of organizational structure – ambiguity and duplicity of the functions and competences on the central and regional level,
- costly administrative apparatus of the Tax Administration,
- non-transparent project management, decreased possibility of controlling processes,
- unwillingness of taxpayers to pay taxes.

The intention of the Government of the SR declared in the mentioned Programme Declaration of the Government of the SR is to carry out a reform of the Tax Administration in such a way which will make it more effective, with the aim of providing methodological assistance to the compliant taxpayers and detecting those taxpayers who are avoiding taxes [2]. The objective is to create conditions for efficient co-ordination of the public authorities, to guarantee the access of the citizens to the internet and secure the interconnection of information systems of the public authorities. Another priority of the Ministry of Finance of the SR is the reform of the Customs Administration aiming at unification of the processes of collecting taxes, fees, customs and contributions. The reform should thus proceed in two phases, the first stage shall be the merger of the Tax and the Customs Administrations, the second stage will unify the collection of taxes, fees, customs and insurance contributions [12].

Tax Reform and its Expectations – selected results of the survey [3]
- time schedule of the carried out survey: 01/11/14 - 31/10/15
- geographical structure: Prešov, Košice, Banská Bystrica, Bratislava
- age structure of respondents: 18 – 60 years
- employed as: clerks, businessmen, students, some did not disclose their occupation
- representative sample: 1 500
- number of collected and completed questionnaires: 1983

Table 1 Quantitative analysis by age of the respondents (Source: Own processing based on processed questionnaires)

| Category | Frequency: Age | | | |
	Frequency	Cumulative (Frequency)	Relative (Frequency)	Cumulative (Relative Freq.)
26 - 35 years old	369	369	24,60000	24,6000
36 - 45 years old	359	728	23,93333	48,5333
46 - 60 years old	388	1116	25,86667	74,4000
18 - 25 years old	384	1500	25,60000	100,0000
ChD	0	1500	0,00000	100,0000

Source: Own research based on the processed questionnaires

Based on KMO test results, we can state that the reached value 0,895 points out the suitability of using factor analysis by processing the research data. The statistics of Bartlett's Test of Sphericity acquires the value of 91,564 by the number of degrees of freedom 66. The corresponding p-value is 0,001, so the hypothesis that the realization of selection correlation matrix with 12 considered variables is a unit matrix is rejected on the asymptotic level of significance 0,05. The assumptions of the application of factor analysis have been thus fulfilled and its usage for the data analysis is justified [3].

Table 2 KMO test, Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,895
Bartlett's Test of Sphericity	Approx. Chi-Square	91,564
	Df	66
	Sig.	,001

Source: Own research based on the processed questionnaires

For the assessment of the number of common explanatory factors, which are in the background, the matrix of eigenvalues has been realized, whereby the method of principal components has been selected as an extract method. According to Kaiser's criterion, the eigenvalue has to be more than 1. As it follows from Table 10, there are 6 common factors in the background of research data matrix with 12 variables. These six common factors explain cumulatively 54,21 % of the total dispersion [3].

Table 3 The Table of Eigenvalues

| Value | Vl. numbers (Dissertation Questionnaire) Extraction: Key Components | | | |
	Eigenvalue	% of Total Variance	Cumulative (Eigenvalue)	Cumulative (%)
1	1,185683	9,880695	1,185683	9,88070
2	1,129148	9,409563	2,314831	19,29026
3	1,073402	8,945018	3,388233	28,23528
4	1,054944	8,791202	4,443177	37,02648
5	1,035592	8,629930	5,478769	45,65641
6	1,026562	8,554679	6,505330	54,21109

Source: Own research based on the processed questionnaires

For the objectification of the number of common factors, we will use the Sutin's graph of eigenvalues (Fig. 2), the sixth factor in sequence can be called the break-even (critical) point (regarding the slight change in the point 7). Thus to explain the variability of respondents' replies, six common factors can be used [3].

Fig. 2. Sutin's Graph of Eigenvalues

graph eigenvalues
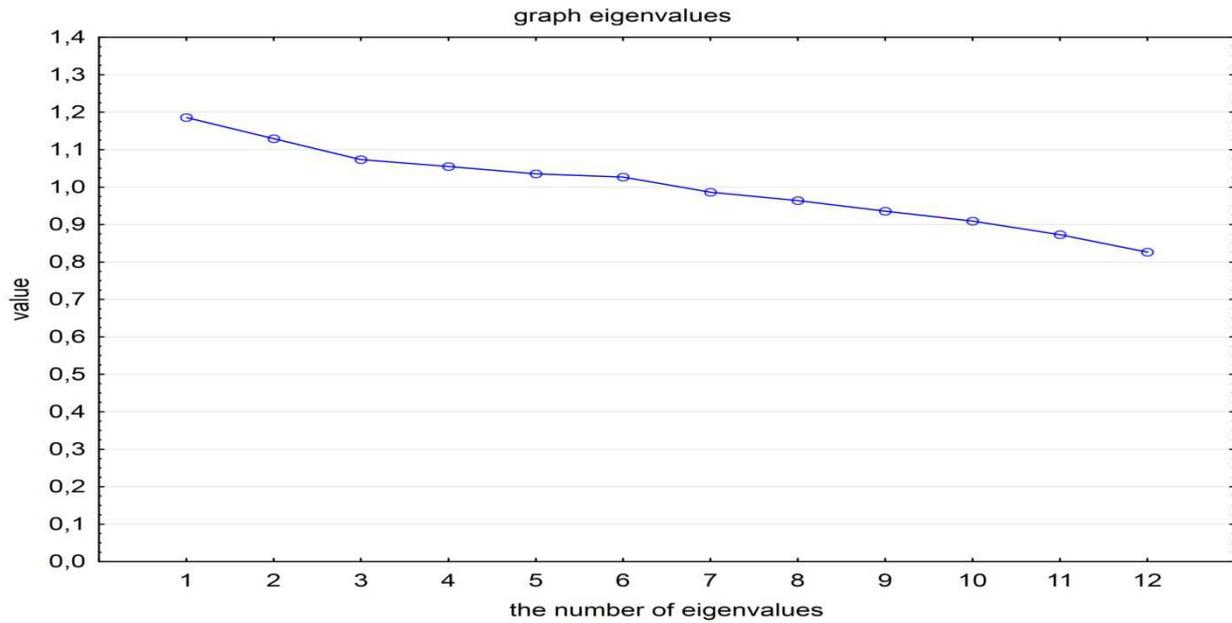
Source: Own research based on the processed questionnaires

Qualitative Survey

Table 4 Factorial Loads

Variable	Factor loads (Varimax norm.) (Dissertation Questionnaire) Extraction:KeyComponents (Load code are >0,600000)					
	Faktor (1)	Faktor (2)	Faktor (3)	Faktor (4)	Faktor (5)	Faktor (6)
1. Willingness	0,247480	0,407177	-0,204138	0,247481	-0,119360	0,033054
2. Competency	-0,055020	**0,681540**	0,006961	-0,072000	0,265825	-0,143970
3. Collection of Taxes	0,208022	0,193628	0,113738	**0,679960**	0,040969	0,043309
4. Collection of Duties	0,132591	0,065282	-0,075041	-0,362360	0,549920	-0,087184
5. Collection of Contributions	**0,681574**	-0,003556	-0,035835	-0,123172	-0,073222	-0,030383
6. Administrative Burden	0,059084	-0,045698	-0,032242	-0,025110	0,030893	**0,857102**
7. Time Saved	-0,019193	0,122648	**0,774129**	0,022727	-0,152556	-0,235661
8. Accessibility	**0,631722**	-0,009950	0,037099	0,165632	0,066763	0,065606
9. Electronization	-0,246514	0,479615	0,041579	-0,040427	-0,365937	0,364061
10. Transaction Costs	0,164648	0,278856	0,194761	-0,570120	-0,033999	0,152900
11. Mailing costs	-0,015977	0,224791	**-0,620793**	0,032046	-0,174028	-0,250511
12. Workforce Costs	-0,152111	0,061086	0,068049	0,266025	**0,711466**	0,122212
Expository Types	1,103872	1,051341	1,092940	1,102301	1,094582	1,060295
criteria	0,091989	0,087612	0,091078	0,091858	0,091215	0,088358

Source: Own research based on the processed questionnaires

Fig. 3: Results of the survey

Results of the survey
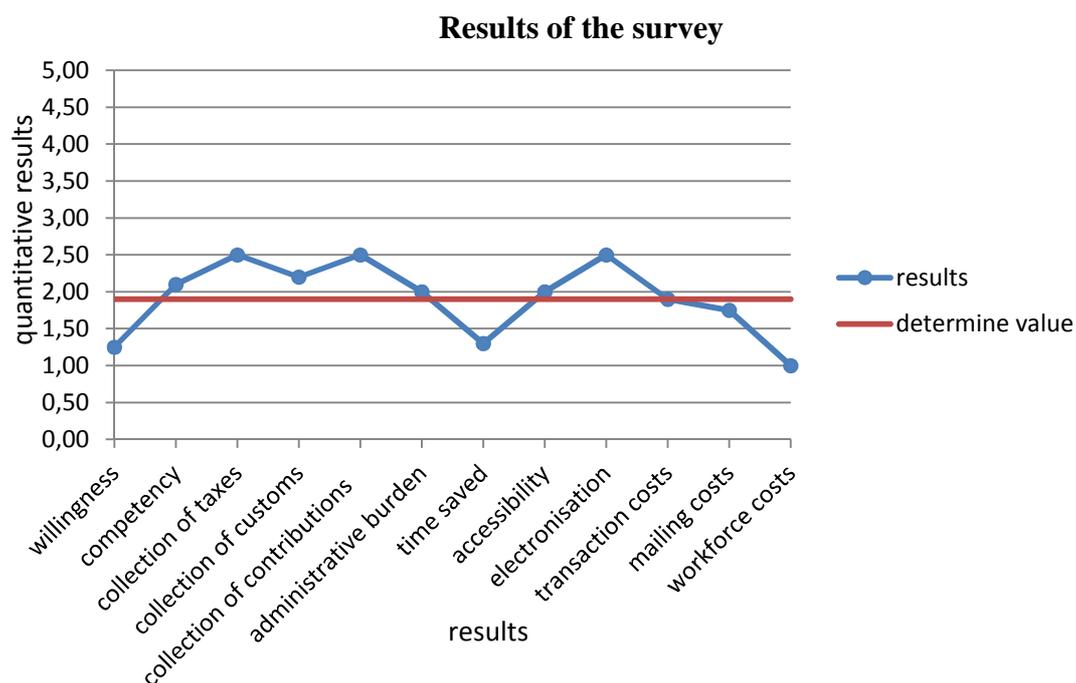
Source: Own research based on the processed questionnaires

From the total number of submitted completed questionnaires, I have selected 1500 to constitute the representative sample so that the homogeneity remains maintained. The results from Picture 2 show an overall discontent with the tax and customs system in the SR; the most critical being the costs for the workforce dealing with the taxes and customs, as well as time needed to process this agenda [11].

Taking into account the expected benefits of the tax reform as provided in the document "Outline of the Reform of the Tax and Customs Administrations with the View of Unifying the Collection of Taxes, Fees, Customs and Insurance Contributions", elaborated by the Strategy Section at the Ministry of Finance of the SR, the planned reform should bring about improvement in the perception of all set criteria, and with the highest probability the current discontent will with the gradual introduction (of the reform) change for better [10].

Summary - Conclusion

Slovakia through the above mentioned process of tax reform approaches an effective tax system which will lead to the increase of effectiveness and competitiveness of our state amongst the EU member states. The impacts of the suggested changes can be divided into two main categories. The first category comprises the benefits of the reform of the Tax and Customs Administration in terms of saving the costs and time, growth of value added, efficiency of work etc. The second category is represented by the expenditures used for individual objectives of the reform of the Tax and Customs Administrations. Both of these categories can further be divided into the impact on taxpayer, that is the client / user, and impacts on the public administration. From the financial point of view, the highest importance have the impacts with permanent or repeated effect [9].

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Payroll Contributions and Tax Burden on Labor Relations in the Slovak Republic

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Abstract

The aim of the paper is to summarize the differences, but also similarities among the percentage of net wages remaining from the gross wages of specific groups of employees involved in employment relationship according to Slovak legislation - employees, pensioners, invalids with the decline in earning capacity up to 70% because of disability, invalids with the decline in earning capacity of over 70% because of disability. The key methods used in the paper contain mathematical and statistical methods (e.g. calculation of health and social insurance contributions, calculation of tax liability and net wage, descriptive statistics, ANOVA, test of multiple values – Tukey test for least significant difference). The research revealed similarities in average of net to gross wage ratio between pensioners and invalids with the decline in earning capacity up to 70% because of disability. Other two groups were statistically significantly different in mentioned ratio from all other analyzed groups.

Key words

Gross wage, health and social contributions, income tax, net wage, average of net to gross wage

Introduction

Social insurance contributions and health insurance contributions are in the Slovak Republic obligatory for the both – for employee and also for employer. In this paper, we will focus on the employee's social and health insurance contributions. Assessment base in general for the both is the employee's gross wage (Healthcare Insurance Act 580/2004 Coll., Social Insurance Act 461/2003 Coll.).

But there are also several exceptions in assessment base. Assessment base of low-income groups of employees with the gross wage less than 570€ per month for the purposes of health insurance is the gross wage reduced by a deductible part. The amount of deductible part for health insurance purposes depends on the amount of the wage (Healthcare Insurance Act 580/2004 Coll.). The assessment base for the social insurance is also in this case the employee's gross wage. After fulfilling the conditions set by the Social Insurance Act and Healthcare Insurance Act also the relief from paying social and health insurance contributions can be applied (for those employees, who have been registered as unemployed at the Office of Labor, Social Affairs and Family for the required period just before taking up employment). The prerequisite is that the employee and the employer comply with all the conditions laid down by Slovak legislation (Healthcare Insurance Act 580/2004 Coll., Social Insurance Act 461/2003 Coll.).

For the both – health insurance and also social insurance there is a maximum assessment base, what means that if the salary is higher than 4290€, the contributions are calculated from the level of maximum 4290€. The only part of the social insurance, which is also in this case calculated from the gross salary, is a casualty insurance (Dobšovič, D. 2016).

Table 1 Percentage of health insurance contributions and social insurance contributions

FUNDS	EMPLOYEES		PENSIONERS		INVALIDS - DECLINE IN EARNING CAPACITY UP TO 70%		INVALIDS - DECLINE IN EARNING CAPACITY OVER 70%	
	employee	employer	employee	employer	employee	employer	employee	employer
health insurance	4%	10%	4%	10%	2%	5%	2%	5%
sickness insurance	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%	1.4%
old-age pension insurance	4%	14%	4%	14%	4%	14%	4%	14%
disability insurance	3%	3%	N/A	N/A	3%	3%	3%	3%
unemployment insurance	1%	1%	N/A	N/A	1%	1%	N/A	N/A
casualty insurance	N/A	0.8%	N/A	0.8%	N/A	0.8%	N/A	0.8%
guarantee insurance	N/A	0.25%	N/A	0.25%	N/A	0.25%	N/A	0.25%
solidarity reserve fund	N/A	4.75%	N/A	4.75%	N/A	4.75%	N/A	4.75%
FUNDS TOTAL	**13.4%**	**35.2%**	**9.4%**	**31.2%**	**11.4%**	**30.2%**	**10.4%**	**29.2%**

Source: Dobšovič, D. 2016

According to the Social Insurance Act and Health Insurance Act, the percentage of the payroll contributions differ from one specified group to another, what is also visible in the Table 1.

The payments of health and social insurance are not the only factors that affect the amount of the net wage. The amount of the net wage is also affected by tax allowances, by tax rate and by tax bonus.

If we abstract from the special tax rates, we can state, that the Slovak Republic applies a progressive tax rate on income from employment of individuals. That means, unless the Income Tax Act provides otherwise, the tax rate is 19% of that part of the tax base, which does not exceed 176.8 times the amount of the current subsistence minimum (including) and 25 % of that part of the tax base, which exceeds 176.8 times the current subsistence minimum (Income Tax Act 595/2003 Coll., Schultzová, A. et al. 2015). The current subsistence minimum is 198.09 € per month (Act No. 601/2003 Coll. on Subsistence Minimum).

If, in the respective tax period, a taxpayer's tax base is equal to or lower than 100 times the applicable subsistence minimum, the yearly tax allowance for the taxpayer shall be an amount equal to 19.2 times the applicable subsistence minimum. If, in the respective tax period, a taxpayer's tax base is higher than 100 times the applicable subsistence minimum, the yearly tax allowance for the taxpayer shall be the amount corresponding to the difference between 44.2 times the applicable subsistence minimum and one quarter of the tax base, (if this amount is less than zero, the yearly tax allowance for the taxpayer shall be zero). After fulfilling the conditions set by the Income Tax Act the taxpayer is entitled not only to the tax allowance for the taxpayer, but also to the following tax allowances: tax allowance related to the spouse sharing a common household with the taxpayer; tax allowance related to the documented amount paid in voluntary contributions to old-age pension savings scheme; tax allowance related to the contributions to supplementary pension savings schemes under a special legislation (Income Tax Act 595/2003 Coll., Schultzová, A. et al. 2015, Baštincová, A. 2014).

Methodology

Basic method used for analyzing data in article is Analysis of Variance (ANOVA). Main problem of ANOVA is to test null hypothesis that all of the population means are the same:

$$H_0: \mu_1 = \cdots = \mu_k$$

against the alternative hypothesis that they are not all the same. Statement that the population means are not identical does not imply that each population mean is distinct.

Testing criterion for ANOVA is Fisher F statistics which could be written as:

$$F = \frac{SS_B/(k-1)}{SS_W/(N-1)} \sim F(k-1, N-k)$$

Where SS_B is sum of squares between groups

$$SS_B = \sum_{i=1}^{k} n_i(\overline{X_{i.}} - \overline{X_{..}})^2$$

And SS_W is sum of squares within groups

$$SS_W = \sum_{i=1}^{k}\sum_{j=1}^{n_i} n_i(\overline{X_{i.}} - \overline{X_{..}})^2$$

In order to test similarities between groups we have used Tukey's studentized range test (HSD). HSD test was used to identify similarities between analyzed groups, because we have previously mentioned that ANOVA tests for differences between all groups, but doesn't indicate which of the groups are similar. Test statistics could be expressed as:

$$q = \frac{(\overline{y_{max}} - \overline{y_{min}})}{s\sqrt{2/n}}$$

Results

For the purposes of our research, we focused on the residents of the Slovak Republic, grouped into four specific groups of employees according to Slovak legislation: employees (including students), employees – pensioners, employees - invalids with the decline in earning capacity up to 70% because of disability, employees - invalids with the decline in earning capacity of over 70% because of disability. In order to present the calculation of net wages of each group, we created a case study. As a base wage for the case

study we have chosen the average wage in amount of 883€/month endorsed by the Statistical Office of the Slovak Republic for the year 2015.

We took into account the tax allowance for the taxpayer and abstracted from other tax allowances. If dependent children lived in a common household with the taxpayer, after fulfilling the conditions specified in the Income Tax Act, the taxpayer would be entitled to a tax bonus, which decreases the tax liability and increases the net wage. In our case study we formed two possibilities – childless taxpayer (not entitled to tax bonus), taxpayer with two dependent children sharing a common household with the taxpayer (after fulfilling the conditions specified in the Income Tax Act entitled to tax bonus 21,41€/monthly per child). We have formulated a situation in which the employee worked all the month and did not have any incapacity sick leaves. We calculated the net wage on monthly basis; the calculations are visible in Table 2.

Table 2 Calculation of net wages

	EMPLOYEES	PENSIONERS	INVALIDS - DECLINE IN EARNING CAPACITY UP TO 70%	INVALIDS - DECLINE IN EARNING CAPACITY OVER 70%
GROSS WAGE	**883 €**	**883 €**	**883 €**	**883 €**
health insurance	35.32 €	35.32 €	17.66 €	17.66 €
sickness insurance	12.36 €	12.36 €	12.36 €	12.36 €
old-age pension insurance	35.32 €	35.32 €	35.32 €	35.32 €
disability insurance	26.49 €	0 €	26.49 €	26.49 €
unemployment insurance	8.83 €	0 €	8.83 €	0 €
FUNDS TOTAL	118.32 €	83 €	100.66 €	91.83 €
tax base = gross wage - funds	764.68 €	800 €	782.34 €	791.17 €
tax allowance for the taxpayer	316.94 €	0 €	316.94 €	316.94 €
adjusted tax base = tax base - tax allowance for the taxpayer	447.74 €	800 €	465.40 €	474.23 €
tax rate	19%	19%	19%	19%
SIMULATION A)				
tax liability in case of NO CHILD = adjusted tax base * tax rate	85.07 €	152 €	88.42 €	90.10 €
NET WAGE in case of NO CHILD = gross wage - funds total - tax liability	**679.61 €**	**648.00 €**	**693.92 €**	**701.07 €**
SIMULATION B)				
tax liability in case of 2 CHILDREN = adjusted tax base * tax rate - 2*tax bonus	42.25 €	109.18 €	45.60 €	47.28 €
NET WAGE in case of 2 CHILDREN = gross wage - funds total - tax liability	**722.43 €**	**690.82 €**	**736.74 €**	**743.89 €**

Source: own calculations

From the Table 2 it is obvious that the tax liability is not calculated from the total amount of the employee's gross wage. The gross wage is in the first step reduced by the contributions to the health and social funds and the tax allowance for the taxpayer is applied in the next step.

Table 2 shows the zero amount of the tax allowance for the taxpayers in the group pensioners. In this group we have chosen the situation, in which the aggregate of the pensions in the tax period exceeds the tax allowance for the taxpayer in the amount of 19.2 times the applicable subsistence minimum.

It means, that according to the Income Tax Act the pensioner is not entitled to the tax allowance for the taxpayer if at the beginning of the tax period he is in receipt of an old-age or retirement pension (or if a pension was awarded retroactively as of the beginning of the tax period or as of the beginning of the preceding tax periods) and if the aggregate of the pensions in the tax period exceeds the tax allowance for the taxpayer in the amount of 19.2 times the applicable subsistence minimum (Income Tax Act 595/2003 Coll.).

As there are more variables having impact on the net wage (contributions to health and social insurance, tax rate, tax allowance for the taxpayer), we created 281 calculations, starting with the amount of 405€/month, which is the current minimum wage in the Slovak Republic. Other amounts were increased in each step by 20€ until we reached the amount of 6005€/month, what means, that our case study contain the examples of the wages of low-income employees, but also the high management salaries. This way we were able to include the factors, which cause the changes in the calculation of the net wage in whichever step of the calculation (e.g. the differences in the calculation of contributions to the health insurance in the amounts less than 570€; two different ways of the calculation of tax allowance for the taxpayer; application of two different tax rates (19% and 25%); application of the maximum assessment base in the amount of 4290€ related to health and social insurance with the exception of casualty insurance). In these calculations and further analyses, we abstracted from the tax bonus and prepared the study considering childless employees. After creating all the types of calculations, we used the statistical methods to analyze the similarities in average of net to gross wage ratio between the groups.

Table 3 contains descriptive statistics of percentage of net to gross wage

	NO. OF OBSERVATIONS	AVERAGE	STANDARD DEVIATION	MINIMUM	MAXIMUM
Pensioners	281	0.7301	0.0057	0.7204	0.7603
Invalids up to 70	281	0.7350	0.0336	0.7054	0.8796
Invalids over 70	281	0.7423	0.0341	0.7129	0.8877
Employees	281	0.7206	0.0335	0.6904	0.8766

Source: own calculations

As we can see from the results in Table 3 the smallest average percent of net to gross wage could be found in group employees. Second smallest average ratio is recorded in groups of pensioners and invalids with decline in earning capacity up to 70 %. The highest average could be found in the group invalids with decline in earning capacity over 70 %. In order to validate indicated differences in average ratio of net to gross wage between compared groups, we have constructed histogram which is displayed in Chart 1.

Chart 1 Histogram of ratios net to gross wage between analyzed groups
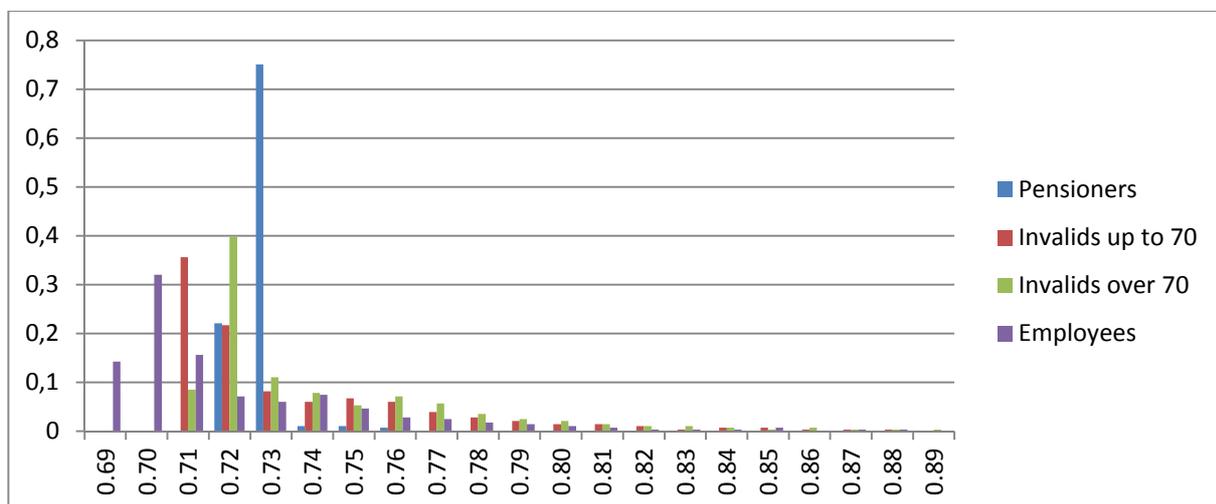
Source: own calculations

As we can see from Chart 1 the most of the ratios are concentrated in area between 0.69 and 0.73 percent. Only group pensioners shows the largest concentration of observations in area 0.73 percent and other groups have greater dispersion of values. Also the group invalids with the decline in earning capacity up to 70% because of disability has greater concentration in area between 0.71 and 0.76 percent. From this output we can conclude that there are significant differences between analyzed groups. In order to validate this assumption we have used analysis of variance with additional test of multiple values – Tukey test for least significant difference. Results from ANOVA are displayed in Table 4.

Table 4 results of ANOVA for evaluating difference between compared groups

SOURCE	DF	SUM OF SQUARES	MEAN SQUARE	F VALUE	PR > F
Model	3.0000	0.0703	0.0234	27.1600	<.0001
Error	1120.0000	0.9665	0.0009		
Corrected Total	1123.0000	1.0368			

Source: own calculations

Results from Table 4 confirm assumption of difference of average ratio net to gross wage between the compared groups. This fact had confirmed our assumptions concerning existence of differences between ratios, but it does not tell us if there are any groups that are similar to each other. In order to assess this situation we had conducted test for multiple values, which results are contained in Table 5.

Table 5 Results of test for multiple values

TUKEY GROUPING	MEAN	N	GROUP
A	0.7423	281	Invalids over 70
B	0.7350	281	Invalids up to 70
B	0.7301	281	Pensioners
C	0.7206	281	Employees

Source: own calculations

Results from Table 5 confirm that there are groups that are similar to each other (means with the same letter are similar, but not significantly). We can see that groups of pensioners and invalids with the decline in earning capacity up to 70% because of disability are similar and other two groups are significantly different from all others.

In this way we have proved that there is a significant difference in net to gross wage ratio between the compared groups. Although this difference is significant, we can also claim that there were similarities between two out of four groups.

Summary

The smallest average percentage of net to gross wage was identified in the group of employees (72.06%) and the highest average (74.23%) was found in the group invalids with decline in earning capacity over 70 % because of disability. Although the difference between the compared 4 groups is significant, we found similarities between the group of pensioners (average percentage of net to gross wage 73.01%) and invalids with the decline in earning capacity up to 70% because of disability (average percentage of net to gross wage 73.50%).

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Analysis of Managerial Competencies of Construction Projects through HPI and MBTI Questionnaire

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Abstract

Enterprises are so good, how good their managers, and those are as good as they can effectively lead and manage people. In the world is probably not a entrepreneurial entity that would not want to have employed the most capable employees, hence managers. Path to a company's success is much easier. Low percentage of firms is not able to adequately describe the necessary competencies of managers on the need and requirements of business practice with regard to the quality and quantity of their work. This paper analyzes the possibilities of the use of personality questionnaires HPI and the MBTI to identify the competencies of project managers of construction projects. The qualitative survey was carried out among 51 construction companies in the Czech and Slovak republics. Acquired competencies of project managers of construction firms processed and published in the form of case studies were compared with the competence of the project manager according to the National System of occupation. The results of the survey highlighted the fact that the HPI and MBTI are appropriate tools to identify the competencies of project managers. This condition has great importance because the manager's personality can greatly influence unlike others, where the findings of their personality it is not manipulated in any way. The manager can react to the personality type knowledge of the others and influence them indirectly by their own attitude, behaviour and cognition. To finding out of this state serves psycho diagnostic with the use of personality tests.

Key words
Project manager, competence of managera, building project, MBTI and HPI questionnaire.

Introduction

Characteristics of an ideal project manager were, are and always will be subject of discussion in expert and lay public. It is very difficult to define which properties are appropriate or inappropriate for the performance of a project manager. Every manager has a certain business dispositions (congenital and acquired), which enable to hold performance of business functions. With the development of the industrial period to phase post-industrial stage is placed bigger demands on performance of managerial functions. Knowledge in the field is no longer sufficient and exclusive. Increasingly, the trend of staffing levels are urged into managerial functions by young, perspective, fast learners and mentally resilient people who are leaders with a good dose of charisma and temperament.

"Process management and development of human resources is not a simple process in the company. High cost in the context of business processes should be viewed as an investment in the future that will generate long-term profit to entrepreneurial entity" (Vaníčková, 2015, s. 58).

The current trend in the management of human resources is direction according to competencies that develop professional and personal qualities of managers with respect to the performance of management positions. Managerial skills are becoming one of the key achievements of the competitiveness of enterprises while respecting the conditions of the market environment, the mission (strategy) and vision.

Construction sector and civil engineering has several curiosity needed to development and acquisition new, purpose-oriented and socially useful projects in terms of quality not quantity of use. Support for the restructuring of the construction sector and civil engineering is ongoing by process of transformation, adapting to the market, public contract, requirements and wishes of customers, but also stakeholders. Changes in personnel management and leadership are the most important factor in the development of contemporary business management especially in the areas of education, even though most managers are not sufficiently aware of their necessity.

In general, they are so overrated so called hard skills as measurable technical and economic aspects, the other way around so called soft skills as "immeasurable" aspects are by the managerial intelligentsia and professionals and the lay public still undervalued (Vaněk, Vaníčková, 2015).

Boyatzis (1982, s. 32) points out that *"managers must become more competent instead become more erudite. Managers must become more skilful, eligible to carry out their work".*

It is not difficult to identify the necessary competencies of project managers, broad variety of scientific literature, scientific articles and publications (e.g. Gemmnill (1974), NSP (2016), Project Management Core Competencies (1998), Hrazdilová Bočková et al. (2014), Čambál (2013), Petráková (2011), Thamhain, Gemmnill (1974)) provides information about competence models or profiles of project managers in specific sectors of the economy, see National system of profession (http://info.nsp.cz/) or the National system of qualifications (http://www.narodnikvalifikace.cz/predstaveni), where is identified from the year 2013 profession of project manager. **It appears problematic to analyze of the status of the project manager so that we can objectively assess its real competence. Helper in identifying serves psycho diagnostic tests.**

Material and Methods

World of construction is very specific. Working in this industry is not easy. This work is subject to constant changes, trends and changing laws. During implementation of the project in this area must follow strict rules. Persons working in the construction industry must have certain skills, abilities, knowledge. Simply they must have certain skills when carrying out work activities. Failure to comply the procedures, changes in materials, employing workers without the expertise and skills in the construction industry has a bad impact on the environment. It changes the landscape itself and can leave huge consequences in human lives. Proof of this is unsuccessful construction projects, decaying buildings and huge construction accident. Construction industry offers inexhaustible amount of opportunities to explore the social psychology of work, personnel, and technological processes of work, personality profiles, competency stakeholders - workers or management.

Objective

The aim of the present paper is to analyze the competence of manager of construction projects through HPI and the MBTI questionnaire. We start from a survey of 51 construction enterprises, when based on the data analysis of case studies, which were the output of the survey (in the project KEGA 003DTI-4/2014 implemented in 2014 and 2015), we consider the possibility of using the HPI and the MBTI questionnaire as potential tools for analysis of competencies of project managers not only in the building industry.

Methodology of processing

It is selected qualitative research by using case study method. Its characteristic states Veteška (2010), Duncan (2014), Schwarz (2012), Vaníčková (2015), and Wagnerová (2011). In the case studies it is realistic capture of the job of project manager in the construction company. We expect that thorough research and analysis of provided and the found information found on this topic we will contribute to a better understanding of each professional attributes during carrying out managerial activities in the construction sector. We remind to employers the importance of the manager's personality, skills and abilities innate or acquired, which is necessary to put emphasize.

For better understanding that not everyone can work as a project manager in the construction industry, it was necessary to performed a survey in the given problems and responsibilities of project manager to depth. This was possible only on the basis of qualitative approach of research. It was necessary to choose the object of the survey - the competence of the project manager and appropriate exploration methods. Subsequently, we identified the sources of information and acquired an overview in the given field. It was necessary to accumulated as many as possible quality information on the topic: project management, management, construction and psychology. We performed data collection from publicly available sources such as libraries, scientific literature, online sites, various monographs, anthologies, overview study of literature, educational dictionaries. We found knowledge which has been already known. To detection of internal information were used internal resources of enterprises (we cooperated with 51 construction companies), internal regulations, contracts, graphical records.

After a sufficient amount of collected information we started with separation phase of the most consistent data. We continued with textual analysis and subsequent we used synthesis to bonding various

theories to draw the required statements and construct competency units. Deduction was mainly used in drawing theory and induction helped us in better understanding of the single findings, it gave us a view of the whole. By comparison we were comparing information from public sources already explored, internal and found by us.

To obtain quantitative data, in identifying of information about manager, we used techniques and methods for measuring of personality - questionnaires and tested through tests, using clearly defined questions. We used the following methods: deduction, induction, comparison, case interpretation to assess the case under the general competence model of project manager obtained from the National profession system (http://narodnikvalifikace.cz/kvalifikace-570-Manazer_projektu/kvalifikacni-standard).

In analyse of competencies we used the services of Assessment centre and we tested object survey by Hogan's personality questionnaires HIP. As the second we used the currently most widely questionnaire called MBTI, focusing on personality types and identification of personality according to Jung. In evaluating the results, we used the scientific literature, book from Čakrt (2012).

In the present contribution we follow according to Hroník (2008) concept of competence specified in Hrazdilová Bočková et al. (2015), which is designed for an environment of construction firms in order to the transition to modern methods management of human resources based on competences. Kubeš, Spillerová and Kurnický (2014, s. 67) states that *"if the worker already has some competence, he can use it and manifest externally in any enterprise (entrepreneurial entity) at all levels of management"*. According to Boyatzis in Kubeš, Spillerová and Kurnický (2004, s. 78) *"the division of competences is distinguished at the threshold"* and output and its character resembles a similar structure breakdown Prokopenko and Kubr (1996) on the technical competence and behaviour and manners. In the general context we usually divided competences into basic that the worker should "bring" to his position and on the competence related with performance of job functions, respectively behaviour that leads to effective performance. Armstrong's conception of the division of competences stated in Kovács (2009) is a benefit for the managerial function especially thanks to its typology of division in which figuring generic competencies divided into universal and competencies within the organization (Uhrík, 2015).

Personality questionnaires

Prokopenko and Kubr (1996) explain the essence of personality questionnaires. Schwarz´s (2012) view of personality questionnaires talking about what a person does in certain situations.

Author of **Hogan's personality (HIP) questionnaire** is an American psychology professor Robert Hogan. Hogan is an internationally recognized authority in the field of psycho diagnostic and consultation activities. It represents 30 years of international research, testing and use in assessing the competence of workers. Hogan´s questionnaires identify human potential and it can anticipate the success rate of an individual to a particular job position with a high degree of reliability. Success in different working positions depends on various properties. Important character for a single work may weaken the performance of other work. **Hogan´s psycho diagnostics is shifting from a simple description of the personality of the individual to forecast its performance in certain job positions.**

HIP is highly valid personality test useful in predicting employee performance, predicting success in the job. The test results are the key to a comprehensive assessment of the appropriateness of personality in the job in more than 200 occupations in major industries. For an individual psycho diagnostics HPI allows appreciation of career potential across a range of different sectors. This information suggests, whether the person is suitable for certain occupations and identify those aspects of the behaviour of the test persons which would require more thorough attention. Based on the questionnaire, this is called the Big Five. Results are organized into seven scales: stability, self assert sociability, cooperativeness, systematic nature, curiosity, and learning ability. Each primary range has several sub ranges. The primary range talking about the personality and professional compared the characteristics with the formula relevant for the professional group. Professional range is based on a combination of several sub ranges. Description of questionnaire can be found at Turner (1991).

HPI is localized and non-standard in Czech and Slovak population according to international standards. Validation studies were carried out in hundreds of organizations worldwide. Reliability for individual HPI range is between 0, 74 to 0, 86 (for a sufficiently high we consider above 0, 6) - it is the high reliability (Veteška, 2010).

To test the project managers were also used MBTI questionnaire. In the beginning was the Hippocratic temperament typology based on the idea of four bodily juices, whose ratio determines our response to

surrounding stimulus (sanguine, phlegmatic, melancholic, and choleric). Carl Gustav Jung subdivided temperament based on the access to the outside world (introvert, extrovert). In relation to Jung's theory created by Katharine Cook Briggs and her daughter Isabel Briggs Myers during World War 2 MBTI personality questionnaire to identify personality. The core of the theory of personality types are the following theses: **I am Extrovert or Introvert, I am Sentient sensing or Intuitive, I am Thinker or An man base on emotion, I am Judging or Sentient.**

Every man is distinguished by natural preference which falls into one of two categories each of the previous thesis. Personality type predicts the likelihood of our actions and reactions in various life situations. By mutual combination of basic preferences we can create a total of 16 personality types within the four temperaments (Gemmnill, 1974).

The test contains a total of 88 multiple-choice questions. The questions are short and concise. The test assesses behaviour in 4 different areas; it is divided into three categories. Questions are applied to communication, problem solutions, etc. From the responses are observed nature, characteristics, strengths and weaknesses of interviewer. Originally, it was more a personality typology. Today is used in the compilation of teams and individual personality types - team roles. The test can be entered individually or in groups. Length of administration is 30-50 minutes depending on the number of evaluated. The test is able to enter a one administrator. The English language is test and diagnostic of team roles much more refined than the Czech or Slovak language.

The project manager of construction project

Manager is personality that manages and operates on behalf and in the interest of one or more owners of the organization. Man or woman in the function of manager responsible for taking and implementing of decision in managing the project. When properly naming of manager, it is important to find out what the person actually does.

„A good project manager must master techniques and methods of project management, must be a good trader and perfect to make sense of the area in which the project is implemented" (Štefánek et al., 2011, s. 75). This is the person in the team who is in charge of comprehensive security of operation projects and is responsible for achieving in advance set goals. In order to achieve this, the project manager must prepare an operational plan, in which defines the scope of work and use resources which must in the project provide. Furthermore, the manager checks the progress of the project and compares the reality with the plan. The manager identifies possible threats and risks that could delay or jeopardize the project's successful completion. For this project manager uses project management skills, ability to communicate and work with people (www.ipma.cz).

The above requirements indicate that the job of the project manager is not narrowly profiled. Knowledge of project management processes, the ability to timely and effective detection, correction of risks and uncertainties and methods of management and leadership work with people reveal areas in which it can continually educate.

The project manager should be a personality and often incoherent of integrator project team and the prime mover of the project towards a specified destination. Properties, crucial for a successful project manager, are the logical derivation of general management characteristics, with special attention to any exposed (due to the specific agenda).

Overall, the project manager should be charismatic in order to attract and convince the audience of his statements. Being a visionary, able to think conceptually, controlled techniques of strategic management and thinking be open to change and innovation. The main role of the project manager is to ensure the preparation and implementation of the project at the specified demands (Petráková, 2011), (Huňát, 2010).

Considering the high volatility of the projects, it is clear that the demands on the personality of the project manager are very high. They lie in the developed competences (in terms of qualification) that are for the performance of the job required. There are four components of competencies described in Hrazdilová Bočková et al. (2015).

Prof. Ali Ja'afari in his research (2003) defined the ideal proportion of individual competencies of project manager as follows:

- technical skills: 26 %
- managerial competence: 43 %
- soft skills: 31 %.

Model of competence of project manager is found in the "National standard of project management" (www.ipma.cz). The company for the project management described skills of project manager's forty-six elements, which element is described through the necessary experience in different areas of which have equal weight of rating.

Interest in the role of project manager and aspects of his competency is not a new topic. The roots of this problem go back to the turn of the 50s and 60s when were written scholarly articles, for example Harvard Business Review in 1959 in Fuchsová (2007) and in 1967 (Lawrence, Lorch, 1967). Since that time were in journals, professional journals and articles about project management written a lot about what it is necessary to do in order to a man could become an effective project manager (Kerzner, 1998), (Turner, 2010), (Uhrík, 2015). Initial reports about the project management based on scientific research began to appear in the early seventies. They were mainly based on the results of research of Thamhain, Gemmill and Wilemon (1974), who dealt with the skills and performance of project managers.

In view of the enterprise as a whole, comes into existence the question which competence is for its managers important in terms of achieving the objectives of the company? Managerial competencies, like the managerial role will be modified depending on the level of management and often also depending on the focus of the organizational unit. It is useful to enterprise define core competencies of managers. The term key managerial competencies we understand the competencies that are common to all joint enterprise managers as it defined Čambál in Čakrt (2012). Petráková (2011) specifies the specific competencies of project manager of the construction project.

The project manager is still confronted by other people, mostly members of the project team, who are influenced by the attitude and approach in communications to them. Experience with the ideal type of project manager suggests that purely technically oriented expert as project manager applies worse than its counterpart with good skills in the process of organizing, negotiating and communicating. Only a small group of people have a natural aptitude for understanding of mental feelings of other people and can adequately respond to them. This character trait, feature provides an advantage in negotiations with people. Although no one is perfect, one of the solutions to improve the skill of the project manager is study field in psychology - Psycho diagnostics.

Discovering its personality type may lead in manager in diverse feelings of his truth, but this finding is critical in further improving its management style works. Self-knowledge "me" can predict the behaviour and appearance on the public during working meetings, key consultations and strategic decisions with applying managerial competences and soft techniques.

Summary

Quality level of project management is at using in detail of the elaborated methodology and rules fully dependent on human personalities who make up the sub-organizational structure of the individual project. Although a detailed look and everyday routine assignment of tasks necessary and important to the performance of the project manager, is the success of the project and its reach of marked out goals depends on the collaboration of the project team, which is the result of the work of individuals or small workgroups. The uniqueness of the project, as the original process without repetition, also places emphasis on a clear allocation of management authority and decision-making ability.

In such an environment it is becoming increasingly important role of project manager. Each project, like any other business grouping, has its own organizational structure with defined rules of decision making, seniority and subordination, collective bargaining and ways of delegation of assigned tasks.

From practice it is known that a good project manager is "apprentice" to be a good project manager assuming leading successful projects will receive professional experience, has the expertise knowledge and personal qualities for the position of project manager hold the job so that his competency profile has been ideal towards to model of the project manager. **To do this it is necessary to use a series of personality questionnaires and tests. Based on the processing of 51 case studies in a qualitative survey in construction enterprises, we can conclude that HPI and MBTI are appropriate tools to identify competencies within a defined competency model proposed in the National profession system or entrepreneurial entities and organizations for internal purposes within the personnel activities and personnel processes.**

Below we state SWOT analysis of the project manager of construction projects that have been processed on the basis of HPI and the MBTI questionnaire:

Table 1. SWOT analysis of data collected on the basis of the HPI

Strengths	Weaknesses
competitiveness easy cooperation originality confidence	empathy mistrust short temper non perfectionism
Opportunities	**Treats**
management ability searching impulses popularity of parties spontaneity	relation to authority prevention of problems entertaining culture

Source: Authors

Table 2. SWOT analysis of data collected on the basis of the MBTI

Strengths	Weaknesses
self-confidence reliability ability to anticipate articulacy	aggression relying on experience criticism imperiousness
Opportunities	**Treats**
in conflict denial of emotions perception of reality immediate response to the situation long-term objectives	conflict resolution on the public decided opinion in an unfavourable situation blaming the other miscalculation of people

Source: Authors

When we comparing the identified competencies stated in the abovementioned personality tests with time card of employee of construction firm or with describing of competencies of project manager in the National occupation system, we find that these formally defined requirements to competences obtainable by using the HPI and the MBTI personality test.

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The Concept of Business Tourism and Development Determinants on Example of Kielce City & Swietokrzyskie Region in Poland

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Abstract

The main objective of this paper was to explain the concept of business tourism, its current status in Poland with particular emphasis on Kielce city, as well as indicate major factors responsible for its development in Kielce city. In article it was included a theoretical analysis of business tourism, some aspects of business tourism development in Kielce city. The analysis was based on available statistical data. The important leading determinants were shown which affect business tourism development in Kielce city. Finally author presented some own recommendations concern the opportunity of business tourism development in Kielce city based on his own research and interest of business tourism area.

Key words

Business tourism, development of business tourism, determinants of business tourism.

Introduction

Business tourism in the world is currently one of the main and most profitable segments in tourism. In recent years, also Poland is seen as an increasingly attractive destination for all kinds of events, such as conferences, congresses, fairs, incentive trips, and more. Already in 2007 the share of business arrivals to the Polish accounted for 1/4 of all arrivals to the country. On the other hand, in 2010, the association ICCA (International Congress & Convention Association) has classified Poland on the 32 place among the organizers congresses and conferences. These factors make Poland as a place of event meetings and events, it is no longer completely new, as the political and economic changes after 1989, but it becomes a destination in itself, aspiring to be a point not to be missed on map of Europe[1].

Recent years have been a constant and systematic growth of Polish attractiveness as a place of business arrivals. This is mainly due to factors such as the favorable geographic location, political stability and social and economic development of the country. Polish important asset in this area is also the security of visitors. Increasing steadily tourist demand revived market situation Polish hospitality. In Poland, investments carry great hotelier groups such as Accor and Hilton Hotels Corporation. According to the Institute of Tourism, conferences, congresses, business travel or meetings incentives nearly 1/3 of all tourist stays, and Polish companies spend more than 10 billion PLN per year on travel and stays of a business. However, despite the above-mentioned investments, Poland database of hotel services is still at an insufficient level. In Poland, 10,000 inhabitants, there are only 40 beds, while in most countries of Western Europe more than 400. Just 750 hotels in Poland belonging to the category of three stars and above, and it is in this type of centers focused on business tourism. These hotels with a higher standard are only 100 thousand. beds. Hotels four and five are located in large cities and urban areas, mainly in the Mazowieckie, Małopolskie, Pomerania and Silesia. When it comes to three-star hotels, is approx. 2/3 of them are located outside the big cities, but the range and quality of business services at these centers is much lower. Much better situation on the market of objects strictly conference. More than 30% of them are located in Mazowieckie and Małopolskie. A relatively large number of centers of this type is also in the provinces of Lower Silesia, Pomerania and Silesia. Black hole on the Polish market, the conference is the region Opole and Lublin. In existing buildings dominate the conference rooms to the implementation of small and medium-sized conferences and meetings of up to 100 people account for 70% of the market[2]. Dynamically developing the Polish exhibition market. Constantly increasing number of trade fairs, perfectly adapted in terms of equipment, logistics and infrastructure further. Constantly renovated are also existing facilities fair. Business tourism is also a means of transport, which the client uses both in order to reach your destination and during your business trip. While the quality of roads and the number of airports in Poland leaves a lot to be desired, with as many taxis and car rental companies that offer work fine. Also

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[1] Tomczyk N., Business tourism management on the example of convention bureaux in Poland, Uniwersytet Łódzki Wydział Nauk Geograficznych Kierunek Turystyka i Rekreacja, Łódź 2013

[2] Sykucka M., Turystyka biznesowa w Polsce, www.IPO.pl, 24th Feb. 2010

important is the availability of wider professional services, which include, among others, translators, technicians, companies or public address florist. In addition, you can not forget about "work and life balance" business customers who need to rest and relax after work, which is possible if properly designed recreational infrastructure. In this area we offer a higher standard of Polish hotels can compete with the best Western objects. Mention may be made here, even though a wide range of services, Spa & Wellness, sports facilities or services sanatorium. An important element is also plausible to describe and promote the services of a tourist business. Unfortunately, in Poland still lacks a coherent and comprehensive publications on the subject, which can help companies and institutional clients in choosing a suitable location for conferences, congress or a business trip. But business tourism in Poland is growing in importance. Businessmen coming to Poland will leave more money than regular tourists, visitors attractions. Unfortunately, Poland is struggling with the problem of insufficient trade fair centers. Infrastructure investments in the construction, expansion and equipping of conference facilities can be financed using EU funds. In the socio-economic conditions in several regions noted shortcomings premises to prevent the organization of events of supra-regional and international levels. Regional Operational Programmes have to change this state of affairs. The good convention center - facilities should be equipped with any Polish city. Thanks to the public-private partnership are possible investments in attractive locations, which can be new business card Polish cities[3]. Discussed the long-term investments in a market segment not only promotesgenerally high profitability of this type of tourism, but also small fluctuations for example. trainings, conferences. In Polish conditions this low sensitivity is supported by 9.7 billion euros, which was allocated in aid programs of the European Union for the period 2007-2013, in support of the so-called. human capital. The major part of the money will be utilized by companies organizing training courses, hotels and conference centers. The second argument is average and in some segments of the market, low price sensitivity. This allows the realization of high-margin sales[4]. An added bonus is, in addition to the sales package, the sale of the additional offer, eg. a spa, excursions sightseeing.

Definitional scope and standings of tourism business in literature. Basic concepts and terms

Business tourism is a fairly new trend of tourism in Poland. Once gracefully called "missions" have become today a completely different meaning and dimension.

To attempt to define the notion of encounter problems with multiplicity trends included in the broader business tourism. The difficulties of definition results in the fact that there is no unanimity among the researchers themselves phenomena, as to the scope and manner of understanding this concept. Generally, we can distinguish two currents definition: Behavioral trend - defining business tourism based on nature

activity of people who are actors interact. Representative of this trend was R. Davidson, a business tourism connected with people podróŜującymi for purposes that relate to their work[5]. The second trend call can be descriptive definitional and specifying. It focuses on the facton the scope of the elements included in the concept of business tourism. Prominent researchers Swarbrooke and Horner define as the concept of fifteen categories of travel or events. These include:

1. conferences and meetings of a local or regional organizations (or companies)
2. international congresses and conventions,
3. training,
4. fairs and exhibitions,
5. incentive travels,
6. promotional events associated with the introduction of new products and services,
7. short-term migration to work (posting of workers to branches, contracts)
8. exchange of lecturers and students,
9. introduction of products to the markets,
10. delivery of goods to customers,
11. tasks performed by the military outside of a fixed base,
12. help charitable organizations implemented outside of their permanent residence,

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[3] http://www.drogowskaz.com.pl/turystyka-biznesowa-i-obiekty-konferencyjne/, Business tourism and conference facilities. Drogowskaz – Portal dla organizatorów turystyki.
[4] Instytut Rynku Hotelarskiego, Badanie pilotażowe rynku turystyki biznesowej (MICE) Opracowanie : zespoł Instytutu Rynku Hotelarskiego pod kierownictwem: dr Tomasza Godlewskiego, Warszawa, Dec. 2008
[5] Davidson R., w: J. Swarbrooke, S.Horner: Bussines Travel and Tourism, Oxford Butterworth and Heinemann, Oxford 2001, s. 3.

13. business trips of persons representing the state (eg. The diplomats)
14. individual business trips,
15. daily commute to work outside the residence[6].

Terminology UNWTO, as belonging to a range of business tourism qualifies the following types of events:
1. installation of equipment,
2. visits,
3. travels to other commercial enterprises,
4. participation in meetings, conferences, congresses, trade fairs and exhibitions,
5. trips which are a form of motivation.
6. delivering lectures and performances at concerts,
7. concluding contracts,
8. travels related to professional sport,
9. government missions, including diplomatic personnel, military and members of international organizations,
10. paid studies, education and research, language courses and other types of specialized training,
11. relating to the interests of the profession or persons traveling.

A slightly different way of understanding the concepts we can find in the development of prepared by the Institute of Tourism at the Ministry of Economy in Poland: Business tourism is defined therein as: journeys made by employees and other persons in the context of the work, including participation in such meetings, as conferences, conventions, congresses, training courses, seminars, fairs, exhibitions and incentive events[7]. An attempt to define the term "business tourism" took also experts Union European. According to the adopted methodology in this field trips are divided because of the criteria for their duration and purpose of travel[8]. Trips lasting less than 12 consecutive months shall be divided among the other business purposes, which included participation in a conference, meeting, congress, seminars, fairs, incentive travel. Trips lasting more than 12 consecutive months and commuting to work are not considered as tourist trips. In the study of the EU statistical office Eurostat uses the samelimiting the duration of tourist trips while narrowing the range of definitional purposes of business trips. As follows from the above-described comparative analysis of ways to define the term "business tourism", regardless of differences in the scope and way of understanding the concept of most researchers, international organizations and research institutions very much understands the concept of "business tourism"[9]. In the article, the author adopts the definition of business tourism as the tourism sector, which is closely associated with their profession. Divided into several sections, such as training courses, incentive travel, corporate tourism and trade fairs. Away allows to know new places and people. It provides motivation and inspiration to action, and also is a way to connect with customers or partners.

Kielce as a center of business tourism development
Swiętokrzyskie is known for its crystal clear water, clean air, beautiful landscape. Here extends range of the Holy Cross Mountains, one of the oldest mountains in Europe. National Park, nine landscape parks, 62 nature reserves and numerous protected areas - attracting a growing number of tourists.
Kielce because of its central location in relation to other major urban centers are under the influence of strong external conditions, both domestic and international. It consists of a variety of factors of varying the intensity of impact, which in combination with the internal circumstances create opportunities for the city's development in the field of spatial and environmental, social and economic[10].

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[6] Swarbrooke J., S.Horner, Business, op.cit. s.4.
[7] Turystyka biznesowa w Polsce w 2003 roku, Instytut Turystyki na zlecenie Ministerstwa Gospodarki i Pracy, Warszawa 2004 r., s.7.
[8] Metodologia Unii Europejskiej w dziedzinie turystyki, GUS, Warszawa 1998, s.13.
[9] Instytut Rynku Hotelarskiego, Badanie pilotażowe rynku turystyki biznesowej (MICE) Opracowanie : zespoł Instytutu Rynku Hotelarskiego pod kierownictwem: dr Tomasza Godlewskiego, Warszawa, Dec. 2008
[10] Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006

Business tourism is a great way to combine business trips with additional attractions that this form of recreation can offer us. Holy Cross province meets the needs of business executives and offers excellent conditions for doing business tourists wished to honor it with his presence, by organizing a conference in one of the towns and villages. A feature of the Swiętokrzyskie region is the diversity and enormous potential of cultural and natural landscape. Swietokrzyskie a well-equipped complex facilities and professional help discrete professionals. Holy Cross province is the beautiful scenery, unique location, wonderful monuments and above all priceless, friendly atmosphere[11].

Swiętokrzyskie is not only the beauty of nature, lime hills, ravines and gorges: it is also a region of historic cities, world-class sights, places associated with the history of Polish and Europe. Picturesquely situated among forests at the foot of the Holy Cross Mountains, Kielce - the capital city of the region is unique because of the unprecedented anywhere else in the world a wealth of geological forms. Some scientists call it the largest geological museum under the open sky. Kielce is an ideal base not only for hiking and cycling. For several years now, the dynamic development of Kielce Trade Fairs stimulates formation in the center of business tourism. This kind of tourism is a very important factor in the economic development of cities and regions. Apart from trips to business meetings with customers and partners of companies also includes participation in conferences, trade shows, training seminars and exhibitions. Business tourism is currently growing economic importance. This kind of tourism is characterized by very high profitability. Its important role may be illustrated by the fact that more than 50% of the revenue of travel agents comes from organizing such trips. Big economic organizations spend a month on business trips and organization of meetings and conference enormous financial resources. This may be an opportunity to develop and achieve huge profits for hotels and B & Bs, professionals arranging such meetings. Global trends indicate that the organization of trade fairs, congresses is a business, which is sufficient time to run, and then turns itself. Spain, for example, constantly recorded an increase in revenue from this type of activity and the revenue from tourism in this country about $ 60 billion. After professionally organized campaign promoting this particular country as an ideal place for conference events, Madrid and other Spanish cities have become a continental center. Unfortunately, Poland does not use the end of the advantages resulting from the geographical location and competitive prices, and revenues from tourism are ten times lower than in Spain. Holy Cross province for years relies on tourism: last year we were visited by 10% more tourists than in the previous year. Most of them, even for a few hours, stopped in Kielce, where, in addition to exploring the geological reserves and numerous monuments (of which the most valuable is considered a Baroque palace of the Bishops of Krakow from the seventeenth century. Preferably in Poland preserved example magnate residence Vasa era. Today, the palace is home to the National Museum), also used by the food service, hospitality and transportation. Promotional activities have already produced tangible results, not only in the country but also abroad is increasing interest in tourist offer of the region Świętokrzyskie Kielce and the same[12].

For the business traveler attraction it is the opportunity to combine professional matters of active and attractive rest. And supporters of active recreation will Swietokrzyskie bicycle routes, hiking trails and places to practice many sports, ranging from horse riding or climbing through water sports and motor up to offer to pilots and paragliders. Amateurs peaceful holiday can take advantage of the offer extremely hospitable inhabitants of the village of Kielce, who invite you to relax in their farm tourism. Each of the 418 households of this type offers a delicious and healthy meals, numerous activities, and peace and quiet for which more and more difficult in urban agglomerations. Both economic development based on the functions of the trade fair, as well as modernly understood the cultural and tourist industries are the biggest opportunity to build a strong position Kielce domestically and internationally.

Swietokrzyskie province has a relatively well developed network of institutions and organizations business environment. These are the institutions to strengthen and improve the turnover of capital, the functioning of the market and business development. Significant institutions cooperating with local regional and local pro-development activities may include, among others:

K2 Adventure was founded in Kielce in response to increased interest in alternative forms of leisure and active tourism. Above all, however, it was founded with the passion and excitement for climbing, survival,

[11] ROT – Regionalna Organizacja Turystyczna Województwa Świętokrzyskiego Wydawnictwo Kartograficzne DAUNPOL Sp. z o.o., Turystyka biznesowa, W krainie mocnych wrażeń, Kielce
[12] Treger P., Postawmy na turystykę, Magazyn : Kielce wczoraj – dziś – jutro, Kielce 2016

paintball and off road. The combination of these two reasons led to the idea of giving concrete shape venture called K2 Adventure - project offering the power of adrenaline, adventure and fun, while the servant objectives of the modern team building, team building and incentive programs.

Wytwórnia wrażeń (Label impression) - is a professional organization of corporate events. The offer includes the preparation, organization and running events for employees, sales conferences, trade shows, social events for small and large groups. The programs are created for each customer individually, so that meet the needs of each group. Peak season, which is a breakthrough in July and August is the period of greatest tourist activity in the region. However, the company proposes the organization of the event, regardless of the season and guarantees an unforgettable experience. With Plant Experiences will be closer ties in his company, after - compliment cooperation between teams, raise the level of motivation and energy of its employees. Attractions offered by the company will get to know the reaction of the team in a situation of stress and danger to establish better contact with its employees and mobilizing people to action will emerge the real leaders. Label Experiences provides all the weight of fun and an unforgettable experience.

- The company can be found, among other things:
- teambuilding training,
- convivial fun with karaoke,
- Integration mega board games,
- paintball,
- quads and off-road cars 4x4,
- sleigh ride,
- reunion of witches.

Hotel Odyssey Club Hotel Wellness & Spa ***** Opened in 2011, this modern, five-star, multi-purpose facility offers a range of great services to the highest standard. This unique hotel located at the top of Domaniówka, in the town of Dabrowa - 300 meters from the border city of Kielce, 3 km from the city center and 10 minutes drive from the Kielce Trade Fairs. Guests can give - no 38 rooms and four suites decorated in warm colors, the elegant, modern interior. Panoramic windows and sunny terraces bring to the interior surrounding the object nature and encourage guests to commune with nature. This place is luxurious, created for sensations - for complete relaxation and harmony of body and spirit. World Wellness & SPA is a journey of the senses of all four sides of the world.

Picture 1. Odyssey Hotel

Source: facebook.com/wroLive

Best Western Grand Hotel is an experienced organizer of business meetings. The unique nature, elegance, stylish interior design and a professional and dedicated team of staff provide a unique atmosphere. The convenient location allows free use of the city's main attractions and a fast and convenient to reach its most interesting points.

Picture 2. Best Western Grand Hotel

Business Center is a combination of Hotels, Convention Centre and Restaurant in one place. It has all the advantages to each type of events realized successfully. The property is fully prepared to organize professional conferences, effective training and international meetings combined with a wide range of additional attractions tailored to the wishes of guests and meeting program.

Picture 2. Business Center in Kielce

Source: ROT – Regionalna Organizacja Turystyczna Województwa Świętokrzyskiego Wydawnictwo Kartograficzne DAUNPOL Sp. z o.o., Turystyka biznesowa, W krainie mocnych wrażeń, Kielce

Palace Kurozwęki invites you to relax in the historic ambience derived from the fourteenth century. Castle and two eighteenth-century pavilions called Orangery and Annexe. Delicious home-cooked food, cozy atmosphere full of memories of the past and the surroundings of the charming century-old park create an unforgettable atmosphere and guarantee a good rest, and also offer the possibility of organizing in the elegant surroundings of seminars, conferences and occasional events.

Picture 3. Business Center in Kielce

as well as the others which support business tourism development and investments in Swietokrzyskie region:

⇒ Staropolską Izbę Przemysłowo-Handlową,
⇒ Świętokrzyską Agencję Rozwoju Regionu S.A.,
⇒ Świętokrzyskie Centrum Innowacji i Transferu Technologii,
⇒ Agencję Rozwoju Regionalnego w Starachowicach,
⇒ Centrum Targowe Kielce,
⇒ Forum Gospodarcze,
⇒ Forum Pracodawców,
⇒ Lożę Kielecką BCC,
⇒ Izbę Rzemieślniczą,
⇒ Świętokrzyskie Biuro Rozwoju Regionu,
⇒ Specjalną Strefę Ekonomiczną „Starachowice" S.A.,
⇒ EPRD Biuro Polityki Gospodarczej i Rozwoju Regionalnego w Kielcach,
⇒ Stowarzyszenie na Rzecz Integracji z UE „Kielecka Społeczność",
⇒ Akademickie Centrum Studiów Europejskich,
⇒ Regionalne Centrum Informacji Europejskiej,
⇒ Fundacja Rozwoju Regionu Pierzchnica,
⇒ Starachowickie Stowarzyszenie Inicjatyw Lokalnych,
⇒ Starachowicki Inkubator Przedsiębiorczości Sp. z o.o.,
⇒ Fundacja Sandomierska,
⇒ Koneckie Stowarzyszenie Rozwoju Przedsiębiorczości,
⇒ Stowarzyszenie Demokracja i Rozwój w Starachowicach,
⇒ Fundusz „MIKRO" w Kielcach,
⇒ Fundusz Poręczeń Kredytowych w Starachowicach,
⇒ Spółdzielczą Kasę Oszczędnościowo-Kredytową w Pierzchnicy,
⇒ Stowarzyszenie na Rzecz Funduszy Lokalnych w Kielcach,
⇒ Izby i instytucje wsparcia rolnictwa.

The most important key facts of Kielce city potential in the economic sphere:

- Almost 30% of all companies operating in the region is focused on Kielce area;
- Unsatisfactory saturation traders in the city, despite increasing in the last five years the number of businesses;
- As much as 95% of all entities operating in Kielce are small enterprises (9 persons employment)
- marginal share of enterprises employing more than 250 people;
- Domination industries producing low-processed; extraction minerals - the main branch Kielce industry;
- Advantages of capital cities are: industrial traditions, large the potential of young well educated, broad technical and scientific developed network of banks and institutions financial;
- the lack of significant capital inflows domestic and foreign to the realm non-trade concerns;
- rich base for the development of Kielce based on the "cultural industry" "Tourist" and features fair.

Table 1. SWOT analysis in the economic sphere of Kielce City for business tourism development

Economic Sphere			
Strengths	**Weaknesses**	**Opportunities**	**Threats**
- strong position on the Kielce Trade Fairs the fair market in Poland; -high potential young and well educated; -wide technical facilities; -developed network of banks and institutions financial; -well growing service sector and trade; -a network of business support institutions supporting entrepreneurs; -rich resources of raw materials minerals; -good financial standing budget the city and have the city national high a rating;	-advantage in the economy Kielce traditional industries and low-processed manufacturing industries; - low degree of innovation Kielce companies a small number of companies high-tech sector; -poor promotion of the city and initiatives economic in the undertaken; -low rate of entrepreneurship; -low investment in research and development; -untapped potential if As for the cooperation of the city with supporting institutions entrepreneurs; -small area of armed areas designated for investments in the city; -a relatively small number of foreign investors;	- the use of established and the strong position of Kielce Trade Fairs; -more dynamic movement trade fair, which will allow increase the lead competitive Kielce; -the growing demand for services Fair and conference and training;; - the growing demand for modern conceived products industry cultural and tourism; -creating a brand, product clearly clouded with Kielce -cooperation of science and business for implementation of research pre-competitive and pre-production goal effective use of structural funds; -exploiting the potential of Kielce University of Technology among others to form the park science and technology; -obtaining by Kielce rating international; - increase the availability of communication center, including through the construction of an airport; - Polish presence in the EU and related with this new impulses pro-development, and access Kielce entrepreneurs to EU funds; -exploiting the potential of Mountain tourism Holy Cross; -create new products services in response to the progressive processes Demographic (services for people older);	-deepening unfavorable economic structure and not implementing solutions knowledge-based economy; -outflow of qualified workers (Migration); -not bound Kielce and the region over the next several years with the national highway network and / or express roads, trails Railway or the movement of air transport passenger and freight; -increasing competition in the market fair services for fair Kielce from existing and new trade fair centers;

		-full use of the offer the investment of the city; -exploiting the potential of investment areas municipalities concentrated within the KOM; -opportunity to expand Starachowice Special Zone Economic area on KOM; -closer cooperation with the Polish Agency for Trade and Investment; -use identified Kielce potential in the field of launch center modern services(BPO);	

Source: based on Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006

The dynamic development of the city of Kielce is dependent on many factors having the character of both internal and external. Therefore, it is necessary to specify and clarify directions of development in the case of the specific circumstances surrounding social and economic center. Projected factors are associated with general economic situation, the environment close (competitive), and the internal situation of the city. This will result in breakdown and accurate analysis and implementation of the optimistic scenario for the development of business tourism in Kielce. The scenario points to the possibility of the intensification of development due to the occurrence of a very favorable development conditions, both external and internal. The optimistic scenario assumes that the city effectively use existing and emerging opportunities, based on its strengths identified in the SWOT analysis:

1. restructure will be old and unprofitable sectors of the economy, while new ones will grow faster and faster;
2. will be quick and successful integration of the Polish economy world;
3. will recover international exchange economic environment which will be conducive to accelerated development economic and social development;
4. will develop small and medium enterprises in different departments and branches;
5. in the country will be implemented labor market policies aiming to greater commitment of resources Human labor market and reducing the phenomenon of emigration workforce;
6. desire will be the development of the country knowledge-based economy, as well as participation in the creation of World added value;
7. increase the importance of tourism and recreation in the GDP; will develop new forms of tourism (tourism weekend, business tourism, etc.);
8. bigger EU funds will be allocated to development metropolitan areas;
9. The increase incomes of the population, which will translate into increased spending on all services including tourist services;
10. will encourage the development of tourism investments in base accommodation and catering performed well in Kielce;
11. thanks to effective use EU funds will be improvement of spatial order and the image of Polish cities, including Kielce;
12. will be conducted intense promotion of the city of Kielce;
13. The authorities of Kielce will aim to the development of transport and accessibility the city's transport;
14. will technology development information and increase their

Flagship results of the scenario optimistic are as follows[13]:

- Kielce and Kielce Metropolitan Area form a coherent spatial and communication whole characterized by a significant increase in tourist traffic and increase the participation of enterprises cutting-edge technology,
- Kielce develop new functions metropolitan,
- Kielce is communicated and open to global economy through functioning regional airport at which the database technology park, in cooperation of the Kielce universities, formed clusters of innovative enterprises,
- Kielce Trade Fairs include the role of leader at the fair market in Poland thanks organizing new ventures fair and high-quality enhance the standard and quality events already existing,
- Holy Cross province and Kielce become a recognizable brand tourism, and the same Kielce become recognizable brand sports and cultural through the implementation of a number of sports and cultural events on an international scale,
- Kielce, thanks to the initiative create a cluster service "Grono Fair Kielce "and development functions fair, as well as developing functions of research and development, intensive development of the university Kielce, become a place international seminars and thematic conferences,
- Kielce due to good climate economic and broad support financial advisory for micro, small and medium-sized enterprises, the active participation of the authorities government, become the place increase the level of entrepreneurship among residents, which, in turn, the growing role as a center of Kielce academic and intensifying Kielce university cooperation with partners abroad, attracted to city students from the country and abroad,
- Kielce is an attractive place to life and leisure activities through the use of the excellent qualities environment, creating numerous tourist attractions, creating attractive architectural centers of activity cultural and entertainment and small infrastructure elements sports
- Kielce, by using cutting-edge technology and making the broadband network frame integral KIELMAN part of the infrastructure of the city and municipalities forming Kielce Area Metropolitan, become national leader in providing universal affordable, high-quality broadband access Internet for citizens, institutions public and business.

Business tourism development in Kielce and role of Kielce Trade Fairs & Science, Technology Park and Geopark.

One of the major competitive advantages of Kielce and perhaps still insufficiently promoted the brand name of the city is Kielce Trade Fairs. With the trade fair market involves a large development potential of Kielce. Kielce Trade Fairs undoubtedly can play a role as an important stimulator of economic development of Kielce. Especially that fair markets, particularly Europe, are currently in transition. Still they are forced to respond to the challenges of modern, computerized economy. And it is technical progress, including development of new communication technologies, will decide how they will look fair in the future. Also Kielce, in order to secure a strong position on the map of European cities, should be put on innovative, high technologies, and responding to impulses from the environment, to make optimum use of the opportunities that arise for the city from a strong position of Kielce Trade Fairs on the Polish market fair. Trade shows are the centers of innovation and the dissemination of the latest technical and technological achievements. They are a place where new ideas are born and inspiration of entrepreneurs. In Kielce, thus constituting the basis for the formation of companies in the sector of innovative technologies. A great opportunity for economic development of Kielce, including related with the development of the fair city, is the growing number of visitors to the region Swietokrzyskie within the business tourism. Business tourism is becoming more popular among foreign tourists visiting Poland. There is a growing crowd of people on the occasion of departure for conferences, congresses, fairs and exhibitions, or business meetings visit the our country. In 2015[14], the segment of tourism related business arrivals and missions had the biggest (30%) of the total number of foreign individuals coming to Polish, while the share of people coming in for purely tourist and leisure facilities was 30%. It should be added that business tourism is perceived in the world as the most profitable part of the total tourism activity. It is

[13] based on Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006

[14] Based on Tourism Institute in Poland and Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006

estimated that the tourist business at their place of residence appears five times more than a tourist going privately to relax or explore. Kielce should use its position in the band of the Swietokrzyskie Mountains and the opportunity offered by the prospects for the development of business tourism in the city. Prospects are all the more real that increases the importance of Kielce Trade Fairs as an organizer of trade fairs in Poland. Furthermore, tourism business is not subject to seasonal fluctuations, since the congresses or travel on business take place regardless of the season. Over the past several years, the exhibition market in Poland has undergone significant changes. Among the many organizers of the market retained only the best and most professional. It is unthinkable today the situation, common in the early nineties, the international trade fair organized in the school hall. Even if not all of the fair meet Western European standards, the organizers provide high quality customer service, constantly expanding the range of services provided. Trade ceased to be a place of direct sales and spontaneous sign contracts. Companies, however, are treated as a new instrument sales promotion and direct marketing platform specific. In recent times is a growing interest in specialized trade fair, which is increasingly accompanied by seminars, meetings, discussions, presentations and demonstrations. On the Polish exhibition arrives and professional customers. Kielce Trade Fairs in terms of net exhibition space, number of exhibitors and the total number of visitors in 2005 occupied the position of vice-leader of the Poznan International Fair of respectively 16.85%, 14.56% and 22.63% market share.

Figure 1. The largest trade fair organizers in Poland due to the number of visitors
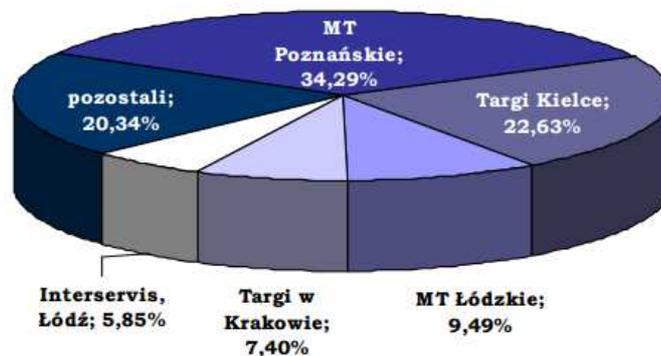
Source: based on Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006 and Polish Trade Fair Corporation

Office of the City of Kielce should very carefully consider the possible ways of development of Kielce Trade Fairs and support initiatives for sustainable and balanced development of the city. Kielce could organize trade fairs promoting the development of "leisure industry", ie, in particular, cultural industries and sports. These could be, for example. Exhibition of sports and sports fashion and trade shows attract hobbyists of all kinds. Organization of trade fairs connected with the thematic accompanying events would favor changing the city's image and perception as a center for sports and recreation. This would also allow for the implementation of the code, which is: "Stimulating the development of Kielce economy through the use of existing potential and competitive advantages of the city." The existence of such institutions as the Technology Park in Kielce by supporting knowledge, innovation and technology transfer as well as local entrepreneurship undoubtedly conducive to the development of the city and builds its competitive advantage over other cities. It also affects positively on the image of the city in the eyes of existing and potential investors. This allows moreover to achieve the strategic goal in the economic sphere through the implementation of the code: "Providing local entrepreneurs tools for their development and construction of knowledge-based economy" and the development of business tourism.

The role of such an accelerator of innovation science and technology park fully. This initiative strengthens the structure of the market Świętokrzyskie region and serve to consolidate the economic and social behaviors consistent with the trends occurring in the developed economies. In Europe, they formed European Geopark, which have a special scientific importance, rarely encountered aesthetic and educational. Entering Kielce network of European Geoparks would be an important factor in raising the prestige of the city, as well as the possibility of international cooperation and exchange of experience in this field. Geopark would place particular importance for the development of the ecological functions of the city by promoting activities in the field of environmental protection and on the basis of the issue of

sustainable development. Geopark enriches an offer in attractive way to spend free time residents of the city to tourists and also for business purposes. This allows moreover to organize on its premises various events and artistic and cultural education.

Table 2. Identification of the measures to achieve the objectives in the economic sphere in Kielce city

Aim	The proposal of possible actions
Objective 1 Providing local entrepreneurs tools for their development and building knowledge-based economy	provide financial assistance for the Science and Technology Park; supporting the development potential of entrepreneurship, especially the potential of the SME sector in the city;
Objective 2 Stimulating the development of Kielce economy through the use of existing potential and competitive advantages cities	- organization of trade fairs favorable the development of "leisure industry" (In particular cultural industries and sports); -organization of thematically associated with the fair, for example. events Run the shape of Warsaw; -the use of location of the city band and the Holy Cross Mountains chance resulting from the development prospects business tourism in the region through among others providing tourist business community attractive forms of entertainment and leisure and infrastructure accommodation; -development of the cluster service "Grono Kielce Fair ";

Source: based on Urząd Miasta Kielce, Rada Miasta Kielce, Strategia rozwoju miasta Kielce na lata 2007 – 2020, Kielce 2006

Summary

Business tourism in Kielce is seen as the most profitable type of tourism. Its rapid growth is a reflection of modernity and progress of civilization that characterize modern society, but it is dependent on many factors of an internal nature, ie those which are associated with Kielce. The development of business tourism is also conditioned by external factors. Among them mention the promotional policy conducted at the level of the city to cope with the growing demands of foreign and domestic business tourism market. An institution that deals with these activities, the Regional Tourism Organization of Świętokrzyskie Province (ROT).The diagnosis of the situation in Kielce indicates the need to build a common platform for the promotion and coordination of actions for the functioning of many organizers and promoters in order to intensify the development of business tourism.

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Management of Logistic Customer Service
in Organizational Structures of Transportation Companies

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Abstract

Article presents identification of logistic customer service in organizational structures of transportation companies and the processes of management of the sphere on the basis of the conducted research. The multidimensional nature of customer service in the logistics of the surveyed entities was analyzed with reference to its location in organizational structures of the surveyed entities, performed functions and employment. The paper is based on the results of the research conducted on a sample of 147 commercial cargo motor transport enterprises located in the Silesian Voivodeship (Southern Poland). The applied cognitive method was the survey in the framework of which there was categorized the technique to obtain primary information – the questionnaire.

Key words

Management, logistic customer service, organizational structures, transportation companies

Introduction

The conception of logistic customer service is created among others by Ballou (2003), Chopra and Meindl (2009), LaLonde and Zinszer (1976), Lis and Wójcik-Mazur (2014), Verhoef and Lemon (2013), and determined as the aptitudes or skilfulness to meet the consumer's needs and assumptions, principally in conditions of time and place of deliverance, regardless of appliance of the entire available assortment of logistic performance, such as transportation, warehousing, inventory material handling, information and others. Many experts on the subject consistently disseminate the view of logistic customer service to the especially attitudes and aims of logistic management, which are on the whole briefly expressed in its explanation of "seven Rs" (Christopher 2011, Skowron-Grabowska 2015, Popa 2012). For the reason that all of the logistic actions have the results in the consumer obtaining exact product or service, in the correct state, in the precise time and space, and at rational costs, consequently assuming the accurate service is followed by supervision of logistic actions in such a conception as in order of the decisive level of consumer satisfaction (Kot, Dima, Man 2010) at the smallest achievable costs (Stefko, Frankovsky 2008).

The aim of the paper is to identify logistic customer service in organizational structures of transportation companies on the basis of the conducted research. The multidimensional nature of customer service in the logistics of the surveyed entities was analyzed with reference to its location in organizational structures of the surveyed entities, performed functions and employment (Nogalski, Ronkowski 2007, Romanowska 2001). The paper is based on the results of the research presented below, conducted on a sample of 147 commercial cargo motor transport enterprises located in the Silesian Voivodeship (Southern Poland). The applied cognitive method was the survey in the framework of which there was categorized the technique to obtain primary information – the questionnaire (Adamkiewicz-Drwiłło 2008, Bryman 2012).

Results of the research

The issue initiating the analysis of the problem of logistic customer service in the surveyed entities was its isolation in organizational structures of enterprises. From among all 147 entities only 7 (4.76%) declared the isolation of the unit responsible for logistic service of their customers in their structures. Figure 1 presents the distribution of the responses to the question concerning the existence of this unit in organizational structures of enterprises with reference to all the entities taking part in the research.

Figure 1: The isolation of the unit responsible for logistic customer service in the logistic structure of the enterprises
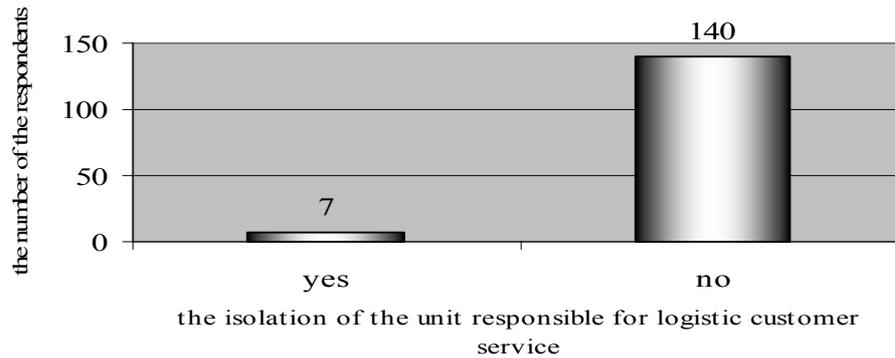
Source: own elaboration

In the responses to the subsequent two issues dealt with in the questionnaire, the respondents indicated more than one of the listed options. Therefore, the volume of individual shares was determined with reference to all the provided responses but not to the number of the respondents taking part in the survey.

The questions number 2 and 3 were addressed to those 7 respondents who, in response to the issue 1, confirmed the isolation of the unit responsible for logistic customer service in their organizational structures. In point 2, there was discussed the issue of the functions assigned to the structured organizational form, performing the tasks of logistic customer service. From among all the obtained responses, the majority of enterprises - 63.66% (all 7 enterprises possessing the unit responsible for logistic customer service in their organizational structures), indicated the implementation of service functions supporting other functional areas just via this structured form of management of logistic customer service. Cross-cutting functions, i.e. coordinating logistics operations, were performed by the units responsible for logistic customer service in 3 enterprises (27.24%), whereas process functions integrating all logistic processes were indicated only by one respondent (9.1%). The distribution of shares of the listed functions performed by the units responsible for logistic customer service in the surveyed companies is presented in Figure 2. At the same time, it is worth underlining that three of the surveyed entities selected the first two options of the responses while simultaneously assigning the implementation of service functions and cross-cutting functions by the described unit and only one company indicated all three functions expanding the ones listed above to the performance of process functions. The applied solutions concerning the range of the functions performed by the units of logistic customer service in organizational structures allow to make the assessment of the level of advancement of knowledge of logistic problems in the surveyed entities. The acceptance of logistic management in the enterprise, including logistic customer service, enables the adoption of the appropriate organizational structure which is useful in the implementation of its assumptions. On the other hand, the applied solutions enforce the implementation of the specific operation strategies.

Figure 2: The functions of the unit responsible for logistic customer service
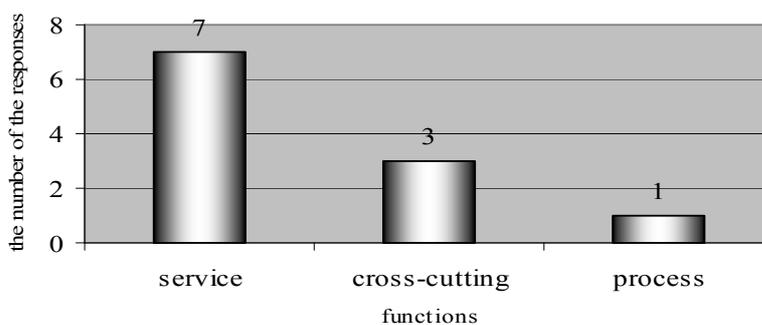
Source: own elaboration

The test of the conclusions coming from the answers to the question 2 of the questionnaire is another point of the research tool, concerning the people employed in the unit responsible for logistic customer service in the surveyed enterprises. The absence or presence of the staff of the levels: operational, executive, management board may indeed lead to two types of conclusions: the concept of management of logistic customer service is poorly, sufficiently or properly seen in enterprises; the adopted organizational solutions indicate the level of advancement of this concept in general. From among all the obtained responses, the majority - 50% (all 7 enterprises which possessed the unit responsible for logistic customer service in their organizational structures), indicated the employment of the staff of the operational level in this structured form of management of logistic customer service. The employees of the executive level were employed in the units responsible for logistic customer service in 5 enterprises (35.7%), whereas the board members - in 2 companies (14.3%). The distribution of the share of people employed in the units responsible for logistic customer service in the surveyed enterprises is presented in Figure 3.

Another question was addressed to those 140 respondents who, in response to the issue 1, did not confirm the isolation of the unit responsible for logistic customer service in their structures. With reference to the issue 4, the respondents selected only one of the listed options of the responses. The indication of the volume of shares was made in relation to the number of the respondents reduced to 140 in the question number 1 whose continuation is the question number 4.

Figure 3: The staff employed in the unit responsible for logistic customer service
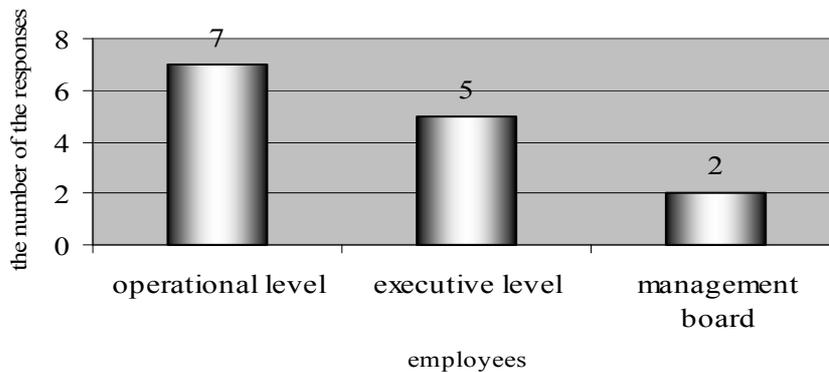
Source: own elaboration

In point 4 of the research tool, the enterprises in which there was not the structured form of management of logistic customer service were asked if the activities, processes and/or decisions of logistic service were perceived by the respondents as the ones concerning the activity of the surveyed entities and if so, whether they run in centralized/concentrated or decentralized/dispersed relations. From among 140 entities, only 3 (2.1%) recorded the lack of reference of the activities, processes and/or decisions of logistic customer service to the conducted activity. The other 137 entities confirmed the perception of the relationship of the concept of logistic customer service with the business activity, however, the enterprises declaring the centralization/concentration of responsibility for activities, processes and/or decisions of logistic customer service were the minority since they amounted to 25.7% of the total number of enterprises (36 companies). The vast majority was the group of the entities in which the activity of logistic customer service was decentralized/ dispersed – such a response was given by 101 enterprises (72.2%). The distribution of the share of the relations of the activities, processes and/or decisions of logistic customer service with the organizational structure of the entities not possessing the unit responsible for logistic service is presented in Figure 4.

Figure 4: The relations of the activities, processes and/or decisions of logistic customer service with the organizational structure of the entities not possessing the unit responsible for logistic service
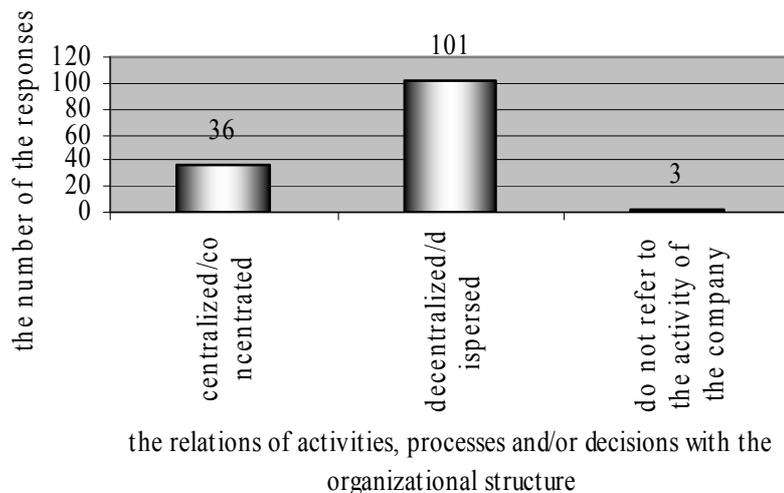
Source: own elaboration

Conclusions

While referring to the results of the conducted research and the attempts of their interpretation it can be concluded that, in the conditions of the functioning of the enterprises of cargo motor transport for hire or reward in the area of the Silesian Voivodeship, the use of the concept of logistic customer service is still at the initial phase of development, at different stages, though.

Among the surveyed transportation companies there is a group of highly logistically advanced leaders. They amount to 5% of the entities which are characterized by a significant level of advancement of the application of logistic customer service in their management structure. Compared to the whole research population, within the listed 5% of the companies, the level of advancement in management of logistics in the area of customer service is assessed as crucial, significantly exceeding the whole of the surveyed enterprises. From among 7 enterprises possessing the unit responsible for logistic customer service in their organizational structures, the majority - 63.66%, indicated the performance of service functions, supporting other functional areas just via this structured form of management of logistic customer service. Cross-cutting functions, i.e. coordinating logistic activities, were performed by the units responsible for logistic customer service in 3 companies (27.24%), whereas process functions integrating all the logistic processes were indicated only by one respondent (9.1%).

The level of advancement of the development of the concept of logistic customer service is confirmed by the scope of integration of the performed functions. Along with an increase in logistic awareness there is the grouping of the activities and processes of logistic customer service and, therefore, also the assignment of the widest range of functions to the unit responsible for this service, i.e. the range presented only by one enterprise in the established research sample.

From among the others, about 95% of the enterprises which did not possess the unit responsible for logistic customer service in their structures, only 2.1% recorded the lack of reference of the activities, processes and/or decisions of logistic customer service to the conducted activity. The other entities confirmed the perception of the relationship of the concept of logistic customer service with the business activity, however the enterprises declaring the centralization/concentration of responsibility for the activities, processes and/or decisions of logistic service of their customers were the minority, since they amounted to 25.7% of the total number of the respondents. These enterprises are probably making attempts to search for organizational forms which would facilitate the management of the processes of logistic customer service.

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Benchmarking of Corporate Culture in Selected Slovak Enterprises by Using of DOCS Model

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Abstract

Success in the business environment is the goal of every company. One of the key factors for this success is the level of corporate culture which represents a competitive edge and affects the business performance. In order to improve business performance it is needful to bear in mind that the continuous performance upgrade is based on comparison and measuring of the corporate culture level. Appropriate resource for status identification of the research area and proposing required measures to improve, is benchmarking. Through benchmarking company is looking for patterns-global strong leaders, a driver, best practices in various areas. Benchmarking is the base for the company transformation, identification of its differences from competitors which are potential pillars of building a strong culture. The enterprise's aim is to create a strong corporate culture in dynamic balance which affects positively its performance. Corporate culture is the essence for achieving better financial results.

Key words
Benchmarking, corporate culture, DOCS model, financial performance

Introduction - Benchmarking and its use in corporate culture

At the Enterprise level, benchmarking is a tool that is part of the strategic goals of the enterprise. Benchmarking is used for management oriented to continuous improvement by identifying and adapting best practices in process, organization, level and style of management, thus contributing to increased efficiency and competitiveness of businesses (Kiseľáková 2010).

Benchmarking is a process that can be performed in different dimensions. It is a continuous comparison and measurement of its own organization with other leading organizations in order to achieve performance improvements in their own organization. However, it is important to take into account the fact that in large enterprises there are more resources, therefore it is often rather large company able to implement modern organizational practices, go trough changes and evolve. (Walgenbach 2000).

Subject of the benchmarking may be different parts of the company or its activities, such as departments (HR, marketing), products, services, processes (production, non-production), business performance (quality, market position). Benchmarking can be divided into several groups according to various criteria. By internal benchmarking is the basis the own organizanional database of information ,projects, or processes. While by external banchmarking the organization gather data from other companies and use them for comparative analysis. External standards are generally considered as providing more advantages, however, the internal benchmarking may also be useful. Without the external comparison can the organization or its managers beeing missing the understanding of what is the "good" performance from a regional or global perspective (National Academy of Sciences 2005). As each process, as well as internal and external benchmarking has its advantages and weaker points. Figure 1 below summarizes the advantages and disadvantages of internal and external benchmarking.

Figure1. Benchmarking - advantages and disadvantages
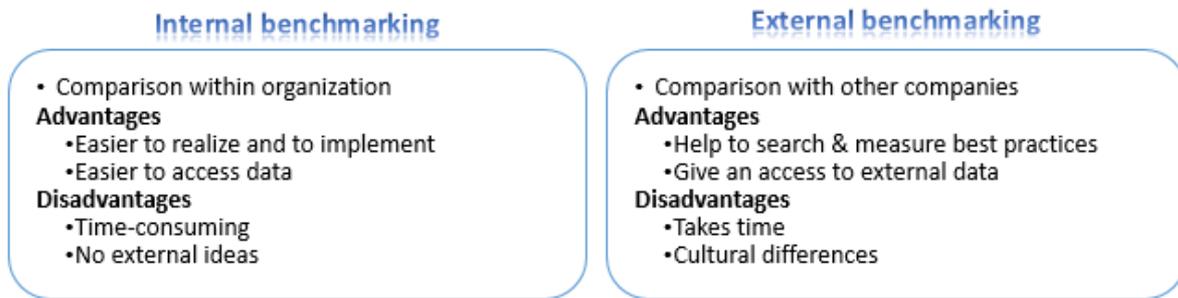
Source: own processing

Benchmarking is a continuous process and represents an integral part of enterprise management system. It is used for ensuring an increase of enterprise's performance and efficiency in various areas - divisions, processes, operations (Fekete, Török 2011).

In 1992, HBS Professor Kotter and Heskett completed extensive research project, which described in detail the level of corporate culture in more than 200 enterprises operating in 22 different sectors and its impact on long-term economic performance of the eterprise. This research lasted for more than 11 years and the only differentiator of the business performance was the level of corporate culture. The results of many years of analysis (Grapgh 1) show that only a strong corporate culture is easier to adapt to the changing environment and customer needs, which is an integral part of strong financial results. (Kotter, Heskett 2011).

Graph 1. Impact of corporate culture on the economic performance (Kotter, Heskett 2011)
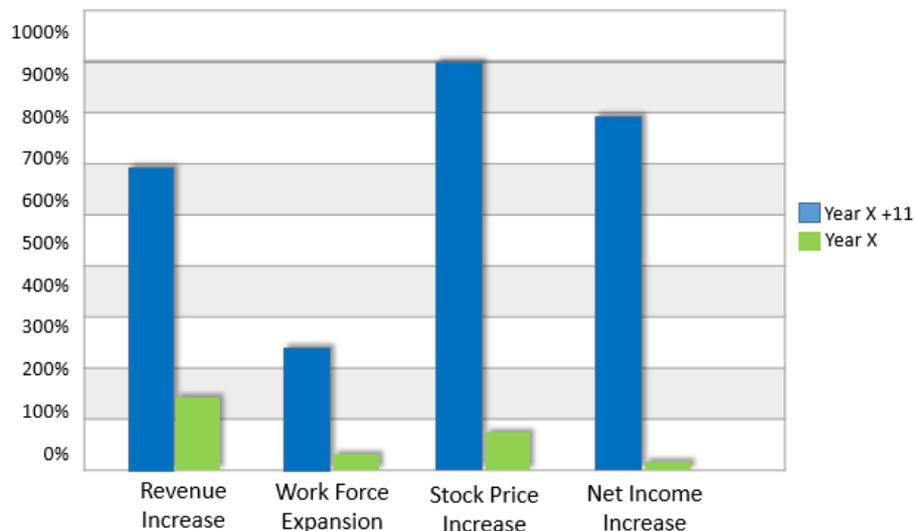
Source: own processing

As we can see at the above Graph 1, the companies with a strong corporate culture, which has also suitable content within the business sector are achieving significant improvements in performance and outperform their competitors.

Characteristic of Denison's model and benchmarking by using DOCS

D. R. Denison and W. S. Neal with his research team examined corporate culture in more than 1,000 enterprises. Based on this research they created a questionnaire DOCS (Denison Organizational Culture Survey, available at www.denisonconsulting.com). The diagnostics of corporate culture can be performed by using different models. The Denison model is however suitable to use in regards to its complexity. Thismodel analyzes the content and the strength of corporate culture. It examines the external and internal environment of the enterprise and also shows which levelof stability and flexibility the company achieved.

This model divides the corporate culture into four major quadrants and each quadrant of corporate culture consists of three parts, which specify further in more detail:

- Mission - sets out a clear existential purpose and the direction the company is heading.
- Adaptability - represents the company's ability to adapt to the changes and to the external environment.
- Involvement - refers to the degree of participation and initiative of all employees
- Consistency - is the extent to which the values, beliefs and norms of behavior are acquired and shared among the employees.

These quadrants represent characteristics (traits) that affect business efficiency. All four characteristics should be in a dynamic equilibrium. (Lukášová, New, 2004). Via diagnosis of corporate culture by DOCS it is possible to determine all elements of corporate culture, to define its strengths and weaknesses. The results of the analysis build the base for comparing, making changes and creating the desired corporate culture, which has a positive impact on its performance.

Results of the corporate culture analysis by using DOCS model

Denison's model has been applied in the survey for culture analysis. For survey needs has been used questionnaire with 18 questions related to diagnostic of corporate culture according Denison's model. The survey was conducted in three enterprises in Slovakia. Overall 558 employees participated in our analysis pool. Standardized questionnaire was filled out by staff as well as by management.The overall results of the analysis of the corporate culture in selected enterprises are shown in Figure 2, which shows the averaged level of achieved corporate culture in each quadrant. The graphic design uses a modified variant of the DOCS model. Different size of each quadrant graphically expresses their strength.

Figure 2. The overall results of corporate culture in Slovak enterprises
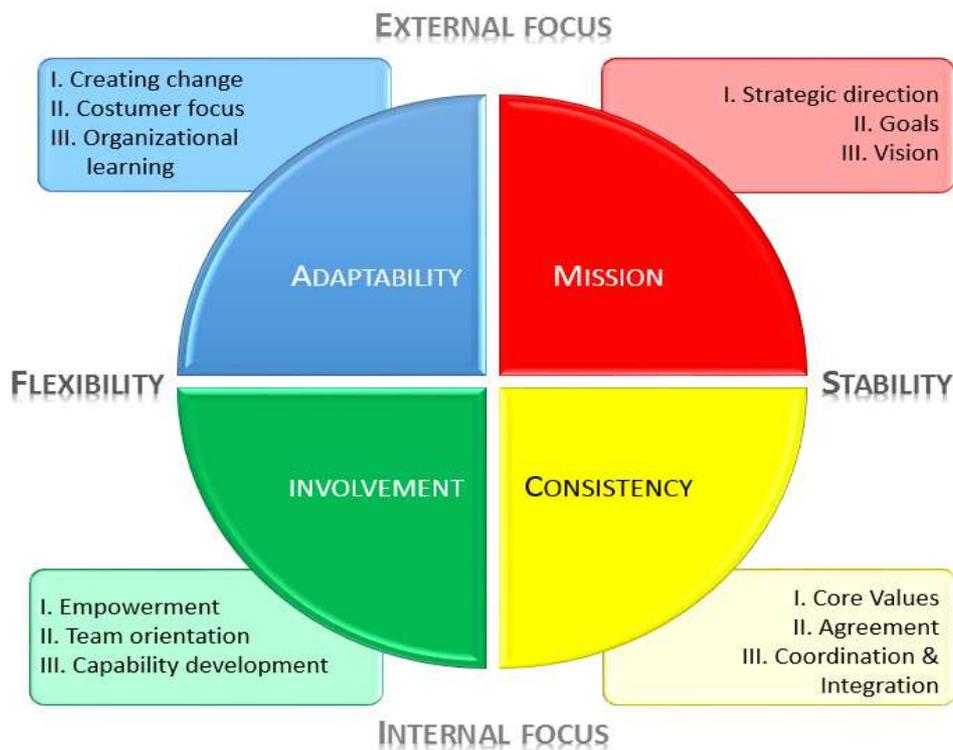
Source: own processing

The achieved level of corporate culture in selected Slovak enterprises is generally at an average level of 2.35. Based on the analysis of the overall results can be said, that the corporate culture is relatively dynamically balanced. Quadrant, which reached the highest score in the survey, 2.54, is the "consistency" where all companies achieved results with the highest value. Implementation and integration of values, principles or norms of behavior is adapted to all levels of the organizational structure. It should be noted that

100

although this feature has achieved the highest score, there is still room for development in order to achieve the ideal state.

The following values in Table 1 show that enterprise X achieved in all features of the model DOCS best score, what partly positively influenced the overall results of diagnosis, as this company is the largest investigating unit. Enterprise X and Z are influenced by the parent company which clearly defines:

- basic standards of behavior within the internal but also external environment in relation to the customers and the company
- values that are clearly presented in the external environment
- vision and strategic objectives of the company are recognizable

The results of the achieved level of corporate culture in the surveyed enterprises in all individual quadrants you can find in Table 1, which includes also the values of average results in individual enterprises in all characteristics of the DOCS model. In addition to the average values Table 1 offers the possibility to compare the results of individual companies to the best enterprise X.

Table1. Benchmarking of the level of corporate culure in the DOCS model

		⌀	Enterprise X	Δ	Enterprise Y	Δ	Enterprise Z	Δ
Mission	Strategic direction	2.16	2.68	-	1.61	-1.08	2.18	-0.51
	Goals	2.33	2.71	-	1.91	-0.80	2.37	-0.34
	Vision	2.48	2.99	-	1.86	-1.13	2.59	-0.40
Adapta-bility	Creating change	2.22	2.54	-	1.89	-0.65	2.22	-0.31
	Costumer focus	2.24	2.40	-	2.07	-0.33	2.26	-0.14
	Organizational learning	2.29	2.64	-	1.92	-0.72	2.31	-0.33
Invol-vement	Empowerment	2.36	2.68	-	2.05	-0.63	2.36	-0.32
	Team orientation	2.31	2.67	-	1.93	-0.74	2.31	-0.36
	Capabilty development	2.22	2.56	-	1.87	-0.69	2.23	-0.32
Consis-tency	Core Values	2.41	2.68	-	2.10	-0.59	2.46	-0.23
	Agreement	2.56	2.97	-	2.16	-0.81	2.55	-0.43
	Coordination&Integration	2.66	2.91	-	2.37	-0.54	2.68	-0.23
Corporate culture value		2.35	2.70	-	1.98	-0.73	2.38	-0.33

Source: own processing and research

In comparison with the best results has feature "Vision" in the enterprise Y the biggest negative difference. Also, the other features of this quadrant are the weakest. Their place in the comparison placed the category "Mission" as the weakest characteristic of this enterprise. It would be appropriate for employees of this company to clearly define plans for the future, determine its vision and direction. According to the results we can see, thatthe communication in this area is conducted only at the highest level of the organizational structure and there is a lack of cascading. The information is not communicated to and reached by below levels of the organizational hierarchy.

In the company Z is within the quadrant "Mission" a similar situation as in the enterprise Y. The weakest point in the enterprise Z represents "Strategic orientation". The cause of it is though different than in company Y. The participation of foreign investors in the company Z is the reason why employees only partially understand the direction of the company, its vision and values. Mainly for administrative staff it is not clear what kind of level of understanding and what behavior is expected from them in different areas of corporate culture. In this company there is confrontation of the "home culture" and culture of the foreign investor. Therefore it is necessary to clearly define all elements of corporate culture and communicate them across the entire organizational culture. In the overall comparison of the level of corporate culture the enterprise Y has reached by 50% better results.

Denison model of corporate culture draws attention to four key features that each company should effectively develop so that all characteristics are in dynamic balance and the level of corporate culture is increasing towards the market leaders.

Benchmarking of corporate culture in Slovak and global enterprises

In order to gain a competitive advantage each company has to find out what it can do in its business environment differently - better. The source for the activation of any changes is the benchmarking. Corporate culture represents the key of success and performance improvement. Benchmarkingof corporate culture helps enterprises to define the market leader, to determine the significant favorable differences from the company's competitors, which are potential cornerstones of its strategy.

Business Insider researched the level of corporate culture, and in 2014 conducted a survey andat the end published a list of 25 companies with the best level of corporate culture. The employees evaluated the elements of corporate culture on a scale from 1 to 5, where 5 is the best grade (Business Insider, 2014). These published results have been processed into graphic form and compared with the results of the level of corporate culture in Slovak companies. As you can see in Graph 2, Slovak companies reach 50-68% of the level of corporate culture of strong global enterprises.

Graph 2. Benchmarking of the level of corporate culture
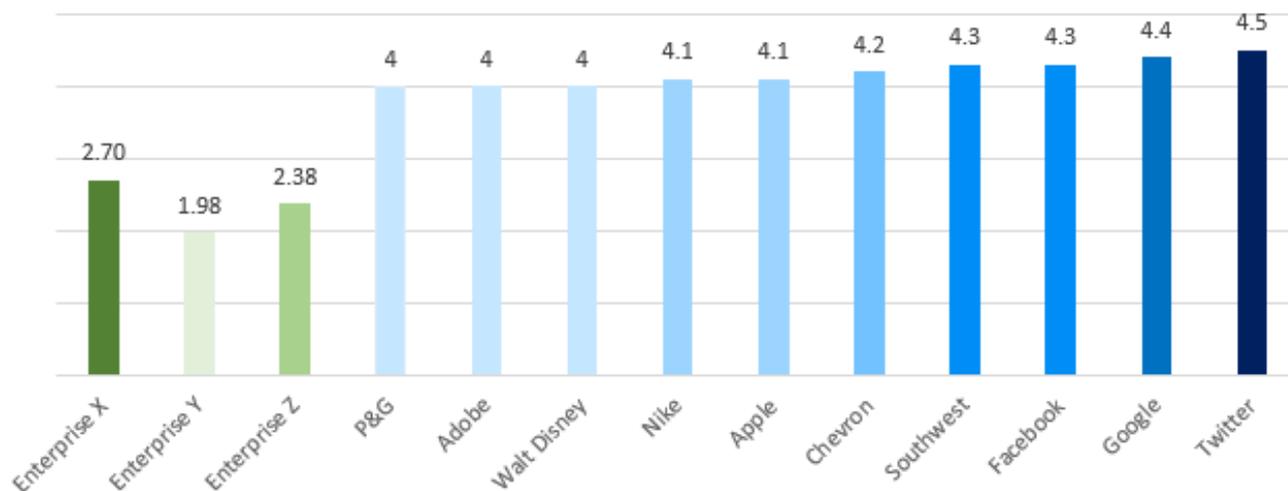
Source: own processing and research

A strong corporate culture helps to build the company's reputation, build brand, to attract and retain employees. All these parameters have a positive impact on business performance. Many global corporations have a strong corporate culture, which is a key for the success of these companies. Global large enterprises have clearly defined core values and direction of the company with respect to an employee as an essential element of the corporate culture. The success of these companies is obvious. Companies such as Google, Facebook, Chevron, P & G, BASF have a strong corporate culture, and with it is also linked their performance. These global companies reache billions in profits (more details on http://fortune.com/fortune500/). The aim of every business is to be profitable, so it makes sense to deal with the level of corporate culture and its impact on business performance.

Summary

A key factor in the success of the enterprise in the business environment, which for him represents a competitive advantage is the level of corporate culture. Corporate culture is an abstract subjectand for benchmarking it is needed to divide into measurable units and examine those. It should be noted that the basic elements of corporate culture is the employee, who bears,contributes and shapes the corporate culure of an enterprise. Not only the quality of the staff, but also their motivation, loyalty, understanding of the vision, of basic values of the company and their identification with them represents for the company a competitive advantage. Benchmarking is the base for the transformation of these differences from competitors which are potential cornerstones of building a strong corporate culture. The aim is to create a strong corporate culture in a dynamic balance that drives positive financial performance of the enterprise.

Many global companies (Google, P & G, BASF, Chevron, Facebook et al.) which are commercially very successful also have a strong corporate culture and organizational well-known character. If the companies want to get closer to these leaders it is necessary for them to implement benchmarking in this area and work within the business environment for continuous development of the company as a whole. The ability of the companyto develope is determined by the level of corporate culture. Benchamrking proactively helps improve its elements - processes, discover new targets, strategies, improve customer satisfaction. Corporate culture is the essence of achieving better financial results, and therefore need to be addressed.

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Impact of CSR on Financial Performance

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Abstract

The field of corporate social responsibility (CSR) has grown exponentially in the last decade. Nevertheless, there remains a protracted debate about the legitimacy and value of corporate responses to CSR concerns. There are different views of the role of the firm in society and disagreement as to whether wealth maximization should be the sole goal of a corporation. Using extensive data over a period of five years, this study explores and tests the sign of the relationship between corporate social responsibility and financial performance. The dataset includes most of the S&P 500 firms and covers the years 1996-2000. Using empirical methods tests the relationship. The results indicate that the sign of the relationship is positive and statistically significant; supporting the view that socially responsible corporate performance can be associated with a series of bottom-line benefits.

Key words

Corporate social responsibility, financial performance of firm, society welfare, Total net profit, Total asset.

Introduction

Finance is one of the most primary requisites of a business and the modern management obviously depends largely on the efficient management of the finance [1]. The study thus helps to see another aspect of business that tends to affect its finances or to be precise profits. This aspect is called as CORPORATE SOCIAL RESPONSIBILITY. CSR is gaining rapid importance in today's times as more and more number of people is becoming aware of it. In such scenario it is important for companies to be socially responsible because not only government but also other stakeholders like investors, customers, employees, etc. are becoming environmental conscious and thus going for green activities. The study thus tries to elucidate how CSR and profits or financial performance of a company are inter-linked and inter-related. It also gives an idea that why should CSR be an objective of a company if it has to achieve sustainable competitiveness [2].

The field of corporate social responsibility has grown exponentially in the last decade. More than half of the Fortune 1000 companies issue corporate social responsibility (CSR) reports. A larger number of companies than at any time previous are engaged in a serious effort to define and integrate CSR into all aspects of their businesses. An increasing number of shareholders, analysts, regulators, activists, labor unions, employees, community organizations, and news media are asking companies to be accountable for an ever-changing set of CSR issues. There is increasing demand for transparency and growing expectations that corporations measure, report, and continuously improve their social, environmental, and economic performance. The definition of corporate social responsibility is not abstruse. According to Business for Social Responsibility (BSR), corporate social responsibility is defined as "achieving commercial success in ways that honor ethical values and respect people, communities, and the natural environment." [3] Describe CSR as "actions that appear to further some social good, beyond the interest of the firm and that which is required by law." A point worth noticing is that CSR is more than just following the law [4]. The definition of what would exemplify CSR is the following: "An action by a firm, which the firm chooses to take, that substantially affects an identifiable social stakeholder's welfare." A socially responsible corporation should take a step forward and adopt policies and business practices that go beyond the minimum legal requirements and contribute to the welfare of its key stakeholders. CSR is viewed, and then, as a comprehensive set of policies, practices, and programs that are integrated into business operations, supply chains, and decision- making processes throughout the company and usually include issues related to business ethics.

Community investment, environmental concerns, governance, human rights, the marketplace as well as the workplace [5].

Review of Literature

Corporate Social Responsibility can be understood by taking up each of its three words separately – 'Corporate' simply refers to any business entity, 'Social' implies anything related to society and 'Responsibility' means being under some obligation. Taken together, these three words seem to imply that the business entities are under some form of obligation to society. Howard Bowen coined the term Corporate Social Responsibility in his 1953 book Social Responsibility of the Businessman. Bowen is widely acknowledged as the Father of CSR [6]. According to the definition provided by Bowen, CSR "refers to the obligations of businessman to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society".

1. Empirical Studies of CSR and Financial Performance:

One hundred twenty-two published studies between 1971 and 2001 empirically examined the relationship between corporate social responsibility and financial performance. Empirical studies of the relationship between CSR and financial performance comprise essentially two types [7]. The first uses the event study methodology to assess the short-run financial impact (abnormal returns) when firms engage in either socially responsible or irresponsible acts. The results of these studies have been mixed. Discovered a negative relationship; [8] reported a positive relationship, found no relationship between CSR and financial performance. Are similarly inconsistent Concerning the relationship between CSR and short run financial returns.
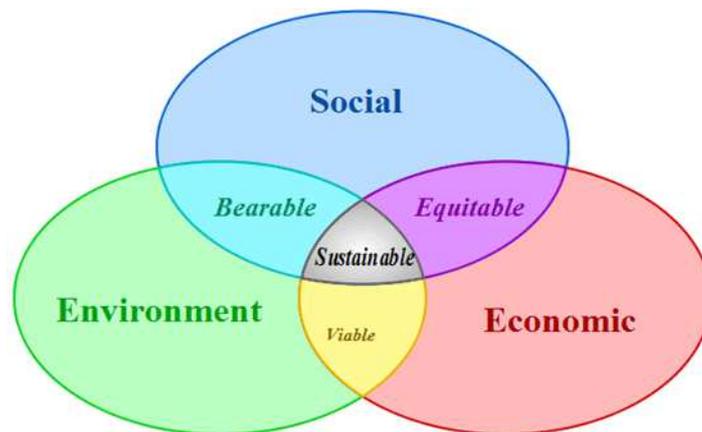
2. CSR in India:

CSR is gaining momentum in India at a rapid pace. Not only government but also people i.e. employees, customers, communities, etc. are becoming more diligent about social responsibilities of companies. Corporate Social Responsibility (CSR) has evolved into one of the mainstream areas for Industry [9]. The Ministry of Corporate Affairs, Govt. of India, has issued CSR guidelines, compliance with which is under process to be made compulsory in a manner similar to financial and environmental audit etc. All profit-making PSUs have been earmarking 2% of their profit after tax (PAT) since 2008 for CSR. This is now in practice for the Blue - chipping Companies also. Besides this, all-important companies put CSR as a special clause in their Annual Reports. It shows the magnitude of importance being attached to CSR in India in recent times [10].

3. Approaches and Strategies:

CSR approaches and strategies in India are based upon the following:
- the ethical beliefs of the founding fathers,
- business areas in which the companies operate,
- the socio-economic environment,
- opportunities emerging over long periods of their existence,
- visibility (Global),
- perception of customer oversight Foundations within companies that follow the Gandhi an ideology of "giving back to society." [11]

How CSR Behavior Can Benefit Firms Inn India:
- It aids the attraction and retention of staff.
- It aids green and ethical investment (discussed later).
- It attracts ethically conscious customers (discussed later).
- It can lead to reduction in costs through re- cycling.
- It differentiates the firm from its competitor and can be a source of competitive advantage.
- It can lead to increased profitability in the long run.

4. Legal Guidance of CSR in India:

In 2002, the United Nations Development Program (UNDP) and Confederation of Indian Industry (CII) jointly developed and released a document titles "Social Code of Business" [12-14]. It laid down guidelines to be adopted by organization to ensure "good corporate citizenship" and is as follows:
- The Company affirms the interdependence of its enterprise with the wellbeing and self – reliance of the community. Adopting an Article of Association on CSR that advocate harmonizing of economic progress with social and environmental consideration can do this.
- The Company has a specific written policy statement on CSR (social and environmental), which is in the public domain.
- The Company has an explicit strategy on social and environmental issues that can be seen in the form of an Annual work Plan mainstreamed with its business process.
- The Company has included CSR as part of its corporate communications including newsletters and there is reporting on CSR in the company's Annual Report.
- The Company has a senior executive under the CEO responsible for CSR and managerial level officers tasked specifically with social and environment work. The CEO reviews the CSR Programme twice in a year.
- The Company ensures equal access to employment and promotion opportunities across gender and cultures through policies and programmes.
- The Company has allocated specific resources for CSR activities and has monitoring systems to track implementation process and impact.
- The company demonstrates its CSR by providing an enabling environment for employees to volunteer that includes recognition and accounting for volunteer time.
- The Company is committed to document its learning experience in terms of human achievements, contribution to the community, the learning for all stakeholders for sharing with local governments and development agencies.
- The Company is also known for the partnerships it builds with various development players in the field to synergies all available opportunities to bring about holistic development of the local community.

The companies to expand the scope of learning from each other in their role of being good corporate citizens by way of exchanging data, views, implementation procedures and even exchange of expert personnel whenever necessary [15].

Conclusion

Finance is the lifeblood of every business. Without effective financial management a company cannot in this competitive world. A Prudent financial Manager has to ensure that all that enhances profitability is 8. being adopted by company. CSR has always been playing major role in sustenance of companies across Globe. Thus, Indian companies also need to attach the requisite importance to their CSR activities so that they can leverage upon the opportunity. CSR not only 9. enhances profitability but also act as brand builder. Today, not only tangible but also intangible assets like reputation, goodwill, etc., also play a significant role in the life of a company. The two different explanations of this relationship depend on its causality. This study did not explore the direction of the causal connections. 10. Nevertheless, the findings indicate that CSR is positively related to better financial performance and this relationship is statistically significant, supporting, therefore, the view that socially responsible corporate performance can be associated with a series of bottom-line benefits. 11.

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The Perceptions of Business Chambers on the Developmental Role of Local Government: The Case of the Western Cape, South Africa

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Abstract

For local regions to achieve acceptable levels of economic growth and development, coordinated partnerships between local businesses, local government and local communities are required as part of the local economic development (LED) triangle. LED theory confirms that if one of the partners does not play its part with regard to development and management, the local economy is negatively affected. The purpose of this research was to determine the perceptions of local business chambers on the developmental role of local government and the factors involved in fulfilling this role. The study employed a mixed methodology approach. The findings from the study indicated that the main stumbling blocks, as perceived by the various business chambers, included labour regulations and relatively high labour costs. Leadership and partnership formation were ranked the highest factors provided by local government in creating an enabling environment. The research provides insight concerning the actions required if local government is to provide such an environment for local businesses to prosper, as well as some recommendations for implementation.

Key words

Business chambers, enabling environment, Local Economic Development (LED), local government, management, South Africa, Western Cape

Introduction

For local areas to achieve economic development, the three main role players: local government, local business and organisations such as business chambers and local communities in the area, must share one vision and work together (Mountford, 2009). The primary aim of this article is to present an analysis of the perceptions of local business chambers on the developmental role of local government in the Western Cape, South Africa. A business chamber can be defined as "an organization of businesses seeking to further their collective interests, while advancing their community and region. Business owners in towns, cities and other territories voluntarily form these local societies/networks to advocate on behalf of the community at large, economic prosperity and business interests" (Association of Chamber of Commerce Executives, 2016:1).

Local businesses on a global scale need to form partnerships with local government while the latter should attempt to provide an enabling environment for businesses to prosper to the benefit of all local residents in this process (Travers, 2012). The research is important in the sense that although the study is localised in South Africa, the results could be useful on a global scale. Local government agencies are struggling to provide a conducive environment for economic development. Solutions offered, arising from this research, could be implemented elsewhere (Meyer, 2014). The roadmap for the rest of the article includes a literature review section analysing concepts of economic development, as well as addressing issues of Local Economic Development (LED), partnership formation and the specific role of local government in LED. This is followed by an explanation of the methodology, empirical research results and discussion. The last section presents the conclusion and offers attendant recommendations.

Literature Review

Economic development at local or regional level is known as LED and is a sub-field of development economics (Meyer-Stamer, 2006). LED has, as its ultimate goal, the economic development of a demarcated local area (Blakely & Leigh, 2013). Van Zyl (1994) states that the process of economic development of a specific area includes aspects such as improvement of people's quality of life, reduction of poverty, structural and institutional transformation of society in terms of politics, culture and the economy, which will lead to higher levels of productivity, income and choices for people and also the modernisation of the economy. Growth without development is possible, but no development could occur without growth (Herrick & Kindleberger, 1995). Soubbotina (2004) agrees, opining that while economic development might be wrongfully described as economic growth there are significant

differences between the two concepts. While economic growth relates solely to an increase in GDP per capita of a country, economic development is a much broader concept, which takes into account income, freedom, equality, health, education and a safe environment, amongst others.

According to Todaro and Smith (2011) development means the sustained growth of income per capita to enable a community to export its output at a faster rate than population growth. Aspects such as increasing the availability and provision of basic needs, such as food, shelter, health and protection; enhancing the quality of life by an upturn in income, better education and provision of social and cultural facilities and widening and expanding the range of economic and social choices available to individuals, are key objectives with regard to enhancing economic development. Nonetheless, it has been difficult for developing countries and regions to start or "kick-off" economic development. The reason for this is poor co-ordination (Todaro & Smith, 2011). Rosenstein-Rodan (1943) first raised the basic co-ordination development problem, which is known as the "Big Push" theory. This theory explains how the presence of market failures could lead to a need for a focused nationwide economic policy intervention by government to get the long and difficult process of economic development underway (Todaro & Smith, 2011).

Trousdale (2005) defines LED as a participating process where local people, from all sectors within a specific area, work together to activate and stimulate local economic activities, with the aim of ensuring a resilient and sustainable local economy. Helmsing and Egziabher (2005) and Swinburn (2006) stated that LED is a process in which partnerships between local government, communities and business lead to improved management of existing local resources, to increase economic activities in a well-defined geographical territory. According to Swinburn (2006) LED is a process whereby public, businesses and non-governmental sectors work collectively as partners to create a better quality of life for local residents through economic development. The LED process should assist with the improvement of local institutions and local partnerships through dialogue and actions. The International Labour Organization (ILO) (2006) lists five core features to define the content of LED strategies: high levels of participation by all role players, focus on a specific territory, maximisation of local resources, focus on competitive advantages and lastly, LED strategies should be locally compiled, implemented and managed.

Blakely and Leigh (2013) argue that LED is a process by which local government and community groups manage their existing resources and enter into new partnership arrangements with the private sector to create new jobs and stimulate local economic activities. This is the reason why the roles of local business chambers are so important.

Pretorius and Schurink (2007) point out that LED can assist local government to improve its governance. Good governance relates to effective institutional capacity in management and administration. Governance includes formal and informal structures within government institutions. It is the ability to co-ordinate and assist with implementation of policies, projects and action plans. Governance also includes public involvement, institutional development, transparency in decision making process and accountability. The concept also focuses on the participatory process. Good governance underpins LED, the main connection between the two concepts being to provide a local business enabling environment (Trousdale, 2005). According to the United Nations Development Programme (UNDP) (1999), the characteristics for good governance include participation, consensus between partners, management accountability, transparency, responsiveness, inclusiveness, effectiveness and respect for legislation. Local government is a vital player in economic development; its functions, according to McIlrath (2004), should include issues such as job creation through infrastructure development, policy formulation, co-ordination, integration, support for small, medium and micro-sized enterprises (SMME), creation of a positive economic climate and the facilitation of projects, formulation of strategies as well as provision of information. LED success regarding implementation is dependent on a few key issues as Trousdale argues (2005): local leadership at local government level, local business and local communities; creation of an enabling economic environment; involvement of youths in development programmes; job creation projects and initiatives; availability of capacity and skills on all levels of the local economy and lastly an improvement in quality of life.

Partnerships between local government and local businesses are critical for LED success. The objectives of such partnerships are to improve the flow and exchange of information, to enhance the local enabling environment, promote local business opportunities and facilitate joint activities between partners (Srinivas, 2015). The LED triangle of partners consists of local government, business and community organisations (Swinburn, 2006). Existing groups in a specific region, such as business chambers, play an

important role in sustainable partnerships. Local government has the following roles to play in the partnership development process: the development of policy and strategies; the provision of infrastructure and incentives as well as research, training and business support (Srinivas, 2015). For local partnerships to be successful, good governance is required (UNDP, 1999).

The Constitution of South Africa (Republic of South Africa, 1996) provides the framework within which all planning activities for government must take place. In terms of the Constitution, local government needs to provide democratic and accountable governance for all communities; ensure service provision in a sustainable way; promote social and economic development; and encourage community participation. In addition, the White Paper on Local Government (Republic of South Africa, 1998) stated the following with regard to the role of local government, [that it must]: maximise social and economic growth, integrate and co-ordinate growth, redistribute resources, provide good basic services to enable the private sector to prosper, simplify regulations, support local procurement policies, provide one-stop facilities, marketing, investment and training and research as well as establish links and partnerships with local role players. South Africa's post-apartheid development policy is focused on the development of local government as well as community development and has a pro-poor emphasis.

Local government has been mandated to intervene and to play a leading role in partnership development, job creation and reduction of poverty. The main constraints faced by local government in delivering LED results include poor implementation, lack of comprehensive analysis of local economies, unsustainable community projects, lack of capacity and lack of resources (Nel & Rogerson, 2005). Municipalities in South Africa do not have adequate economic strategies in place to address the issues of poverty, unemployment and inequality (SACN, 2004). LED is not a priority at the local government level and limited funding is available. For this reason the partnership with local role-players, such as business chambers, is so important. Within local government, LED strategies lack detail for interventions, are deficient in monitoring or evaluation, while the role and functions of LED are vague and also display a lack of willingness to enter partnerships with the private sector (KHANYA-AICDD, 2006).

According to Blakely and Leigh (2013) and supported by VNG International (2007), local government and local businesses through business chambers have the following main economic development roles and functions:

Facilitator: The creation and provision of an environment for LED by providing systems, processes and facilities through land use planning, provision of services and infrastructures, signage, safety and security, attracting investment, fewer regulations, policy and strategy formulation.

Co-ordinator: The LED process forms a key programme for co-ordination with local communities. Business networks through business chambers and partners need to be established.

Enabler: Provide expert advice, assistance and support, information, training, business planning.

Stimulator: Stimulate business to grow and expand and attract new business. Tools include incentives, grants, and facilities at low rental, tourism development, and business incubators.

Developer: Provision of basic infrastructure to stimulate private sector development such as electricity, water, roads, and sewers.

Private sector entities, such as business chambers, in collaboration with local communities, play a major role in LED. Some of the functions of the private sector in LED in collaboration with local government include (Swinburn, 2006): bringing resources, knowledge and experience to the local economy; assisting in the de-politicising of the economic development process and projects; assisting with attaining consensus between partners; facilitating an increased understanding of the local economy and ensuring the inclusion of disadvantaged and informal groups to ensure a pro-poor focus. In 2009, the "Afrikaanse Handelsinstituut" (AHI) conducted a survey including the majority of business chambers, which are members of the AHI, in South Africa, regarding economic development in their area (Rogerson, 2009). Research survey findings included firstly, that the working relationships between business chambers and municipalities are mostly negative. Responses to the survey revealed, firstly, that local government is not interested in working with the local business chambers and, secondly, that areas of co-operation were listed as limited. Poor governance and lack of trust between the private sector and local municipalities exist. Problems listed included the lack of leaders taking responsibility, lack of skills and capacity, tender irregularities, high staff turnover, lack of quality participation, political agendas, lack of funding and the fact that municipal staff are not available to the public.

Methodology

The methodology incorporated both qualitative and quantitative aspects. Firstly, an intensive literature study was conducted in order to establish a sound base and framework for the study; the research instrument was developed based on this. Semi-structured interviews were also conducted; quantitative data was collected using the pre-designed questionnaire. The data obtained was reported on in a descriptive manner.

Sample

The sample comprised nine business chambers situated in the Western Cape Province of South Africa. This area was selected as it is one of the best performing provinces in South Africa, contributing approximately 13.7 percent to South Africa's GDP and outperformed only by Gauteng and Kwa-Zulu Natal (StatsSA, 2016). This province also records the second lowest unemployment rate (20.9%) in South Africa based on the first quarter data of 2016 (StatsSA, 2016).

Instrument and procedure

A self-administered questionnaire was designed, based on the literature review. From the responses the following important topics were identified: cooperation with other entities such as government, stumbling blocks, success factors, what creates an enabling environment, service delivery status quo and entrepreneurial characteristics. Some questions were open ended to allow more in-depth responses whereas some were basic polar questions, merely requiring a yes or no response. The questionnaire also included ranking questions to determine order of importance as well as Likert-scales.

During September 2015, the AHI held its annual general meeting. Prior to the event, permission was obtained from the management of the AHI to conduct the study and distribute questionnaires to the various business chambers. Meetings were held and the process and reasons for the study were explained. All chairpersons of each chamber were supplied with a questionnaire which they were asked to complete in consultation with their management team.

Results and discussion

This section reports on the results obtained from the questionnaires received from the various business chambers situated in the Western Cape. Table 1 summarises the locality and number of members. In total, nine Western Cape Province business chambers responded by completing the questionnaire. Based on the membership trend, five reported an increase in member numbers, while the membership of two remained constant and only one noted a decrease. The Paarl Business Chamber reported the highest membership at 248 members.

Table 1: Summary of Western Cape business chambers (the main town is listed in brackets)

Municipal Area	Number of members 2015	Membership trends
George Municipality (George)	30	Increased
Oudtshoorn Municipality (Klein Karoo)	112	Unknown
George Municipality (George)	30	Increased
George Municipality (Haarlem)	30	Increased
George Municipality (Haarlem)	30	Increased
Cape Town Municipality (Tygerberg)	45	Decreased
Drakenstein Municipality (Paarl)	248	Increased
Swellendam Municipality	17	Remained constant
Cederberg Municipality (Clanwilliam)	65	Remained constant

Table 2 reports on the main economic stumbling blocks experienced by the business chambers; they were asked to rank the top three factors in their specific area. The four highest ranked problematic factors, as listed, were: labour regulations and the high cost of labour, poor service delivery by the municipality, high production costs and, lastly, crime. The lack of entrepreneurial intent was also listed as a major stumbling block in the region.

Table 2: Main stumbling blocks for economic and business development

Ranking	Factor	Percentage
1	Labour regulations and high labour costs	16
2	Poor service delivery by municipality	16
3	High production costs	16
3	Crime	16
4	Lack of entrepreneurial intent	12
5	Relative small local market and local demand	12
6	Lack of infrastructure capacity	8
7	Strike action	4
8	Lack of industrial/business serviced stands	0
8	Poor logistics and transport facilities	0

Table 3 reflects the rating for the various municipalities by the managements of business chambers regarding the 12 factors for the creation of an enabling environment by local government for local businesses to prosper. Each factor was ranked on a Likert scale from 1 (very poor) to 5 (very good); the table reflects the average means. This specific scale was developed by Meyer (2014). The various chambers were also asked if they considered that the local municipalities were creating the said type of environment; 75 percent of respondents thought that this was indeed the case.

Table 3: Rating of local government by local business chambers on the factors creating an enabling environment for businesses

Ranking	Factor	Mean (Maximum 5)
1	Leadership	3.3
2	Partnership formation	3
2	Safety and security	3
3	Infrastructure development and maintenance	2.8
4	Improved access and transport	2.6
5	Structure, capacity and policies	2.6
6	Poverty alleviation and social development	2.5
7	Environmental and spatial planning	2.5
7	Agriculture and rural development	2.5
8	Economic development initiatives	2.4
8	Human resource development	2.4
9	Entrepreneurship development	2.3

Table 3 reports on the 12 factors which local government should provide in order to create an enabling environment as described. The respondents rated leadership, partnership formation and safety and security as the top three factors which could be attended to by the various local municipalities. Although these three factors were ranked highest, scores equated to just 3.3 and 3.0 respectively out of a maximum of 5. This score conflicts with the general consensus regarding South Africa and the lack of political leadership that has been a topic of discussion in recent years (Van Vuuren, 2014). The Western Cape reported the second highest crime rate in South Africa during 2015 and also recorded the third highest percentage change increase in the country from 2013 to 2014 figures (Crime StatsSA, 2015; South African Police Service, 2014). The general perception is that local government is doing the least to develop entrepreneurship as this factor was ranked last. This is cause for concern as the role of entrepreneurship, which is a factor contributing to economic development (Awashti & Sebastian, 1996; Athayde, 2012), was also ranked very low in 8th place. In addition, all the business chambers agreed that they would be willing and interested in partnering with local municipalities and government, to assist in the development of small local businesses and entrepreneurship enterprises by means of training local unemployed people. All of the respondents indicated that they were willing and interested in the encouragement of LED, although just 44 percent are actively participating in local LED.

Table 4 reports on the main service delivery issues experienced by the various business chambers. Service delivery restrictions or limitations negatively impact on business activities. Together, effective service delivery and good governance create the foundation for local government to provide an enabling

environment for small businesses to flourish, in turn leading to LED (Grootaert, 1998; PriceWaterhouseCoopers, 2010). Lack of information, support and training for local businesses was ranked highest as the most major service delivery problem. The business chambers indicated that they would be willing to partner with local government and assist with partnership formation and entrepreneurial and skills training. Lack of finance and unavailable and unstable management were ranked in 2nd and 3rd place respectively for the questions concerning main service delivery issues experienced.

Table 4: Main service delivery issues experienced

Ranking	Service Delivery Issue	Percentage
1	Lack of information, support and training for local business	22
2	Lack of finance and funding	17
3	Unavailable and unstable management (communication and participation)	13
4	Procurement and tender process	13
5	Incorrect and above inflation municipal accounts	9
6	Lack of developmental incentives and policies	9
7	Lack of water/sewer/electrical capacity and maintenance	4
7	Zoning regulations and 'red tape' processes	4
8	Corruption and irregular practices	4
9	Roads provision and maintenance	4
10	Vague and uncertain policies	0
10	Re-aligned budgeting priorities	0

Conclusion and Recommendations

The primary aim of the research was to establish the perceptions of local business chambers in the Western Cape regarding the developmental role of local government in the region in so far as government of this kind plays a critical role in the creation of an enabling developmental environment for local business to prosper. Interesting findings arising from the research revealed that poor service delivery by local government and the lack of entrepreneurial intent in the region are perceived to be two of the major stumbling blocks in this respect. Although business chambers ranked partnership activities relatively highly, entrepreneurship development received the lowest ranking in terms of the factors for the creation of an enabling environment. Linked to this, business chambers also indicated that local government does not provide enough information and training for local businesses. From this analysis it was evident that the development of entrepreneurship and small businesses should be the main priority of local government in the region.

The formation of partnerships between local government and local businesses is important for sustained LED; both role players have equally important responsibilities in this task. Local government should support local business by providing: entrepreneurship development and training, information on the economy with a focus on specific growth sectors, export opportunities and data on comparative advantages of the region, a pro-developmental policy with incentives and lastly, support for the poor and youth in the region.

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Best Practice Principles for Business Incubators:
A Comparison between South Africa and the Netherlands

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Abstract

Business incubators have been identified by many researchers and industry leaders as an alternative method to develop entrepreneurship and support small businesses. Incubators facilitate the success of a large number of start-ups and firms who, in turn, add value and growth to the economy. Eight factors that could influence the performance and success of incubators were identified in the literature. These factors include aspects such as management, infrastructure, networks and partnerships, mentoring, skills development and funding. The study followed a qualitative approach. Six incubator managers from South Africa (a developing country) and the Netherlands (a developed country) respectively, were interviewed to determine their views on factors for success. Incubators for small business development have been used for decades in the Netherlands but this process has only recently been introduced in South Africa. Despite this historical difference, incubator managers agree on most aspects, especially regarding the importance of networking, structured management, mentorship and training at incubators. The focus and funding factors of the incubators differed between the two countries. The implications of the research are that incubator managers from both countries could learn from each other and this research could be utilised to assess incubators in both developed and developing countries.

Key words

Best practice, business incubators, entrepreneurship, management, The Netherlands, South Africa

Introduction

Attention has been drawn to entrepreneurship and small business development by many researchers and policy makers as a sustained way to ensure renewed economic growth (Sivvam, 2012; Ambrish, 2014). Many strategies, agencies, initiatives and programmes have been developed or established to assist with entrepreneurial development. Business incubators have been identified as an alternative way to assist and aid in the matter (Stokan, Thompson & Mahu, 2015). Previous studies have found that there is a link between incubation and business survival. For instance, Campbell (1988) reported that only 13.9 percent of incubated businesses failed while Phillips (2002) estimated a survival rate of close to 85 percent of business participating in incubation. The way they are managed and the type of services they render to resident incubatees are not always the same. This article aims to identify the best practice principles for incubators by analysing results obtained from in-depth interviews with six incubator managers from South Africa (a developing country) and the Netherlands (a developed country) respectively.

Literature Review

Business incubation is a process by which businesses that are stronger, more innovative and have higher success rates are created through various methods of assistance and support (Bergek & Norrman, 2008). The American National Business Incubation Association (NBIA) defines incubation as a vibrant process of business enterprise development (Aernoudt, 2004). Physical business incubators can be defined as forms of business assistance, providing various services to their incubatees (Stokan, Thompson & Mahu, 2015). These include, inter alia, affordable shared office space, shared supporting services, mentorship and training. A true incubator extends beyond the mere renting out of office space, to being a support structure for start-up businesses (Aernoudt, 2004). Virtual business incubators are similar to physical incubators, but provide no physical office space and only professional services, much like business consulting firms (Middleton, Schaeffer & Jackson, 2012). It is important to remember that no two business incubators are alike (Hannon & Chaplin, 2003); however, one goal shared between all of them does exist: to assist and nurture businesses during the early stages of development. Aernoudt (2004) states that a good incubator should be able to 'graduate' successful businesses that are self-supporting and financially viable. From the literature, four pooled essential components for physical business incubators were identified: shared space, shared business support, access to professional business activities such as

training and networking opportunities (Bergek & Norrman, 2008; Middleton, Schaeffer & Jackson, 2015). Various business incubator sponsorship models also exist, such as privately owned, public sector and non-profit facilities and university led incubators.

Incubation is not a new concept. According to Stokan, Thompson and Mahu (2015), the first business incubator was established in 1959. As time progressed, the role of incubators changed. The first generation incubators were fundamentally established to provide cost effective shared space and facilities for small businesses. During the 1990's the need for supplementary services emerged. These included skills development, counselling and networking support, as well as professional assistance and support to obtain seed funding. Entities offering these were known as second generation incubators (Lalkaka, 2001). With over 3000 incubators in existence globally, (Aernoudt, 2004) it is clear that some form of best practice principles should exist. It was possible to identify eight main success related factors from the literature.

Best practice principles

Best practice may be defined as a more effective way of delivering a certain outcome compared to the effectiveness of another way (Bergek & Norrman, 2008). As mentioned, eight factors were identified as possible best practice principles for effective and successful incubators. They include: *Focus and specialisation of incubator*: Incubators should be seen as 'facilitators' and not real estate agents renting out office space. For this reason, the focus of an incubator is very important. Mixed use incubators would typically have the goal of economic development and their role is largely considered to be one that promotes job and wealth creation. By contrast, industry specific incubators are established to provide specific knowledge and expertise to a certain economic sector (Wynarczyk & Raine, 2005). Regardless of which focus is chosen, the setting of clear goals should be agreed upon with the establishment of an incubator. *Incubator infrastructure*: One of the four shared essential components includes shared space. Therefore, the infrastructure is very important. Lalkaka (2001) states that facilities and supporting services are some of the most important aspects of a successful incubator. Layout, functionality, flexibility and technology-related services such as high speed Wi-Fi are very important. Office and communication services are considered a key resource for incubation success (Bøllingtoft & Ulhøi, 2005). *Networks and partnerships:* Incubators need to assist with the creation of networks and partnerships. It is also to the advantage of the incubatees if the incubator is linked to or associated with economic development agencies (Wynarczyk & Raine, 2005). Incubators should have partnerships, with local entities such as local authorities, business chambers and training institutions (Lalkaka, 2001). Hannon and Chaplin (2003) identified the creation and maintenance of networks as one of the determinants of a successful incubator. Bøllingtoft and Ulhøi (2005) identify network support as a key resource to success. They further mention that due to the fact that incubatees share a roof, collaboration and partnerships are much more likely to form. *Coaches, mentorship and skills development*: Many incubators rate their quality based on the level of 'in-house' specialist support. This type of specialist support may take the form of coaches, mentors and skills training (Wynarczyk & Raine, 2005). Bergek and Norrman (2008) point out the importance of continued business support in the form of training, coaching, mentorship and education. Business assistance needs may differ from time to time and should be adjusted according to the needs of the incubatees. *Funding model*: Middleton, Schaeffer and Jackson (2012) found that 80 percent of incubators in their study (a sample of 209) received government funding. While Wynarczyk & Raine, (2005) also call attention to the importance of this type of funding, such funding is however not always available. Therefore, sustainable funding models should also be in place and revenue from letting out of space and providing services should be generated (Wynarczyk & Raine, 2005). *Management structure:* Incubation management is extremely important and a strategic management plan should be in place. Continued evaluation of operations is also required (Middleton, Schaeffer & Jackson, 2012). Wynarczyk and Raine (2005) state that while management structures will differ, depending upon the size and type of the incubator, a formal management structure is very important. Lalkaka (2001) mentioned that the management team should be lean, competent, supportive and accessible. Although management is important, a study by Hannon and Chaplin (2003) pointed out that incubatees wanted appropriate facilities and administration support, but little management intervention. In contrast, some of the literature describes the possibility of incubatees managing themselves (Bergek & Norrman, 2008) *Research*: Hannon and Chaplin (2003) identified the integration of incubators and research institutions such as universities as one of the

determinants of success. The incubator should act as a mediator in order to assist incubatees with actions pertaining to market or industry specific research (Bergek & Norrman, 2008).

Methodology

The first part of the study included an extensive literature review addressing the definition of incubators, different types, and best practice guidelines. A qualitative research approach was then used to test the eight best practice guidelines identified from the literature by interviewing the various incubator managers from South Africa and the Netherlands. This was done by means of semi-structured in-depth interviews. This approach was used to gain a deeper and a better understanding of the research topic. The research method is characterised by open-ended and discovery-oriented questions to gather information from the target audience (Pereira *et al.*, 2013). Many advantages exist when using qualitative research, such as the ability to study social meaning, flexibility and sensitivity and opportunities to develop, explore and establish the relevance of a topic (Ospina, 2004).

Sample

The sample comprised six business incubators of which three were situated in South Africa and three in the Netherlands. The Netherlands have had great success with business incubation over a number of decades, while South Africa has also started focussing on this approach as a method to increase entrepreneurship development. Therefore, these two countries were selected as the sample for this study.

Instrument and procedure

An interview schedule comprising questions relating to best practice principles of incubation was developed based on the literature review. All participants were asked the same questions by the same researcher in order to ensure standardisation. All respondents were contacted either via email or telephone before the interviews in order to explain the background, reason and objectives of the study. Interviews were conducted in person at the various incubators to provide the greatest convenience to the respondents. The process of data collection continued until the 6th interview, when data saturation, or a point where no new data emerged (Henning, van Rensburg & Smit, 2004), was reached.

Ethical considerations

This study applied strict ethical guidelines, including high technical standards regarding analysis of data and referencing. The researchers adopted a non-evaluative and objective position during the interview stage and research results were handled in a transparent manner. Consent from respondents was obtained prior to the interviews, while all participation was voluntary.

Data analysis

A total of eight categories for incubator best practice were identified from the literature. The various responses from the six respondents were reported on in a table format. Results were grouped and subsequently discussed and linked back to the literature.

Results and discussion

This section reports on the results obtained from the in-depth interviews held with the various incubator managers. Table 1 summarises the type and background of the six incubators.

Table 1: Business incubators: Type and background

SA incubator 1: Western Cape (SA1).	SA incubator 2: Sasol, Free State (SA2).	SA incubator 3: Gauteng (SA3)
This is an ICT business incubator and has been in existence for 3 years. Incubatees are selected after thorough processes; start-up business are allowed. More than 60% of incubatees have successful businesses.	A general manufacturing business incubator, since 2012, with a focus on existing registered small businesses that have some success with products that are linked to Sasol. Incubatees are only allowed in the incubator for 12 months, after which they could set-up business close to the incubator and receive virtual support.	A general business incubator for start-up businesses.

Netherlands incubator 1: Groningen (NL1).	Netherlands incubator 2: Rotterdam (NL2).	Netherlands incubator 3: Rotterdam (NL3).
The incubator places its focus on IT and innovative processes. The incubator started informally in 2005. Management arranges events every Friday. Social and business interaction are seen as a key component of the incubator. All companies that have left the incubator are still in existence.	The incubator is focused on technical product development, but with a mix of services development. The incubator is linked to a university and assists start-ups to start and develop businesses.	This is a business incubator with a diversified focus on entrepreneurial development. The incubator is an independent entity.

The results testing the eight best practice principles for South Africa and the Netherlands respectively are summarised in Table 2.

Table 2: Analysis of business incubators

Best Practice Factor and explanation of factor	Responses from interviewees
Factor 1: Focus and specialisation This factor aimed to clarify the question pertaining to whether or not an incubator should have a specific focus of specialisation, for example on just one economic sector, or if it should have a broad and general scope	*SA1*: Highly focussed and specialised in ICT. *SA2:* Businesses mostly focused on manufacturing, clean energy, chemicals and plastics. Diversity is promoted. *SA3:* Incubators should be focused on specific sectors. *NL1:* The incubator specialises in IT. *NL2:* The incubator specialises in technological projects. *NL3:* Incubator is not focused on a specific sector but on linking diverse, small businesses for mutual benefit.
Factor 2: Infrastructure (Buildings, facilities, equipment, logistics) This factor addressed those infrastructure aspects which are important for an incubator to be successful. Is a physical building important or can virtual incubation also work? Which other facilities, equipment and logistics should be provided for successful incubation?	*SA1:* Infrastructure is not vital for success. Virtual incubation can work. *SA2:* A physical building and infrastructure is needed in this instance. Virtual incubation is provided. *SA3:* A physical building does not guarantee success, but basic infrastructure such as meeting rooms, seating and internet access is important. Virtual incubation can be successful. *NL1:* Social interaction and networks are more important than physical buildings or furniture. Virtual incubation is not supported as interaction makes for success. *NL2:* Facilities are important for social interaction. Virtual incubation is not supported. *NL3:* The incubator is a meeting place for like-minded entrepreneurs and is important for social and business interaction. Virtual incubation is not supported.
Factor 3: Networks and partnerships This factor analysis examined the issues of networking, partnerships, role player coordination and cooperation. Is a marketing strategy important for an incubator and should various incubators link to each other?	*SA1:* Critical aspect for success. *SA2:* Networks and partnerships are keys to business success. *SA3:* Networks and linkages of great importance for success. Exchange of knowledge through partnerships. *NL1:* Networking, partnerships and linkages within the incubator and external with other businesses are essential for success. *NL2:* Partnerships and networks are important. *NL3:* Networks with local business, universities and other incubators are very important.
Factor 4: Coaches and mentorship The issue of how important mentorship and business coaching within the incubation model are, is addressed.	*SA1:* An extensive network of mentors and coaches is vital for success. *SA2:* Coaches and mentors from outside, sharing real life experiences, are important. *SA3:* Mentors and coaches are essential for success to share life experiences from industry. *NL1:* Informal mentorship is facilitated, but should not be forced on incubatees. *NL2:* Mentorships are informally facilitated through social events, and are part of the building of networks. *NL3:* Mentorship is very important. Firstly peer to peer, then mentors with experience in industry and with the specific sector.

Factor 5: Skills training and development The skills development factor analysed how necessary ongoing skills development such as business management and technical skills are.	*SA1:* Specific technical and business skills must be provided. *SA2:* Skills interventions should focus on product quality development and is very important. *SA3:* Continuous technical and business skills training is important. Incubator management must understand the training needs and requirements of incubatees. *NL1:* Training is important but also should be provided on an informal basis. *NL2:* Training is important and should be facilitated by the incubator management. *NL3:* Informal programmes should be provided. Also peer to peer training.
Factor 6: Management Structure What management structure works best and should there be a minimum staff requirement? Can an incubator manage itself?	*SA1:* A strategic manager, with an operational manager, administration support and trainers, are minimum requirements. *SA2:* Strong management structure with a manager, a deputy manager, administration assistant and business development specialists is important. *SA3:* Management should include a board with members from large local business and government. Manager should be passionate about entrepreneurship, be multi-skilled, good with people and an implementer. Support staff are required. *NL1:* Management should be lean, which allows for quick decision making. *NL2:* A manager and assistant manager with support staff is important. *NL3:* Strong and innovative management team with at least a manager and assistant manager. Administrative staff not very important.
Factor 7: Funding model This factor viewed the important issues concerning finance. How important is external finance? Should a successful incubator be an independent entity that is self-sustainable and should incubatees pay for space?	*SA1:* Should be based on business principles and should make profit. External funding via state and private sector should be sourced in support of the business model. Incubatees must pay a premium. *SA2:* Incubatees must pay minimal fees to be in the incubator. *SA3:* Incubators could become self- sustainable over time, but not from the outset. The business model should be clearly set out as subsidised or profit based. Some form of payment must be received from incubatees. *NL1:* State funding might be seen as reducing the freedom in the incubator. The incubator must be sustainable, making a small profit. Incubatees are required to show commitment by paying. *NL2:* Should be self-sustainable. Incubatees pay a monthly fee to be accommodated in the incubator. *NL3:* An incubator should be supported through state or private funding. Over time the incubator must be sustainable as a business entity. Incubatees must pay a small amount.
Factor 8: Research The last factor sought clarity on the issues of research. Should the incubation management undertake market, product or service research? For example, should they search for export and niche market markets on behalf of incubatees?	*SA1:* Research should not be a focus of the incubator. Local sectors that have potential are however, analysed. *SA2:* No research in terms of the local economy and products is carried out by the incubator; incubatees are expected to perform this themselves. *SA3:* Research is important to understand the market and this service should be provided to incubatees. *NL1:* Incubatees are linked to local business and should do their own market research. *NL2:* Incubatees must do their own market and product research. *NL3:* Incubatees must do this, as long as the process how to do it is provided.

Discussion

The discussion regarding the results as presented in Table 3 is divided into similarities and differences between incubator 'best practice' principles in South Africa compared with those of the Netherlands. Firstly, an analysis of the similarities is provided. There is agreement that business incubators should be specialised and place a focus on a specific, prominent local industry in the local economy. This was addressed in the literature review by Wynarczyk and Raine (2005) who make the point that a physical building with office space and equipment does not guarantee success, but rather that success is dependent upon the management of the incubator. This differs to an extent from some of the literature where Lalkaka (2001) and Bøllingtoft and Ulhøi (2005) state that facilities and supporting services are one of the most important aspects of a successful incubator. The reason for this might be due to changing and increased technologies that can be used to substitute for infrastructure services that

were previously required. Virtual incubation is regarded as a possibility by South African incubators whilst Netherland incubators do not consider this a viable option.

Further agreement is reflected in their views that networks and partnerships with peers, management, local businesses, universities and government are most important for incubator success. For both countries, mentorship, coaches and skills training are important. However, in South Africa, the use of mentors and training is based on a formal process, while in the Netherlands it is an informal process utilised as and when needed. Bøllingtoft and Ulhøi (2005) identify network and partnership support as key resources for success. There is further agreement regarding the management structure. It is proposed that there should be a management advisory board that is effective, knowledgeable, passionate and experienced in management. Concurring with the literature, the incubator's capacity regarding support and administration staff is not vital (Middleton, Schaeffer & Jackson, 2012); nonetheless, as Wynarczyk and Raine (2005) state, a formal management structure is very important. Lastly, there is agreement regarding the development of a unique value proposition, development of commercially successful products and services and the incubator must be supported by the local community with clear benefits for the community.

The second part of the discussion, which addresses the differences between South Africa and the Netherlands, indicates that the main difference is the culture of entrepreneurship and incubation. In the Netherlands there is a long history of entrepreneurial incubation, which in South Africa exists as a relatively new concept. In the Netherlands, major successes have been achieved in their processes, while in South Africa limited success has been accomplished. In the Netherlands the higher levels of success are mainly the result of mind-sets and innovation that take hi-tech design into consideration. In some cases, "virtual" incubation is used in South Africa, while in the Netherlands the focus is on social/business interaction and linkages. This clearly illustrates the point that no two incubators are the same (Hannon & Chaplin, 2003) and that best practice may even differ from country to country due to varying entrepreneurial cultures.

Incubator managers in the Netherlands believe in weekly social events which lead to new ideas, innovation and increased business linkages. In terms of the funding model there was no consensus between any of the managers interviewed. Although the aim should be to have self-sustainable incubators, the realisation of this aim does not seem possible and external funding is needed in most cases. Lastly, in South Africa, incubatees are assisted with market and product research, while in the Netherlands the responsibility for research lies solely with the incubatees with limited support from incubator management. This might also be explained by the different markets and that opportunities might be more easily obtainable in a developed country such as the Netherlands compared to a socially challenged country like South Africa.

Conclusion

From the study and supporting literature, it is clear that incubators are a key aspect in the development and growth of start-up firms. In turn, successful start-up firms are needed for sustained economic growth and development in a country. The study analysed the views of six very successful incubators in South Africa and the Netherlands, respectively and found that although many similarities do exist with regard to 'best practice' principles, differences remain regarding perceptions of success factors. One issue is however certain: no one incubator is the same and ultimately, each one should follow the 'best practice' model that works for them. What stood out most in the findings was that all incubator managers were in agreement that networks and partnerships, skills training and a strong management team are critical for success. These factors should be focussed on by other incubators which in turn could lead to higher success rates for them. Governments, especially in developing countries where economic growth is needed, should allocate funding to up-and-coming incubators in order to strengthen capacity and success. Further research on this topic will be beneficial to entrepreneurs and add to the academic literature.

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The Creation of an Enabling Environment for Small Businesses by Local Government through Service Delivery and Management

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Abstract

Service delivery by local government is one of the key factors in ensuring the creation of an enabling environment for SMME's to operate and prosper. Local government can create this environment through sound and transparent management. Many local governments are struggling to provide an acceptable level of management to their communities. Midvaal Local Municipality is situated in Gauteng, and is one of the best performing local municipalities in South Africa. This article analyses the perceptions of business owners regarding the creation of an enabling environment and service delivery within this area. Various business owners were interviewed using a quantitative questionnaire. Data were statistically analysed through descriptive analysis and a chi-square cross tabulation. The results revealed that the general perception by local business owners of service delivery is above acceptable level. Overall, business owners felt that the local government was creating an enabling environment.

Key words

Enabling environment, local government, management, service delivery, South Africa.

Introduction

Good governance management with effective service delivery, is the foundation for local government to provide an enabling environment for local business to prosper and facilitate economic development (Grootaert, 1998). An enabling environment can be defined as a set or mix of conditions to create a favourable setting for something to take place in. In the case of small and medium businesses, this can refer to a mix of laws, regulation, infrastructure, international trade agreements and so forth, that either facilitate or hinder the daily activities of business (USAID, 2016). It is the responsibility of any government to provide basic services to its businesses and citizens and these services should be provided at a high level of effectiveness, responsiveness and efficiency (Johnson, 2004). Globally, the majority of governments are faced with challenges in service delivery and management; South Africa is no exception to this (Mpehle, 2012). Manning (2006) also mentions that poor service delivery is not unique to the South African local government environment, but is a global phenomenon.

The Midvaal Local Municipality, located in Southern Gauteng, South Africa, is one of the top performing municipalities in the Province. According to De Freitas (2013) Midvaal Municipality moved up 10 places in the annual Municipal Productivity Index in 2013, which places it within the top 5 percent of all municipalities in South-Africa. Furthermore, the municipality has performed better than the other municipalities in the region in terms of job creation and skills development (De Freitas, 2013). Efficient delivery of basic services and management thereof is important for any local region to grow and prosper (Rhodes, 1996). Poor service delivery and management could restrict the creation of an enabling environment, contributing to high levels of poverty, inequality and unemployment.

This study seeks to analyse the perceptions of formal businesses regarding service delivery and the creation of an enabling environment by the Midvaal Local Municipality.

Literature Review

Municipalities are given the responsibility to govern and manage the municipal area in an equitable manner, in which the provisions of basic service delivery are ensured, as well as to influence the growth of economic and social development (Ababio, Vyas-Doorgapersad & Mzini, 2008). The White Paper for the Transformation of Public Services of 1997 defines public service delivery as *"the capacity of any local government to deliver basic services to the local communities in an effective, responsive and efficient manner"*. The main objective of the White Paper is the provision of a policy framework which is practical to implement and enhances the participation of citizens and businesses in the decision making process (Republic of South Africa, 1997; Vyas-Doorgapersad, 2009).

The White Paper states that the various issues which need to be addressed in the public sector include aspects such as administrative capacity, high productivity, transparency, accountability and quality service

delivery (Ncholo, 2000). Challenges faced by local government in basic service delivery remain, which often lead to service delivery protests in various parts of South Africa (Mpehle, 2012). Many of these challenges can be resolved through improved management. According to Bachman & MacCleery, (2006), high quality municipal service delivery ensures economic development thus creating an enabling environment in many sectors. The decline in economic growth and loss of trust between the citizens and the local government could be a result of poor service delivery.

Some of the enabling factors, as mentioned by Brinkerhoff (2004), include the encouragement of free markets and open competition, a democratic system that supports accountability, transparency and responsiveness, low levels of corruption, good governance and management, and the presence of social capital and trust. Such an environment ultimately includes the business environment at the local and national level, encompassing administrative procedures, policies, regulations and the state of public infrastructure (Banerjee & Chau, 2004). Local government plays a significant role in the attainment of the creation of an enabling environment (Edwards & Tsouros, 2006). This environment is created for businesses by improving infrastructure, implementing skills programmes, ensuring law and order, supporting new and existing organisations as well as finding niche export markets (Blakely & Leigh, 2013; Pretorius & Schurink, 2007).

According to the United Nations Industrial Development Organization (UNIDO, 2008) the various factors contributing to the creation of an enabling environment include well maintained road infrastructure, adequate levels of bureaucracy and a functional educational system. Meyer (2014) identified 12 factors that have an influence on the creation of an enabling environment within a local community. These include: *1) The formation of partnerships*: Partnership formation can be defined as local government, the private sector, the non-profit organisations as well as the local communities working together in order to improve the quality of life for all (Marais, 2012). *2) Policies, initiatives, capacity and structures within local government*: The regulations within local government need to be more accommodating in order to promote business development. *3) Political leadership*: According to Masciulli, Molchanov and Knight (2009), successful leaders demonstrate the ability to move their thoughts and vision in the directions that are clearly supportive of their "grand design". *4) Social development initiatives and poverty alleviation*: According to the International Labour Organisation (ILO) (2014a) poverty reduction involves sustainable growth and equality in favour of the poor ("pro-poor growth"). *5) Economic development initiatives*: Human, Lochner and Botes (2008) argue that the creation of new businesses is needed in order to achieve high economic growth. Locality is important in order to determine the level of competitive advantages, comparative advantages as well as formal business support. *6) Infrastructure development:* The Presidency (2014) stated that infrastructure development will ensure job creation, skills development and capacity building within the country. In this respect, a well maintained infrastructure could result in the creation of an enabling environment. *7) The development of human resources*: Marketing, entrepreneurial development, a skilled labour force and the protection of workers are needed in order to balance the flexible labour regulations in a country and subsequently, the development of human capital may lead to a better formal economy within the various sectors (Davis, 2004). *8) The development of entrepreneurship and SMME's*: The development of small enterprises may assist in strengthening the entrepreneurial management skills of any organisation. *9) Access to transport and opportunities*: Transport infrastructure is regarded as important for promoting development and growth (Banerjee, Duflo & Qian, 2012). *10) Safety and security*: Crime prevention is another important factor for the creation of an enabling environment. High levels of crime negatively impact on society, local businesses and the environment (Republic of South Africa, 2015). *11) Agricultural development actions:* The agricultural sector is a major generator of employment as one of the job drivers of the NGP that also assists in poverty reduction and food security (CIDA 2009; The Presidency 2012). *12) Environmental and spatial development actions:* Clean, quality physical environments attract economic development where sound environmental management is practised (CIDA, 2009; Koven & Lyons, 2003; The Presidency, 2012).

In terms of the creation of an enabling environment, local economic development enables the communities to improve their economic status as well as improving their overall living standards. It is therefore essential that local government identifies the relevant needs of local communities (Meyer, 2013).

Methodology
Research area and design
The Midvaal Local Municipality forms part of the Sedibeng District Municipality and is located to the south of Johannesburg, South Africa. The area was selected as the study area because this municipality has

constantly performed well in Gauteng province in terms of management and service delivery. The municipality is ranked 6th in South Africa according to the Municipal Productivity Index (Moriarty, 2015). The total geographical area measures 1 728 square kilometres, housing an estimated population of 95 301 people (StatsSA, 2011). Table 1 presents a summary of key socio-economic statistics of the three municipalities in this region. From the table it is clear that the socio-economic indicators of the Midvaal municipal area are far more favourable than those of the other two municipalities in the region especially with regard to human development index (HDI). The methodology utilised is a quantitative study approach. Primary data were collected using a structured questionnaire. The questions mainly addressed local businesses' perceptions on service delivery and the factors which contributed to the creation of an enabling environment by local government. Formal businesses in the Midvaal Local Municipal area were the main participants of the study.

Table 1: Comparison of key socio-economic statistics for Midvaal, Emfuleni and Lesedi Local municipalities

Economic variable	Midvaal		Emfuleni		Lesedi	
	2000	2014	2000	2014	2000	2014
HDI	0.65	0.71	0.61	0.66	0.58	0.64
Number of people below poverty line (%)	36.7	28.5	56.6	42.9	58.5	41.5
Unemployment (%)	12.9	24.8	34.9	44.0	24.9	35.1
GDP annual growth (1996 to 2014) (%)	-	3.0	-	2.6	-	2.8

Source: Global Insight (2016).

Measuring instrument, sample and data collection method

A self-administered questionnaire was designed to gather information. Its main sections included the following: general background information on the business, public services perceptions and the factors contributing to the creation of an enabling environment. A five-point Likert scale (where 1=very poor, 2=poor, 3=acceptable, 4=good and 5=very good) was used for two parts of the questionnaire – public service delivery aspects (5 items) and enabling environment factors (12 items). This was done to obtain the level of agreement business owners reported with certain statements regarding the research topic (Uebersax, 2006:3).

The survey sample comprised 50 businesses from the study area located in the Meyerton central business district (CBD) and the industrial district, since a large number of businesses in Midvaal are located in these areas. Businesses were randomly selected for the survey. The data from the survey was analysed using SPSS. Although the questionnaire was designed in a self-administering format, trained fieldworkers made appointments with the business owners and discussed or explained any uncertainty or confusion regarding the specific question asked.

Analysis, results and discussion

This section contains the general background information of the business owners; the descriptive statistics regarding the service delivery perceptions and the factors for the creation of an enabling environment. A cross tabulation was conducted to determine whether a significant difference exists between perceptions of small businesses and larger businesses in the study area.

General Background information

The aim of this section is to analyse the general information of the various enterprises including the highest level of education, gender and age of the owner. Table 2 depicts this information.

Table 2: Age, gender and level of education of business owners

Age	Percent	Gender	Percent	Education	Percent
30 – 39	30	**Female**	34	**High School (Grade 12)**	34
40 – 49	36	**Male**	66	**Certificate/Diploma**	46
50 – 59	22			**Degree**	16
60 and above	12			**Master's Degree**	2
				PhD	2

As indicated in Table 2, most of the business owners who were part of the survey, were between the ages of 40 and 49 (36%) and the majority were males (66%). Local business owners are relatively well educated as most of them had attained a certificate, diploma or degree (66%), although a total of 34 percent had only received high school education up to Grade 12. Most of the businesses in the survey operate within the retail (38%), services (28%) and manufacturing (26%) sectors. The majority of the businesses in the survey are classified as small (70%), while 30 percent were considered medium to large businesses. This is a normal ratio between small and larger businesses for a specific region. Most of the businesses have been in existence longer than 10 years (76%), while only 24 percent were between 1 and 10 years old. This gives an indication that the businesses are relatively well established and stable.

Factors for the creation of an enabling environment

Table 3 presents the perceptions of local business owners regarding the factors contributing to the creation of an enabling environment, providing the calculated values for the minimum, maximum, mean and standard deviation. Each factor was ranked using the mean (maximum 5). The factor with the highest mean recorded is leadership with a score of 3.46. The other factors that also had significantly high means are structures and policies (mean=3.42), poverty alleviation and social development (mean=3.40), economic development initiatives (means=3.40), and partnership formation (mean=3.38). The factors that recorded significant lower means are entrepreneurship development (mean=2.800), agricultural development (mean=2.760) and safety and security (mean=2.650). It should, however, be mentioned that all factors have a mean of above 2.5, indicating above average overall achievement of creation of an enabling environment in the municipal area. The average score as allocated for the 12 factors was 3.17.

Table 3: Factors contributing to the creation of an enabling environment and differences in perceptions (small versus larger businesses)

Enabling Environment Factors (ranking in brackets)	Total Mean*	Std. Deviation	Size	Mean	Chi-square (Pearson's Value)
Leadership (1)	3.46	1.014	Small	3.486	0.772
			Large	3.400	
Structures, capacity and policies (2)	3.42	1.051	Small	3.571	0.553
			Large	3.066	
Poverty alleviation and social development (3)	3.40	1.293	Small	3.229	0.518
			Large	3.800	
Economic development initiatives (4)	3.40	1.116	Small	3.314	0.236
			Large	3.600	
Partnership formation (5)	3.38	1.398	Small	3.571	0.436
			Large	2.933	
Improvement of access and transport (6)	3.30	1.216	Small	3.429	**0.015****
			Large	3.000	
Infrastructure plans (7)	3.18	1.350	Small	3.171	0.450
			Large	3.200	
Human resources development (8)	3.12	1.042	Small	3.114	0.724
			Large	3.133	
Environmental and spatial plans (9)	3.02	1.515	Small	3.171	0.221
			Large	2.667	
Entrepreneurship development (10)	2.80	1.245	Small	2.829	0.970
			Large	2.733	
Agricultural development (11)	2.76	1.152	Small	2.686	0.870
			Large	2.933	
Safety and security (12)	2.65	1.282	Small	2.857	0.505
			Large	2.600	

*N=50, Min=1, Max=5 **Significance level < 0.05

These results indicate that more attention is required for entrepreneurship development (ILO, 2014b) and more focus should be placed on agricultural development, while safety and security (Todaro & Smith, 2011) needs additional attention within the municipal area.

Service delivery perceptions

The general service delivery perceptions of the business owners within the study area were also measured. Overall, the business owners considered the level of service delivery above average, scoring an average of 3.980 out of a maximum of 5. Water and sewer provision scored the highest mean (4.360), secondly correctness of municipal accounts (4.120) and thirdly, electricity supply (3.740). The business owners felt that roads provision and maintenance, as well as land use planning and zoning regulations, could improve in the study area although both factors still scored well above average.

From the literature review and the statistical analysis, the case study of the Midvaal Local Municipality indicates that good governance and management, and therefore effective service delivery, will make a significant contribution to the creation of an enabling environment and eventually economic development. Table 1 provides an indication of how good governance, service delivery and the creation of an enabling environment leads to local economic development. Midvaal Municipality with its proven track record of good governance and management has much better socio-economic indicators than the Emfuleni and Lesedi Municipalities.

Recommendations and conclusion

The overall purpose of the study was to analyse the perceptions of local business owners regarding the level of service delivery and the creation of an enabling environment by the relevant local government. This research is relevant in that the majority of municipalities in South Africa are struggling to deliver services at an acceptable level. This poor service delivery also impacts negatively on the potential of local government to provide an enabling environment for local businesses to prosper. Midvaal Local Municipality was specifically selected as the focus area of this study due to the municipality's good performance over the last decade.

The research indicated that good governance and quality service delivery assists in the creation of an enabling environment (Pretorius & Schurink, 2007). In addition, the statistics in the research also suggest that if a positive enabling environment is created, the possibility exists that it will lead to economic development (Blakely & Leigh, 2013). It is interesting to note that local business owners were more than satisfied with local service delivery of essential services and rated the level of service delivery as "good". Regarding the creation of an enabling environment, the majority of the local business owners also agreed that the municipality is providing an "acceptable" level of enabling environment with a score of 3.17 (maximum score was 5). This is an excellent achievement taking into account the state of local government in South Africa, with frequent service delivery protest marches countrywide. Local business owners rated leadership as the most important enabling factor, implemented well by the municipality, while safety and security were the worst implemented of all 12 of the factors. In the statistical analysis, no significant difference was found in the perceptions of small and larger businesses.

The following recommendations are listed as best practice principles as found in the study area:

- Local government should prioritise economic development as one of its main priorities, with business development and support, entrepreneurship development and the creation of job opportunities as the objectives
- A balance should be allowed between pro-developmental and pro-poor initiatives in order to allow both the formal business sector and the informal sector to prosper.
- Partnership formation between the local government, businesses and the community is important and should be strengthened in order to be aware of possible problematic areas as well as the active engagement of structures and policies.
- Active leadership and "local champions" comprise the most important factor for any local government to succeed. Governments should have political stability and leadership.
- Structures and policies within the local government should be directed towards sustained economic growth; in other words, such a government should aim to improve employment opportunities, extending infrastructure capacity as well as improving the capacity for growth in both the formal and the informal sector.

The research conducted could assist local governments to assess their level of service delivery and the creation of an enabling environment. It may well also assist in allowing comparative assessments of municipalities and aid re-assessment of local developmental policy and priorities. Future research should include comparative studies of various local municipalities in rural and urban areas.

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Evaluation of Psychological Content of Work Using the Graded Response Model (GRM)

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Abstract

The aim of this paper is to analyze the possibility of use of GRM in evaluating the psychological content of work among employees. The study was conducted on a sample of 500 employees with a use of JCQ questionnaire by Karasek. The study is based on adapting theories, according to which GRM is used for the purpose of solving problems, combined with the application of the GRM for the analysis of empirical material. In the study, GRM was used for an in-depth analysis of job content diagnosed by JCQ. Findings show that GRM can be useful in the employee assessment process. The model allowed to find relevant differences between employees who achieved the same results in JCQ. It led to establish a valid diagnosis in employee's resources and demands. It can be claimed that, in some cases, more detailed solutions were obtained with the use of GRM, facilitating in further stage making decision in HRM. The findings were successfully implemented during the health promotion program in the company.

Key words
GRM, latent trait model, employee potential, psychological content of work, Karasek

Introduction

The thesis that an employee is the main factor determining competitiveness and that human capital is one of the most important resources of an organization has already become the canon in the theories of human resources management. The activities supporting employee development in the scope of formal as well as interpersonal qualifications are obvious, however, not always adequately appreciated. That development, understood as an organization operation preparing an employee to learn, develop and hold more and more responsible positions (Armstrong, 1999; Torrington, Hall, Taylor, & Atkinson 2014), also includes care for the well-being and the optimum professional health level through examining and improving the psychological qualities of work affecting work motivation and dedication. The organizations, which realize the value of their motivated and dedicated employees, try to diagnose their possibilities and weaknesses as precisely as possible, and the decisions regarding their career path are corrected regularly on the basis of various employee assessments (Stor, 2007; Verbruggen, 2010). Such employee assessments are performed for the purpose of promotion, career path development, organization of trainings or company reorganization. One of the objectives of such employee assessments is to provide information. Organizations rely on such information and use it to improve the employee skills as well as try to make the most of their abilities (Armstrong, 1999; Dessler, 2014; Torrington, et.al. 2014). It is important then to develop measurement tools that apply to developing correct employee performance forecasts as well as to establish the facilitators and inhibitors of the employee development in work environment.

From the above arguments, the following hypothesis can be raised:

Hypothesis: The use of GRM model in the process of assessment of psychological content of work among employees can provide more precise and more detailed solutions than the use of standard tools of psychological diagnosis.

Method
Study participants and procedure

In order to present the practical application of GRM, a study was conducted on a sample of 500 employees holding worker's positions in a Polish mining company. The study was conducted within a bigger project, whose objective was to improve the working conditions of employees in a selected organization. As the company expressed its willingness to cooperate and interest in the research findings,

the next step was the development of questionnaires and sending them to the company management board. The questionnaires completed by the employees were gradually sent back.

<u>Tools – Job Content Questionnaire</u>

A job content questionnaire with 32 questions diagnosing 4 aspects of work (job latitude, psychological demands, job insecurity, social support) was used in the study. The questionnaire is a translation of the American tool *Job Content Questionnaire – JCQ* by Robert Karasek (1979), which has been recently adapted for Polish conditions (Żołnierczyk-Zreda & Bedyńska 2014).

<u>Tools – Graded Response Model</u>

For this purpose primarily, the key developed by the questionnaire's author was applied. The responses were coded as follows: 1 – I completely disagree, 2 – I don't agree, 3 – I agree, 4 – I completely agree. Next, GRM was used to measure the traits being analyzed (in this paper: θ_i - parameter related to respondent *i*, indicating the degree of intensity of the analyzed latent trait) (Andersen, 1997; Bock,1997).

All calculations were made with the use of the ltm package in R program (Rizopoulos, 2010) (extended versions of the latent trait models are also available in the latest eRm package (Hatzinger & Mair, 2007; Koller, Maier & Hatzinger, 2015; Hatzinger, Mair & Maier, 2015). The questions presented to the employees were also analyzed with the use of the ltm package in R program – four parameters were estimated for each question: three parameters being threshold values of a given question (designated in the paper as $\alpha_{j2}, \alpha_{j3}, \alpha_{j4}$) and parameter β_j - describing question no. *j* discrimination parameter (Andersen, 1995; De Ayala, 1993).

Findings

In order to achieve the set goal, the collected data were analyzed twice. First, they were analyzed in compliance with the original procedure proposed by the questionnaire's author – Robert Karasek. In the second stage, the data were analyzed with the use of GRM. Only random results were presented to demonstrate the relation, similarities and differences in the application of two comparable methods and to draw conclusions.

Table 1 shows the score of two employees with the same number of points in three out of five subscales.

Table 1: Comparison and estimation of the results of two employees

category	response pattern	points	estimation θ
Employee no. 1			
Decision latitude	3 1 4 4 4 2 3 3 3	72	1.608
Demands	**3 3 2 2 3 3 2 3 3**	**10**	**-0.498**
Insecurity	**1 2 1 2 3 3**	**5**	**-0.141**
Superior support	**3 3 2 3**	**11**	**0.329**
Coworker support	3 2 3 3	11	0.791
Employee no. 2			
Decision latitude	3 2 4 4 4 1 4 2 4	70	1.528
Demands	**3 3 3 2 2 3 3 2 3**	**10**	**-0.204**
Insecurity	**1 2 1 2 3 3**	**5**	**-0.141**
Superior support	**2 3 3 3**	**11**	**-0.266**
Coworker support	2 2 3 3	10	0.21

Source: Own study

The application of GRM provides also an opportunity to conduct analysis of the questions included in the questionnaire. Table 2 presents the probability of choosing specifically the first, second, third or fourth category in questions from decision latitude subscale as example.

Table 2: Probability of choosing the first, second, third or fourth category for questions 1-9 (decision latitude)

Question no.	$P(X_{ij}=1)$	$P(X_{ij}=2)$	$P(X_{ij}=3)$	$P(X_{ij}=4)$
1	0.018847	0.089473	0.780633	0.111048
2	0.222547	0.720738	0.044011	0.012703
3	0.003156	0.041755	0.866865	0.088224
4	0.008123	0.140393	0.784564	0.06692
5	0.004534	0.079346	0.814357	0.101763
6	0.050683	0.350992	0.552502	0.045823
7	0.008837	0.073518	0.810543	0.107102
8	0.057155	0.496871	0.41082	0.035154
9	0.055963	0.395724	0.524242	0.024071

Source: Own study

Discussion of the findings

Table 1 shows the comparison of scores of two employees, which they received in five areas of the study. The points were calculated in compliance with the author's unique key. Next, the following were estimated for each employee with the use of the ltm package and GRM: level of decision latitude, psychological demands, job insecurity and social support (parameter θ). The situation where in spite of different responses given by the employees to the questions asked – they ultimately scored the same number of points was considered and analyzed .

When analyzing the responses of all 500 employees with the use of the 'key', the same score was often recorded. However, the employers wish to get all analyses as detailed as possible so that their results differentiated the respondents, most of whom present a very similar level of predisposition. Consequently, what is needed is the tools, which would differentiate employees. The application of GRM can be a kind of alternative solution in such situations.

When GRM is used, it is noticeable that the questions demonstrate various discrimination parameters and different threshold values. That is why, although the employees gave the same responses, they demonstrate different estimation levels for specific traits. The following values were achieved: the level of superiors' support for employee no. 1: 0.329, whereas for employee no. 2: -0.266. The estimated level of demands for employee no. 1: -0.498, whereas for employee no. 2: -0.204. The generation of such diverse results can be useful when conducting a more detailed psychological analysis of the employees.

Although most analyses focus on employees, it is also highly important to gain knowledge of the factors, which affect the employees (both negatively and positively.) Such an analysis can provide a lot of useful information for the organization and enable it to take proper steps to avoid any possible adverse effects.

It is possible to use GRM to estimate the parameters connected with the questions: threshold values (parameters $\alpha_{j2}, \alpha_{j3}, \alpha_{j4}$) and the discrimination parameter (parameter β_j). It is possible to calculate the probability of an average employee choosing category *i=1,2,3,4*. An average employee is a respondent with the trait which is analyzed at $\theta = 0$.

Table 2 shows the probability of giving responses by an average employee specifically in the first, second, third and fourth category. These calculations were made for all questions in all subscales of the questionnaire. After their comparison it was concluded that:

- in the case of questions in the scope of decision latitude assessment, demands and superiors' support – the third category "I agree" had the highest selection probability,
- in the case of questions in the scope of insecurity assessment: the average employee selected the second category "I don't agree" with the highest probability, with the exception of question number 19 and 21 where the first response had the highest selection probability,
- in the case of questions in the scope of the coworker support assessment – the most often selected categories were the first category "I completely disagree" or the fourth category "I completely agree".

This is important supplementary information for the whole process of analysis of the factors favorable for the development of employees and those which prove difficult for them to perform their work duties. It regards the knowledge of what factors are perceived positively and which are perceived negatively in a group of employees. The identification of such factors can in turn contribute to the creation of the most favorable work environment and consequently increase the satisfaction and commitment of the employees.

Implications

A detailed analysis of the job content questionnaire results, with the use of GRM, enabled us to identify specific problems in the scope of the existing working conditions and the employee capabilities.

It was possible to analyze how the employees function with the use of GRM at two levels. The first area regards the problems at the organization level. The model provides a diagnosis of the difficulties in the scope of work qualities within the following individual subscales:

- freedom in making decisions regarding performing work (decision latitude subscale,)
- psychological requirements from the employees set by the employers and hob description (psychological demands subscale,)
- the sense of employment instability and unclear career path (job insecurity subscale,)
- the sense of getting support from both the superior and coworkers (social support subscale.)

The other area that could be assessed with GRM regards the individual level. The analysis provides a detailed look at the opinions and capabilities of those who cope very well with the work content and demands, as well as those for whom work is exceptionally challenging, causing tension and a sense of losing control over the operations they must perform. Some responses to the statements in the questionnaires greatly polarized these two groups of employees. A detailed analysis of those responses resulted in developing a kind of instructions for the employee development in the scope of specific competences and motivation in order to cope better with the work demands.

The conclusions and recommendations that resulted from the analysis of the findings were then described in detail with the use of GRM at the organizational and individual level.

Originality/Values

The analysis conducted with the use of GRM indicates a significant application value of the method in diagnosing and planning activities in the scope of human capital management and designing healthy workplaces.

It is worthwhile to add in conclusion the other articles, where the GRM model was used to the purpose of more thorough analysis the results of research. **Xianhua, Rui, Xiaoling, Yanhong, & Yanbo from Shanxi Medical University in „**Application of IRT Graded Response Model in Coronary Heart Disease PRO Scale**" (2012**) decided to explore the IRT graded response model and its application in the patient-reported outcomes scale of coronary heart disease. Conclusion was, that IRT is a more suitable method to select items for the scale development. Another example of using GRM model in medical sciences can be „Neuro-QOL: quality of life item banks for adults with neurological disorders: item development and calibrations based upon clinical and general population testing" (Gershon et.al., 2012). The authors used Samejima's Graded Response Model to calculate IRT parameters and then use them for measurements in neurological studies. Finally Ebesutani et.al. (2012) emphasize, that GRM model was used as a tool to get better results in psychometric analysis. As it can be seen above, model can be used in many scientific disciplines and enables more detailed analysis.

Conclusions

In the light of presented findings, the hypothesis was confirmed. The use of GRM model in the process of assessment of psychological content of work among employees can provide more precise and more detailed solutions than the use of standard tools of psychological diagnosis. The analyses presented in the paper demonstrated the possible application of GRM in the employee development improvement process. In the light of the above thesis, the most important conclusions include the following:

- the analyses conducted with the use of the proposed method demonstrated the similarities between the results achieved with the use of the questionnaire key and with the use of the model
- the lists presented in the tables show that analyzing data with the use of GRM can improve the psychological analyses – especially in order to compare employees who scored the same number of points according to the key
- as the use of research methods to differentiate candidates is currently very popular, it seems reasonable to suggest the use of GRM for this purpose
- in order to address the needs of the people facing the decision making dilemma, the proposed model can support the process of identifying the factors affecting the employee development and health as well as the most favorable work environment.

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Education as Economic Good and Form of Human Capital

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Abstract

The issue of financing schools on all levels is actual topic, which resonate all around the world not only in European Union. Despite the pursuit of common european education area, actual situation represents in our opinion room for realisation comparisons of selected aspects of financing primary and secondary schools as well as universities. For proper identification and solution of the situation a thorough knowledge of the basic concepts that are related to a given topic is required. Therefore, the contribution focus on characteristics of education, which can be seen from an economic point of view as a mixed good and which can be consumed by every citizen. Education could also be defined as a form of human capital, which is within the paper further defined through Mincer equation and Cobb-Douglas production function.

Key words

Education, ecominc good, human capital, mincer eguation, Cobb- Dougles production function

Introduction

The right to education guaranteed by the Charter of Fundamental Rights and Freedoms , which was implemented in the law no. 460/1992 (1992 , Sec . 5) , according to which „citizens have the right to free education at primary and secondary schools and, depending on their abilities and society's resources, also at higher educational establishments". There are more ways of how to define education. Průcha (2009) sees education as a process of acquisition of deliberate and organized acquisition of knowledge or attitudes. Similarly, Obst (2002) sees eduacation, when the learning means the process by which an individual acquires knowledge, skills and standards based on external stimuli and will. Urbanek (2007) defines education in two basic categories to which we are inclined:

- economic good and externality
- form of human capital and investment

Education as an economic good

With definition of education as a public or private good we are using characteristics of economic goods used by Hamerníková, Matyová (2010) and whcih include divisibility, respectively (perhaps) indivisibility good, competitiveness on the consumer side and elimination on consumption.

Tab. 1. Samuelson condition division economic goods

Economic goods		
complete divisibility		complete indivisibility
Rivalry of the consumers		Non-rivalry of the consumers
excludable on concumption by price system		non-excludable on the consumption and the zero marginal costs of consumption of every other consumer.
pure private goods	economic goods which do not meet the Samuelson condition	pure public good

Source: Hamerniková, Matyová, 2010

Vorlíček (2008) attributes the emergence of the term "public good" to P.A. Samuelson, who first used it in 1954. Peková (2004) divides public goods in a pure and mixed. When defining, resp. describing pure public goods, she agrees with the characteristics of Medveď a kol. (2005), or Žehrová, Pfeiferová (2006),

while adding another characteristic – integral quality of public goods. Under the net market good we understand the good, of which the production and realization in the market is left to free passage of market forces, with no regulation of the State. Mixed good is according to Benard (1989) the good which consumed quantity may be divided between individual consumptions, thus divisible, but its quality is not divisible. Brown, Jackson (2003) considered the mixed good to be the good that produces externalities.

Conolly, Munro (1999) points out on the difference between public and private goods from both of the properties – exception from consumption and rivalry, respectively competition. Education meets the following characteristics as a public as well as private good:

- indivisibility - education is consumed as a whole, it is impossible to determine the proportion of the individual in consumption,
- no-rivalry (not competitive) in consumption – the entrance of another consumer will not diminish the consumption of others.
- collective consumtion – education is consumed by all members of society,
- positive externalities - individuals learning have benefits for themselves and also for the environment, society.

Education is perceived by Urbanek (2007) as a positive externality, and in its expression to be improving the quality of life in the country and its economic development, lower criminal records or better communication skills of the individual. As an example also provides a workplace where two working groups of workers work together while one group has higher education. Better educated workers have positive impact on less educated co-workers due to their knowledge and motivate them to perform better. For other externalities associated with education McMahon (2000) indicates:

- generally higher quality of social life,
- more powerful economy,
- lesser criminality,
- increased range of organized public goods (higher wages = higher taxes).

Education can be seen as a good, in which an individual and the society are appropriating a certain part of the benefits. Brown, Jackson (2003) consider education to be a mixed good, which takes the form of a private good with positive externalities for other members of society and of the consumption of which, the individual can not be discarded.

Education as a form of the human capital

Human capital is increasingly coming to the fore with its various merits of the argument in economic theory. Urbanek (2007) compares human capital with a school education, which has already been described in greater detail above. Human capital can be characterized as knowledge, skills, abilities, and other characteristics of individuals that are relevant to economic activity.

The very concept of human capital is already used by Schultz (1961), according to which if we take into account all human capabilities (either congenital or acquired), qualities, that are valuable and can be an enhanced through good investment, will form human capital.

Disclosure of differences between individuals lies in their qualitative differences. Each person has certain abilities (mental or physical), among which we can include the ability to learn. These capabilities distinguish subsequently how an individual is able to contribute to society, which is determined by the amount of funds to education. Part of the revenue achieved over and above individuals with no education (primary, secondary or university) deemed Samuelson, Nordhaus (2007) for return on investment in education. The idea is more elaborated by Kalous, Smith (2006), by which the proceedings are determined not only by equity investment, but also in education.

Reasonable person invests in the extent that, the expected rate of return from the investment exceeds the rate for risk-free investments. Of course an important role plays the liquidity of investments. In this context Kameníček (2003) considers education as a phenomenon of society, when most rationally-minded people are trying to achieve the highest level of education.

Since salary is the most important result of educational attainment, we introduce some basic approaches to identify education as an investment for the future. Most commonly used is the regression drafted by Jacob Mincer and which at that time on a group of white men in the United States explained variance of 60% of their annual income. Stefanik (2011) outlines the basic formulation of Mincer equation as follows:

$$\ln(W) = \beta_0 + \beta_1 S + \beta_2 P + \beta_3 P^2 + \varepsilon,$$

where: W - brutto salary
S - years of education
P - experience or practice
ε - random error

According to Mincer (1993) the decision-making rests in training as distinct length of time required. Time used for training is deferred income, rational choice of employment means equalizing the present value of lifetime income at the moment of decision. This is the reason why wage differences in various professions are training-function, which itself precedes employment. Wage differences within the same employment resulting from the enlargement of the concept of work experience, respectively practice.
First statistically valid calculation of the economic benefits of education was conducted by Becker (1994), who came with three innovative approaches:
- introduced indicators covering the entire life cycle (lifetime income)
- stressed the capital, respectively investment motives to the behavior of actors in the labor market,
- recognized people's time as a key economic resource.

Graph 1. Relation between the age and wage of individual
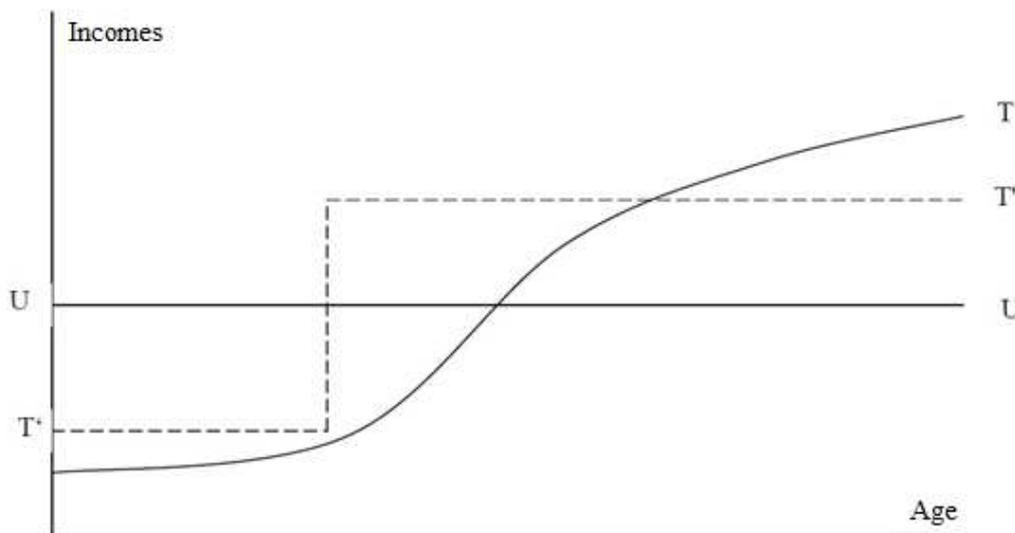
where : U – person without education, T – person with education, T´– person with education (reality)

Source: Becker, Jacob. Human Capital: A Theoretical and Empirical Analysis. 1994

Another option is a model which, according to Filipová (2009,) works with the accumulation of human capital that was created on the basis of two Cobb-Douglas production functions:

$$Y = C + K + \delta K = A(vK)^{\alpha}(uH)^{1-\alpha}$$

$$H + \delta H = B[(1 - v)K]^n[(1 - u)H]^{1-n}$$

Where: C - consumption
K - physical capital
H - human capital
A, B - technological parameters
$a(0 \leq \alpha \leq 1), n(0 \leq n \leq 1)$ - part physical and human capital

The first feature reflects the creation of material goods, the second production of education. The model depends on the condition n <α by which we understands the greater representation of human capital in education and greater representation of physical capital in other goods.

According Urbanek (2006) human capital theory assumes that the choice of education depends on the return on invested funds. In university education this investment are the direct costs of study (education), as well as oportunity incomes during the period of study. The incomes from the investments are the consequent higher revenues compared to the revenues of employees with lower education. The corresponding equation of financial income in this case would look as follows:

$$\sum_{t=G-E}^{R-E} [E_1(t) - E_0(t)](1 + r^*)^{-t} - \sum_{t-1}^{G-E} [E_0(t) - C(t)](1 + r^*)^{-t} = 0,$$

where: E_0 (t) - the revenue function of preterciary education
E_1 (t) - the revenue function of terciary education
C(t)   - the function of the direct costs
E   - age at the beginning of terciary education
G   - age at the end of terciary education
R   - the retirement age
r^*   - the rate of return on investment in education
S_h   - the length of terciary education
N   - the years worked by university student N=R-G

Summary

Based on the text above we consider education to be a mixed good that is consumed by everyone and which parts of the proceeds are appropriated both by individuals as well as society (positive externalities). Education as a form of human capital is the subject of long-lasting debate. The aforementioned approaches proved identification of education as a determinant of the level of income of the individual, whose aim is the maximization. The aim of the individual in society is (respectively should be) thus maximizing his education, while in his choice must be taken into account more subjective criteria of the individuals themselves.

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Improvement of Competencies Among Employees in Logistic Department as a Tool for Enterprise Efficiency Development

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Abstract

This paper describes a case study of a Polish commercial enterprise where a model of effective trainings was implemented. The model was implemented in response to the organization's needs: since there were no opportunities for changing policies concerning the logistics costs, the sales of high margin products was adopted as a way of reduction of unit costs connected with logistics costs. Additional aim of the study is measurement of the effects produced by trainings and the implemented project.

Key words
Training, training effectiveness, competency level, logistics costs

Introduction

Considering even more competitive market, both in Poland and Europe, the enterprises are facing more and more demanding business reality. This causes that the most of organizations and managers are meeting the challenge of improving enterprise performance while reducing operating costs. One of natural activities in these terms is increasing employee effectiveness in the enterprise. The problem of the managers who manage organizations is insufficient number or insufficiently prepared employees available in the labour market. Therefore, the solution is to increase competencies of the employees who work for the enterprise. However, there are few enterprises in the market of training services which would guarantee the effectiveness of courses and trainings. This causes that managers are often forced to combine cost reduction with increasing employee effectiveness through improvement of competencies and choosing training services. Consequently, the question arises of how the employee development process should be planned in order to ensure its effectiveness and, if it does not produce the expected outcomes, how to identify the sources of the problems.

Logistics costs in commercial enterprises

Logistics costs connected with operation of commercial enterprises can be divided into several areas. In a broad sense, these costs are connected with stocks, logistics infrastructure and labour resources (Twaróg, 2003, 87). With regard to continuous improvement in cost efficiency in the enterprise, one of the solutions is to optimize costs connected with logistics in the enterprise. Similarly to inventory costs, an additional difficulty is proper evaluation of lost opportunities which would be offered by the return on the capital if it was not invested in stocks (Ślusarczyk, 2011, 37). Incompetent implementation of cost policies in logistics divisions in commercial enterprises might lead to negative consequences. Nowadays, customers in the supply chain are viewed as a priority whereas synchronization between the supply and demand streams guarantees solving the problems connected with the flow of goods (Witkowski, 2003, 47) and thus financial effectiveness of the enterprise is increased (Okręglicka, Mynarzova, Kana, 2015, 123). Supplying products in time and according to customer orders is known to be of significant importance in the process of sells while unavailability of products involves the risk of additional costs that result from depletion of stocks (Coyle, Bardi, Langley, 2010, 173-175). All these aspects largely affect customer service level, and broad investments in logistics lead to increase customer satisfaction (Dima, Grabara, Modrak, 2010, 40). There are also the costs incurred by the company due to the level of competencies of the employees in the logistics divisions. The efficiency of work of each employee seems to be of key importance to this area. This efficiency is understood as the amount of goods or services produced or provided by a person per time unit. People with lower competency level employed in logistics divisions of the commercial companies have substantial effect on the level of costs incurred due to supplying the product to customers. The system approach to development of employees' competencies might have an effect on reduction of costs connected with logistics in commercial enterprises. One of the directions in costs reduction might be conscious management of the stream of the products sold. This consists chiefly in increasing sales competencies and skills in order to consciously increase sales of high-margin products. The studies have demonstrated that the proportion of costs connected with logistics in commercial

enterprises might account for even 20% of the price of the product (Twaróg, 2003, 132). Therefore, it can be noted that development of employee competencies might have an effect on reduction of these costs.

Competency level of employees and people looking for a job in Poland

A survey among the employers in the Polish market demonstrated that the employees exhibited incompetence mainly in three areas: professional competencies as a scope of knowledge and skills used when performing a particular job, interpersonal competencies understood as cooperation within a group or contacts with other people and self-organizational competencies, which manifest in general motivation for work, independence, ability to make decision or taking the initiative at work (Górniak, 2012, 45). This pertains less to managers; it was emphasized by employers when referring to managers' competencies that nearly half of the employees did not have competencies connected with analysis of information and drawing conclusions. When analysing the methods of acquiring competencies, it is worth to focus on the specificity of a particular sector. Depending on the sector the enterprise operates in, the employers identify the sources of acquiring competencies by employees differently. The survey, which was carried out among owners of enterprises and managers from the sector of transport, forwarding and logistics, demonstrated that 77% of the respondents think that key competencies of the employees are acquired at the stage of education, both in universities and during vocational education while only 17% of these competencies can be acquired at work (ManpowerGroup, 2012). Therefore, it is remarkable that, depending on the sector, employees can use different sources of increasing their competencies: education or other forms of education for adults. A number of methods and models that improve effectiveness of university students have been used in Poland. Their purpose is to prepare the students for future jobs and practice the knowledge acquired (Ślusarczyk, Kot, 2012). These activities cause that there are more people in the labour market who are better prepared for vocational work. Another direction of development of employees' competencies are effective trainings.

Model of effective trainings in commercial enterprises

The case study below concerns implementation of a model of effective trainings (Pigoń, 2012) in an organization in Poland. The trainings are based on planning the process of changes in organization and planning Key Performance Indicators for the training process itself in order to provide answer to the question of how the level of particular competencies changes in individual participants after the training. The case study focuses on implementation of effective trainings in a Polish commercial network which sells electronic and household goods. The network is a national-level retail network in Poland which offers audio and video equipment, household equipment, telecommunication equipment, photographic equipment, accessories and optional services (assembly). In the first years of their activity (1990-1994), the enterprise was active in Warsaw market, and in the following years, it extended sales network across Poland. Nowadays, it has 194 shops in 110 locations throughout the country. The shops are mainly located in the biggest shopping centres. The enterprise has also an online shop. According to market sources, share of the enterprise in the Polish market of audio/video devices and household goods in 2010 was 12-18%, depending on the category.

Description of the implementation of sales process and main assumptions for the project of sales of high margin products

Sales through the Internet in this organization occur in two ways: A customer who visits the website might purchase goods without the help and contact with other people. Another method is when a customer who visits the website decides to contact the call centre in order to enquire about the conditions of supply, payments or if they need to have more specific information about the product. The employees who talk to the customer provide information and usually sell product the customer asked about during the call. Aware of the costs connected with logistics of the purchased goods, the enterprise wants to increase sales of high margin products in order to reduce unit contribution of logistics costs to the product's price. The decision was made on implementation of the project: sales of high margin product by the Customer Centre. Another assumption in this project is limitation that results from commercial secret. Due to the more competitive market and rotation of a part of employees, information about the margin for individual products is a closely guarded secret. The task for the team that initiated the change concerning implementation of sales of high margin products is achievement of increased sales of concrete products in individual product lines. The description below concerns individual stages with assumptions and outcomes that were achieved.

Stage I – definition of the assumptions for the project and planning key performance indicators which will be used for the analysis of work of the people taking part in the project. The meeting in the group was expected to construe a key performance indicator; because of the number of previous tasks performed by the division of telephone sales, the decision was made on finding a single performance indicator, which was represented by monthly sales achieved for particular high margin products in individual segments. A twenty-person test group from a group of employees in the division of telephone sales was assigned.

Stage II – after creation of the performance index, the team that implements the model of sales decided that another step should be suitable marking of products in the computer system in order to take into consideration the strategic assumption of non-informing about the level of margin for individual products. The model of marking (with colours) of three products with the highest margin was adopted: red was used to denote the product with the highest margin, green for those with medium margin and yellow for the low margin while the non-marked products had the lowest margin or, for strategic reasons, are not recommended first. This system of marking was tested at workplaces of the assigned group. After confirmation, the next phase of the project was started.

Stage III – the announcement of the change. The leader of the assigned group explained, during the meeting, the assumptions of the whole project and discussed its stages and key performance indicator used for monitoring of the work of test team. The information was also used for announcing that the first stage of preparation to changes in the organization in the assigned sales team is training which is expected to build telephone sales competencies for high-margin products so that each participant from sales division knew how to theoretically and practically the telephone conversation should be carried out.

Stage IV – training: before implementation of the project, the team cooperated with external enterprise which provided the training for the project. The aim of the training was to build competencies of telephone sales of high margin products. The author of the training suggested the program and methodology of evaluation of the effectiveness of training (Pigoń, 2013). Two measurements of effectiveness were planned for this training program. The first stage of the measurement was beginning of the training while another was its completion. The following assumptions were adopted for the analysis:

The analysis concerned all the participants of the training. In the beginning of the training, all the participants made a conversation with a mock customer played by a person from internal training division. The conversation was played with "a customer" who was not sure about purchasing a particular brand but wanted to buy a product from this group (external memory for their computer) or with a customer who decided to buy a concrete product and a brand. The measure of the effectiveness of training was the number of product specifications transformed into the benefits to the customer. The measurement was carried out in the beginning and in the end of the training. Another measure used just after the training (another working day with actual customer) was the coefficient of conversion of the number of conversation into the number of presentations consistent with the knowledge acquired during the training and the coefficient of conversion of the number of "new presentations" into sales. The assumption for the test group was to achieve the increases in the coefficients measured during the training and during observation of the working day. Tables below present the results obtained by the participants in the control group.

Stage V – implementation and observation of the main key performance indicator: increase in sales of high margin products and evaluation after training.

Stage VI – evaluation of the outcomes obtained after the training during work of the control group.

Analysis of the results and conclusions

The training was carried out in the eight-person group. The same group was also subjected to measurement of the effectiveness during a working day. The training focused on the selected group of employees which so far had achieved good results in terms of the sales of products offered by the enterprise. The theoretical and practical training took one day and observation during work took one hour for each participant during conversation with customers. The first assumption was evaluation of the competency level of the employees that participate in the training before it began. The competency level was evaluated using the coefficient of conversion of the product properties into the benefits to the customer, during conversation with a mock customer played during the workshop by a person from internal division of trainings. The results obtained by individual participants are shown in Table 1.

Table 1. Evaluation of competency level among the participants before training

FIRST SESSION			
PARTICIPANT	NUMBER OF PROPERTIES USED	NUMBER OF BENEFITS USED	COEFFICIENT OF CONVERSION OF PROPERTIES INTO BENEFITS
Participant 1	2	0	0%
Participant 2	3	1	33%
Participant 3	3	0	0%
Participant 4	1	0	0%
Participant 5	2	1	50%
Participant 6	4	0	0%
Participant 7	3	2	67%
Participant 8	1	0	0%

Source: Author's own elaboration based on the data collected during the training

The results presented in the table are a starting point for evaluation of the competency level presented by the participants. The leading assumption in the workshop was that each participant should improve the competencies, manifested in the ability to transform product properties into the benefits to customers the participants talk to. The results achieved by the participants after training are presented in Table 2.

Table 2 Evaluation of competency level among the participants after training

SECOND SESSION			
PARTICIPANT	NUMBER OF PROPERTIES USED	NUMBER OF BENEFITS USED	COEFFICIENT OF CONVERSION OF PROPERTIES INTO BENEFITS
Participant 1	3	0	0%
Participant 2	2	1	50%
Participant 3	3	2	67%
Participant 4	2	1	50%
Participant 5	2	1	50%
Participant 6	3	2	67%
Participant 7	3	3	100%
Participant 8	2	1	50%

Source: Author's own elaboration based on the data collected during the training.

The most of the participants of the training exhibited improved competencies of transformation of product properties into the benefits to customers, which is presented in Table 3. In one of the participants, the competencies were not improved and one participant remained at the same level. The results obtained in the group show the way how the competency level changed in each participant after completion of the training. This might lead to the conclusion that the training was effective in the most of the participants. It is also worth analysing the causes for which the other participants did not improve their competencies during the training. Identification of these causes will help answer to the question of how the method of realization of the workshop affects these results.

Table 3 Comparison of the results of evaluation of competency level among the participants before and after training

IMPROVEMENT IN COMPETENCY LEVEL			
PARTICIPANT	SESSION I: RESULTS	SESSION II: RESULTS	CHANGE, SESSION I VS. SESSION II
Participant 1	0%	0%	NO CHANGES
Participant 2	33%	50%	INCREASE
Participant 3	0%	67%	INCREASE
Participant 4	0%	50%	INCREASE
Participant 5	50%	50%	MAINTAINED
Participant 6	0%	67%	INCREASE
Participant 7	67%	100%	INCREASE
Participant 8	0%	50%	INCREASE

Source: Author's own elaboration based on the analyses of the data collected during the training

The comprehensive evaluation of the training process should also include verification of the level of using the competencies acquired during a working day. This will help evaluate how the employees are involved in the process after the training and whether they are convinced about the usefulness of the methods acquired during the training. The results obtained by the study participants during a working day are presented in

Table 4: Sales reached by the participants during a working day

HOUR OBSERVATION OF CONVERSATIONS					
PARTICIPANT	NUMBER OF PHONE CALLS	NUMBER OF CALLS COMPLETED WITH SALE	NUMBER OF CALLS WITH CONVERSION OF PROPERTIES INTO BENEFITS	NUMBER OF CALLS WITH CONVERSION OF PROPERTIES INTO BENEFITS COMPLETED WITH SALE	SALES USING PREVIOUS METHODS
Participant 1	4	1	3	1	0
Participant 2	6	3	3	2	1
Participant 3	8	4	5	3	1
Participant 4	6	3	4	3	0
Participant 5	5	3	2	1	2
Participant 6	5	5	4	3	2
Participant 7	7	5	5	4	1
Participant 8	6	4	3	3	1
TOTAL	47	28	29	20	8

Source: Author's own elaboration based on the analyses of the data collected during a working day of each participant

Conclusion

Analysis of the implementation of the whole process in the organization leads to several conclusions. Proper planning of the process allows for improvement of the effectiveness at the early stage. By assessment of the training process itself, one can clearly evaluate how it affects the improvement in competencies among the participants. Measurement of the results obtained by the employees after training provides an answer whether they use the skills acquired and how they translate into enhanced effectiveness. In a particular case, one can observe that the increase in high-margin products affected the unit reduction of logistics costs typical of any product in this commercial network. Therefore, improvement in competencies of the employees is one of the method of improving enterprise performance. Another advantage is the fact that trainings are also motivating for a number of employees. Employees who notice the investments made in improvement of their competencies are more motivated

and attached to the employer. In the process of analysis of logistics costs, it is worth to evaluate how improvement in competencies might reduce the costs.

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The Communicative Dimension of Employees' Development

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Abstract

The aim of the article is to indicate the meaning of communication in the area of employee development in modern organisations. On one hand, communication is an extremely important element of human resource management (next to the selection, training, evaluation or discharge), and on the other, it is a tool used for the effective human resource management. The quality of personnel decisions made depends on the efficiency and effectiveness of communication, but also the effectiveness of processes, such as development and training of employees, motivating and rewarding employees or the periodic assessment. The author points to the place, which the communication processes occupy in the sphere of human resource management, emphasising their special importance in the area of development and employee training. Because the communication plays a significant role both in the reference to the individual development of employees, creation of career paths, but also training, also determining their effectiveness and assessment of their progress.

Introduction

Communication is a process inherently related to the human resources management. Without an effective system of internal communication it would not be possible to effectively manage all organisational resources, including the human resources. Communication is a process, which allows for the optimal and rational use of the available resources, build the corporate image, develop relationships with the environment. Both the internal and the external communication is a factor determining the quality of the decision-making in all areas of the organisational activity.

On one hand, communication can be considered as an element of human resources management, while on the other hand, one can consider the issues concerning the information system from the perspective of tools used for making staffing decisions. The effectiveness of these decisions is largely dependent on the internal communication and communication competence of the management. The working atmosphere, the way in which employees perceive their working place, relations between the superiors an subordinates depend on the effectiveness of the internal communication, both of the horizontal, vertical or diagonal nature. "The process of effective communication is the transmission of information, with the benefit and understanding for all its participants. The effective communication contributes to the greater pro-activity, greater efficiency of the organisational changes, increase of the employees' trust to the company". (Makowiec, 2012: 93) Therefore, we can consider the communication as the tool used for motivating employees, building atmosphere of work full of trust, respect and sense of security, as well as the tool impacting the satisfaction from work, inspiring to act, undertake new challenges and development. Making changes in any organisational area also requires the use of the efficient information system, since communication is also a tool that can be helpful in minimising the risk of resistance of the staff to changes. This resistance "as a kind of the conscious or unconscious mental state results in the employees both in making moves preventing (hindering) the implementation and maintenance of the changes, as well as restraining from actions contributing to the implementation of changes in a situation, when they depend on employees themselves."(Winkler, 2005: 301) Therefore, communication is an indispensable element for introducing changes in the organisation, learning and acquiring knowledge. The quality of this process also greatly determines how the implementation of changes in the organisation takes place, as well as what is the relation of the employees to these changes. Effective informing of employees, satisfying their information needs, using the two-way communication is essential in the field of the efficient human resource management. "Communicating increases the sense of security of the change participants, enables them to learn, preventing the sense of loss or restriction of competence, helps solve organisational problems related to the loss of confidence." (Masłyk-Musiał, 2014: 154) Of course, communication is not a tool, which allows you to solve all problems relating to the sphere of human resource management, including the ones related to the implementation of organisational changes and the adaptation to the market requirements, but it undoubtedly constitutes an instrument, which can be helpful in many problematic situations, facilitating the resolution of many problematic issues, unclear and conflicting. It is also a tool, which affects the quality of the personnel decisions, also in the area of the staff development.

The aim of the article is to point out the importance of this process in the area of staff development in contemporary organisations. Referring the communication process to the issues related to training and individual development of employees seems to be extremely important, because the development of employees determines the development of the whole organisation, affecting the level of motivation, engagement and satisfaction from work, which characterises the members of the organisation.

Communication in the organisation

Effective communication in the organisation is a process that allows the efficient and effective management of all organisational resources, as well as the implementation of the organisational objectives. In the case of human resource management, special attention should be paid to the system of internal communication, although the external communication also affects such staffing actions like the rewarding the employees, remuneration, motivation or development. The assessment of contacts with customers, quality of their service and communication skills of the employees can affect the staffing decisions, which are made by the superior in the short or long term.

In the sphere of human resource management, superiors have the opportunity to use a variety of forms and means of communication. An important issue us that the communication tools are adapted to the specific communication needs arising in the organisation and the organisational and technical capabilities which are provided by the organisation in terms of the communication. In the case of vertical and horizontal communication, an important issue is the choice of the way the message is delivered to the recipient. Of course, the choice of the communication channel depends largely on the specifics of the given task, on which the employee is working, issues related to the time and place of the interlocutors, as well as the organisational culture and the communication rules adopted in the organisation.

However, regardless of the specifics of the organisation's activities, we can distinguish several basic conditions, which should be satisfied for the communication between the superior and the subordinate, and between the employees was efficient and effective. These conditions, among others, should include:

1) In terms of verbal communication – the use of language comprehensible for the interlocutor, so as to reduce the risk of the occurrence of semantic noise

2) Taking into account issues relating to the time as a communication tool. The time that superiors can spend on a conversation with an employee, the response time, punctuality, the right time of delivery of information needed by the employees to perform the task, are only some of the issues related to the conscious use of time. An important issue remains paying attention to the chronemics. Most often in the aspect of non-verbal communication the issues are raised, which relate to the kinesics or apparition. However, an equally important place in the communication process is taken by the appropriate use of time.

3) Paying special attention to the communication activity, that is listening. Active listening allows the recipient to understand and to properly interpret the received messages. Careful listening supported by appropriate non-verbal behaviours can also be an incentive in certain communication situations for the broadcaster to express his views and opinions openly.

4) Using a variety of communication channels tailored to the specific communication needs, tasks and problems.

5) Openness to different ways of interpreting the messages by recipients, and thus cosmopolitan communication instead of the ethnocentric one, which is related to the situation where the recipient considers it appropriate and right only this meaning which is attributed by him to the words. In the cosmopolitan communication interlocutors are open to other meanings that people can assign to specific words, what undoubtedly improves the process of communication, allowing for an easier understanding of the interlocutor, his ideas or point of view on specific problems and perspective from which he is looking, for example, at the conflict. (Morreale, Spitzberg, Barge, 2007: 161-162)

If supervisors want to effectively and efficiently use communication in the field of human resources management, including in the area of staff development, they should remember that communication is not only words, but also a whole range of non-verbal behaviours, which determine the way the recipient interprets the message and the meaning it carries. With regard to verbal communication, an extremely important issue remains the fact of assigning the meaning to the words used in communication. Non-compliance in this scope can lead to many communicative problems, e.g., the occurrence of a mistake, which is cutting corners. This errors occurs "when we assume that the given word means exactly the same for someone else as it does to us." (Hamilton, 2011: 244)

There are many traps and communication barriers, which hinder the effective communication in the organisation. Therefore, paying special attention to the system of internal communication seems to be reasonable and necessary from the point of view of the efficient management of human resources. It is the efficiency of the information flow in the organisation that the quality of the decisions made by employees depends on, effects of their work, timeliness of the task performance, as well as the efficient staffing decision-making.

Communication in the field of human resource management

The implementation of the personal function is largely based on the system of internal communication. Motivating, rewarding, assessing, training or the individual development of employees are based precisely on a variety of communication solutions.

Communication can also be considered as one of many communication tools used for motivating employees. In addition to the financial motivators, superiors have also the non-financial, non-material assets at their disposal. An oral or written praise, a diploma or some non-verbal behaviours can serve as tools for motivating and evoking involvement of employees, as well as constitute a mark of recognition and acceptance for the efforts and activities taken by employees.

Similarly, in the case of employee evaluation, the importance of communication is unquestionable. Special mention deserves the issue relating to the acquisition of the feedback by the employees regarding the results of the evaluation. This feedback can also be motivational and inspirational for the employees to work better. "The man informed of his shortcomings can undertake work on himself, can improve himself. In turn, the one informed about receiving a positive grade may make sure that what he did was right." (Pawlak, 2003: 235)

Implementing the system of periodic evaluation is of course associated with the appropriate preparation of employees to the changes awaiting them. The appropriate system for informing employees, among others, on the goals or assessment criteria can constitute the key to success, which is the acquisition of acceptance by the employees for the implemented changes and transformations within the human resources management system. "The organisation's management deciding to introduce the system of employee evaluation should be aware that this decision will change the way of conducting the personnel policy and requires acceptance by all actors involved in the process of evaluation and the subsequent use of their results." (Ludwiczyński,2007: 305) This acceptance becomes possible through an understanding of the principles, objectives, or the criteria for evaluating, and the understanding results from the communication process. It is thanks to the appropriate communication procedures that employees of all levels have the opportunity to receive the necessary information, which will allow them to explore the intricates of the evaluation system. Communication is a process, which allows us to understand the other person, his views and expectations. The efficient system of internal communication also allows to understand the reasonableness and advisability of introducing specific changes, including the implementation of the employee evaluation system. Moreover, the information itself is not sufficient. Acceptance and understanding in many cases requires the two-way communication, consultation and dialogue. Such is the case for the evaluation criteria, which should be consulted with employees, because "people must understand why these criteria, and not other ones, were selected, and what are the expectations of the company management towards employees." (Pawlak, 2003: 234) Therefore, communication should be used for explaining all doubts and concerns, this way leading to the approval and understanding for all actions undertaken by the management. In practice, supervisors and management have the ability to use a variety of channels and communication tools aimed at motivating, understanding and accepting the personnel decisions made. "Information channels, such as: electronic mail, bulletin boards, different newsletters, management meetings with employees, create the possibility to reach the employees and prepare them for the changes." (Ludwiczyński, 2007: 306)

We should of course remember that making changes in one area of human resource management leads to changes in others. Implementing employee evaluation, results of these evaluation determine the decision-making in the development area or rewarding employees. Therefore, it is undisputed that individual areas of human resource management are inextricably connected, and changes introduced in one of them determine the changes in other areas. Therefore, it must be emphasised that evaluation of employees, motivation or communication are processes, which are also permanently connected with the development of employees.

Internal communication and employee development

Just like each element of the personal function is a communication process, also in the case of training and employee development we can talk about communication as a tool, which influences the effectiveness of the organisation and its employees development.

When considering issues concerning the relationship between communication and individual development, we can observe that, for example, the basis for the construction of the personnel reserve system has the communication principles, the observance of which determines the effectiveness of the undertaken actions in this scope. Personnel reserve is a tool, which effectiveness largely depends on the smooth flow of information. Personnel reserve is a "group of specially selected employees of the given company, who are the potential candidates for the emptied and newly created management positions."(Pawlak, 2003: 259) We can distinguish several basic communication principles, on which the system of informing employees about the implementation and use of the personnel reserve is based. (more on the personnel reserve: Pawlak, 2003: 259-263)

These principles can include, among others:
- transparent rules for the selection of candidates for the personnel reserve;
- informing employees on the purposes of the personnel reserve. Employees should be aware that being a reservist is not equivalent to receiving the management promotion. The system of internal communication should foster the atmosphere, in which remaining on the list would be identified by the employees with honours;
- informing employees on the composition of the personnel reserve. The list of surnames should be known to all employees, what will exclude the unnecessary rumours an speculation, as well as it will allow for the rational reasoning of the decisions made in the field of training of individual reservists;
- adequate preparation of the list of surnames, which should be alphabetical.

The personnel reserve is directly linked with the system of internal recruitment (it limits the external recruitment for the managerial positions), but also with promoting, evaluating and motivating employees. As in the case of evaluating or building the system of personnel reserve, also in the case of promotions, we can talk about the meaning of communication and communication principles, on which the promotion system should be based. Given the information strategy, employees should know the rules concerning the promotion or rewarding. Each organisation has of course the possibility to use various forms of promoting – not only managerial promotions. However, regardless of whether we consider the issues related to managerial, qualification, or payment promotions, it is worth noting that the lack of clear principles concerning this sphere of human resource management will lead to negative attitudes, de-motivation or frustration of employees. If promotion is to serve as a motivating function for employees for a better work, integrating with the company, the promotion should be inextricably connected to the system of internal communication. This system of internal communication should – using a variety of means and communication channels – promote the expansion of employees' knowledge in terms of the principles of the efficient management of human resources, including the promotions. This system should meet the communication needs of employees at different levels, promoting the construction of the atmosphere of understanding and respect.

Communication can also be used to satisfy the training needs of employees. This is an extremely important issue, since the organisations should take into account training needs of individual employees. On one hand, the employee evaluation is a tool used for decision-making in terms of training, but on the other, organisations can use, for example, a survey as a tool used for getting to know the employees' preference in terms of training and development.

Therefore, communication is a process, which is used for the efficient management of human resources in terms of development and employee training. The effective system of internal communication allows you to adjust the needs and expectations of employees to the possibilities and needs of the organisation. Thus, communication is a foundation for building the atmosphere of trust, understanding, respect, as well as it is a basic tool for motivation and inspiration of employees and integrating them with the company and its objectives.

Summary

Communication is a tool used for the implementation of personnel activities. The quality of decisions made in this regard depends largely on the efficiency of the communication system. When considering

issues relating to the development and employee training it should be emphasised that communication is an integral part of the constructed training system in the organisation. An efficient system of the formal information flow has an undeniable impact on the atmosphere of work and the quality of the personnel decision-making. Therefore, it is worth paying attention to the communication process not only from the perspective of the tool used for building the system of development and employee training, but also from the perspective of development of communication competence of the managerial personnel. Given the importance of communication in the field of human resource management, it is worth paying attention to the skills which in this regard should be gained and expanded by employees and managers. The ability to listen, to use the language of respect and the language eliminating conflicts, communicative openness are the selected issues, which we should pay attention to from the perspective of caring for the system of formal communication. Equally important in this respect is the ability to conduct meetings – so that they become a forum for exchanging experiences and knowledge, encourage the exchange of views and are inspiring for the employees. Development of these skills requires a special selection. Therefore, an important issue is the training of the managerial staff, especially in the situation of introducing organisational changes. This "training should have the nature of a positive message for the managers, that the conditions for development and effective functioning in a new reality are created for them." (Dolot, 2011: 108) It is the communication competence of the managerial personnel that the character of the formal communication depends on, as well as the way of shaping the system of internal communication, including the degree of satisfaction of the communicative needs of employees. Therefore, communication is a tool, which used in the right way, can lead to the development of employees and organisations, as well as can lead to building the planes of understanding, openness, respect and sense of security in the organisation. It can integrate employees around the performance of the organisational objectives, stimulate them into action and willingness to continuous development and learning. For the above goals to be implemented, it seems necessary to draw attention to training and development of communicative competence of employees. Because not only the working atmosphere will depend on the communication skills of the managerial staff, but also the ways to solve difficult and problematic situations. It must not be forgotten that one of the main sources of conflict is the wrong communication or its lack thereof.

Therefore, communication is a process determining the effectiveness of personnel activities, including the ones influencing the area of training and development of employees. Thus, it should be emphasised that the employee development and communication constitute the permanently connected processes, and the level of one of them impacts the level of the other one, also determining the quality of personnel decisions and the effectiveness of human resource management in the organisation.

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Strategic Business Performance Measurement and Management in Terms of Industrial Enterprises in Slovakia – Selected Comparison of Domestic and Foreign Companies

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Abstract

The world of business environments in modern economies has changed dramatically the way of pursuing business and depends nowadays heavily on the performance in generating and utilizing new knowledge, innovations and management techniques and tools for creating of the higher business performance. The achievements of our scientific research show the overall conclusion that domestic and foreign companies from selected Slovak industries which reach above average performance are strongly focused on managing its strategic performance while applying many modern concepts and methods of its management. The results of our empirical scientific study provide interesting and valuable findings that the overall performance of industrial enterprises in Slovakia is to be looked at comprehensively strategically and not just in financial terms. Why are some industrial enterprises more efficient than others? What methods and procedures are applied by more efficient companies? The answers to these questions can be found in our paper.

Key words

Performance Management, Strategic Management, Controlling, Business Performance, Industry, Slovakia

Introduction

Performance management systems are regularly implemented as balanced and dynamic solutions requiring considerable human and financial resources, and offering support to the decision-making process by gathering, elaborating, and analyzing information (Vukšic, 2013). Higher-quality, lower-cost information is a key to unlocking more sources of finance for companies (Belás et al., 2016).

Strategic Performance Measurement Systems (SPMS) are being used in a wide number of organizations to support performance planning, measurement, and control. First proposed by Kaplan and Norton and most popular form of SPMS is the Balanced Scorecard (Kaplan, 1992). SPMS are expected to help organizations achieve and maintain strategic alignment in their decisions, resource allocations and activities, in order to obtain results and increase shareholder value both in times of stability and during times of change in strategic direction (Bento, 2014). SPMS are designed to present managers with financial and nonfinancial measures covering different perspectives which, in combination, provide a way of translating strategy into a coherent set of performance measures (Chenhall, 2005). SPMS typically provide information on financial and nonfinancial performance measures in an effort to both report on past performance and help managers influence future performance. Financial measures assess the short-term impact of managerial decisions in areas such as revenue growth, asset utilization, and cash flows (Kaplan, 2001), while nonfinancial measures capture variables that are likely to influence future financial performance, such as customer service and quality products.

1. Literature review

Initial studies in performance measurement tested the impact of certain performance measures on actual financial performance in particular industries (Banker, 2000). Over the past decade, studies focused on the performance effects of specific SPMS characteristics such as the use of more subjective nonfinancial measures (Ittner, 2003) and the actual performance impact of overall SPMS adoption (Burney, 2007).

According to Bento (2014) the literature of performance measurement shows that SPMS can have a significant impact on business results. Their study expands upon the performance management literature by integrating variables from three disciplinary areas: information systems, accounting and management to provide an interdisciplinary approach to performance management research. Results shows that IT variables, combined with system variables and organizational variables, have a significant relationship with the SPMS impact on business results across industries, geographical locations and organizational sizes. Kaplan and Norton (2008) provided anecdotal evidence that breakdowns in the SPMS actually lead to deteriorating company performance. More recently, Bisbe and Malagueño (2012) found evidence that the effect of SPMS on organizational performance is reduced in situations where environmental dynamism is high. Petter, DeLone and McLean (2012) argued that information system success leads to improved company performance, while others have concluded that there is no relationship between information systems and performance measurement (Soudani, 2012). At present, information is becoming one of the factors of production enterprises and therefore the enterprise's information system is a key factor in business competitiveness (Frankovský, Štefko, Baumgartner, 2006). Van der Stede, Chow and Lin (2006) provided intriguing evidence of the importance of including a diverse set of performance measures in the SPMS, finding that companies that used a higher number of performance measures actually achieved higher performance. Farrell, Kadous and Towry (2008) found that incentive contracts that included forward-looking performance measures effectively drive employee performance. Apart from individual value system for each employee it is also necessary to respect the value system of the whole organization. Consequently, it is necessary to elaborate the concept of business value management and to utilise the system of Balanced Scorecard - BSC (Hitka, Rajnoha, 2003).

According to the management control literature, the uses for which the SMPS are designed may have a significant influence in their outcomes (Chenhall, 2005) and Mouritsen (2005) has pointed out that the ability of management control systems to support change is influenced by system design. Ittner (2001) argued that SPMS research should examine the decision purposes for which a SPMS is designed, in order to allow appropriate interpretation of the outcomes of the use of performance measures, given that they might be appropriate for some purposes but not for others. Non-financial indicators are considered as the drivers the future financial performance of the company (Tangen, 2004). This is indicated by the results of research the global consulting firm Bain & Company in 2015, where the tool BSC was one of the six most widely used management tools among enterprises all over the world (Rigby, Bilodeau, 2015).This fact confirms the assumption that enterprises consider this tool to be a necessary and effective in strategy implementing and measuring business performance. BSC can be also useful in creating a new corporate culture, corresponding to the strategy in terms of shared assumptions about the mission, strategy and objectives, in understanding the means to achieve these goals, measuring results and reactions when events do not respond to the plan (Gibbons, Kaplan, 2015). On the other hand, it is important to misunderstand the BSC as a miraculous tool which somehow improve business performance (Perkins et al., 2014). SPMS contributes to the achievement of strategic goals through three mechanisms: a better understanding of the links between different policy priorities, effective communication between the objectives and activities and the efficient allocation of resources and tasks (Dossi, Pateli, 2010; Štefko, Krajňák, 2013). Companies with higher level of implementation of corporate governance principles have higher net profit margin and earnings per share (Todorovič, 2013).

In Slovakia or Czech Republic have been also addressed several research of this issue in the recent past, there may be mentioned e.g. research of the SPSM and BSC methodology application in business practice. Štefko et al. analyzed the prices as a key competitive factor in the steel industry in Slovakia and Poland (Štefko et al., 2012). Gavurová presents the results of the first exhaustive survey in Slovak enterprises implementing BSC (Gavurová, 2011). Other similar research based on a questionnaire survey obtained from the 91 companies from Czech Republic. The study indicates that there is a positive significant relationship between management tools and techniques utilization and organizational performance (Afonina, 2015). Other authors investigated the relations among customer satisfaction, customer loyalty and financial performance of a commercial bank (Belás, Gabčová, 2016). Next research was focused on business performance in scope of investment measurement and management using of investment effectiveness evaluation methods. Research results confirmed some assumptions, that use of investment valuation methods is limited by foreign ownership of company and certain methods caused better business performance (Rajnoha, Novák, Merková, 2016). Similar study is dedicated to the issue of the process performance measurement in Czech companies (Tuček et al.,

2013). The next survey realized in Czech Republic did not confirm that the BSC use contributes to improved financial performance of the company. In the research was used a sample of 167 enterprises (Knápková et al., 2014). Important will be also its implementation, as evidenced by the results of such research in Slovakia, implementation of the BSC system only through the software solutions can lead to a false understanding of the meaning of BSC by managers, which is also a common reason for failure to implementation of this system (Šoltés, Gavurová, 2015).

Several other empirical studies conducted in recent years in the world confirmed the relationship between strategic planning and achieved business performance (Rudd, 2008). Similar results have also brought other foreign research, which states, that the BSC are associated with higher measurement system satisfaction, but exhibit almost no association with economic performance (Ittner et al., 2003). Another important foreign research, however, says that if the BSC is used primarily for strategic management, then it will also bring higher financial performance (Braam, Nijssen, 2004). This empirical evidence from Dutch firms suggests that BSC use will not automatically improve company performance, but that the manner of its use matters: BSC use that complements corporate strategy positively influences company performance, while BSC use that is not related to the strategy may decrease it. On that basis, we can conclude that strategic planning has a positive impact on business performance regardless of the sector in which it operates (Andersen, 2000). Interesting empirical studies have Spanish authors who recently analyzed SPMS and its impact on business performance in terms of strategic planning and strategic decision-making (Bisbe, Malagueño, 2012). Similar research was focused on the relation between the use of SPMS and the quality of the strategic planning process and confirmed the positive relationship between the use and dependence SPMS and quality of strategic plans and company decisions (Gimbert, 2010). Most authors in their scientific studies states that SPMS can help businesses to define and achieve its strategic objectives, align behaviors and attitudes, and ultimately can have a positive impact on business performance. However, SPMS also can be criticized for a number of reasons, such as the promotion of inappropriate behavior of managers, suppression of innovation and learning, and so on (Micheli, Manzoni, 2010). Another important research in the world in this area has focused on exploring the strategic planning process, and its links to business performance in a highly turbulent and unstable environment. The authors emphasize that strategic planning has the potential to produce positive effects on business performance in a highly unstable environment and planning is such an important value added for the company in terms of its higher performance (Brews, Purohit, 2007). For these studies it can be concluded, that regular use of the SPMS in company may favor the more comprehensive and elaborate system of strategic planning, which is further reflected in higher business performance.

Then we asked research question, why is this happening? What strategic factors influence the higher performance of some industry companies in Slovakia? Selected research results and answers to these research questions we bring further below.

2. Research objectives and methodology

It can be mentioned that the business environment in which we live today, it is far from shows such a high degree of stability and certainty, as in the past. Although it is expressed major scientific research hypothesis, according to which we believe that many non-financial, strategic or qualitative indicators, and methods applied in their management, have an impact on the overall business performance, which can be measured despite the complexity of the issue to determine the relevant enough. Based on this assumption, we set the main objective, which we decided to verify this claim, and bring up new, and hitherto insufficiently verified knowledge in the field of business performance management.

2.1 Research objectives and hypotheses

The aim of research was to determine the effect of selected parameters of Strategic Performance Measurement and Management to overall Business Performance - Return On Equity (ROE) of selected industry companies in Slovakia. The main objective of our research was to analyze the utilization rate of traditional and modern indicators, methods and models of Strategic Business Performance Management and on the basis of relevant mathematical and statistical methods to identify causal relation-follow links and determine their impact on achievable business performance (ROE).

To identify the relationship between selected strategic management tools and measuring corporate performance, we formulated the following research hypothesis:

- H1: It is expressed a presumption that overall business performance (ROE) will be affected by the use of certain methods and tools of strategic business performance management.

- H2: We assume, that if industry companies use some strategic management tools and systems to support strategic performance management, they achieve higher overall business performance ROE.

- H3: We assume, that between domestic and foreign industry firms in Slovakia exist key differences in use of methods and tools of strategic business performance management.

In order to test the statistical hypotheses, the basic (null) hypothesis H_0, an alternative hypothesis H_1 with a significance level α we formulated. The aim was to challenge the validity of the hypothesis H_0. The alternative hypothesis H_1 represented the opposite to the basic hypothesis.

- Null hypothesis: There is no relationship between tested method and business performance.
- Alternative hypothesis: There is a contingency between tested method and business performance.

The decision to accept or eventually to reject the H_0 was carried out as follows:

α < p, H_0 cannot be rejected,

α ≥ p, H_0 is rejected in favour of H_1.

The level of significance was set as α = 0.05.

2.2 Data collection and research methodology

There was created on-line questionnaire through internet application to build data collection of companies in Slovakia. In total 1.457 chosen businesses were asked to participate in the survey, representing selected industry segments in Slovakia.

Data about the primary database of 1.457 enterprises from selected industries of the Slovak Republic we received from information of various industrial associations and those we have subsequently supplemented by other companies on the basis of extensive online survey. The questionnaire was distributed in two consecutive rounds. First via e-mail, subsequently we are therefore used in the second round the form of telephone and the most common form of face-to-face interview. After these two consecutive rounds the questionnaires were correctly completed by 164 enterprises in the end. We consider the size of the research sample – 164 enterprises as being sufficiently representative and this is 11.26% share of the total number of companies surveyed.

The initial data set consisted of all the surveyed firms (164 enterprises), out of which we created sets specifically aimed at firms from the industries of wood processing, engineering and automotive industry. A separate set containing all the enterprises from the three industries was also studied. The final two sets are defined by their core business (focus) – manufacturing, the last set also includes enterprises of trade and services. Table 1 presents the data from the research sets.

Table 1: Basic data on the data sets analysed

Set	The industry focus	Totals
Set 1	All industries	164 firms
Set 2	Wood Processing Industry	34 firms
Set 3	Mechanical engineering	30 firms
Set 4	Automotive industry	16 firms
Set 5	Selected industries (Wood processing industry, Engineering, Automotive)	80 firms
Set 6	Production companies	106 firms
Set 7	Trade and Services	58 firms

Data source: own

In terms of size of company across the whole survey sample, the medium-sized (51-250 employees) and large enterprises (over 250 employees) formed 40.3% share. Small businesses (11-50 employees) accounted for 29.8% share. Micro sized to 10 employees accounted for 29.9% share of the survey sample. From that perspective the research sample was balanced and contained uniform representation of all size categories.

To identify and analyze parameters for measuring and management corporate performance, a key indicator was the size of ROE. Based on this, we have incorporated the companies to the performance categories (6 intervals of scale), which are influenced by the lower frequency reduced to 3 respectively 2 performance enterprise categories.

The results obtained by questionnaire survey were processed by statistical methods, whereby we except of selected variables of descriptive statistics for one variable (frequency, relative proportions)

used mainly Chi-square test of independence. It is used to test the categorical variable weather there is a relationship between these variables or not. In the analyzing this relationship we started from Pivot Tables and Pivot coefficients. The analysis of the difference between observed (empirical) and expected (theoretical) frequency we used Pearson chi-square test. Besides this, we have also used a similar M-V chi-square test, which is based on the theory of maximum likelihood and is used in case there is a real between variables dependent. If the value corresponds to the chi-square probability $p > 0.05$ this means that the relationship between variables is not statistically significant, and vice versa, if $p \leq 0.05$, it is possible strength of the relationship between two variables tested using one of the contingency factors. The Phi coefficient determines the degree of correlation between two categorical variables for 2x2 tables. Its value ranges from -1 to 1 (total dependence) or 0 (variables are not correlated with each other). The hypothesis was verified at the 5% significance level ($\alpha = 0.05$). For clear interpretation and relevant comparisons of the contingency coefficients of several analyzes we calculated adjusted contingency coefficient (Adj. CC).

3. Selected research results

Examination of the statistical relationships for each of the business researched are presented in Table 2, where we focused on statistically significant dependence resulting from the chi-square test (p-value <0.05). Table 2 shows, that we have found a statistically significant dependence on three strategic parameters of Business Performance Management and Measurement System:

- The use of Managerial Information System
- The use of Managerial Accounting
- The use of Controlling

Table 2: Business Performance Management Scorecard (BPM SC) - Selected strategic tools with impact on overall business performance - 6 ROE performance categories

Strategic Parameters of Business Performance Management and Measurement System	p	Adj. CC	Business Performance Categories - ROE					
			Group 0 ROE < 0%	Group 1 ROE 0-2 %	Group 2 ROE 2-4 %	Group 3 ROE 4-7 %	Group 4 ROE 7-10 %	Group 5 ROE >10 %
All industries (164 firms)								
Managerial IS	0,02644	0,31	No	No	Yes	Yes	Yes	Yes
Managerial accounting	0,04455	0,28	No	No	Yes	Yes	Yes	Yes
Controlling	0,03623	0,29	-	No	No	Yes	Yes	Yes
Selected industries: Wood processing industry, Engineering, Automotive (80 firms)								
Controlling	0,03930	0,44	No	No	No	Yes	Yes	Yes
Production companies (106 firms)								
Managerial accounting	0,03261	0,39	No	No	Yes	Yes	Yes	Yes
Controlling	0,00120	0,48	No	No	No	Yes	Yes	Yes
Quality Management System	0,01165	0,42	No	No	Yes	Yes	Yes	Yes

Data source: own

The Relationship between the use of the concept of Controlling and Business Performance is a strong statistically significant (Table 3). Residue levels (Table 4) showed that the use of the Controlling concept achieved business performance in groups of ROE 3-5, so the value of ROE well over 4%.

Table 3: Pivot: The use of Controlling x Performance – Statistics – All industries (164 firms)

Statistics	Chi-square	sv	p
Pearson´s chi-square	11,73376	df=5	p=,03862
M-V chi-square	11,89648	df=5	p=,03623
Contingency coefficient (CC)	,2583992		
Cramer´s V	,2674834		

Data source: own

Table 4: Pivot: The use of Controlling x Performance – Frequency – All industries (164 firms)

The use of Controlling	Group 0 ROE < 0%	Group 1 ROE 0-2 %	Group 2 ROE 2-4 %	Group 3 ROE 4-7 %	Group 4 ROE 7-10 %	Group 5 ROE >10 %	Row total
The observed frequency							
Controlling is used	15	36	23	13	6	7	100
Controlling is not used	10	11	12	13	6	12	64
Total	25	47	35	26	12	19	164
Expected frequency							
Controlling is used	15,24390	28,65854	21,34146	15,85366	7,31707	11,58537	100,0000
Controlling is not used	9,75610	18,34146	13,65854	10,14634	4,68293	7,41463	64,0000
Total	25,00000	47,00000	35,00000	26,00000	12,00000	19,00000	164,0000
Observed minus the expected frequencies (residue)							
Controlling is used	-0,243902	**7,34146**	**1,65854**	-2,85366	-1,31707	-4,58537	0,00
Controlling is not used	0,243902	-7,34146	-1,65854	**2,85366**	**1,31707**	**4,58537**	0,00
Total	0,000000	0,00000	0,00000	0,00000	0,00000	0,00000	0,00

Data source: own

Because, that the controlling has significant influence on business performance, we have analyzed more in detail the application of the concept of controlling with focus to the origin of capital (Table 5 and Table 6), which was demonstrated highly statistically significant relation with the value of p = 0.00047, which demonstrates the use of the concept of controlling in enterprises with foreign capital. Statistical analysis shows (Table 6), that companies without foreign capital not used the concept of controlling, on the other hand, the use of controlling (analysis by origin of capital) is most significantly for German capital.

Table 5: Pivot: Origin of capital x The use of Controlling – Statistics – All industries (164 firms)

Statistics	Chi-square	sv	p
Pearson´s chi-square	15,52815	df=2	**p=,00042**
M-V chi-square	15,32651	df=2	**p=,00047**
Contingency coefficient (CC)	,3077074		
Cramer´s V	,2940990		

Data source: own

Table 6: Pivot: Origin of capital x The use of Controlling – Frequency – All industries (164 firms)

The origin of capital	Controlling **is not used**	Controlling **is used**	Row total
The observed frequency			
Domestic capital	84	36	120
Foreign capital (other country)	13	21	34
Foreign capital – Germany	3	7	10
Total	100	64	164
Expected frequency			
Domestic capital	73,1707	46,82927	120,0000
Foreign capital (other country)	20,7317	13,26829	34,0000
Foreign capital - Germany	6,0976	3,90244	10,0000
Total	100,0000	64,00000	164,0000
Observed minus the expected frequencies (residue)			
Domestic capital	**10,82927**	-10,8293	0,00
Foreign capital (other country)	-7,73171	7,7317	0,00
Foreign capital - Germany	-3,09756	**3,0976**	0,00
Total	0,00000	0,0000	0,00

Data source: own

The period of the use of Controlling significantly influence the Business Performance (Table 7), representing a very significant dependence of the p-value = 0.0007 (3 ROE performance categories).

Residue levels (Table 8) highlighted mainly two categories: the companies, which not used Controlling was included in the below average group with a negative or very low ROE to 2%, but if they use controlling more than five years, achieved above-average business performance ROE of 7%.

Table 7: Pivot: The period of the use of Controlling x Performance – Statistics – All industries (164 firms)

Statistics	Chi-square	sv	p
Pearson´s chi-square	25,81637	df=8	p=,00113
M-V chi-square	27,01120	df=8	**p=,00070**
Contingency coefficient (CC)	,3687914		
Cramer´s V	,2805502		

Data source: own

Table 8: Pivot: The period of the use of Controlling x Performance – Frequency – All industries (164 firms)

The period of the use of Controlling	Group 1 **Poor performance** (ROE<0, 0-2%)	Group 2 **Medium performance** (ROE 2-4%, 4-7%)	Group 3 **High performance** (ROE 7-10%, ROE >10%)	**Row total**
The observed frequency				
Controlling is not used	46	30	9	85
We plan to use	5	6	4	15
Controlling is used < 2 years	9	7	0	16
Controlling is used 2 - 5 years	3	7	3	13
Controlling is used > 5 years	9	11	15	35
Total	72	61	31	164
Expected frequency				
Controlling is not used	37,31707	31,61585	16,06707	85,0000
We plan to use	6,58537	5,57927	2,83537	15,0000
Controlling is used < 2 years	7,02439	5,95122	3,02439	16,0000
Controlling is used 2 - 5 years	5,70732	4,83537	2,45732	13,0000
Controlling is used > 5 years	15,36585	13,01829	6,61585	35,0000
Total	72,00000	61,00000	31,00000	164,0000
Observed minus the expected frequencies (residue)				
Controlling is not used	**8,68293**	-1,61585	-7,06707	0,00
We plan to use	-1,58537	0,42073	1,16463	0,00
Controlling is used < 2 years	1,97561	1,04878	-3,02439	0,00
Controlling is used 2 - 5 years	-2,70732	2,16463	0,54268	0,00
Controlling is used > 5 years	-6,36585	-2,01829	**8,38415**	0,00
Total	0,00000	0,00000	0,00000	0,00

Data source: own

Conclusion

The achievements of our scientific research show the overall conclusion that domestic and foreign companies from selected Slovak industries which reach above average performance are strongly focused on managing its strategic performance while applying many modern concepts and methods of its management. SPMS is now relatively more complex problem than in the past with traditional financial management of business performance. The results of our research also presented in this article demonstrate several important facts. Individual parts of research confirm the positive impact of SPMS on the overall economic performance of the company, but individual writers at home and around the world differ in the very structure of the SPMS as well as in the significance of various methods included in this system and also in the size of their impact on the economic performance. On this basis, companies should begin to apply the SPMS to their management practices as soon as possible. Problematic, however, remains the overall structure of methods, tools and models that the SPMS should have implemented in a particular company in order to reach a higher overall economic performance of the company.

The results of our empirical scientific study provide interesting and valuable findings that the overall performance of industrial enterprises in Slovakia. We have found a statistically significant dependence on three strategic parameters of Business Performance Management and Measurement System: the use of Managerial Information System, the use of Managerial Accounting and the use of Controlling. The Relationship between the use of controlling and business performance is a strong statistically significant. The use of the controlling achieved business performance of ROE well over 4%. Also the period of the use of Controlling significantly influence the Business Performance. Companies they use controlling more than five years, achieved above-average business performance ROE of 7%. Finally the use of the concept of controlling is typical for enterprises with foreign capital. Our statistical analysis also shows, that companies without foreign capital not used the concept of controlling, on the other hand, the use of controlling (analysis by origin of capital) is most significantly for German capital.

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Trends and Challenges in Human Resources Management in the New Millennium

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Abstract

This paper briefly describes the main challenges the human resources management currently faces, in particular the onset of globalization, international human resource management, talent management, diversity management and strategic human resources management. Moreover, the paper briefly describes manifestations and impacts of the challenges on the human resources management as well as the methods and measures used by the human resource management to face these challenges.

Key words

Globalization, talent management, strategic human resource management, international human resource management.

Introduction

There is a broad consensus between practitioners and theorists of economics that human resources determine the success or failure of a business entity. Human resources, far more than any other resource, are the source of idiosyncratic and thus hardly-to-imitate benefits. It is human resources that determine goals of any business entity, make decisions, make and implement business strategies, design products, produce goods and services, deploy financial resources. On the organizational/ macro level as well as the level of the general society it is the quality of human resources - knowledge, skills, experience, flexibility and adaptability that determines its value for a business entity. Changes which have recently taken place in the economic environment, in particular the onset of globalization, rapid technological change and the advent of ICT, conflicting interests of investors and stakeholders, the shift from the industrial economy to the economy based on knowledge and demographic changes place new challenges upon the human resources management and determine the direction of its development. The aim of the paper is based on the analysis of literary sources and author's knowledge to specify the trends and challenges in human resources management (HRM) and the factors affecting them, and to suggest possible solutions.

Challenges to be faced by the current human resources management

Based on the analysis of literary sources, in particular Chiavenato 2001; Eyre 2008, Hasan 1992; Aghazedeh 1999; Dubey et all 2010; Schuller and Jackson 2005, current and future challenges in the management of human resources include:

- the onset of globalization,
- international human resources management,
- transition to a knowledge economy,
- talent management,
- diversity management,
- strategic human resources management.

The following briefly describes different challenges and already or soon to be implemented reactions.

The onset of globalization

Globalization is basically a multidimensional integration. Globalization is an integration of financial, product and labor markets across national boundaries. According to Gilena (2001 p. 206) globalization is "a process leading to greater interdependence and reflexivity between economic, political and social forces in the world and between different actors in general."

In the recent years globalization has shifted into a phase where production capacities are being moved to areas with lower production costs and abundance of resources business entities lack in their place of origin. At the same time research and development capacities as well as control centers of parent companies are also being moved to these very same places.

According to Gdovirajan and Gupta (2001), the concept of globalization of businesses can be seen as a three-dimensional construct based on the fact that a business entity can be globalized (more or less) in accordance with the following three characteristics:

- its presence on the global market,
- globalization of a supply chain,
- globalization of management thinking (approach).

Global companies offer products or services that are streamlined and standardized so as to allow their local manufacture or their cost-effective provision. Their related bodies are not strictly checked, except for quality control and presentation of individual products and services. Although these bodies rely on expert know-how of their parent companies, they operate separately - own production, service provision and distribution activities.

Globalization creates an environment different from what business entities were used to. This environment consists of worldwide competitors. Human resources practices are transferred in the same way technology and knowledge are. If business entities want to maintain their competitive advantage, they have to implement human resource management practices that are valuable and rare, not replaceable by technology and difficult to imitate. In terms of attracting and maintaining quality human resources globalization means recruiting employees from all over the world while the already employed employees may be employed by organizations worldwide. Due to this fact, business entities should adjust and modify their recruitment methods.

Allowing business entities to globalize, cultural sensitivity and understanding is becoming vital for managers of human resources. Globalization mixes cultures, languages, perspectives and the number of expatriates. Effective managers of human resources must therefore have knowledge of the legislative environment in each country, know the practices of human resource management across countries, must be able to communicate effectively across cultures, know how to gain the trust of local diverse human resources and speak different languages, get used to work in different clime conditions, in countries with anti-Western and anti-Christian feeling. Since business entities expand globally, the number of variables that have to be managed is growing exponentially, and thus the human resource management becomes a challenge.

Technology development, deployment of information-communication technologies and progressing globalization is creating a new business environment, and these changes have an impact on the workforce and also the ways human resources are managed. Business entities that want to stay competitive must comply with these technological and structural changes and look for adequate procedures in human resource management. Human resources practices are essentially the sole source of idiosyncratic benefits. In the context of ongoing globalization and its competitive pressures managers must learn to "think globally, act locally".

In today's globalized and hyper-competitive environment, the human resource management (HRM) has to face a whole new set of challenges which are already being investigated by some business entities. These challenges include in particular:

- lack of top talents for sophisticated jobs in general. Currently, neither universities nor business entities do much to provide systemic training for talented people or build centers of excellence for managers able to work in HRM positions. These shortcomings will have to be removed in the near future.
- there is still a large number of problems in the field of industrial relations. These problems are resulting from the comparison between rights and benefits of employees in individual countries and also benefits of expatriates and local staff.
- globalization and liberalization of international trade has changed the legislative framework of many countries, e.g. India and China entered the WTO, thus impacting local practices in human resources management.

Needs of employees in different countries are continuously changing, thus bringing the following problems:

- globalized workforce want their management to be composed of people from the host country, not only from people from the country of the parent company,
- local workforce and local workers want to be respected in the management headquarters of parent companies,
- local workforce want parent company to provide them with career planning and career development opportunities,
- local workforce and local managers are feeling excluded from the planning processes and management processes of their local branch and want to participate in these processes,
- local workforce want salary that is comparable with that in the parent company, to be placed in similar bonus schemes as the workforce of the parent company,
- local workforce expect from expatriates to respect their cultural and religious values,
- especially in third world countries, particularly in Muslim countries, expatriates are subject to anti-Western and anti-Christian sentiments of local employees.

International Human Resource Management

The emergence of international companies is the result of advancing globalization. Human resource management in international companies is significantly different from the management of human resources in national companies. This stems from the fact that international organizations operate in various countries, employ people of different nationalities. Thus, the human resources management in such companies is much more complicated and complex.

The department of international human resource management (IHRM) must pay more attention to the human side of international business, i.e. integration of international human resources in joint ventures. It is necessary to ensure the development of employees coming from different cultures, speaking different languages and having different ideas on how business works. The main task of the human resources department is to ensure and coordinate these skills as well as to act as an adviser for the remainder of the company on how to cope with such problems (Tej, 2008). IHRM must be able to identify ways to cope with labor recruitment problems on a global scale, how to address the issue of pensions, health care, career development, performance evaluation and remuneration.

Departments of human resources management in international companies need to create something that can be identified as glue - binding employees with different work experience to work more effectively. This can be ensured by creating cross-border work teams and centers of excellence found across the bodies of the multinational enterprise.

Given the critical role that HR managers fulfill, it is important to have professional managers on these positions in future. Organizations operating in a highly competitive globalized environment must have the necessary competencies which in turn have to be verified by accredited institutions (Dobrovič, 2009). It will also be necessary for line managers to gain experience in human resources management – enabled by the department of human resources management. At the same time HR manages must have experience resulting from the competence of line managers.

Required management competences can be acquired through all possible forms of education including medium-term internships in subsidiaries and courses offered by consulting companies. Education, however, shall be also provided by academic institutions.

In general, HR managers and also other managers working in the global environment should have a global mindset, international experience, strong technical and strategic skills. This requires the following general knowledge (Buyens,2007):
- intercultural and interpersonal skills,
- ability to accommodate to cultural differences,
- ability to establish contacts with local authorities, understand the local market, local legislative regulations,
- ability to adapt to different national cultures,
- ability to manage the implementation of the BSC method and metrics for the evaluation of the human resources management contribution to company performance,
- global leadership skills for human resources management throughout the organization and its individual branches,
- mastering change and diversity management in the international context.

As a result of redesigned global business global centers of excellence should come up with strategies for relocation and redistribution of work, in particular:

- link activities and processes on a global scale, form strategic teams of qualified people, develop and harmonize critical processes within these related activities.
- increasing the level of international operations while also increasing the level of local operations as well as the skills and knowledge of local employees.
- the need to use the potential of today's technology with regard to shared services provided by HR departments while taking into account cultural and social features of host countries.
- provide guarantees for IHRM's contribution to organizational performance and guarantee these benefits while keeping costs of human resource management at the same level.
- provide education for various actors on formal and informal networks of human resources while the HR department should act as a knowledge broker and avoid the notion of "there is only one right path."
- promote issues of company identity across all levels and departments of the company. Since flows of best practices and ideas from centers to units and vice versa are one of the only sources of sustainable competitive advantage. These ideas and practices must exceed nationalist ideas and practices.

Talent management

Talent management is a philosophy of human resources that supports development of employees who show exceptional skills and can be perceived as a source of competitive advantage with a strong emphasis on its close link with practice. This topic has become discussed around the turn of the century and now the issue seems to be a real phenomenon due to the rapid increase in published articles in academic and professional journals - between 2008 and 2012 almost 205,000 articles were published and the topic reached about 57,000 Google searches. Globalization is creating a global reservoir of talents. Human resources managers have the opportunity to create such a reservoir and use the talents contained therein.

The basic principles used in talent management include:

- Talent approach
- Compliance of all talent management activities with business strategies
- Talent management embedded in the corporate culture
- Individual approach towards individuals referred to as talented
- Internal consistency of principles and practices resulting therefrom
- Getting managers at all levels of management involved in talent management
- Selection of jobs where talented individuals should be employed.

As indicated above, managers across all levels of the management hierarchy should realize that a sustainable competitive advantage can be achieved only through talented people, and that talented people pull all the other levers. This approach gives managers the capacity to reinforce their talent reservoir and adopt appropriate measures. Managers who have a positive attitude towards talented people consider talent management as a central and critical part of their job as a senior executive. It is not acceptable to delegate these activities.

Successful talent management cannot be the responsibility of the HR department alone. Managers across all levels of the management must play an active role when selecting jobs suitable for talented individuals, participate in succession planning, talent development, as well as other practices under the talent management. Line managers shall act as coaches or mentors.

Talented individuals, regardless of whether they have an innate talent or acquired talent, are not that common. Therefore, it cannot be generally assumed that talented people will fill all positions a company. Similarly, not all job positions needed talented individuals. Therefore, talent managers have to sort out workplaces where such talents are needed, and process standards for these positions.

Industrial relations

The term industrial relations means all activities and programs aimed at creating a sense of commitment and loyalty towards the organization, creating a sense of belonging, and so forth. Building good industrial relations implies ensuring job security, safe conditions for work and health protection, transparency, creating a sense of fairness and non-discriminatory treatment, acting in line with psychological contract, ensuring quality and balance between work and personal life and due to globalization also a challenge of diversity.

Strategic human resource management and a new philosophy of human resource management

According to Chiavento (2001), the term human resources management should be replaced by the term people management, stressing that employees should be primarily perceived as human beings and not just as sources of companies (Chiavento 2001). Activities and individual differences of employees should be taken into account and respected, as employees usually have unique personality traits and intelligence, as well as unique knowledge and skills that can be a great source of idiosyncy - a competitive advantage that can be hardly imitated. Some successful companies go much further in this regard and perceive the concept of human resource management as unsatisfactory. They talk about the management with *people* since they see their employees as business partners. It then follows that employees across all levels of the company are responsible for the business success of the company. Therefore, if employees are deemed responsible for business success of the company, then they must have necessary information, be able to apply their knowledge and skills and be able to carry out adequate decisions. The difference between the old and the new concept is therefore the notion of getting a competitive advantage through competent employees. A notion that the customers of the company are its employees is slowly starting to prevail.

Previously an HR department focused primarily on recruitment and motivation of human resources in line with legal and cost limits. Currently, HR departments are defined as capital assets departments that are a source of competitive advantages (Barnay a Wright 1998; Pfeffer 1994; Schuller, Jackson,Storey 2001; Chadwick a Chapelli 1999).

The above facts explain why external marketing techniques are starting to be more widely applied also within companies in order to keep quality and loyal employees who are well informed about the goals and philosophy of the company, used strategies and methods of achieving set goals. This approach explains and changes the holistic approach to the management while people (employees) are perceived as a part of the organizational context and not only as a component of the production system.

Changing the function of the human resource management

Currently, HR departments are based on a functional principle, while still dominated by service activities. These organizational structures are being replaced by more flexible entities based on a procedural principle. Instead of providing services HR departments are trying to coordinate processes or subsystems. This is a shift from functionally-oriented towards process-oriented culture and structure. It also means that instead of pursuing certain specific activities (recruitment, selection, adaptation, education, etc.) HR departments will be responsible for the training of line managers on how to ensure those activities. Line managers are thus becoming fully autonomous as far as the activities and decision-making related to subordinates are concerned. Human resources managers must be able to demonstrate their leadership and their contribution to organizational performance.

Human resource management must get increasingly involved in the strategic management of the company and in the development and implementation of the means through which employees will be able to work proactively when achieving organizational goals. Human resources planning must be based on the business plan of the company, and education plans must focus on the necessary knowledge and skills required by the business plan of the company. Company's business objectives have to outlined in a cascade - from the peak levels of the company to working teams and individuals.

Strategic human resource management requires understanding and fulfillment of the two underlying assumptions:
1. Effective HR management requires its managers to understand and ensure the integration of human resource management with the strategic goals of the company,
2. Effective human resource management leads to the improved organizational performance.

When policies and practices are aligned with the strategic objectives of the organization we are talking about "vertical integration". A key distinguishing feature of the strategic management of human resources is not a change in activities that fall within the human resources management but a shift from professional and technical standards for assessing practices and policies regarding human resources management and towards the implementation of organizational efficiency instruments as a primary criterion for the effectiveness assessment (Huselid,Becker, Beatty 2004).

Understanding the strategic objectives of the organization requires a deeper understanding of the whole context in which the organization works. This understanding will help provide a basis for conceptual policies and practices that will serve as a system consisting of several components that are more or less

compatible. The policies and practices that are aligned with each other in a way they form an internally coherent system are referred to as "horizontal integration".

Achieving horizontal and vertical integration requires HR managers to work in line with line managers and employees. All in all, the strategic human resource management should be about:

- vertical integration - understanding of the organization and its context,
- horizontal integration - developing a coherent system,
- demonstrating efficiency - presentation of HRD's contribution to organizational performance,
- partnership – cooperation of HR managers with line managers and regular employees,

An essential part of management methods must be the participatory decision making process, systematic consultation, direct and open communication, free decision in choosing the ways of meeting the challenges, teamwork. A significant emphasis is placed on employee satisfaction and the quality and balance of working and personal life. Quality of work life creates psychological conditions necessary for the production of quality outputs.

With regards to motivation tools the importance is placed on individual objectives of employees. Organizations are trying to find ways for the full-fledged development of their employees. Methods of training and staff development are created so as to meet the needs of both employees and the company. Employees are aware of the need for self-development and increasingly participate in setting goals for personal development.

The remuneration should be linked to the performance measurement and take into account the forms that individuals prefer.

The department of human resources should be customer-oriented. Customers place a heavy emphasis on product quality and without it they are not willing to pay the set price. The above also suggest the implementation of a quality management system where human resources management has a vital role to play (Štefko and Krajňák 2013).

According to the study carried out by Towers Perin (1990) In Briscoe et al. 2012 the HR department shall focus especially on the following knowledge and skills:

- Ability to influence and educate line managers about the importance of the policies and practices of HRD.
- Have computer and technology skills so that they are able to create and use databases and social networks to share and transfer knowledge, decision services across the bodies of international companies.
- To be able to anticipate future developments in terms of talent availability across the globe.
- Focus on the quality of services provided within an international company.
- Defining future visions and its presentation within the HR department and the entire company.
- Be prepared to take corresponding risk arising out of innovative practices used in human resources management.
- Develop a broad set of knowledge about the functions of human resource management
- To be able to present the financial impact of the HRM's policies and practices on organizational effectiveness.

HRM is leaving its passive and reactive approach in favor of a proactive, policy-driven approach so as to be able to anticipate future needs of companies. Many companies have moved beyond the conformity and predictability of the current state with a notion that already set standards can be surpassed.

Conclusion

As is clear from the submitted text, globalization and the resulting emergence of multinational companies has brought with itself new challenges for HR departments in such companies. These changes require new thinking and prompt the shift from the classical national approach to global approach. Moreover, these changes bring new challenges and demands on the knowledge and skills of HR managers, require new organizational structures and bring about requirements for certification and professionalization of HR managers. There is also a significant space for academia – academics have to draw up management methods and metrics regarding benefits of human resources management for organizational performance.

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Advantages and Limitations of Application of Situation Analysis in the Corporate Sphere

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Abstract

This contribution deals with strategic planning and management. It characterizes turbulent development of the external environment, its causes and the need of enterprises to respond to major changes. It defines situation analysis as a tool for evaluation of internal and external environments of companies and as a necessary input for formulation of their strategies. A group of companies from the Czech Republic has been used to analyze, to evaluate and to identify advantages and limitations of selected methods of situation analysis.

Introduction

In the scientific community, but also in the corporate sector, ever more attention has been paid to the paradigm of strategic management, as a result of growing discrepancies between the internal and external environments of companies and between the outlined development strategies and the anticipated trajectory of global economy development. This is connected with an ever more apparent discrepancy between development of national economies and the European or global economic system, the existing organizational and management corporate structures and the management styles. The causes behind this situation cannot be accurately quantified yet but it is possible to expect that the most important factors include the discontinuous and turbulent character of development of the external environment of companies, rapid development of information technologies, the achieved level of scientific knowledge and research and the needs of the society.

The end of the last century was characterized by discontinuity - distinct discontinuous phenomena in the external environment of companies, which in some periods could be described as dramatic and unique. Peter Drucker, who is often considered the father of modern management, has described turbulence as an opportunity and said that turbulence could be analyzed, predicted and that its fundamental causes could be managed (Drucker, 1994). Equally as Drucker, also Mintzberg (2007) believes that discontinuities bring forth opportunities that should be used. Mintzberg observes that companies rarely go through continual dramatic changes and that most changes are small and temporary and therefore they do not require strategic response. However, he admits that once in a while significant discontinuities occur and it is necessary to respond to them. He believes that the actual challenge of strategy development consists in the ability to reveal tiny and developing discontinuities which may threaten the companies or, on the contrary, provide them with special opportunities. On the contrary, Kotler and Caslione (2009), Tichá, Hron (2009), Zuzák (2011) and many others, speak about transition from the turbulent environment to chaos, which is further supported by technological progress, information revolution, Internet environment, overwhelming of companies and individuals with information, new technologies and innovations (such as cloud computing, contextual computing), development of hyper-competition and super-competition, growing power of customers etc.

Companies should respond to such changes, often only to ensure their mere survival. However, the procedures and methods they use are not always appropriate to their needs and they often fail to reflect the actually ongoing changes. Strategic management in the market environment can be still considered fairly new in the Czech Republic. Despite the widespread use of the term, only some of its basic methods and general characteristic have been generally known. Special methods, approaches, researches and employed solutions in various competitive areas of strategic management that have been applied in developed countries are still little known here and their availability is limited (Mallya, 2007). For correct strategic decision-making managers must analyze and evaluate primarily the factors of the external environment, i.e. requirements and changes in the conduct of the customers, competitors and suppliers but also development of macroeconomic factors (Keřkovský, Vykypěl, 2006). Equal attention should be paid to the internal environment. This can be supported by situation analysis. The professional public has generally accepted the opinion that situation analysis should include particularly evaluation of individual components and properties of the external and internal environments of the company, with the use of methods for their analysis, i.e. strategic analysis. Šulák, Vacík (2005) have defined corporate environment

as the external environment, which includes macro-environment and mezzo-environment of the company, and the internal environment, which includes analysis of the company, i.e. micro-environment with the internal corporate sources; the same classification of environment was described by Frynas and Mellahi (2011). A similar classification was proposed by Mallya (2007) who differentiated between internal, industrial and general business environments. Veber (1998) additionally classified the macro-environment as local environment, national environment and environment of an integration group. Jakubíková (2008) and Dedouchová (2001) defined macro-environment, micro-environment and the enterprise. In the present globalizing world, particularly in the area of globalization of markets and business, Jakubíková describes a situation analysis with application of 5Cs that characterize the company (Company, Collaborators, Customers, Competitors, Climate) and also an extended situation analysis with application of 7Cs (Country – national specifics, Climate/Context – macro-economic factors, Company, Collaborators – cooperating companies and individuals, Customers, Competitors and Costs).

In strategic management it seems expedient to use strategic analyses for description of external and internal environments (Tichá, Hron, 2009, Váchal, Pártlová, 2010), however, it is necessary to consider the structure and content of the individual analyses as some of them are not universal and they cannot be used in a uniform manner, particularly with regard to sector differentiation. This very statement is partly documented by this paper. One can expect that the future development of companies will follow new trends in the area of a strategic planning cycle, strategic methods and strategic management tools, but also in implementation techniques of the outlined strategies in corporate practice. Their sophistication and complexity will depend on the size and character of companies, scope of their application and naturally on a number of other factors.

Methodology

The objective of this contribution was to analyze, to evaluate and to identify the existing advantages and limitations of situation analysis, particularly in the corporate sphere. From this point of view the following hypotheses were formulated:

H1: Application of the SWOT analysis is not universal.

H2: Methods of situation analysis are mutually logically interconnected, including their corresponding outputs.

H3: Changes in the external environment are reflected in the situation analysis.

The research was conducted in for a group of 60 enterprises in the Czech Republic. After an objective and professional review of the developed analyses 20 of them were eliminated due to incomplete processing of the analyses. The tested group of 40 enterprises was divided into two basic groups - manufacturing companies and companies dealing with trade and services (each group consisted of 20 enterprises). Selected methods of situation analysis were then applied to the group of companies in agreement with prepared methodical instructions in order to evaluate internal and external environments of the enterprises. The following methods were applied: SWOT analysis, Porter´s 5 Forces model, Analysis of Competitors, Analysis of Industry Attractiveness, method for Determination of Strategic Alternatives, BCG Matrix, Strategic Clock, SPACE analysis, STEP analysis and analysis of Sources of Specific Opportunities). From among them, 3 strategic analyses (method for Determination of Strategic Alternatives, SPACE analysis and Strategic Clock) were then selected to test the formulated hypotheses.

Method for Determination of Strategic Alternatives

The method is based on a questionnaire survey consisting of 44 questions and the results are recommended strategies for the enterprise: A, B, C or D. The variant A recommends to the enterprise to keep the status quo, i.e. not to change anything and keep the existing customers and the existing products /services. The variant B recommends to the enterprise to focus on new products but to keep the current customers, while the variant C recommends the opposite approach. The last variant D recommends focusing on new products / services and on new customers.

SPACE analysis (Strategic Position and Action Evaluation)

The SPACE analysis defines an appropriate strategic position for the enterprise. It uses competitive advantage and financial strengths of the enterprise to determine the strategic position of the enterprise and through characterization of industry attractiveness and environment stability it defines the strategic position of the entire industry. Based on evaluation of factors that characterize the competitive advantage

of the enterprise, its financial strength, industry attractiveness and environment stability it is possible to outline the strategic position of the enterprise, which may be aggressive, competitive, conservative or defensive (Váchal, Pártlová, 2010).

Strategic Clock

Strategic Clock describes relation between the price and use value of products and services. Within this relation it is possible to define a competitive strategy for the enterprise: low price strategy, hybrid strategy, differentiation, focused differentiation and the so-called strategies that will fail.

Additionally, we have separately used the SWOT method which is currently the most frequently used method in the corporate sphere, as well as in other sectors. Suitability of the method was evaluated on a sample of 5 allowance organizations from the healthcare and environmental management sectors. SWOT analysis is characterized by inconsistent methodological framework. The objective of SWOT analysis is to identify and to evaluate both internal factors (strengths and weaknesses), and external factors (opportunities and threats) to define the position of the enterprise. The combination of strengths and opportunities is described as a MAXI-MAXI strategy, the combination of weaknesses and opportunities is described as a MINI-MAXI strategy, the combination of strengths and threats is described as a MAXI-MINI strategy and the combination of weaknesses and threats is described as a MINI-MINI strategy (Straková, Váchal, Staněk, 2012).

Results and Discussion

The reduced SWOT method was used to test the hypothesis H1 (see Fig. 1).

Fig. 1: Reduced SWOT method
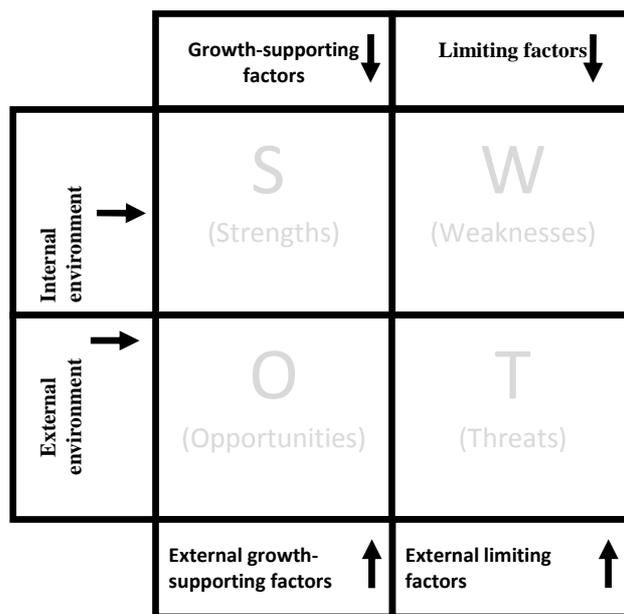
Tab. 1: Number of enterprises (expressed as a percentage) using strategies based on the SWOT analysis

STRATEGY	V	OS	PO
Maxi-Maxi	**50%**	**65%**	**35%**
Mini-Maxi	**35%**	**25%**	**35%**
Maxi-Mini	**10%**	**5%**	**15%**
Mini-Mini	**5%**	**5%**	**15%**

Legend:
V – manufacturing
OS – trade and services
PO – allowance organizations

The results provided in Table 1 indicate the following:
- The prevailing strategies used by manufacturing enterprises are Maxi-Maxi and Mini-Maxi, which generally reflects the current situation in the corporate sphere in the Czech Republic.
- Enterprises dealing with trade and services demonstrate a similar trend but with higher intensity.
- For allowance organizations the SWOT results do not have the same information capability as for the corporate sphere because the objective is to define the position or strategy of enterprises. Therefore it is possible to assume that this analysis is not suitable for this type of organizations.
- The results have shown that the use of the SWOT method is closely linked to economic cycles (growth, stagnation, depression).

Based on the obtained results the hypothesis H1 has been confirmed.
In respect to the hypothesis H2 which focuses on logical interconnection of the individual methods of situation analysis, we compared links between the SWOT method and the SPACE analysis.

Fig. 2a) SPACE analysis – Maximum values
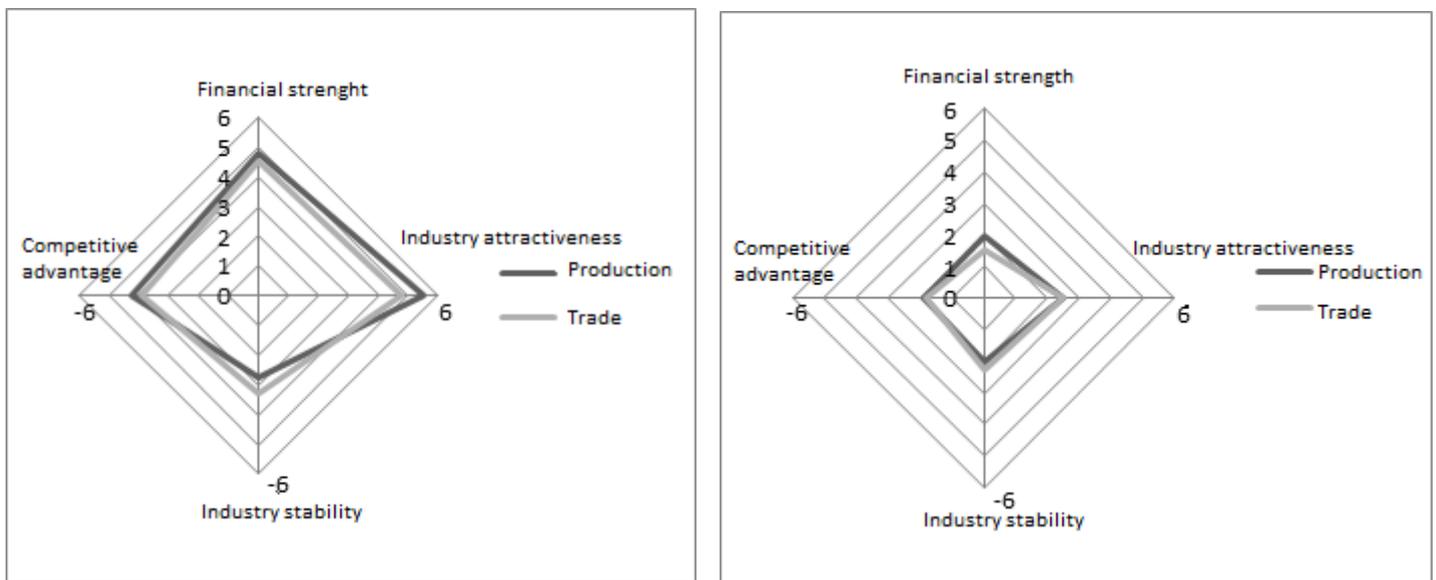
Fig. 2b) SPACE analysis – Minimum values

Tab. 2: Comparison of the SWOT method and the SPACE analysis

Manufacturing			Trade and services		
=	+	-	=	+	-
11	7	2	11	6	3

Legend:
= conformity
+ slight differentiation
- nonconformity

The following conclusions can be drawn from the Figures 2a), 2b) and Table 2:
- Manufacturing enterprises demonstrate significantly higher industry attractiveness and lower financial strength.
- Trade enterprises demonstrate higher environmental instability.
- It is possible to identify distinct logical interconnections between the two methods of situation analysis, strong conformity has been found for more than 50 % of the enterprises and slight differentiation for 33 % enterprises.

In the course of the work logical connections with the SWOT analysis and the SPACE analysis were also demonstrated for the method for Determination of Strategic Alternatives, as indicated Fig. 3 and Table 3.

Fig. 3: Diagram of the method for Determination of Strategic Alternatives
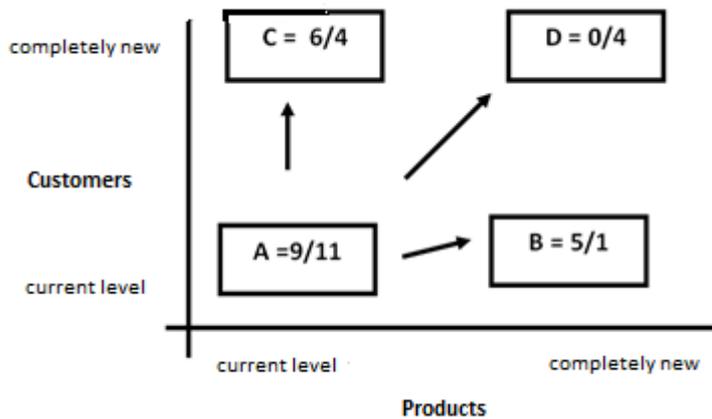
Tab. 3: Results of the method for determination of strategic alternatives

Alternative	A	B	C	D
Manufacturing enterprises	9	5	6	0
Trade and services	11	1	4	4

The most frequently recommended variants are A and C, while the variant B is less represented. The prevailing approach is to keep supplying the current level of products or services to the existing customers, while one third of the enterprises are trying to find new markets.

The completed survey has confirmed the hypothesis H2.

The hypothesis H3 was tested with the Strategic Clock method – see Fig. 4 and 5.

Fig. 4: Strategic Clock applied to manufacturing enterprises
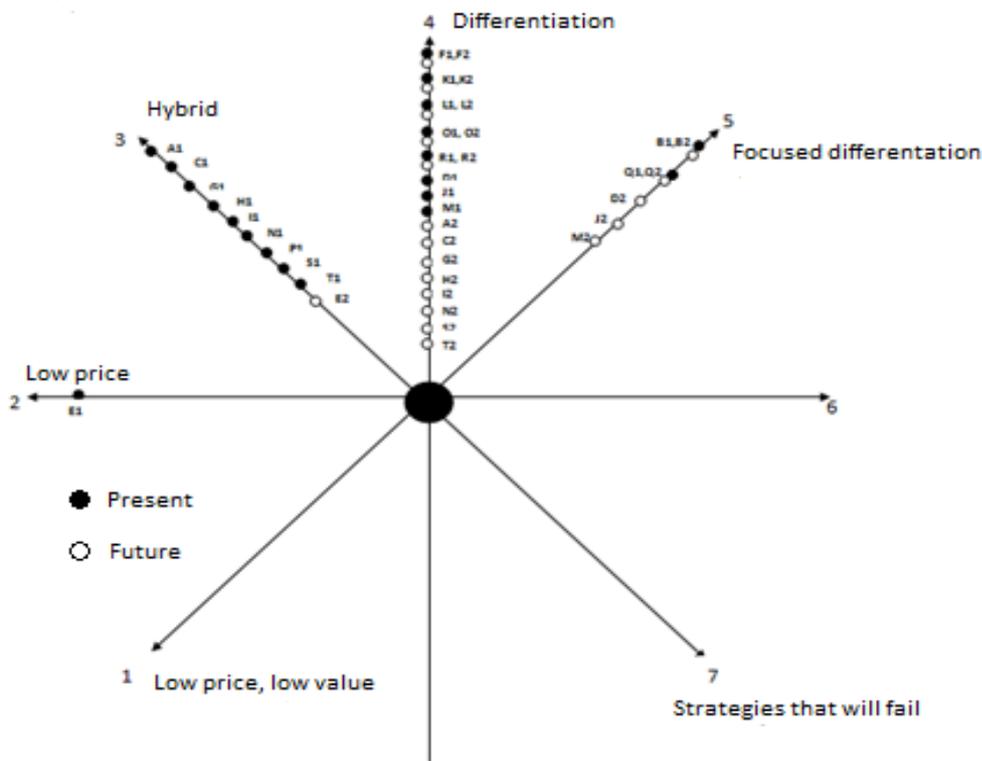
Fig. 5: Strategic Clock applied to examples of trade enterprises
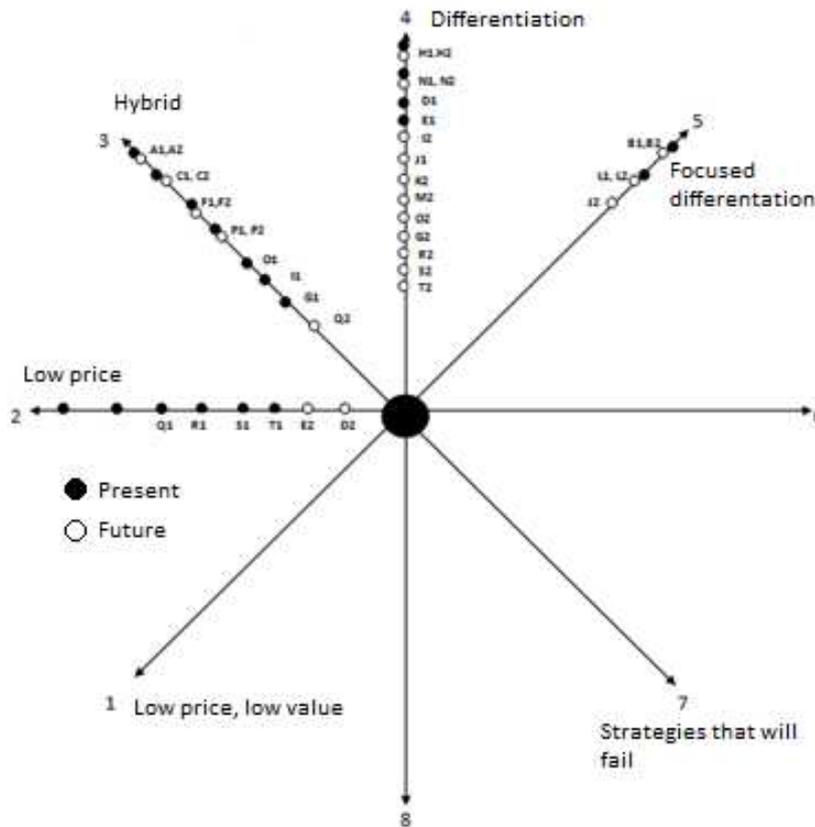
Based on Figures 4 and 5 it is possible to conclude that:

- Changes in the external environment are much more intense in the case of manufacturing organizations.
- There is a significant shift from the hybrid position to differentiation positions to focused differentiation.
- In the case of trading companies changes in the external environment are less intense in comparison with manufacturing enterprises and there is a slight shift from the hybrid position to differentiation and focused differentiation which is a phenomenon typical for the period of economic growth.
- Trading companies have quite logically preferred price-related strategies which shifted towards differentiation.

The hypothesis H3 has been also confirmed.

The completed survey has lead to the following conclusions and recommendations.

  a) *General conclusions and recommendations*
- Many strategic methods of situation analysis are seen by their users as purely theoretical and very hard to implement in the corporate sphere under normal operating conditions
- The awareness of strategic management and decision–making methods, as well as the awareness of the content and procedural principles of situation analysis , are insufficient, even among the young generation of managers.
- Top managements, particularly in big enterprises, demand a set of procedures and methods to be developed for situation analysis which should become an integral part of the corporate management, i.e. a part of the work content of top managers, including outputs that can be used at the tactical and operative levels of management, including the possibility to evaluate and to innovate the strategy of the enterprise in the course of current operation.
- Turbulent and discontinuous environment is intensely perceived by the managements and changes in the external environment are often considered critical for business survival, however, the measures adopted for elimination of their impacts are mostly only operative and they do not address the very substance of such phenomena.

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- The existing level of knowledge of strategic management fails to meet challenges of the 21st century when economic entities need to face the changing character of work, knowledge economy, developments in information technology and particularly the position of human factor in the working cycle, with its knowledge and skills, as the unique source of added value in the human society.

b) Practical conclusions and recommendations
- To create general models of situation analysis for the basic groups of enterprises and institutions, with differentiation based on their size.
- To develop and to verify algorithms of interconnection for strategic analysis of internal and external environments.
- To define potential innovations of situation analysis with regard to the existing methods and particularly with regard to expected changes in the macro- and micro- environments of the enterprises in order to make relevant decisions about future direction of the concerned entity.

Conclusion

This article is a humble contribution to the ever more audible debate about strategic planning and management of economic entities. The objective of this article is to highlight the need to deal with those topics and also to point to their complexity and sophistication. The author is fully aware of those aspects and she believes that her results will stimulate a far more extensive research that this topic requires. Such a research has already started and it involves a number of prestigious foreign institutions, including the University of Prešov, department of management. Only this type of research may gradually find answers to questions that are getting ever more urgent with the ongoing changes in the external environment, both at the national economy level and in the global context.

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The Importance of Key Performance Indicators in the Process of Performance Evaluation of Business Entities Active in the Slovak Republic

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Abstract

Holistic approach to performance management is long proclaimed theme in professional and scientific circles. Performance management at individual level requires a systematic approach for evaluating the work and expectations, supporting such efforts of employees by providing evaluation and feedback in the form of the subsequent implementation of the appropriate corrections, while rewarding. One of the strategic assessment tools and performance management in companies are just key performance indicators (KPI) and the underlying assumption that the selected indicators can be measured or quantified. The process of selecting the optimal key indicators is therefore truly ambitious and specific with regard to the nature and orientation of the company itself. Accordingly, the contribution focuses on the issue of performance evaluation and in the context of the investigation of the links between individual evaluation methods and key indicators while research sample consists of small, medium and large organizations operating in the Slovak Republic at the local, but also multinational level.

Key words

Performance, key performance indicators, business entities

Introduction

Key performance indicators (KPI) can be described as indicators that help organizations achieve their objectives by defining and measuring the course of their implementation. Simply put, when we look at KPIs, they tell us whether we are reaching our objective or not. At the same time, KPIs show us what accomplishments we have already achieved and what partial objectives lie ahead of us. There are quite a lot of areas that use KPIs every day, like websites traffic tracking, HR management or facility management. KPIs must make sense, so it is necessary to determine why exactly we need to follow and measure the given complexity and keep in mind reasons why it is significant. The user must clearly know what is his objective and what is the objective of the monitored process. It should be noted that the values of variables can change over time, for example energy consumption values vary depending on a season (limits are not static either). Our solutions provide the means that support the creation of various forms of measurements, their monitoring/ tracking and presentation. There is a whole range of different chart types, setting limits and actions to be taken in the event objectives are achieved. (Štefko, Krajňák 2013) The graphic presentation should feature bar charts (which appropriately represent the development of an indicator) or figures showing upper and lower limits. After using the above approach, it is then easy to determine whether everything is as it should be. It is just a matter of course that indicators are continuously re-evaluated and re-calculated. The results are then archived for future evaluations. It is also possible to show and compare several indicators at once. KPIs are undoubtedly very important and they are also becoming very popular. It should be kept in mind that KPIs are not enough to manage a company. The successful company management requires intelligent manufacturing solutions using KPIs and which also inform us whether the parameters are all right or not.

Current state of knowledge of the analysed issue

Parmenter (2010) states that the fundamental problem of any performance measurement system is the correct assessment of key performance indicators. Key performance indicators include results and outcomes that are key to achieving high performance and provide the basis for setting targets and performance measurement. (Armstrong 2008) Key performance indicators can therefore be defined as indicators that help the organization achieve its objectives by defining and measuring the course of their implementation. Key performance indicators (KPIs) help the company in defining and quantifying the

progress towards the objectives that were outlined in the corporate strategy. KPI implementation gives top managers an opportunity to see the real picture of what is going on in the company and assess the correctness of their decisions. (Matejko 2010)

Parmenter (2010) defines three types of performance measures:
- Key Result Indicators (KRI);
- Performance Indicators/Results Indicators (PI/RI);
- Key Performance Indicators (KPI).

KPIs can directly work with KRIs (Key Risk Indicators) to provide managers with two different sides of the same coin. KPIs and KRIs serve as an early warning signal outlining serious risks associated with a particular activity. The parameters that are vital to the success of the company are called Critical Success Factors (CSF). In the past, it was believed that the success of the company was mainly determined by the marketing mix: 4P – Product, Price, Promotion, Place.

Nowadays it is not enough to rely only on these factors alone, they are now minimum requirements. In order to succeed companies should identify also other important CSF and measure their performance through KPI. Ranking CSFs according to their priority, measuring results and rewarding the best performance help companies to succeed in the long term (Parmenter 2010)

KPIs are sometimes categorized as follows: (Kerzner 2011)
- quantitative KPI: expressed as a numerical value,
- practical KPI: relating to business processes,
- directional KPI: whether there is an improvement or a deterioration in the business processes,
- actionable KPI: bring about changes,
- financial KPI: indicators of financial effectiveness and efficiency.

Typical features of key performance indicators are as follows: (Parmenter 2010)
- represent non-financial / fiscal measurement instruments;
- are regularly evaluated;
- all employees understand them and know what corrective actions should be taken;
- the responsibility for key performance indicators can be assigned to teams and individuals as well;
- have a significant impact on the organization, influence the critical success factors;
- the results of key performance indicators positively affect other measures as well.

Kueng (2000) further points out two scenarios for the implementation of key performance indicators in the organization:
- adopting a common set of performance indicators with an emphasis on the most suitable type of indicators for the given area;
- creating and implementing new performance indicators.

While the first option appears to be attractive because it makes no sense to reinvent something that has already been in use, the opposite is true since there is no universal set of performance indicators that could be implemented in all organizations.

The second option is about creating and implementing key performance indicators. This option seems to be useful, since it allows for precise definition of an indicator and its subsequent adapting to the conditions of the company. Links between indicators that follow the development of the reproductive process and facts taking place in the company serve as a basis for the pyramidal system of indicators. The pyramid system of indicators consists of one major indicator that is then broken down into its individual parts. These parts then serve as causative factors. This breakdown is carried out at multiple levels, therefore, it results in targeted hierarchical order of indicators.

The third option of expressing the performance at the organizational level is to express it through the perceived performance in comparison with the performance of similar companies operating in the sector. Under this approach the performance can then be described as lower than, much lower than, the same, as, higher than or much higher than. This method of performance measurement does not require specific data which in some cases might be confidential or misused.

As indicated above, the organizational performance is in addition to financial indicators evaluated using other non-financial indicators such as customer satisfaction, quality of output, the length of the innovation cycle, processing time and so on. Performance management implies clear individual and organizational objectives based on financial and other indicators. The strategy of increasing process efficiency in the company results in profit, increases competitiveness, means better position in the market and brings economic benefits. (Hudymačová, Hila 2010)

Material and methods

In the search for a context or differences between tested performance appraisal methods of individual's performance with its characteristic constituents and the degree of KPIs implementation the statistical method Chi-square test of independence has been applied. Chi-square test testing the null hypothesis that expresses the independence of the variables. To simplify and reduce the original amount of data, while maintaining a substantial part of the information, the analysis applied the multivariate statistical method of factor analysis. The research sample consisted of 203 companies operating in Slovak republic.

The basic evaluation of primary data

For the purposes of assessing the relationship between the methods and the degree of key performance indicators implementation and on the basis of the analysis of theoretical assumptions we have specified a set of fourteen most used evaluation methods which were then subjected to testing. We formulated the following hypothesis:

H1: There is a statistically significant association between the application of performance evaluation methods in terms of the degree of KPIs implementation (breakdown of performance indicators) in companies.

In order to determine the relationship between the selected variables we used χ^2 test the results of which are shown in the following table. We reject the null hypothesis on the independence of the monitored factors due to p values > 0.05 on the significance level $\alpha = 5\%$. Therefore, it makes sense to examine the internal structure of the pivot table.

Table 1. The values of χ^2 test

Variable (Performance evaluation method)	χ^2 test
Management by Objective (MBO)	0,0230*
Rating Scales	0,0013*
Ranking	0,2029
Interview	0,1764
Checklist Method	0,0023*
Paired Comparison Method	0,5854
Critical Incidents Method	0,4273
Essay Method	0,0602
BARS	0,0119*
360-Degree Feedback	0,0792
Self Appraisal	0,4533
Assessment Center	0,2993
Balanced ScoreCard	0,3934
Benchmarking	0,4773

Source: Own processing

A statistically significant correlation was observed for the MBO method (0,0230) in terms of the KPI level.The results are presented graphically - lines represent the evaluation according to objectives and the columns represent the breakdown of KPIs.

Graph 1. Factors load – MBO method
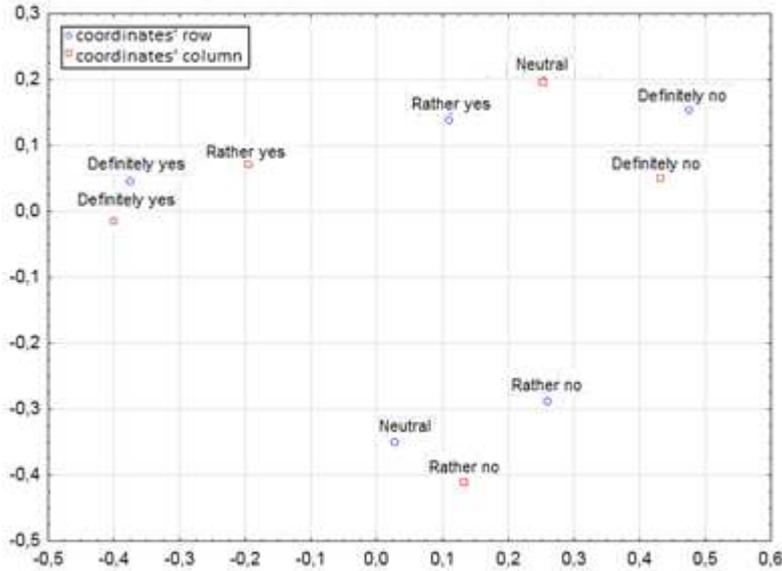
Source: the outcomes of the program STATISTICA 12 CZ

The correspondence map shows that companies using the method of management and evaluation of objectives do work with KPIs and their individual parts. By contrast, companies that do not use KPIs did not pay attention to their individual parts, hence the answer definitely not. The companies that do not use the method or have expressed a neutral position towards do not use KPIs breakdown or do not know much about the issue.

Furthermore, a statistically significant correlation was observed between the breakdown of key performance indicators and a rating scales. The results were processed graphically. Lines represent the use of a rating scales and columns the breakdown of KPIs.

Graph 2. Factors load – Rating scales
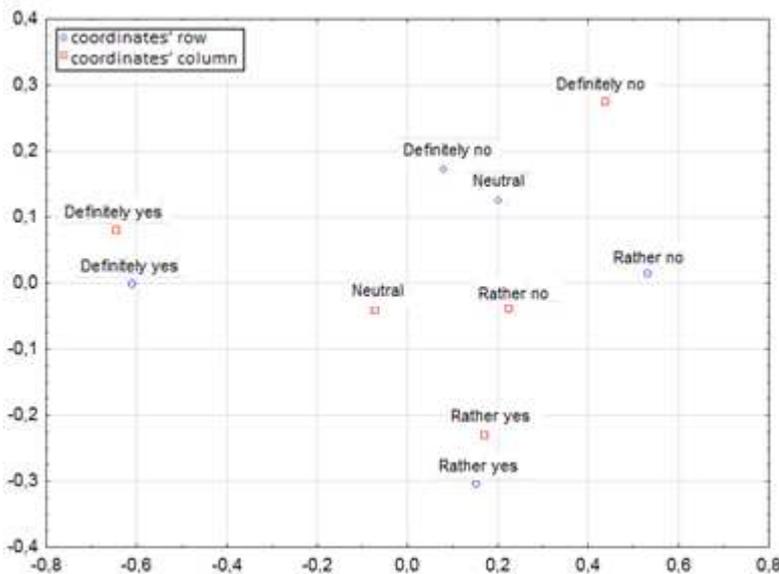
Source: the outcomes of the program STATISTICA 12 CZ

The correspodence map reveals the following: the higher the degree of the evaluation scale implementation, the more detailed the breakdown of KIPs is.

Moreover, the study also paid attention to the relationship between the degree of KPIs breakdown and checklist method. With regard to the breakdown of KPIs the map has a very similar distribution of responses to the previous two evaluation methods. Much like in the above cases also in the case of the

checklist method it follows that the higher the degree of the evaluation scale implementation, the more detailed the breakdown of KIPs is.

Graph 3. Factors load – Checklist
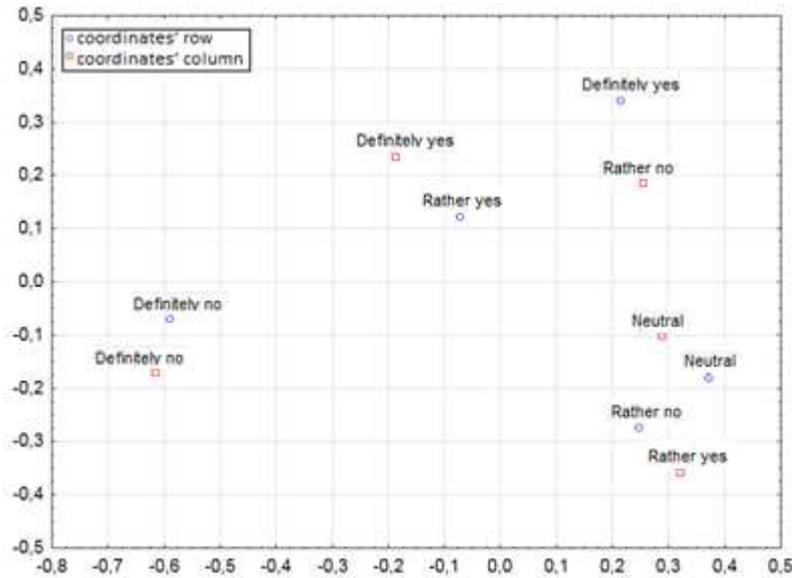
Source: the outcomes of the program STATISTICA 12 CZ

The last correlating relationship between the KPIs breakdown degree and performance evaluation methods is to be observed using BARS method (Behaviorally Anchored Rating Scale).

Graph 4. Factors load – BARS
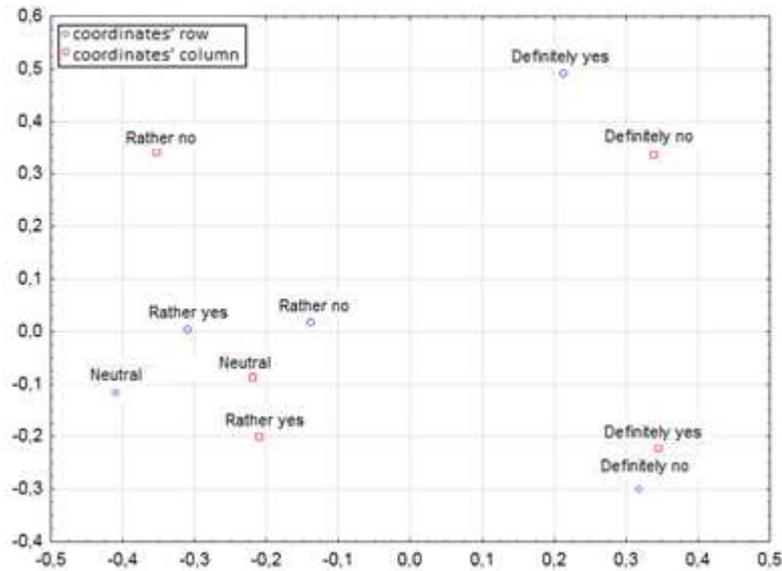
Source: the outcomes of the program STATISTICA 12 CZ

In the correspondence map can be seen that KPIs breakdown degree is in this case not important at all. The higher the KPIs breakdown degree the less BARS is used and vice versa.

Based on the results of χ^2 test we can accept the alternative hypothesis H1. This means that there is a statistically significant relationship between the evaluation methods and KPIs breakdown degree. Thus, H1 hypothesis can be verified.

Summary

In order to very statistically significant relationships from the point of view of KPIs breakdown, we have used individual performance evaluation methods to test the aforementioned. The statistically significant relationships were confirmed in the case of MBO method (0.0230), rating scale method (0.0013), the evaluation questionnaire (0.0023) and BARS emthod (0.0119). The hypothesis was verified. In conclusion it can be stated that we need KPIs to make a picture of what the company needs and how to achieve the set objectives. KPIs, however, have to be quantifiable and be easy to interpret. If not, a company will not be able to determine whether the objectives were or were not achieved. KPIs are thus helpful in measuring company's progress or meeting the set objectives to increase its efficiency.

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Project Management Certification in Context of New Project Management Trends

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Abstract

Modern Project management requires a sensitive but effective management of project parameters in terms of time, cost and quality. The requirements put on Project Managers are developing and changing rapidly and require new skills from both Project Managers and Project Owners. This article would like to provide a brief insight into the world of Project Management, Project manager skills and Project Management certification.

Key words
Project management, Project Managers, Certification, IPMA

Introduction to Project Management
How much do we know about the history of project management? Can the Pyramid costruction in Egypt be considered as a project activity? It is not easy to estimate when was the first project management methodology applied but we can surely say that like many other innovations also project management appeared and began to develop in a more organized and standardized way in the army and its related technologies. As one of the first projects, the Manhattan Project is considered to be. This project aimed to develop nuclear weapons during the WWII. It included a number of technicians, engineers and scientists, which predestined the way of work. In our region, we were used to meet projects mainly in the construction, research and industry areas. These projects were oriented mainly towards technologies and other specialization and this has clearly determined the profiles of the implementers.

Project management
Over the past 20 years, project management methods and approaches reached all areas of business and governance as they provide speed and flexibility, where standard management work methods fail. Tasks that are organizationally and technically complex, need to be implemented quickly and are almost always unique and unrepeatable become projects. According to different estimations, the proportion of such type of tasks in companies reaches 40%.

What is a project?
The Project Management Institute defines project to be a temporary endeavor undertaken to create a unique product, service or result.

A project is temporary in that it has a defined beginning and end in time, and therefore defined scope and resources.

And a project is unique in that it is not a routine operation, but a specific set of operations designed to accomplish a singular goal. So a project team often includes people who don't usually work together – sometimes from different organizations and across multiple geographies (Project Management Institute 2013).

A different definition, provided by the Office of Government Commerce, defines project as a temporary organization that is created for the purpose of delivering one or more products according to an agreed Business Case. The main characteristics in this case are: Change, Temporary, Cross-functional, Unique and Uncertainty (Office of Government Commerce. 2009).

What is Project Management?
Project management, according to the Project Management Institute, is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements (Project Management Institute 2013).

The Office of Government Commerce (2009) defines Project Management as the planning, delegating, monitoring and control of all aspects of the projects, and the motivation of those involved, to achieve the project objectives within the expected performance targets for time, cost, quality, scope, benefits and risks.

Project Managers

The project manager is the person aasigned by the performing organization to lead the team that is responsible for achieving the project objectives (Project Management Institute 2013).

In general, project managers have the responsibility to satisfy the needs: project needs, task needs, team needs and individual needs. The work is very complex and requires several skills and competence to be able to achieve and fullfill the expected requirements.

Project managers can be found in every kind of organization - as employees, managers, contractors or independent consultants. With experience, they may become program managers (responsible for multiple related projects) or portfolio managers (responsible for selection, prioritization and alignment of projects and programs with an organization's strategy).

The market demand on qualified project professionals for these activities who can implement these quickly and effectively, is growing rapidly. Although many universities have project management as part of their study programs, students only in contact with the reality can find out what project management really is. The gap between the needs and the knowledge is filled up by many many training and consulting company but good project managers, employees become only when they discover their potential in the field of social competence.

The main problem, why many of the projects fail, is the way of nomination of project managers. In many companies, the management preffers to nominate persons who are experts, scientists in their specialization but their offen end up to be weak managers. The reason for that is that the employee is more focused on solving the scientific part of the project than on managing the project.

Acoording to Mr Jeff Collins (2016), President of Innovative Management Solutions, the skills that the best Project Managers carry are:

1. Communication

    Without communication, a civilized society would not be possible. The best project managers have exceptional communication skills. They understand the need to thoroughly communicate their wants and wishes. Furthermore, they know failure to communicate their needs is a reflection of their own limitations, so communicating remains their top priority.

2. Listening Skills

    Listening is the natural counterpart to communication. To understand why something needs to be completed in a specific manner, the best project managers must listen to executives, coworkers, and team members.

3. Problem-Solving Skills

    When presented with a challenging situation, project managers must determine a way to complete their charge. This may include budget problems, issues with local governments, or environmental concerns. By searching for alternate ways to address a problem, a project manager can devise a strategy to complete the project in accordance with the original plans.

4. Budgeting

    Project managers must have strong budgeting skills. If a project manager misappropriates a budget, an entire project could collapse.

5. Teamwork

    The best project managers understand the value of teamwork. When you have a horde of angry followers, nothing can be accomplished. However, working together will let things proceed smoothly and quickly.

6. Intelligence

    Project managers must be smart. They need to understand why a project's goals will benefit society. This will allow them to explain rationale to team members and complete projects more efficiently.

7. Dispute-Resolution Skills

   Disputes will always arise. The project manager needs to be able to resolve these disputes without costing the company money in terms of termination costs, lawsuits, or other disruptions in workflow.

8. "Highlighting" Skills

   When you analyze a page of information, you may want to highlight the most important parts. The best project managers understand what warrants recollection. If something is not important, it does not need to be noted.

9. Understands the Value of Information

   Project managers have access to more information than any other person working on a given project. However, they must never use this information as a weapon against their coworkers. They must understand the value of information and its ability to wound.

10. Approachability

    Project managers need to be approachable. This will ensure workers ask questions when needed and communicate with the project manager.

11. Compassionate

    Project managers need to understand the human element of a project. If a team member has an emergency, he should be given time off if feasible. Furthermore, a project manager must take into account how his actions will be viewed by other team members.

12. Leadership

    The best project managers must take a leadership and accountability role in their duties. if a team member falters, the project manager should provide guidance and accept responsibility for the team member's actions.

13. Creative Thinking

    Some solutions do not fall within the scope of problem-solving skills. They require the use of tools and strategies beyond expectations. This is referred to as creative thinking. Creative thinking might be involved in determining how to create a schedule, stretch finite material resources, or answer to risk analysis requests.

14. Risk Analysis

    Project managers must understand how outside influences impact their project. If a single risk is ignored, it could undermine an entire project.

15. Willing to Learn

    The best project managers always have this skill, a willingness to learn. They know education is unending, and you can always learn as you grow. You never stop growing until you refuse to learn anything new. (For more details visit: www.ims-web.com)

Projects are short-term activities, which means that the project team is working under time pressure. But these are also activities that are often new and not realized before by the project team, so the exact process of the work is not given or even not known in advance and the plans created at the beginning are based on assumption and are continuously updated. Project Manager works with people who often sees the team for the first time, they have their own needs, perceptions, expectations and especially personalities. To make them to be a real Team they must be managed carefully. This all means, that on projects project teams are doing something they have not done yet, they are doing it under time pressure and in addition, with people you they see for the first time. It also happens, that the project manager has only limited powers and has to fight for resources with the line management.

Project management certification

Certification in any field of interest is a respected way of knowledge, skills or competence validation. Certifications can be obtained in various areas both from local and international authorities. Project management certification has gained significant importance in the last 20 years and there are more than 20 different certications available in the project management area. The following certifications belong to the most popular ones: CAPM, PMP, Prince2 Foundation, Prince2 Practitioner and IPMA. These

certifications differ in their structure, focus, testing methodology and requirements on candidates and not all of them include the "soft skills" aspect of the project manager work.

Based on the experience of the Project management community, many international authorities in project management start to implement "soft skills'" into profiles of project managers. The International Project Management Association (IPMA) divides competencies of project managers into three areas: Technical competences (hard skills - Methodology), Personal competences (Behavioural - Soft skills) and Contextual Competences (Contact with the line management, contact with other projects, etc.). Candidates who want to obtain an internationally recognized certificate in project management have to demonstrate not only their technical knowledge but also skills in the field of social competences.

Figure 1: The Eye of Competence
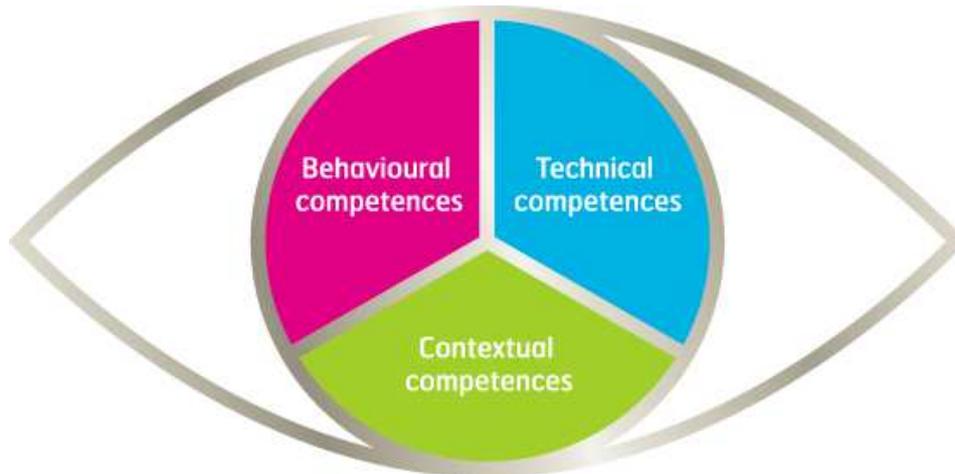
Source: International Project Managemet Institute, 2016

The International Project Management Association (IPMA) was founded in 1965 and is the world's first professional project management association. It is a Federation of more than 60 Member Associations (MAs) from the Americas, Africa, Asia, Australia and Europe.

IPMA plays a leading role in the development and promotion of the project management profession, providing standards and guidelines for the work of a wide range of project management talent through the IPMA® Competence Baseline (IPMA ICB®).

There are many dictionary definitions for Competence but within The International Project management Association (IPMA) that is providing the IPMA project management certification, the IPMA Competence Baseline, ICB® version 3.0, refines the terms used for certification in project and programme management:

- Competence is the demonstrated ability to apply knowledge and/or skills, and where relevant, demonstrated personal attributes.
- The certification scheme contains the specific requirements related to particular categories of people to which the same standards and rules, and the same procedures apply.
- The certification process encompasses all activities by which a certification body establishes that a person fulfills specified competence requirements.
- The assessment is the mechanism which determines a candidate's competence by one or more means such as written, verbal, practical and observational.
- A qualification demonstrates the personal attributes, education, training and/or work experience of the individual.

The IPMA® competency-based Four-Level Certification System for programme and project managers is unique in the world, and widely recognised for its quality.

The IPMA four-level certification program is designed as an ongoing competence development process. Every step up the four-level competence stair incorporates adequate development in self-knowledge and verified competence (International Project Managemet Institute 2016).

Figure 2: IPMA four level certification (4-L-C)

Source: International Project Managemet Institute, 2016

As described in the IPMA certification methodology, the roles in the 4-L-C system, with their distinctive capabilities, include:

a) IPMA Level A: Certified Projects Director manages complex project portfolios and programmes.
b) IPMA Level B: Certified Senior Project Manager manages complex projects. Minimum five years of experience.
c) IPMA Level C: Certified Project Manager manages projects of moderate complexity. Minimum three years of experience.
d) IPMA Level D: Certified Project Management Associate applies project management knowledge when working on projects.

It cannot be precisely defined or generally said which certification suits project mangers the best, as the needs and expectations of project managers and project owners are offen very different.

Stacy Goff, President of ProjectExperts, has compared different project management certifications in his article Comparing PM Certifications: Which Is Best For You? and has got to the following result when evaluating the certification in regards of Certification effectiveness:

Figure 3: Comparation of PM certifications: Certification Effectiveness Summary
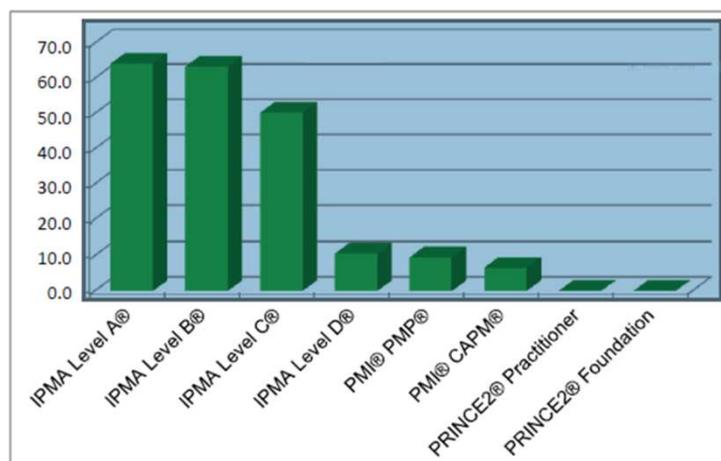
Source: Goff, S. 2013

The article and its results recommend Project managers to focus on project management certification based on IPMA standards and by this to develop a number of skills and competences.

Summary

The project management world is very dynamic and puts a lot of pressure on project managers regarding project performance. The future belongs to project managers, who are not necessarily scientists

or specialists, but project leaders, who are able to lead various teams and are able to effectively apply project management methodologies in real project life.

The project management certification is the trend of modern project management of nowdays and the IPMA Four level certification as one of the certification options, is an excellent option for the junior project managers who want to progress and develop their skills and also for experienced project managers for further development and validation of their skills and competences. This certification is worldwide recognized and widely accepted in both governmental and business project managent world.

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The Behavioral Differences of Employees According Lewis's Model as a Part of Corporate Culture Influencing Personal Marketing in Slovak and Chinese Companies

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Abstract

Corporate culture is specific for each company and there are a lot of factors which affect it. Basic element of corporate culture is employees. Their behavior within the company is affected by defined corporate culture but influence has also national culture. Between different national cultures are differences. Corporate culture directly impacts all significant company operations–including personal marketing. Personal marketing has to be aligned with company's strategy. In order to increase the competitiveness of the enterprise, the use of personal marketing is necessary for stimulating & forming strong culture. Knowing behavior of employees helps to establish a unique personal brand which is bonding people within the company. On the other hand is personal marketing visible part of corporate culture and is used by attracting talented, competent people. Accurate corporate value system and right set ups of personal marketing supports growth and success of enterprise on the market.

Key words
Lewis model, corporate culture, behavior, personal marketing

Lewis's model characteristic and its place in the corporate culture

Corporate culture is an integral part of each company and it is influenced by several factors. One of them is cultural background of respective country. By comparisons of national cultures we can observe differences in social behavior in various social objects – department, company, country. Common sense, core values, behavior, beliefs, habits and others - each country or culture has an own set. To understand environment from global perspective it is needed to learn and understand, respect special features of other cultures. After visiting 135 countries and working in more than 20 of them Lewis (2006) analyzed the world's cultures based on behavior. He came to the conclusion that people can be divided into three basic groups and he named these categories Linear-active, Multi-active and Reactive. The different world's culture has Lewis (2006) defined in three basic categories:

- **Linear actives** - those who plan, arrange, organize, do one thing at a time, follow action chains. The members of this group are Germans and Swiss. They are truthful rather than diplomatic and do not fear confrontation. Their work and as well as personal life is based on logic rather than emotions. Linear actives like facts, fixed agenda and they are very job oriented. They are able to separate social-private and professional life.
- **Multi-actives** - people belonging to this cultural category are able to do many things at once, planning their priorities not according to a time schedule, but according to the relative thrill or importance that each appointment brings with it. As member of this group we can consider Italians, Latin Americans and Arabs. Those cultures are very talkative and impulsive.
- **Reactives** - Listening quietly, reacting calmly and carefully to the other side's proposals are their traits as well. This category is represented by Chinese, Japanese and Finns. Reactive cultures are the world's best listeners in as much as they concentrate on what the speaker is saying, do not interrupt.

Personal marketing as an integral part of corporate culture

The key to the prosperity of the enterprise is hidden in employees. The rational management of human resources is an object of personal marketing. Its effort is meeting their needs, motivation, development, adaptation to changes in job and creation of suitable social conditions for them. Marketing is not only applicable to products and services, but it is very often used in personal management. Corporate culture applies personal marketing in many activities related to attraction and retention of employees. Personal marketing is an activity which purpose is to satisfy needs and desires of employees in relation to business needs.

The target of personal marketing is seen by Kotler (2003) in the relationship of enterprise to employee. The enterprise treats employees as the customers. As well as for customers enterprise has to table an attractive value proposition.

According Novotný (1999) represents main task of personal marketing getting the right people at the right time to meet business objectives. For fulfillment of this task it is recommended to use appropriate tools of personnel marketing mix (Fig.1).

Fig.1 Tools of personal marketing mix

Source: NOVOTNÝ, 1999

Personal marketing is the subject which helps companies to solve the problem (Poláková,Häuser,2003) where and how to find on the available work market qualified manpower. Link to those actions is the task of making believe potential candidates and hired employees that the choosen company is better than competitors.

For the summury as the main pillars of personal marketing can be considered:

- Recruitment: all acttions which help employers to search for new employees, atracct by using employer branding and hiring.
- Compensation & Benefits: Once the employee is hired, employers must compensate them, including various benefits.
- Talent Management & Human Relations: Includes all the human resources services related to managing the individual once they are hired.
- Training and Development: Employers invest in training and developing their employees. Development is based on the evaluation of their performance.
- Compliance: Employers must make sure they are compliant with all the regulations and other country laws. We can add to this pillar all company policies as well.

Results of the behavioral patterns analysis by using Lewis model

Lewis model has been applied in the survey for culture analysis. For survey needs has been used questionnaire with 18 questions related to behavior of employees according Lewis cultural characteristic. The survey was conducted in three enterprises in Slovakia and five companies in China. Overall participated 631 in our analysis pool. Questionnaire was filled out by staff as well as by management. The purpose of analysis was to get to know the positions of surveyed enterprises in Lewis model for cultural types.

According our survey results we can see that all surveyed enterprises have mixed character with one a stronger trait. At the this stage we can assert that Slovak companies have the strongest multi-active character with round 44% and Chinese companies achieved the highest score about 54 % in reactive cultural type. As displayed on the picture 2 below there is no clearly defined a one cultural type in analyzed enterprises in both countries. Chinese enterprises confirmed reactive orientation as the strongest part in their behavior. From survey analysis it can be confirmed that Chinese are very good listeners. The listening is for them important and they do not interrupt others during the discussion. Rarely initiate they action or discussion, preferring first to listen to and wait for the reaction of others. They avoid confrontation and do not disagree openly. From the results of Slovak characteristic analysis the following conclusion can be made. Slovaks are on time with prepared agenda but they are flexible with its content during the meeting run. They are able to do several things at the same time as well as talking to several people at once in case they have to.

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Fig. 2 Survey results – cultural types according Lewis defined model
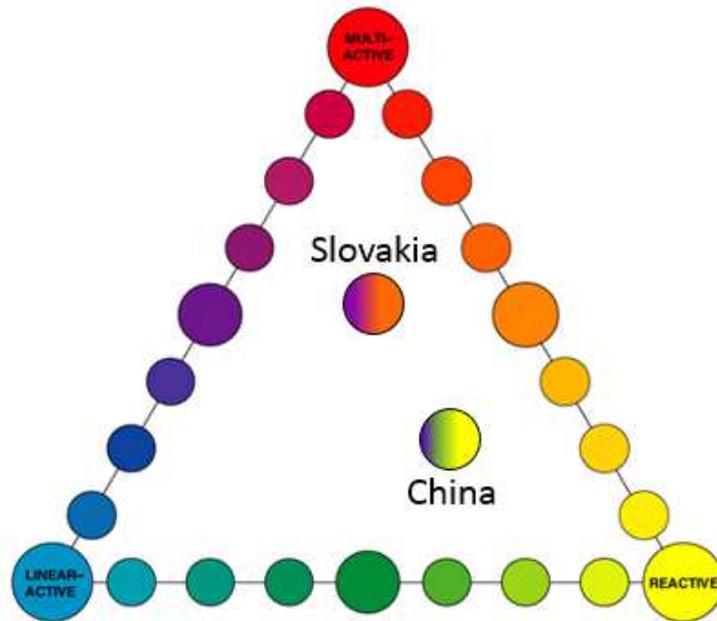
Source: Own elaboration

It might be caused by their communication style: Slovaks interrupt others during the communication. They display their feelings and emotion. They try to be or stay polite but in the certain point of communication you can see if they are sad, happy, agree with your argumentation or have totally different opinion. They do not express their selves only verbally but Slovaks use body language vividly as well.

Comparison of Slovak and Chinese culture

Total detailed results of the cultural analysis in selected enterprises have shown interesting behavioral picture of all analyzed enterprises. On the one there have been detected differences between Slovaks and Chinese but on the other hand some common traits between both nations have been found as well. More details are described in the section below (incl. Fig.3).

Fig. 3 Comparison of surveyed cultural types according Lewis's model
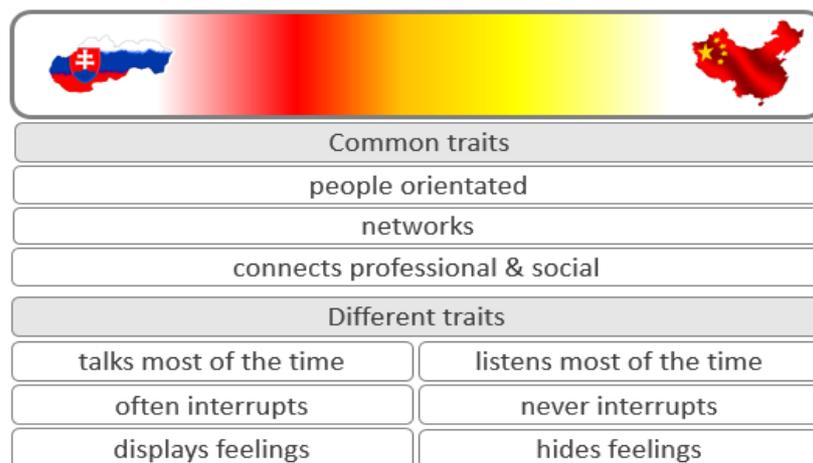
Source: Own elaboration

According our results based on behavior there are some differences between Slovaks and Chinese behavior. The very visible discrepancy has been shown in communication. Slovaks are very talkative whereas Chinese people are better in listening. They concentrate on speaker and what he or she is

saying. During the discussion have Slovaks tendency to jump in the discussion and raise their questions or comments. Slovaks split their role in communication between listener and speaker. Chinese show a different acting. They never interrupt presenter during the speech is ongoing and after the presentation they let speaker to take short rest. Chinese place all their comments and questions afterwards.

Our analysis confirmed several differences defined in theory between Slovaks and Chinese. One of them is related to the displaying their feelings. Slovaks react emotionally and you can observe easier than by Chinese what kind of mood they are in. You can read the feeling expression in their face as well. Chinese are careful by showing their feeling but they want to stay polite and try to be direct. It might be caused by effort to get closer to European behavioral style.

Next section is focused on common traits which are shared by both nations. Although Slovakia and China have totally different cultures, the way how employees react is in specific situation is common in several points. By Slovaks it may be connected to their emotional level – the higher emotional level Slovaks are at the more body language they are using. Generally it can be said that Slovaks have transferred more characteristics from reactive cultural types.

Networking, connect professional and personal life belongs to common traits. Coworker is considered as friend as well. In addition Chinese are willing to spend a lot of their free time with them.

Behavioral differences and personal marketing approach

Personal marketing as a part of corporate culture represents a dispensable tool which helps to achieve professional and personal success of employees on the one side and business success on the other hand as well.

As has been already shown there are some common and some different natures between Slovak and Chinese behavior. According to behavior of those nations, their expectation related to company's behavior to employee or its environment. Based on the results of the analysis some common as well as differences in personal marketing has been defined for Slovak and Chinese culture. The overview related to personal marketing activities is shown on the picture 4 below.

More details related to main pillars of personal marketing which are common from global perspective are listed below:
1. **Organizational excellence -** Manage business growth and sustainability
    *   Development in external & internal environment
    *   Build strong corporate culture
    *   Support innovative processes, technical excellence, quality and continuous improvement

2. **Development of leaders and employees -** Availability & deployment
    *   Ensure employees have the knowledge & skills to meet business requirements
    *   Ensure an consistent succession planning

3. **Increasing employee's engagement** - Drive employee engagement
    *   Ensure that engagement represents key element of corporate culture
    *   Recognize and reward employees to reinforce excellent performance

Employeer branding is an integral part of personal marketing activities both in China as well as in Slovakia. Both countries attract employees and run personal marketing activities as recruiting online but using different channels. In China is mostly used browser baidu.com but in Slovakia is google.com. In case of doing business in those countries it is needed to know the right channel for placement of advertisement, open positions, attracting target group. Job portals as www.profesia.sk, www.avizo.sk are very often used in Slovakia, but for Chinese market is used www.qzone.com and on daily base used networking via WeChat. Usage of "WeChat" is booming with more than 760 million active users (Statista 2016) Chinese companies are using this social media for their personal marketing activities.

Fig. 4 Comparison of personal marketing activities according culture type

Main common personal marketing targets	
ORGANIZATIONAL EXCELLENCE	
DEVELOPMENT OF LEADERS & EMPLOYEES	
INCREASE EMPLOYEES'S ENGAGEMENT	
Common approach with differences in personal marketing	
Online employer branding	
google – www.profesia.sk	baidu - WeChat
Networking & work-life balance	
Low interest to spend time with coworkers	High interest to spend time with coworkers
Different approach in personal marketing	
Recruiting „Build – buy"	Recruiting „Bond – borrow"
Development „Normal progression – 2 years step"	Development „Quick progression – 6 months"
Performance „Less and avarage"	Performance „Avarage and above"
C&B „on the top - car "	C&B „on the top - health insurance "

Source: Own elaboration

Networking is common by both nations. The difference is that Chinese people like to spend free time with colleagues, await organizing business dinners, teambuilding activities, and town-hall meetings.

Recruiting activities in both countries have different focus. Slovak companies have stronger focus on developing and promoting talent within the company or from the external pool. Chinese companies try to tie their employees and employ foreigners - talent under temporary arrangements. Focus is to get people with international experiences, to know other markets by understanding the culture, adapt corporate culture and optimize business as well.In china is very common practice to hire expatriots from Europe and US. The programm is supported by chinese government as well. In China there is assistnance for localization of foreigners as financial contribution coverring e.g. housing or meal allowance.

Based on our results and from woking experience element communication can be recaped. Chinese are very good listeners. Because of their strong listening trait it is important to ask for their opinion more often. In personal marketing it means that employee dialogue has to take place at least twice a year and feedback has to be given on regular base. For this kind of discussion is required to set up meeting. Slovak people do have employee dialogue based on ordinary meeting generally once a year.

Personal development represents a crucial part of personal marketing activities within the company. During the performance evaluation process Chinese people evaluate themselves with higher performance rate (e.g. on scale 1-5 is 3 not very positive result). Although Chinese look modestly, in self-marketing and self-evaluation are confident about their competencies and await rewarding. In case of receiving less than average "3" or having feeling they have not been rewarded according their imagination they would feel uncomfortable in the company and consider leaving it. Recognize and reward employees drive performance and ensure positive impact on their engagement. Surveyed companies use pay for performance model for supporting financial rewarding of employee's performance.

Generally all companies in both countries have own compensation and benefits system. It is influenced by law, special regulations in respective country. As it is displayed on fig.4 the imagination about "extra" package is way different. It is a duty in Slovak companies to pay health, social insurance for employee. This part of annual base salary is not often considered as important, beneficial part of salary package. In China it is not naturally for the company to pay all those benefits. The main target of

personal marketing is to win qualified, competent employees and as soon as they are part of the company to motivate them.

Summary

Personal marketing as a part of corporate culture is influential in shaping the future of human resource management. Companies around the world focus on personal marketing activities because they support employee involvement, teamwork, workforce flexibility and build strong company brand. Understanding the character of different nations and knowing the way how to implement meaningful change are the fundamental elements for company success on the market. Different cultures use different approach how to attract, bond or retain employees. Personal marketing as a part of corporate culture represents in diverse national environment a key to competitive advantage.

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Analytical View of International Human Resources Management and Firm Performance

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Abstract

Globalization has brought remarkable developments in the diversity and complexity of international business and multinational enterprises. Concomitant with these developments has been increasing awareness that the management of a global workforce is a critical dimension of international business. As interest has grown in the strategic dimension of human resource management, there has been an increasing desire to relate aspects of people management with firm performance. Particularly over the last decade, many popular articles and books appeared on this topic, exploring how organizations can achieve competitive advantage through their people. In this article we will focus both on the human resources management (HRM) and firm performance relationship in general, the specifics of the relationship in the context of multinational corporations and will investigate the relationship between human resource management practices and firm performance in companies operating in information technology in the Slovak Republic.

Key words

Human resources management. International human resources management. Firm performance. HRM practices.

Introduction

Human resources are the most dynamic of all the organization's resources. Human resources management is the strategic and logical approach in managing the organization's most valuable assets. They need considerable attention from the organization's management, if they are to realize their full potential in their work. Human resource management systems influence employee skills through the acquisition and development of a firm's human capital.

The starting point for much of the work in the area of human resources management and firm performance was an article by Huselid (1995) which appeared in the highly acclaimed *Academy of Management Journal*, arguing that high performance work practices are linked with increased sales and market value per employee for the firm. Equally the work by Pfeffer (1994, In: Pfeffer 1998) was influential in identifying so-called 'best practices' in human resources management argued to contribute towards achieving sustained competitive advantage.

Literature review

Ukenna, Ijeoma, Anionwu, and Olise (2010, In: Fening, Amaria 2011, p.94) reported that "arguably, most studies linking human resources to firm performance have mainly focused on large firms, while scanty research evidence linking the two exist in the small scale business sector and among entrepreneurs." Several authors have acknowledged that a significant relationship exists between human resource management practices and firm performance (Mabey, Ramirez 2005; Tzafrir 2006; Carlson Upton, Seaman 2006; Ferris et al. 2007; Katou, Budhwar 2007; Katou 2009; Marimuthu Arokiasamy, Ismail 2009; Absar et. al. 2010, In: Fening, Amaria 2011) and also as a source of competitive advantage (Wright et. al. 2005; Gong, et. al. 2009; In: Fening, Amaria 2011).

Carlson et al. (2006) have looked at human resources practices in U.S. large firms and concluded that human resources positively impacts firm performance. Also Katou and Budhwar (2007) in their study of 178 manufacturing companies in Greece found that some human resource practices such as recruitment, training, safety and health were positively related to firm performance. In a study conducted in Ghana by Boohene and Asuinura (2011, In: Fening, Amaria 2011), they found a positive relationship between effective recruitment and selection practices, effective performance appraisal practices and their corporate performance. However, their finding did not observe corporate performance being influenced by remuneration, training and development practices. In a survey of 236 managers working at steel

firms in Taiwan, Lee et al. (2010, In: Fening, Amaria 2011) found that the human resources management practices: training and development, teamwork, compensation/incentives, human resources planning, performance appraisal, and employment security positively related to firm performance.

Dumas and Hanchane (2010, In: Fening, Amaria 2011) evaluated the effects of job training programs, initiated by the Moroccan government on the performance of Moroccan firms. Their results showed that job training programs increased the competitiveness and performance of Moroccan firms, and the training effects are higher when training is considered as part of a human resources development strategy.

As interest has grown in the strategic dimension of human resource management, there has been an increasing desire to relate aspects of people management with firm performance. Particularly over the last decade, many popular articles and books appeared on this topic, exploring how organizations can achieve competitive advantage through their people (Paauwe, 2004). Many of the early studies in the field of HRM and performance were based on work carried out in the USA. Only gradually were studies also carried out, firstly, in the United Kingdom and, later, in other countries across mainland Europe. As this geographical spread occurred, questions were raised about the extent to which there are actually HRM 'best practices' which firms can adopt to improve firm performance. Commentators started to ask why all firms should not have these identical best practice systems in place, especially in different countries around the world.

Most existing studies exploring the link between human resources managment practices and firm performance have been carried out in a domestic setting, predominantly in the USA. Many of the studies that do look beyond national boundaries from a US perspective have largely explored the extent to which human resources managment best practice is being adopted. *Multinational corporations* are argued to attempt to apply the management practices they are most familiar with or which appear to promise high returns in performance, regardless of the location of their subsidiary (Gooderham, Nordhaug, 2003). Although this approach can address the issue of strategic fit within multinational organizations by aligning practices internally, this can raise problems for environmental fit owing to operating in multiple businesses in multiple countries.

Fey and Björkman's (2001) study, looking at the link between HRM and firm performance in a US multinational corporations with subsidiaries based in Russia, emphasizes differences in national culture between the two countries. These include the stronger hierarchy in Russia, less willingness to share information and higher levels of employee - management mistrust. Although some support was found for previous domestic-setting findings linking HRM practices to firm performance, they conclude that specific bundles of practices aimed at specific categories of staff in Russian subsidiaries show the strongest links with firm performance, rather than a universal application of HRM best practices across all staff in all subsidiaries regardless of country location.

The linkage between human resources managment and firm performance

Paauwe, Farndale (2006, In: Stahl, Björkman 2006, p.97) conclude that, all of the models and theories described so far do little to explore the causal relationship between human resources management and firm performance; rather they make assumptions about the outcomes of certain individual human resources management practices. Some conceptual models have, however, been developed to test empirically the causal relationships. Although it is inappropriate to go into the detailed outcomes of each of these studies here, a useful summary of findings can be found in the framework developed by Paauwe, Richardson (1997, Paauwe 2004, In: Stahl, Björkman 2006, p.97) as shown in Figure 1.

The framework is based on an overview of more than 30 articles that have studied empirically the relationship between human resources management practices, human resources management outcomes and the subsequent effect on firm performance. The debate centres on how many boxes need to be incorporated in a model representing human resources management impact on firm performance, and what variables each of these boxes should contain. If human resources management activities indeed have an impact on human resources management outcomes and firm performance it will only occur provided worker attitude, and especially worker behaviour, is affected in a certain way.

Figure 1 Linkage between HRM activities, outcomes and firm performance
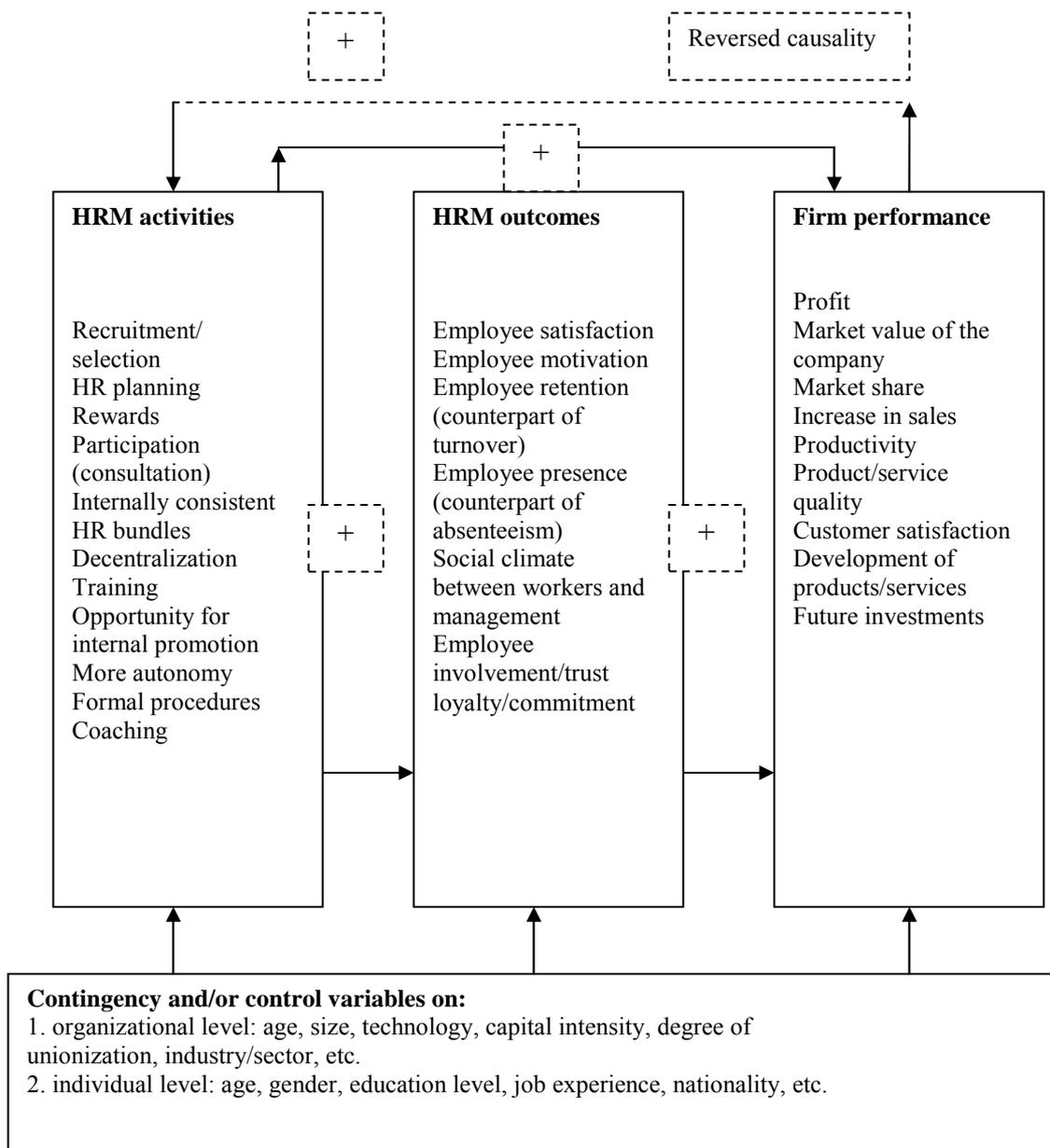
Source: Paauwe, Richardson 1997, Paauwe 2004, In: Stahl, Björkman 2006, p.98.

A 'best fit' model of human resources management and firm performance

In exploration of existing models which claim to represent the relationship between HRM and firm performance are highlighted both positive and negative aspects of the universalistic and contingency/ configurational models. On balance, there appears to be increasing evidence, particularly when looking at organizations on an international rather than domestic scale, that the principle of best practice is difficult to uphold. Contexts are so varied that it is difficult to see how multinational organizations are able to, and want to, implement exactly the same HRM processes in exactly the same way in all their subsidiaries around the world, hoping to generate the sam kind of firm performance gains.

The Contextually Based HR Theory (CBHRT) developed by Paauwe (2004, In: Stahl, Björkman 2006) is an example of a 'best fit' model incorporating contingency and configurational approaches to exploring the relationship between human resources management practice and firm performance (see Figure 2). The underlying argument of the model is based on the resource-based view of the firm, which highlights that people fit the criteria of added value, rareness, inimitability and non-substitutability. At the same time, though, inspiration is also drawn from institutional and coevolution theory, emphasizing the importance of

organizational context and managerial intentionality. The CBHRT model incorporates four dimensions of fit:

- *strategic* fit: vertical fit between HRM practices and the competitive or corporate strategy of the organization (the P/M/T dimension);
- *horizontal* fit: internal fit between HRM practices as coherent and consistent bundles (preferably shaped from a resource-based perspective in order to safeguard sustained competitive advantage);
- *organizational* fit: between HRM practices and other systems in the organization (the organizational and administrative heritage); and
- *environmental* fit: between HRM practices and the organization's social, cultural and legal environment (the S/C/L dimension).

In summary, the CBHRT model can be used in research to analyse the context of multinational corporations in terms of the different dimensions (the strategic P/M/T dimension, the socio-political S/C/L dimension, and the organizational, administrative heritage dimension) and how these forces influence the development of human resources (HR) policies and their subsequent effects upon different dimensions of performance (strategic, societal, professional). It can be used at different levels of analysis: contrasting the subsidiaries of multinational corporations operating in different countries, or contrasting the corporate level of multinational corporations operating in the same sectors worldwide but which differ in country of origin (Pot, Paauwe 2004, In: Stahl, Björkman 2006) who use the model to compare the shaping and performance effects of HRM policies for globally operating chemical companies, which differ in country of origin).

Figure 2 A contextually based human resource theory (CBHRT)
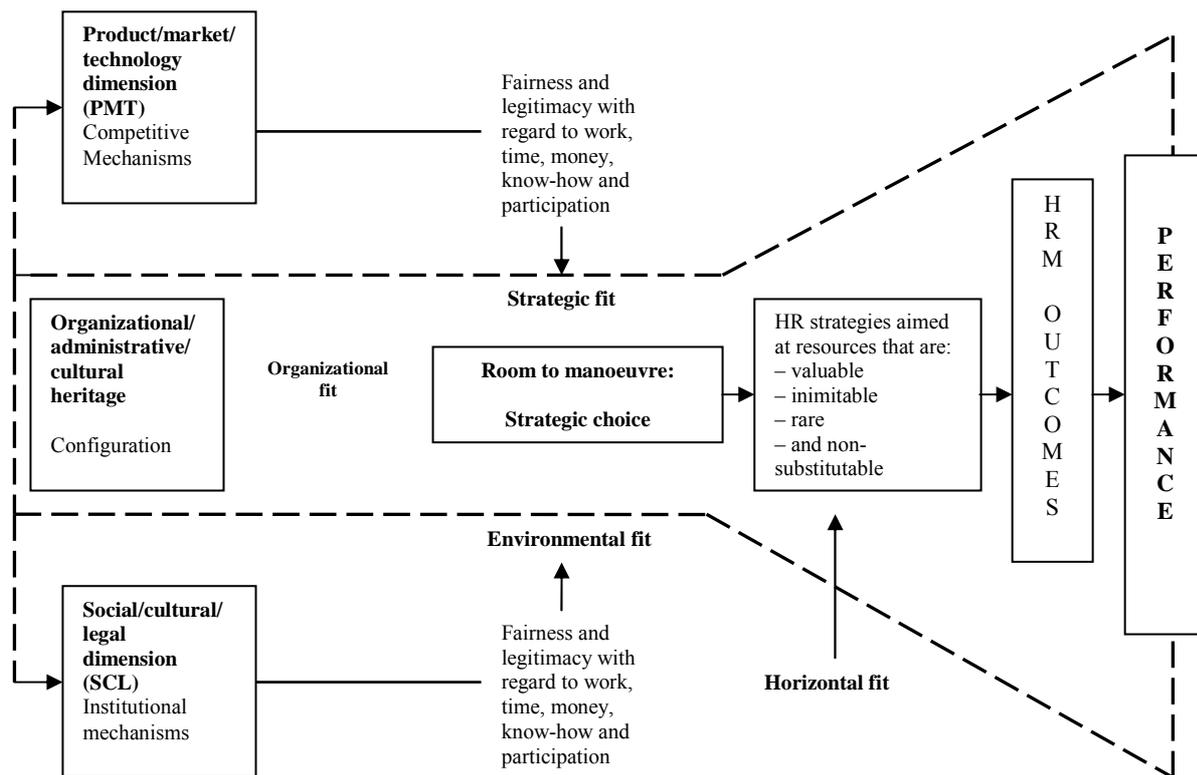
Source: Adapted from Paauwe (2004, p. 91, In: Stahl, Björkman 2006, p.104.

Methodology

The object of the research is the issue of human resources management and firm performance. Primary data collection was done through a standardized questionnaire which was distributed electronically to managers and HR managers of international companies operating in information technology in the Slovak Republic. We can say that research sample consists of a total of 30 managers and 52 managers working in

an international companies. This paper aims to examine the strength of the relationship between HRM practices and firm performance. Correlation analysis was conducted to observe relationships between the human resources management practices and firm performance - profitability, market share, sales growth, employee morale, customer satisfaction, and quality of product and services. The correlation coefficient is a measure of linear association between two variables. Values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that two variables are perfectly related in a positive linear sense, a correlation coefficient of -1 indicates that two variables are perfectly related in a negative linear sense, and a correlation coefficient of 0 indicates that there is no linear relationship between the two variables.

The main research problem is formulated as follows:
How do HR managers or managers think the HRM practice (recruitment and selection, training and development, compensation) impact on the firm performance, in companies operating in information technology in the Slovak Republic, in terms of profitability, market share, sales growth, employee morale, customer satisfaction, and quality of product or service?

In order to verify the existence of a statistically significant relationship we formulated the following hypothesis: *H1: There is a statistically significant relationship between HRM practices and firm performance in companies operating in information technology in the Slovak Republic.*
And partial hypotheses:
H1a: There is a statistically significant relationship between recruitment and selection and firm performance in companies operating in information technology in the Slovak Republic
H1b: There is a statistically significant relationship between training and development, and firm performance in companies operating in information technology in the Slovak Republic.
H1c: There is a statistically significant relationship between compensation (salary and benefits) and firm performance in companies operating in information technology in the Slovak Republic.

Results and discussions

Respondents were asked to indicate how they think the HRM practice impacts on the performance on 1-5 Likert scale (1- insignificant impact to 5- very significant impact). In the concrete on profitability, market share, sales growth, employee morale, customer satisfaction, and quality of product and services. Managers who are responsible for HR practices and managers in the organization were also asked to indicate on a 5-point Likert scale the extent to which their organization implement the HR practices (1- very low degree of implementation to 5 - very strong degree of implementation). The survey questions were analyzed using SPSS. Spearman's correlation coefficient measures the strength of any of the statistical dependencies, as monotonous.

Recruitment and selection
H1a: There is a statistically significant relationship between recruitment and selection and firm performance in companies operating in information technology in the Slovak Republic.

Recruitment and Selection is a critically important activity as it determines organizational membership. Recruitment is about attracting qualified applicants and sets the limits for selection. Recruitment and selection is a 2-way process, which means the individual is selecting the employer and the employer is selecting the individual. It is a process where job seekers and those willing to give out jobs meet. It is a practice that involves activities of getting the right person(s) at the right place at the right time (Fening, Amaria 2011).Recruitment and selection in an organization always come with some form of investment. In a study by Wright, Gardner, Moynihan, and Allen (2005, In: Fening, Amaria 2011) of 45 business units of a large food service corporation with operations in the United States and Canada observed that HR practices are strongly related to future performance.

Spearman's correlation coefficient, whose values we see in the Table 1, measures the strength of any of the statistical dependencies, as monotonous. In all tested relationships that are shown in Table 1, we can see that the p-value is less than 0.01, so we can talk about a highly significant relationship between variables.

Table 1 Correlation between recruitment and selection with performance measures

	Recruitment & Selection	
	Spearman Correlation (value)	P-value
Profitability	0,483	0,000
Market share	0,371	0,000
Sales growth,	0,377	0,000
Employee morale,	0,664	0,000
Customer satisfaction,	0,462	0,000
Quality of product and services	0,410	0,000

Source: Author

Results of the survey affirming the existence of a statistically significant relationship between recruitment and selection and firm performance in companies operating in information technology in the Slovak Republic.

Training and development
H1b: There is a statistically significant relationship between training and development, and firm performance in companies operating in information technology in the Slovak Republic.

Training and development as one of the key functions of human resource management is a significant variable in organizational success. Holton and Naquin (2005, In: Fening, Amaria 2011) have stated that training is assumed to be one of the key components for people to acquire competencies and this will ultimately improve organizational performance. There is a growing body of research that support a positive relationship between training and firm performance (Lopez et. al. 2005; Mabey, Ramirez 2005, In: Fening, Amaria 2011). It was subsequently tested the relationship between training and development, and firm performance in research companies. Based on the results, we can say that p-values of the Spearman's correlation coefficient is less than 0.001. More results shown in Table 2.

Table 2 Correlation between training and development with performance measures

	Training & Development	
	Spearman Correlation (value)	P-value
Profitability	0,716	0,000
Market share	0,527	0,000
Sales growth,	0,405	0,000
Employee morale,	0,405	0,000
Customer satisfaction,	0,707	0,000
Quality of product and services	0,489	0,000

Source: Author

Results of the survey affirming the existence of a statistically significant relationship between training and development and firm performance in companies operating in information technology in the Slovak Republic.

Compensation (salary and benefits)
H1c: There is a statistically significant relationship between compensation (salary and benefits) and firm performance in companies operating in information technology in the Slovak Republic.

Compensation is sometimes linked to performance appraisal. Petrescu and Simmons (2008, In: Fening, Amaria 2011) examined the relationship between human resource management practices and workers' overall job satisfaction. The existence of a relationship confirmed.

Here, again results of the survey affirming the existence of a statistically significant relationship between *compensation (salary and benefits) and firm performance in companies operating in information technology in the Slovak Republic*.

Table 3 Correlation between compensation with performance measures

	Compensation	
	Spearman Correlation (value)	P-value
Profitability	0,421	0,000
Market share	0,449	0,000
Sales growth,	0,425	0,000
Employee morale,	0,652	0,000
Customer satisfaction,	0,491	0,000
Quality of product and services	0,365	0,000

Source: Author

We can say, that all 3 partial hypotheses were confirmed, thus confirms the existence of statistically significant relationship between HRM practices and firm performance in companies operating in information technology in the Slovak Republic. Hypothesis H1: There is a statistically significant relationship between HRM practices and firm performance in companies operating in information technology in the Slovak Republic, was confirmed.

Summary

In this article we have provided an overview of the extant knowledge regarding the linkage between human resources management and firm performance. This study investigated the relationship between human resource management practices and firm performance in companies operating in information technology in the Slovak Republic. As we have already referred, most studies linking human resources to firm performance have mainly focused on large firms. Therefore research sample consists of managers and managers working in strongly and prosperous international companies. The study found significant positive relationships between the human resources management practices and firm performance in international companies operating in the Slovak Republic in information technology.

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2. Economics & Finance

Analysis on Research, Development and Innovation Funding in the Slovakia and a Comparison with Selected EU Countries

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Abstract

The levels of spending in research, development and innovation (R&D&I) in Slovakia are below the average in comparison to its neighbours in the European Union, despite the fact that funding in such an area is considered very important. There are several reasons why it is crucial. One of them is that a country fostering quality research, development and innovation ultimately contributes to higher competitiveness and allows the actors involved to gain competitive advantage. The aim of this paper is to analyze the means of funding the R&D&I in Slovakia, especially by using public and private investments, there will be a comparison with countries within the European Union.

Key words
Science, research and development, innovations, public administration

Introduction

Funding of R&D&I is generally important and the state should pay sufficient attention to it. Why is it important for the state (represented by its government) to support and finance the state budget R&D&I? There are several reasons. Quality research, development and innovation help increase competitiveness through competitive advantage. Science, research, education and a broad spectrum of innovation activities are well understood and declared on national and international forums as basic factors for economic prosperity (Ritschelová, 2010).

R&D&I plays a key role in the implementation of the development of economy and society. Also they help creating new jobs, not only for researchers, but also for other persons engaged within R&D&I. According to the Statistical Office of the Slovak Republic (SO SR) the total number of persons employed in R&D&I in 2015 was 28 825; out of which 24,396 were researchers. By the end of 2015 total number of organizations and workplaces for R&D&I was 376.

The importance of R&D&I in the light of competitiveness has been strengthened by globalization and the economic crises enhanced it even more. Properly funded R&D&I is one of the ways to mitigate the effects of the economic crisis. Quality R&D&I can provide higher competitiveness and competitive advantage over other states that don't place such emphasis on R&D&I and don't consider it so important.

R&D&I support is also part of common budget of the European Union (EU). Horizon 2020, new seven-year program for EU research and innovation funding approved in 2013, was launched in January 2014.

A budget of 77 billion EUR has been allocated for this program up until 2020. Its aim is to strengthen EU's position in science, strengthen innovation leadership, to address serious issues of our society such as climate change, sustainable transport, renewable energy, food safety and sufficiency as well as population ageing. Horizon 2020 brings together all existing EU funding sources into one integrated program. In this respect the Commission Regulation (EU) No. 651/2014 has been approved in accordance with Article 107 and 108 of the Treaty, declaring certain categories of aid compatible with the internal market (Official Journal). EU membership means for Slovakia that we can draw funds for R&D&I funding from the EU grace of full participation in the existing EU program.

The Slovak Republic responded to the Horizon 2020 by issuing new strategic materials "Research and innovation strategy for smart specialization SR - RIS3 SK ", approved by the Government on 13th November 2013. RIS3 SK states the priorities for research and development until 2020. These priorities are related mainly to the R&D&I, technology and society.

In order to promote R&D&I by providing funds for project solutions an agency for support of R&D&I was established in 2005. This agency is linked to the budget of the Slovak Republic through the Ministry

of Education of the Slovak Republic (Ministry of Education). In 2007, the Ministry of Education established the Agency for EU Structural Funds, which includes a network of regional information offices. Starting on July 1st 2015 its name was changed to the Agency for research.

Method

The basis for this paper were mainly the figures from Statistical Office of the Slovak Republic and the Statistical Office of European Communities (Eurostat). Since R&D&I plays a key role in the implementation of the development of economy and society as to maintain and increase competitiveness of the country itself, the monitoring of their status and development are among the main tasks of the European Community. The statistical information reported by ŠÚSR are comparable to EU statistics and are provided pursuant the Commission Regulation (EU) No. 995/2012 laying down detailed rules for the implementation of the European Parliament and the Council. 10608/2003 / EC concerning the production and development of Community statistics on science and technology.

Results

The legal basis for the matter in question are specifically linked to:
- Act. 172/2005 Coll. the organization of state support for research and development
- Amendments to Act no. 575/2001 Coll. on the organization of government activities and the central government. This Act lays down the conditions of providing state support for research and development, the status and role of the authorities responsible for research and development, long-term state science and technology policy national program of science and technology and information security research and development.
- Another important legal norm is Act no. 231/1999 Coll. on state aid as amended.
- R & D funding in Slovakia under the Act no. 175/2005 Coll. divided according to several interrelated criteria. In this article we will build on this breakdown, showing also ŠÚSR, and the breakdown by sector, by source of funding, according to the fields of science and by R & D activities.

Indicators of R & D by sectors are normally monitored and reported even at international level within four major sectors:
- the public sector,
- higher education sector,
- non profit sector
- private business sector.

The public sector consists of the Slovak Academy of Sciences and legal persons carrying out research and development established by the state authorities. In the higher education sector, we find public, state and private higher education institutions and their established legal representatives carrying out research and development. The non-profit sector consists of civil society organizations, NGOs, associations of legal entities that conduct research and development. In the business sector we have entrepreneurs who in the course of their business also conduct research and development (Section 7 of Act no. 172/2005 Coll.).

The overview of the structure of expenditure on R&D&I by sector in the years 2010 - 2014 is presented in Table. 1.

Table 1 Gross domestic expenditures by sector of R&D (in %)

Sector/time	2014	2013	2012	2011	2010
Business enterprise	36,84	46,26	41,35	37,18	42,09
State (government)	28,34	20,48	24,52	27,66	29,96
Higher education	34,42	33,10	34,03	34,95	27,64
Private non-profit	0,41	0,15	0,10	0,21	0,31

Source: Statistical Office of the Slovak Republic

As shown in Table 1, the highest percentage of R&D&I expenditure goes into the business sector, less into the higher education sector and the public sector. Expenditures that go to the non-profit sector are

negligible. It noteworthy to remark that spending on higher education in 2014 increased by 24.5% compared to 2010.

Sources of financing R&D&I include, private businesses, the state (government), other national and foreign sources. As shown in Table. 2 in 2014 more than 40% of total R&D&I expenditure is financed from the state (public) funds. In second position comes the financing by private business. Compared to 2010, there was a decline in funding from state resources.

Table 2 Gross domestic expenditures by sources of funds (in %)

Source /time	2014	2013	2012	2011	2010
Business enterprise	32,21	40,19	37,71	33,85	35,06
State (government)	41,38	38,90	41,57	49,75	49,57
Other national source	2,72	2,94	2,07	2,24	0,70
Foreign (abroad)	23,68	17,97	18,65	14,16	14,67

Source: Statistical Office of the Slovak Republic

Expenditure on R&D&I activities consists of spending on basic research, applied research and development. The operative part of the funds goes into basic research, which is a practice whose priority objective is to expand knowledge of the examinee and deepen his understanding, regardless of the practical application of this knowledge. Applied research focuses on the practical application of knowledge and discovery of new scientific knowledge in order to use them in economic and social practice. The development focuses on the production of useful materials, devices, systems, methods and processes, including design and prototype development.

Table 3 Gross domestic expenditures by activity of R&D (in %)

Activity /time	2014	2013	2012	2011	2010
Basic research	45,10	44,09	47,34	48,87	46,27
Applied research	28,42	23,83	23,46	24,63	23,67
Development	26,48	32,08	29,20	26,50	30,05

Source: Statistical Office of the Slovak Republic

Most resources are going to fundamental research, in 2014 it was up 45.10% of total resources. When it comes to the applied research in that year it absorbed 28.42% and 26.48% was invested to development funds.

Graph 1 Share of sectors by trade of R&D&I in 2014
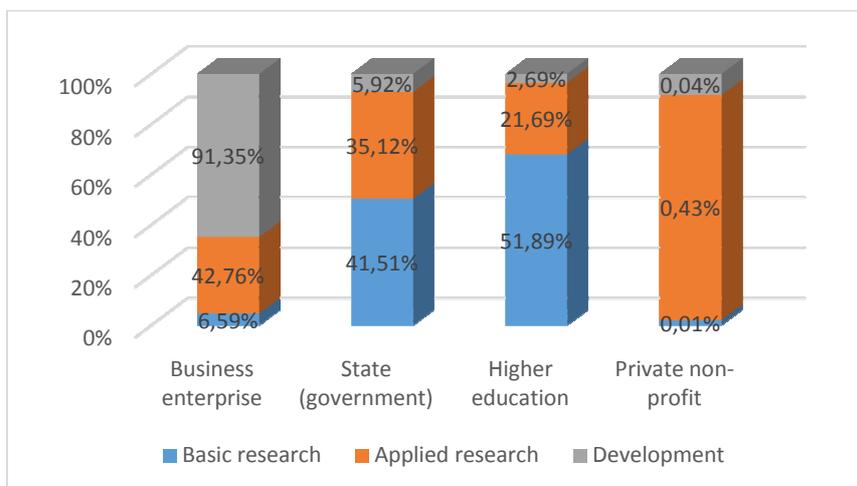
Source: own processing by Statistical Office of the Slovak Republic

Chart 1 on the volume of R&D&I activities in 2014 is showing that basic research was predominantly performed in the business sector whilst applied research was conducted mainly in the nonprofit sector. The university sector was dominated by basic research.

R&D&I plays a key role in the implementation of economic development and society in order to maintain and increase competitiveness, as mentioned above. Therefore, the monitoring of their status and development are among the main tasks in all countries.

Table 4 shows the amount of expenditure on R&D&I as a proportion of gross domestic product (GDP) for Slovakia and the average values for the EU (28) countries and for the Euro area (19). When we compare the expenditure on science and research in Slovakia, they are still below the EU average. As we can see from the table. 4, in 2013 expenditure on R&D&I relative to GDP in the EU achieved according to national accounts data on average 2.02%, whilst in 2004 it was only 1.76% of GDP. Slovakia still gives few resources on R&D&I relative to GDP, although in 2014 this figure increased to 0.89% of GDP.

Table 4 Gross domestic expenditures on R&D&I (% of GDP)

Geo/Time	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
SR	0,50	0,49	0,48	0,45	0,46	0,47	0,62	0,67	0,81	0,83
EÚ(28)	1,76	1,76	1,78	1,78	1,85	1,94	1,93	1,97	2,01	2,02
EÚ(19)	1,78	1,78	1,8	1,81	1,89	1,99	1,99	2,04	2,1	2,11

Source: summary from Eurostat

Among the EU states, it is Nordic countries that invest to research and development the most. In 2014, Finland (3.17% of GDP), Sweden (3.16% of GDP) and Denmark (3.05% of GDP) exceeded more than 3% of GDP. On the contrary, the lowest expenditure below 1% of GDP was recorded in 2014, in Romania (0.39% of GDP), Cyprus (0.48% of GDP), Latvia (0.69% of GDP) and in Bulgaria (0.8% of GDP) (Eurostat). Slovakia committed to the national targets of the strategy Europe 20 that by 2020 the investment on R&D&I will be 1% of GDP, whilst the European target is 3% of GDP.

Summary

National economic data show that since 2010 overall spending on R&D&I in the Slovak Republic has risen. In 2014, the total R&D&I expenditure represented 669.6 thousand EUR, compared to 2010, when expenditures were 461,369 thousand EUR. There has therefore been an increase of almost 40%. Even though the share of R&D&I in Slovakia is very low, in 2014 it was only 0.89% of GDP compared to other countries. It is necessary to realize that only a competitive and high-quality basic research is able to generate potential for innovations that is crucial in gaining a competitive advantage for our economy.

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Approaches to Economic Security Quantification

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Abstract
Various methodics how to detect and evaluate Economic Security have been developed and practically applied. They differ by the object of an interest, by a method of Economic Security quantification and by the selection of variables used by the quantification. Paper deals with the approaches that are applied by the Economic Security quantification. It analyses their explanatory power. It identifies aspects that predetermine the application of the concrete quantification method.

Key words
Economic Security, Economic Freedom, Factors, Quantification

Introduction

Security issues have already interested antiquity philosophers – Aristotle, Platon, Cicero and Xenophon. They analysed positive impact of peacekeeping on possibilities of country to cumulate welfare as a source of socio economic system growth. Concurrently, their philosophical reflections discuss about worse economic potential of the country following the consumption of resources on war.

Similarly, mercantilists studied the issue at the level of the socio economic system. Security state is, according them, related with the establishment of the conditions for its economic growth, prerequisite for the development is supposed to be ability of the country to cumulate financial wealth.

Recent history, liberalistic approach is representd by theory of Adam Smith and it is conceived as a statement of the conditions for welfare providing and balanced position of nations aimed at more efficient economy. Economic Security is not the state prerogative according Smith, he moves issue into the issue of the market stability (Smith 2001). State plays only supporting role, it is subordinated to the market and to the interests of the business subjects. Economic Security is represented by economic stability of the markets and individuals operating at these markets.

Present approach to the solution of this issue is represented by BUZAN (2008), based on his studies he connects Economic Security of the country with an ability to develop smoothly the economic system of the country. He considers this ability as a result of internal development of the economic system as well as a its degree of international dependence. MORAN (1990, 1991) and KAPSTEIN (1991) suppose to define Economic Security regarding to the national economies opening and increasing the autonomy of the states, they require to analyse trade, financial and monetary integration impacts.

Economic Security has started to be solve as a part of a Total Security only during the second half of the 20th century. Development in the understanding of the issue of Economic Security has passed many stages and it has not been finished yet. Conceptualization of the issue consists in formulating answers on these questions:
1. How to define the concept of the Economic Security?
2. Whose security must be protected?
3. How to identify and quantify risks decreasing security of the reference object?
4. How to quantify achieved level of security?

Economic Security is considered to be a part of category Security. It is possible to view it from two points – as „secure realization of the economic processes" or as „economic providing security activities" (DUFINEC et al. 2014). Structural approach connects issue of Economic Security with the ability of smooth economic system development. The development ability is conditional by the internal development of economic system and by the level of its international economic dependence (FREJTAG-MIKA 1996; ŻUKROWSKA 2011). This way the issue of Economic Security is moved at the state level as state is legitimated to create conditions for decisions of the other subjects. By detection and measurement of Economic Sedurity state represents decision making subject. At this level it is necessary

to identify factors influencing Economic Security, to create the file of rated indicators and to take measurements.

Factors determining Economic Security

Economic Security state of the reference entity at any level is determined by the fullfillment of the four criteria:

1. economic independence – presence and ability of the available resources control (in accordance with offices` restrictions),

2. existence of the institutional conditions and guarantees for the economic activities to induce the stability and development of the system, to minimize occurence of the economic activities with negative impacts on the stability and sustainability,

3. ability of the individual development, i.e. potential of an economic, scientific and social development, improvement of the scientific and cultural skills, improvement of the living standards,

4. the level of the integration, dependence and relations with the external environment that enables system to cooperate with the environment and its subjects, to identify optimal level of the economic relations with foreign countries, to be able to react actively on changing external conditions.

State Economic Security presents ability of the national economy to develop in a steadily increasing volume by satisfying the economic society needs at the level over the critical limit providing state economic independence and ability to resist even new rising dangers and risks.

In general, factors determining State Economic Security may be divided into external and internal factors. Several characteristic types of factors belong among external ones influencing Econoomic Security. These are:

1. Political – participation of the country in various international organizations, level of development of the neighboring countries, existence and development of the international institutions, international agreements concerning various areas of activity, terrorism, organised crime and other socially dangerous phenomena, international conflicts, presence and activity of the military and political blocks;

2. Economic – present reflection of the individual economies within trade, economic, monetary and financial relations. These are:

- Trade and economic – import structure, dependence level on the import of the strategic products, export structure, market organization, barriers of the foreign trade development a economic cooperation,
- Monetary and financial – condition of the global financial market, character and directions of the financial flows and relations, value of the foreign debt, convertiility of the currency, gold and foreign exchange reserves of the country, customs state borders, global financial crises, price level for the import of the strategic goods,
- Marketing – promotion of the imported commodities at the global markets, competitivenss of these goods, opportunities to supply markets with the domestic goods and services,
- Production and economic – direct dependence of the country in the strategic sectors, increased competition of the scarce resources, outdated technology, import level of the basic food, development of the international scientific and technological exchange;

3. Social – demographic factors – condition of the global social sector, direction of the migration flows, brain drain abroad.

Internal factors are these:

1. Economic – mirror prevailing conditions of the national economy – structure, degree of monopolization, technological level, condition of the financial system, scale of investment, economic competitiveness;

2. Organizational – condition and effectiveness of the national management systems, condition of the infrastructure, management and effectiveness of the resource base usage, support of the research and development;

3. Legal – factors that depend on the legislative and regulatory framework and national economic management, e.g. quality of the regulatory framework, tax, commercial and legislative discipline, action against corruption and crime, control activity;

4. Social - mirror social and socio-economic conditions of the national economy functioning: providing of the acceptable living conditions for the majority of population and individual development,

prevention of the significant income differences among the population, income declaration, action against tax evasion, prevention of the potential threads of the social conflicts, action against terrorism, condition of the health of the nation, intolerance of violence, racial, national and religious intolerance, respect for national and religious differences;

5. Shadow economy – range and diversity of the shadow economy existence.

Alternative approaches to the Economic Security quantification

The determinants used by the quantification of Economic Security (Economic Security Index, determing thresholds, Economic Liberty Index) are always constricted as a multidimensional characteristics. The difference among them is the reference object that is subject of interest, the risks that are considered to be important and the weight of these risks.

Microeconomic approach has been mastered by the International Labour Organization. Within the Programme Economic Security for a better world Economic Security is quantified by evaluation of an access to the basic needs concerning health, education, living, information, social protection and job opportunities. Income security and voice representation security in the considered complex of the variables have gained double importance and weight as income security is considered to be essential for the real liberty and voice representation security as a factor that minimizes risk of its loss.

$$ESI=LMSI+EPSI+JSI+SSI+WSI+2\times RSI+2\times ISI$$

Where: LMSI (Labour Market Security Index), EPSI (Employment Security Index), WSI (Work Security Index), ISI (Income Security Index), RSI (Representation Security Index), SSI (Skill Reproduction Security Index), JSI (Job Security Index)

The Programme rates the state of Economic Security in 90 countries (86 % of the world population live there). Based on the results, rated sountries are divided into four groups: *pacesetters* – countries with good results and policies; *pragmatists* – countries that have a good total evaluation of Economic Security even the relatively weak established mechanism to gain it; *conventionalist* – countries with the worse results even though the established mechanism; *much-to-be-done* – countries with weak responsibilities, institutions and results and with the requirement to perform many changes in the structure of the economic and social policy state tools.

Final evaluation (the category) of Economic Security is the result of the security measure in the partial categories and groups of indicators. As pacesetters, only countries applying the whole list of policies and gaining good rating in the input, output and processes indicators may be evaluated. Although the gained high score in a one field or a group of indicatiors but with the low score in the other ones, the country could not have been evaluated as a pacesetters (**Chyba! Nenašiel sa žiaden zdroj odkazov.**).

Table 1 Economic Security Index (sample of the evaluated group of countries)

State	Rank	Category	ESI	LMSI	EPSI	JSI	SSI	WSI	RSI	ISI
Sweden	1	Pacesetters	0,977	0,955	0,951	0,811	0,888	0,938	0,955	0,912
Finland	2	Pacesetters	0,947	0,862	0,960	0,940	0,863	0,931	0,921	0,868
Norway	3	Pacesetters	0,926	0,981	0,762	0,750	0,863	0,940	0,910	0,941
...										
Slovak Republic	22	Pragmatists	0,626	0,685	0,597	0,631	0,675	0,660	0,616	0,708
...										
Nepal	90	Much-to-be-done	0,051	0,295	0,114	0,126	0,132	0,138	0,289	0,340

Source: Economic Security for a Better World, 2004

Geographical location of the countries of individual categories is not uniform (Figure 1). European countries are dominating in the category Pacesetters, 17 countries from the Western Europe and four countries from the Eastern Europe. African countries and Middle East countries are dominating in the category Much-to-be-done.

Figure 1: Country classification according the ESI values
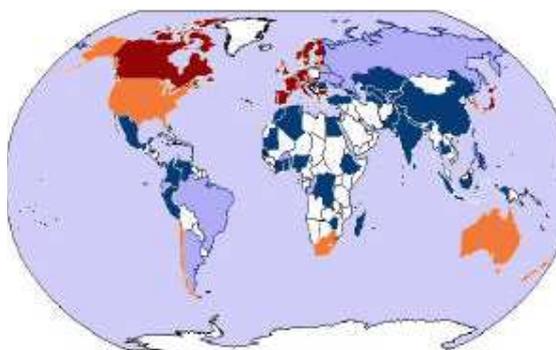
Legend: ▬ Pacesetters; ▬ Pragmatists; ▭ Conventionals; ▬ Much to be done; ▭ not rated
Source: Economic Security for a Better World, 2004

Macroeconomic approach is based on the assumption that there exists mutual relationship between Economic Security of the individual and Economic Security of the country.

Economic Security of the country is evaluated by complex Economic Security indexes such as Index of Economic Freedom by the Heritage Foundation and Economic Freedom of the World by Fraser Institute. Both these methodics use the term „freedom" not the term „security" although they discusses about the same.

The Index of Economic Freedom covers 10 freedoms in four main fields – rule of law (property rights and freedom from corruption), limited governement (fiscal freedom, government spending), regulatory efficiency (business freedom, labour freedom, monetary freedom) and open markets (trade freedom, investment freedom, financial freedom). Methodics of the canadian Fraser Institute uses fourty-two partial indicators of five fields – size of governement expenditures, taxes and enterprises, legal structure and security of property rights, sound money, freedom to trade internationally, regulation of credit, labor and business.

There is an evident difference in the number of rated fields but not in the object of their study – to evaluate the activities of the country aimed at the support of the individual economic activity and subsequently at the development of the individual and whole economic system. This is represented by the similar selection of the partial indicators and subsequent evaluation of the economic freedom in the country (Table 2).

Table 2 Index evaluation of the Economic Freedom (sample of the evaluated group of countries, 2016)

State	IEF (The Heritage Foundation)		EFW (Fraser Institute)	
	Overall score	Place in the world	Overall score	Place in the world
Hong Kong	89,3	1	89,7	1
Singapore	88,0	2	85,2	2
Australia	82,6	3	78,3	12
New Zealand	81,4	4	81,9	3
...				
Slovak Republic	68,7	42	72,9	47
...				

Source: own processing according to www.heritage.org, www.freetheworld.com
Legend: IEF – Index of Economic Freedom (The Heritage Foundation), EFW – Economic Freedom of the World (Fraser Institute)

An added value of these methodics is the possibility of the comparison of gained Economic Security level – both methodics measure Economic Security on a large number of countries yearly. By comparing the total score, it is possible to state the achievement of the Economic Freedom or not set for the rated countries. Year interval of the evaluation enables to identify the trends of the Economic Security over time (Figure 3).

Figure 2 Comperison of the Index of Economic Freedom development at the sample of the economic systems

$$y = 0{,}0001x^5 - 1{,}4354x^4 + 5764{,}3x^3 - 1E{+}07x^2 + 1E{+}10x - 5E{+}12$$
$$R^2 = 0{,}9453$$

$$y = 0{,}0018x^4 - 14{,}253x^3 + 42910x^2 - 6E{+}07x + 3E{+}10$$
$$R^2 = 0{,}9479$$
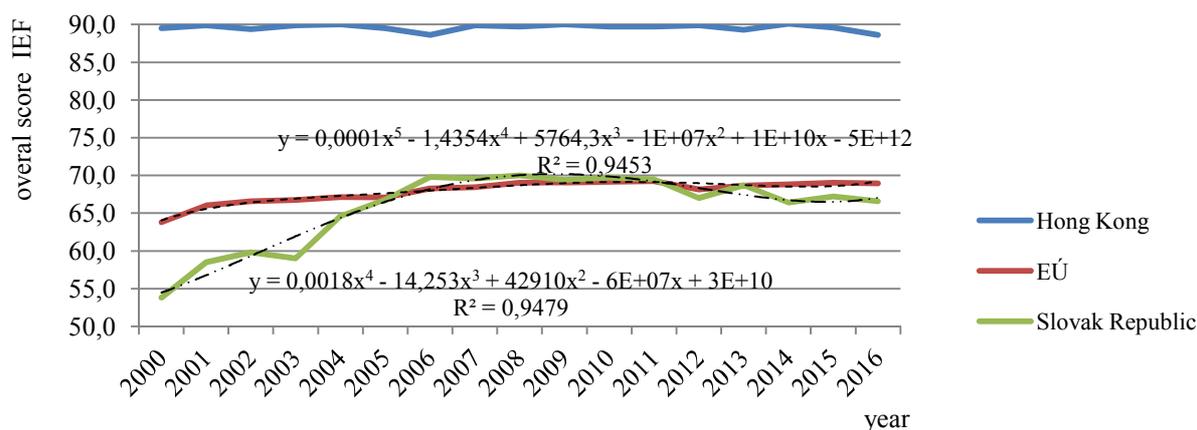
Source: own processing according the datat of The Heritage Foundation

Index evaluation as a method of the quantification of subjective factors influencing Economic Security enables to state the conclusions about the Economic Freedom in the country. Multifactorial construction of the index (Table 3) hides concrete causes of the Economic Freedom low values and it does not expect its consequent impact on the economic activity of the individuals and on the whole economic system.

These causes may be identified by partial investigation fields (totally ten freedoms in Index of Economic Freedom):

- Business Freedom
- Trade Freedom
- Fical freedom
- Governement Spending
- Monetary Freedom
- Investment Freedom
- Financial Freedom
- Property rights
- Freedom from Corruption
- Labor Freedom

Table 3 Index of Economic Freedom at the sample of the selected countries (2016)

Country Name	World Rank	2016 Score	Property Rights	Freedom from Corruption	Fiscal Freedom	Gov't Spending	Business Freedom	Labor Freedom	Monetary Freedom	Trade Freedom	Investment Freedom	Financial Freedom
Hong Kong	1	88,6	90,0	74,0	92,6	90,7	97,4	89,0	81,8	90,0	90,0	90,0
Singapore	2	87,8	90,0	84,0	91,2	90,1	95,0	90,7	81,8	90,0	85,0	80,0
New Zealand	3	81,6	95,0	91,0	71,0	46,0	91,4	85,9	88,1	87,2	80,0	80,0
...												
Slovak Republic	56	66,6	50,0	50,0	80,1	49,5	68,4	55,0	79,5	88,0	75,0	70,0
...												

Source: own processing according to The Heritage Foundation

Final country enlistment into any category of the Economic Freedom inclusion expresses average value of the partial freedoms evaluation. It is an usual situation that there exists conformity in achieving the degree of freedom (e.g. Hong Kong, Table 3), although it is not a rule (New Zealand and Slovak Republic, Table 3). We can not pressume the degree of freedom in partial freedoms according to the overall rating.

These facts seem to be a problem. Especially in case when we base on an assumption that Economic Freedom is a source and also a consequence of the activity of business subjects such as the system itself as well as consequence of the conditions that system has created them. Comparison of the values of the Economic Freedom indicator and indicators characterizing economic activity in the larger group of countries (Table 4) whether the study of the correlation of historical values of the Economic Freedom indicator and indicators characterizing economic activity seem to be possible means for verifying correctness of this statement. Identification of the limited values of macroeconomic indicators results from the concrete conditions of the rated system, it must take into account such internal as external factors of Economic Security of the country.These facts seem to be a problem. Especially in case when we base on an assumption that Economic Freedom is a source and also a consequence of the activity of business subjects such as the system itself as well as consequence of the conditions that system has created them. Comparison of the values of the Economic Freedom indicator and indicators characterizing economic activity in the larger group of countries (Table 4) whether the study of the correlation of historical values of the Economic Freedom indicator and indicators characterizing economic activity seem to be possible means for verifying correctness of this statement. Identification of the limited values of macroeconomic indicators results from the concrete conditions of the rated system, it must take into account such internal as external factors of Economic Security of the country.

Table 4 Review of the chosen macroeconomic indicators at the sample of the selected countries (2015)

	Critical value	min	max	Hong Kong	Slovak Republic
GDP per Capita (PPP)	18 461,05	600,00	158 976,00	54 722,12	28 175,34
GDP Growth Rate (%)	2,00	-24,03	10,35	2,32	2,41
Inflation (%)	2,00	-1,60	62,17	4,42	-0,10
Tax Burden % of GDP	19,00	0,70	318,10	15,70	29,63
Public Debt (% of GDP)	60,00	0,00	246,42	6,94	54,02
Unemployment (%)	7,00	0,30	60,00	3,20	13,30
The population at risk of poverty (%)	-	-	-	14,30	18,40
Economic freedom index	-	2,30	88,55	88,55	66,55

Source:http://www.heritage.org/index/explore,http://data.worldbank.org/indicator,
http://ec.europa.eu/eurostat/data/database
Legend: critical values of macroeconomic indicators respect present opinions about their optimal value; critical value GDP per Capita (PPP) correspond to the value of 50% of the EU countries; min a max values are found at the basis of the countries rated by The Heritage Foundation

This approach of Economic Freedom level rating does not strictly regulate the selection of the rated indicators. Selected indicators should analyse economic, financial and social security balanced.

The topic of Economic Security is closely related with ability to gain macroeconomic goals and with the management of the most important identified threads to value creation. It is therefore justified to study the most important macroeconomic indicators quantifying the economic actvity – GDP pre inhabitant, on-year GDP growth. Concerning the globalization, foreign investment, export and import, their relation and share on the GDP are added rated indicators.

State debt created in the past and gradually increasing along with the governemnt expenditure seems to be source of the worsening Economic Security.

Based on the relationship of Economic Freedom of the individual and Economic Freedom of the country it is necessary to add indicators describing impacts of the economic policy at the microeconomic subject – unemployment, inflation and poverty rate.

Summary

Many approaches of the evaluation of Economic Security or Economic Freedom exist. The difference is in terminology, in identified type of reference object, in various factors and methodics of its quantification. Compliance is represented by the opinion on the composite character of Economic Security/Freedom indicator.

Paper deals with the approaches that are applied by Economic Security quantification. It analyses their explanatory power and applicability in the practical policy.

Present methodics of Economic Security quantification are based on the macoreconomic approach, Economic Security is understood as a level at which the country protects private entity and enables economy with its own resources by policies, regulations, interventionism and taxes. Economic Security is quantified as a composite indicator based on the evaluation of more scopes. Partial indexes are quantified on the basis of the evaluation of rated indicators level. Indicators selection is according to the goal to identify presence and real policies application. The higher score means higher Economic Freedom.

Methodics providing complex evaluation at the large group of countries regularly are the most used. They rate economic, monetary, financial and social security. Selection of the indicators monitors possibility to detect active approach of the country to establish the conditions of the Economic Freedom. Existing methodics propose relation between the level of different Economic Freedom aspects and indicators of the economic growth, directed financial and labor market. The strenght of this relation seems to be given by the sample of the countries and rated variable. Regardless to existing differences in the structure of the rated characteristics, compliance in the evaluation of Economic Security quantified by each methodics exists.

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The Use of Quick Test for Assessing the Financial Health of Chosen Companies Operating in Ecological Farming

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Abstract

Ecological farming represents one of the methods of sustainable land use. Together with utilization of natural resources, it spares the environment to its full potential. It reduces the load on soil, water and atmosphere that accrue from the use of chemicals by humans. Production of ecological farming is beneficial for humanity not only in terms of well-being, but it is also helpful in maintaining sustainable development and restoration of natural resources. In Slovakia, the business entities started to engage in ecological farming in early 90s. The aim of this paper is to refer to the financial health of companies operating in the spirit of remaining in ecological farming sector.

Key words
Ecological farming, Quick test, Cash flow, Profitability.

Introduction

Business in farming sector is bound to soil, and the soil damage can occur. Therefore it is important to set priorities for the management of environmental protection. In the past, soil was considered an essential medium for farming production, whereas now it is regarded rather as a crucial component of the environment that underlies farming development (Hronec, 2010). Ecological farming is based on traditional farming linked with utilization of natural crops and fertilizers, which do not result in damage of the soil. It features the protection of the environment and the ecological production. The results of ecological farming are ecological products without any use of chemicals.

Ecological farming

In Slovakia, the origin of ecological farming is dated to early 90s. It began to develop significantly in 2004, when more than 2 per cent of the land was cultivated. Nowadays, The Central Control and Testing Institute in Farming registers about 500 entities running a business in the sector of ecological farming. All these entities follow the Act No. 189/2009 Coll. on Organic Farming Production and other regulations of The European Commission or the European Council. One of the basic principles of ecological farming is to provide the organic farmers with the sufficient income.

Quick test

A proper prediction of the success in business and its financial health represents a keystone for every business entity. Using the financial indicators derived from the accounting records and allocation of points, the financial performance of companies can be assessed and their financial future can be forecasted. For the purposes of this paper the Kralicek´s Quick test method from 1990 was used. It is very fast and simple method. On the basis of four indicators the company is assigned to four points. The first indicator expresses the self-financing degree of the company, the second indicator expresses the time needed to pay off the debts from the cash flow of the company, the third indicator evaluates cash flow from yields, and the fourth indicator represents total capital profitability. The result of the evaluation of company´s financial health is the score of the company that is expressed by an arithmetic sum of all points. The company can be assigned with points ranging from four to twenty. The less points the company is assigned, the better the financial prognosis of the company.

Table 1 Kralicek´s Quick test - scale evaluation indicators

Indicators	Grading scale				
	1 Excellent	2 Very vell	3 Vell	4 Poor	5 Dangerous
Equity / Total Assets	> 30%	> 20%	>10%	>0%	negative
Debt Settlement Period from Cash Flow	< 3 years	< 5 years	< 12 years	> 12 years	>30 years
Operating Cash Flow / Sales	> 10%	> 8%	> 5%	> 0%	negative
ROA	> 15%	>12%	> 8%	> 0%	negative

Source 1 Sedláček (2011)

Kralicek stated that the final values of Quick test are different for each sector; therefore the companies in the same or similar industry should be compared. The best score for a company is number two, higher score implies the thread for the company, and lower score represents the financial stability of the company.

According to the complete information, the www.infoma.sk portal published the list of top seven companies in Slovakia that operate successfully in the sector of ecological farming. For the purpose of this article, we chose companies running business in a form of cooperative and for our calculations we used their account closing data for years 2013 to 2015 published at www.registeruz.sk.

Table 2 Evaluation of farming cooperative ČATAJ over the period 2013 - 2015

Poľnohospodárske družstvo ČATAJ				Evaluation		
Indicators /years	**2015**	**2014**	**2013**	**2015**	**2014**	**2013**
Equity / Total Assets	93%	92%	90%	1	1	1
Debt Settlement Period from Cash Flow	0,55	0,51	0,53	1	1	1
Operating Cash Flow / Sales	19%	19%	23%	1	1	1
ROA	6%	4%	4%	4	4	4
Average				**1,75**	**1,75**	**1,75**

Source 2 Own data processing

The evaluation of Farming Cooperative ČATAJ is very good for the period 2013 – 2015. The company has excellent rating of first three indicators. As for the total capital profitability, the company was assigned 4 points during the whole watched period. The final score is affected negatively by ROA indicator, meaning the company doesn´t use its assets efficiently. During the whole watching period the company was rated by average mark of 1.75.

Table 5 Rating of Farming Cooperative Prameň located in Sulina over the period 2013 – 2015

[3]

Roľnícke družstvo Prameň so sídlom v Sulíne				Evaluation		
Indicators /years	**2015**	**2014**	**2013**	**2015**	**2014**	**2013**
Equity / Total Assets	79%	92%	89%	1	1	1
Debt Settlement Period from Cash Flow	2,85	1,27	-4,35	1	1	1
Operating Cash Flow / Sales	107%	60%	-40%	1	1	5
ROA	-5%	-11%	-15%	5	5	5
Average				**2,00**	**2,00**	**3,00**

Source 3 Own data processing

Farming Cooperative Prameň reached an excellent assessment of first two indicators; the third indicator reached the value of 5 in 2013; in years 2014 and 2015 the indicator was assigned the value of 1 point. During the whole watched period the company´s return on assets showed the value of 5. Despite a negative assessment of ROA, the company was assigned a score of 3 in 2013, and a score of 2 in 2014 and 2015, which means the rating of the company improved on year to year basis.

Table 6 Rating of Farming Cooperative Važec over the period of 2013 - 2015

Poľnohospodárske družstvo Važec				Evaluation		
Indicators /years	2015	2014	2013	2015	2014	2013
Equity / Total Assets	46%	56%	54%	1	1	1
Debt Settlement Period from Cash Flow	10,28	4,72	7,36	3	2	3
Operating Cash Flow / Sales	31%	45%	33%	1	1	1
ROA	-2%	0%	-3%	5	4	5
Average				2,50	2,00	2,50

Source 4 Own data processing

For the first indicator, Farming Cooperative Važec does not differ from companies evaluated above. While first companies showed very good score of time needed to pay off the debts from the cash flow, Farming Cooperative Važec showed fluctuating scores of the second indicator. In 2013 the company was assigned the score of 3; in 2014 the company bettered itself to score of 2; and in the third year it was assigned the score of 3 again. During the years 2013 to 2015 the third indicator was rated by number 1. Similarly to competitors, ROA was assessed negatively in 2013 and 2015; in 2014 it reached the score of 4 points. The final grade was unstable. In 2013 and 2015 the company was assigned the grade of 2.5 and in 2014 the grade was 2.

Chart 1 Comparison of selected companies made by Quick test during the years 2013 – 2015

	2013	2014	2015
PD ČATAJ	1,75	1,75	1,75
RD Prameň	2	2	3
PD Važec	2,5	2	2,5
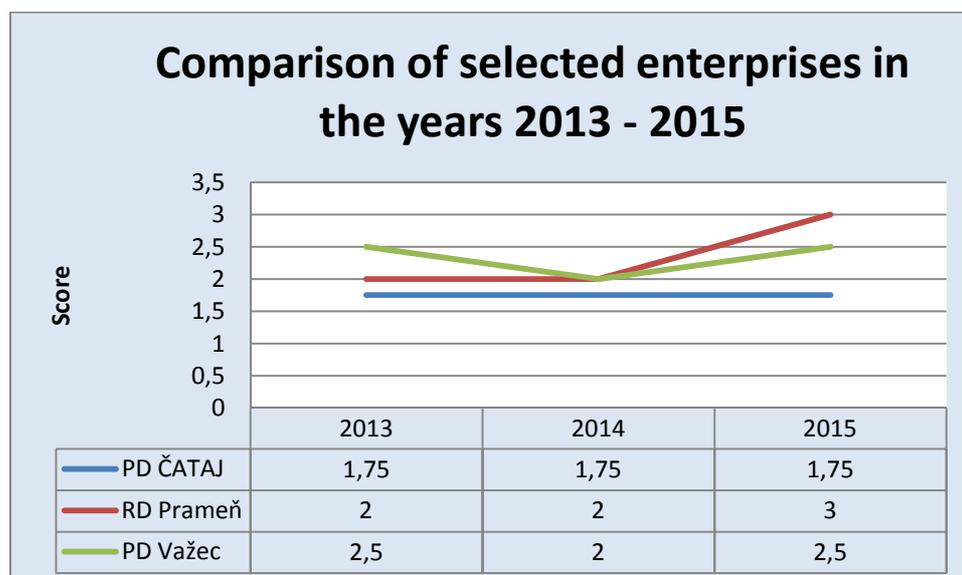
Source 5 Own data processing according to the tables 2 and 3

Final scores of chosen entities running a business in ecological farming were traded off. The companies have similar assessment. While first two indicators expressing the financial stability of all assessed companies, except for the PV Važec, are assessed by good grades; in the yield situation only the *cash flow*

from yields indicator has a good assessment. The last indicator ROA seems problematic in all companies. Comparison of final assessment of the companies is illustrated in Chart 1.

Since ecological products are approximately 40 per cent more expensive in the marketplace, the market, the sales, and overall financial situation of the companies would be problematic. Companies often have good economic results and other financial indicators are positive because of the subsidies and other subventions. With Slovakia´s entry to European Union, the entities running business in ecological farming are endowed as a part of the plan for rural development. This can be demonstrated by financial stability of all assessed companies. Similarly, the yield situation of the companies is assessed very well as a result of subsidies. However, the return on total assets is classified negatively in the companies. The companies use their equity investments inefficiently. On the other hand, their potential liabilities may be covered by the equity investments.

The weaknesses of ecological entities are higher prices of production, weather and demographic environment. Under the influence of import of low-quality plant and animal products to Slovakia, the demand for good-quality foodstuff has decreased in recent years leading to the impairment of population´s health condition. Funding of entities running business in ecological farming doesn´t often go without grants and subventions because of facts mentioned above. Subventions and grants for ecological farming sector represent the advantage compared to the entities running business in other than farming sector. Even though the expenses in connection with reaching the incomes of ecological entities are higher than for other entities, the market conditions should be set the same for all entities running a business.

Summary

Enterprising in ecological farming sector is increasing in Slovakia, particularly since the entry of the country into European Union. The policy of entities running business in ecological farming is to carry business in accordance with the protection of the environment without the use of chemistry. However, the production of these companies is at least 40 per cent more expensive compared to other entities running a business in the same or similar sector. One of the methods of how to predict financial health of these companies is Kralicek´s Quick test. Since the state financially supports business growth in ecological farming, with this support entities can maintain their financial health.

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The Analysis of Cross-Border Mergers and Acquisitions Targeted on Slovak Businesses in Period 1997 - 2015

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Abstract

This post contains the results of a structural analysis of the development of mergers and acquisitions of companies established in the Slovak Republic in the period 1997 - 2015. This allows us to compare developments in this area prior to the Slovakia acceptance to the EU, adoption of the euro, action of the global financial crisis and after these events. The main aim of the contribution is to identify the most attractive sectors for which foreign businesses focused on mergers, by analyzing available data from Zephyr database (Bureau van Djik). A secondary objective is to describe the overall structure of mergers and acquisitions, in terms of the relative proportions of different types of connection to the unit, as well as the geographic structure of this type of foreign direct investment.

Key words
Mergers and acquisitions, deal, share, cross-border, sector.

Introduction

Mergers and acquisitions belong to the category of solid connections between at least two separate corporate entities. This means that in this case, not only the cooperation of two companies for specific projects or create a joint venture but they are subject to a mutual property-capital entanglement. This entanglement takes different types and forms, depending on the perspective by which we evaluate them. The most commonly used evaluation aspects of mergers and acquisitions in the literature are aspect of the production focus, aspect of geography, aspect of the perspective of mergers and acquisitions embodiment so called specific aspects (A. Chapčáková, J. Hečková, E. Huttmanová, 2013).

In our analysis the attention is focused on the aspects of production focus and geographic character.

In terms of production focus we distinguish horizontal, vertical, conglomerate and co-generic mergers and acquisitions.

Horizontal integration of enterprises is a merger or acquisition of businesses within the same field of production. For instance, the merger of two steel-mill enterprises. (Kráľovič, J. Vlachynský, K., 2006). This type was most common in the early 20th century. The motive for this type of mergers and acquisitions is mostly a synergistic effect. Synergistic principle in view of the merger can be characterized as a higher rate of immediate economic effect of a combination of the capital of both companies than it can generate a separate capital of each of the businesses on their own.

Vertical integration of enterprises is a type of integration of two or more businesses incorporated within common customer-supplier chain, but at different stages of production. It is a combination of the customer with the supplier or vice versa. This type of merger was typical for the period of 20th to 30th years of the last century. Motive of such mergers is clear, the merger of complementary assets typically aimed of increasing efficiency and reducing production costs (Kráľovič, J. Vlachynský, K., 2006).

"Congeneric integration - merger or acquisition of companies from related fields of business that do not produce identical product." (A. Chapčáková, J. Hečková, E. Huttmanová, 2013, 147)

Conglomerate integration is a cross-industry merger or acquisition, that connect businesses with no apparent horizontal (competitive) or vertical (supplier-customer) relationship and their joint provision of the production process is not expected even after finishing the merger process. This type of integration prevailed in the 60th to 70th years of the last century. Efforts of the company to penetrate a new market from production, not geographical point of view can lead to conglomerate integration (Kráľovič, J. Vlachynský, K., 2006).

Mergers and acquisitions from geographical distinction differ according to the geopolitical jurisdiction of the parties concerned. If it is identical, i.e. both enterprises come from the same country, we designate them as national mergers and acquisitions. In the case that one of the actors is a foreign entity e.g. trade

transcends national borders, we are talking about cross-border mergers and acquisitions (A. Chapčáková, J. Hečková, E. Huttmanová, 2013).

Data and methodology

The data used for the analysis come from the Zephyr database (Bureau van Djik) which gathers information on global mergers and acquisitions and is linked to other non-specified databases. The analysis is thus based on the data of the secondary character. Methodological note: database includes cases of mergers and acquisitions in which one company is being acquired by multiple different businesses at the same time. For the purposes of our research to each such case as if each one acquired fraction was an isolated case. The data were analyzed by filtration and custom calculations in Microsoft's Excel program. This contribution was treated as part of the project VEGA no. 1/0173/15 "Analytical view of aspects determined the development of cross-border mergers and acquisitions in the European area".

Results and Discussion

We consider it necessary to emphasize that the database most likely does not contain records of all ongoing mergers and acquisitions and also to note that this database does not, in some of the cases, contain complete data. Therefore, the samples were subjected to filtration, by which we excluded cases in which sector or country (or both) of one or both parties could not be clearly identified, nor on the basis of the particular company that was a subject or object of merger or acquisition, from consideration. In the case of basic characteristics of the total sample of a complete data export, however, we were able to examine the period of 1997 - 2015 which contains information such as the count of cross-border and domestic mergers and acquisitions.

During the period mentioned there was a total of 1,100 completed mergers and acquisitions observed in the aforementioned database Zephyr Bureau Van Djik. From this overall count 862 recorded transactions contain all relevant data necessary to our analysis, which represents 74.31% of the original, unfiltered sample. The following chart contains an analysis of the total unfiltered sample of 1,100 cases from territorial point of view in different years:

Graph 1 Mergers and acquisitions by territory from 1997 to 2015
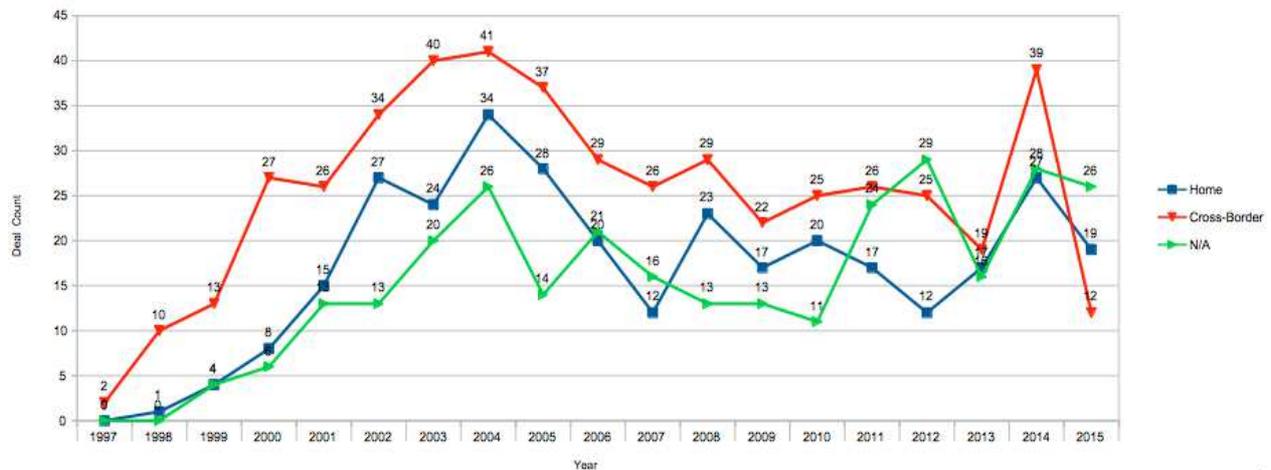
Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own construction

Graph 1 shows that the proportion of missing data is considerable, in some cases and ranges from 0 to 45.61%, which would significantly reduce the explanatory power of the database. For purposes of our analysis, we filtered out these transactions that have incomplete data. It also can be observed that for almost the entire reference period cross-border mergers and acquisitions prevail over domestic in proportion 43.82% to 29.55%, with 26.64% of the deals that from territorial point of view, could not be clearly identified. The largest number of recorded deals was in 2004 to 101 representing 9.18% of the total deal volume for this period. This may be a fact due to expectations relating to the acceptance of the Slovak Republic to the European Union. At the same time it can be stated that by 2004 the number of mergers and acquisitions gain a descending trend, regardless of their territorial characteristics.

In the following text, we will only work with the file that contains the complete data, which aggregates 862 deals respectively 501 cases of cross-border mergers and acquisitions of complete records, representing 45.55% of the original unfiltered record of 1,100 deals.

To ensure a greater degree of comparability of the revision in the comparable period in terms of duration before and after the acceptance of Slovakia to the European Union e.g. we are assuming only the seven years after joining the European Union with regard to the time range of data available in the period before. We adjust the range in other cases the same way. Subsequent relative values are always calculated in relation to the total number of clearly identifiable cross-border deals i.e. 501.

Table 1 Mergers and acquisitions before and after Slovakia's entry to EU

Before acceptance to EU		After acceptance to EU	
1997 - 2003		2004 - 2010	
Absolute	Relative	Absolute	Relative
154	30,74%	205	40,92%

Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own construction

In the comparable period in terms of the timescale 51 more deals was recorded in the period after the acceptance of Slovakia to the European Union than in the previous, despite a gradual decline in interest in mergers and acquisitions with Slovak companies after 2004 in general, which can be seen in Graph 1.

Table 2 Mergers and acquisitions before and after the acceptance of Euro

Before acceptance of Euro		After acceptance of Euro	
2002 - 2008		2009 - 2015	
Absolute	Relative	Absolute	Relative
233	46,51%	162	32,34%

Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own construction

From the data displayed in Table 2 can be concluded that the euro dampened interest in mergers and acquisitions, as the exchange rate eliminate discrimination which had until then, the effect of positive discrimination to foreign investors and thus cause an increase in the cost of investment in these type of foreign investments in companies in Slovak Republic (Kurz slovenská koruna (SKK) – Slovensko 2008). Decrease compared to the comparatively long period before the adoption of Euro is 30.47%.

Table 3 Mergers and acquisitions before, during and after financial crisis

Before crisis		Crisis		After crisis	
2003 - 2007		2008 - 2012		2013 - 2015	
Absolute	Relative	Absolute	Relative	Absolute	Relative
174	34,73%	137	27,35%	73	14,57%

Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own construction

After adjusting our range for a period of five years (2003-2007) before the crisis, we see that the number of deals in the period before the crisis is only about 37 more deals than in comparably long period during the the financial and economic crisis. This represents 78.74% of the number of the previous period. It has, therefore, a decrease of 21.26% and thus the crisis most probably dampened the interest of foreign companies for mergers and acquisitions of the Slovak enterprises.

The Zephyr database (Bureau Van Djik) differs the following nineteen types of sectors: banks; construction; education, health; food, beverages, tobacco; gas, water, electricity; hotels & restaurants;

chemicals, rubber, plastics, non-metal products; insurance companies; machinery, equipment, furniture; metals & metal products; other services; post and telecommunications; primary sector (agriculture, mining etc.); public administration and defense; publishing, printing; textiles, wearing apparel, leather; transport, wholesale & retail trade and the last is wood, cork, paper.

Table 4 Mergers and acquisitions by type of intersector connection

Type	Horizontal	Relative value	Vertical	Relative value	Conglo-merate	Relative value
Count	285	56,89%	42	8,38%	159	31,74%

Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own construction

As part of our analysis on the mergers and acquisitions in terms of production focus we viewed it from the perspective of source countries. Such a large proportion of the types of conglomerate mergers and acquisitions compared to vertical type may be due to the methodology of data processing in Zephyr database by which it assigns individual enterprises to defined sectors. The issue is the sector of "other services" and the fact that it is not more specified and thus may contain a large range of different service-focused companies. For the purposes of our analysis, we treat the variable "other services" related to other sector as if its the conglomerate operation, except for the case when both of the studied enterprises fall into "other services" sector.

According to the available data, from a territorial point of view the cross-border mergers and acquisitions targeted on Slovak enterprises originated from forty-one different source countries. These include countries such as Israel, New Zealand, Taiwan, Singapore or Bermuda. These countries however, represent only very small amount of cross-border mergers and acquisitions count in Slovakia and usually do not exceed five deals during the entire period. Given the scope of this article, we will further examine only those countries, which were the source of at least fifteen or more deals during the whole period.

Graph 2 Countries according to percentage share of cross-border mergers and acquisitions in Slovakia
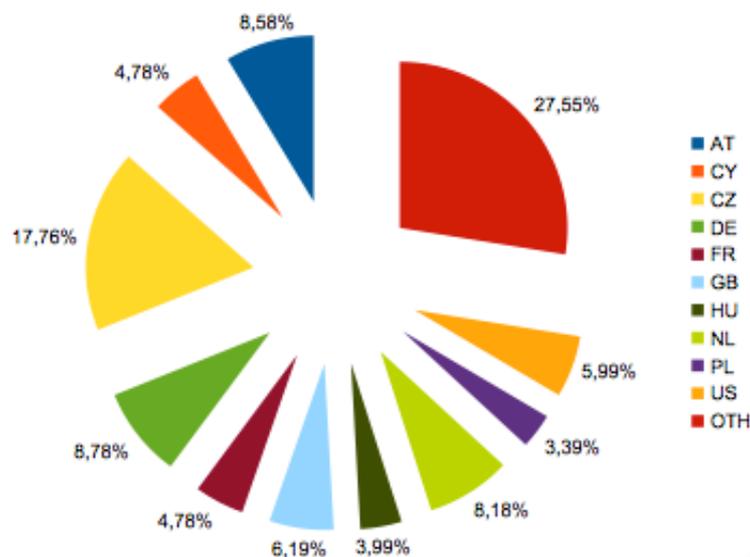
Based on data from: Zephyr database (Bureau Van Djik) 2016.
Own Construction

Graph 2 shows that, out of 27.55% cumulative share of countries, from which originate less than fifteen deals for the whole period, the most important source of mergers and acquisitions in Slovakia is the Czech Republic with 17.78% share. The top five countries with the largest share enclose Germany (8.78%), Austria (8.58%), the Netherlands (8.18%) and the UK (6.19%). The trend of conglomerate mergers and acquisitions prevailing over the vertical, which we observed in the data in Table 4 also

transfers itself into the level of individual countries. Extension of the top ten countries would involve other countries belonging to the V4 cluster Hungary (3.99%) and Poland (3.39%).

Cumulative relative share of these five countries in the total number of clearly identifiable deals is 49.49%. If we are treat this countries as some sort of individual entity, we can identify individually defined sectors with the largest share from the total.

If we again exclude the "other services" sector in this case representing 76 out of a total of 249 count of deals, because of its general character, then sectors which resource companies from named five countries are most focus on in terms of mergers and acquisitions targeted on Slovak enterprises are banks (19), food, beverages, tobacco (20); gas, water, electricity (16), chemicals, rubber, plastics, non-metal products (20); machinery, equipment, furniture (19) and wholesale & retail trade (18).

The other sectors variate from 1 to 9 deals per analyzed period. Within this area, we can also find certain rarities like the only recorded case of trade in education, health sector for the whole period in 2007 when there was a takeover of the Slovak company Aliatros Ltd. By Austrian Futurelab Holding GmbH. Takeover was valued at one million euros. Similarly, the only one recorded case when the deal was made subject in sector of public administration and defense namely the National Property Fund of the Czech Republic, which in 2002 bought part of the shares of Slovnaft SpA of undisclosed value.

Summary

Based on our analyzes we can generally state, that the financial and economic crisis of 2008 did not affect the demand for foreign investment enterprises in the form of mergers and acquisitions in Slovakia, at least in terms of volume of deals executed. On the contrary, the acceptance of Slovakia into the European Union and adoption of the euro may have a noticeable impact on the volume of cross-border mergers and acquisitions.

In the case of the Slovak Republic's acceptance to the European Union we observe an increase in the number of deals compared to the comparatively long period before. In the case of Euro currency acceptance, the demand declined probably due to the increased cost due to the elimination of positive discrimination of the exchange rate for the buyers.

From the overall volume of mergers and acquisitions that have taken place since 1997 and which were captured by the Zephyr database (Bureau van Djik), more than 45% of deals with clearly identifiable actors, were cross-border mergers. With the more detailed structural analysis, we were able to define ten countries that have created at least fifteen deals for the whole period. To these countries belong: Austria, Cyprus, Czech Republic, Germany, France, Great Britain, Hungary, Netherlands, Poland and United States of America. Namely five of this countries, Czech Republic, Austria, Germany, Netherlands and Great Britain, to be concrete, forms significant almost 50% share on the overall complete records of cross-border mergers and acquisitions. For this reason, Slovak Republic should focus on further development of economic relations with these counties and also endeavor to harmonize certain standards, such as environmental protection standards for instance, in order to maintain the attractiveness of Slovak enterprises to the foreign direct investments originated from these countries.

On a closer analysis of structure of deals from five countries mentioned we have identified six sectors that make up the most significant share of mergers and acquisitions and are: banks; food, beverages, tobacco; gas, water, electricity; chemicals, rubber, plastics, non-metal products; machinery, equipment, furniture and wholesale & retail trade. In our opinion the Slovak Government should focus on supporting those sectors, as they produce the highest proportion of foreign direct investments in the form of mergers and acquisitions, or even to protect them from a monopoly which may arise from such direct foreign investments and damage its domestic market.

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Human Development Index in the Countries of Central Europe

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Abstract

The quality of life is an interesting and important social topic but to measure the life quality is currently a complicated issue since there are several approaches, indicators and views on its evaluation and there is no universal method which would objectively assess the quality of life. This paper deals with the issue of evaluating the life quality based on the Human development index which is usually used to measure the potential social prosperity. In the first part, we focus on the characteristic of a chosen index and individual basic indicators that the given index works with. The second part of the paper offers an analysis of Human development index carried out over the last 15 years for the countries of Central Europe. In the paper, we try to point out the importance of monitoring the quality of life and to emphasize one of the possible approaches to its evaluation using examples of selected countries and their comparisons.

Introduction

Each year, since 1990, the United Nations Development Programme (UNDP) prepares reports about human development. In these reports, it uses and works with an aggregate indicator of Human development index which was created by UNDP for easier comparison of the level of the development and quality of life in individual countries. Before 1990, the economic approach to the measurement of the development and quality prevailed more. This view of international comparison dealt rather with the part which was based on the indicator with the name gross domestic product per capita in purchasing power parity. But in a broader sense of the development, similar indicators alone were not suitable and they were not able to evaluate the quality of life more objectively since the economic growth does not always mean a real improvement of the life quality in a given country, for example if there is only a small part of citizens who have profits from the economic growth or if the growth or improvement are created by military expenses. In such cases, it is not possible to expect the improvement of the life quality for a broader circle of inhabitants (Syrovátka 2008).

The aim of UNDP was thus to create such an indicator which would represent the quality of life more effectively and more objectively. Therefore, this index works not only with economic indicators but it also uses uneconomical indicators because their implementation provides better information value of the monitored index. In the first part of the paper, we tried to characterize the index and to analyse the indicators that it works with. In the second part, we analysed the values of the Human development index for the countries of Central Europe where we carried out a comparison based on time development.

Methodology

In this paper, basic scientific methods such as observation, the method of comparing, generalizing, analysis and synthesis were used. These methods of a cognitive cycle were used at the same time in several steps. The method of comparison was based on a systematic and purposeful perception of a subject and a phenomenon of a given issue. One of the quantitative methods of processing the outputs was the use of contingency tables using Microsoft Excel which were used to evaluate needed information and outputs.

The history of a human development

Until the 1970s, only economic indicators were used for international comparison of the development level which and they were mostly comparing the states according to the level of income per capita. But one part of economists started to emphasize at those times that the prevailing interpretation of the indicators of economic level as a measurement of the life quality is not right and that such a broad term as a development is, cannot be reduced only to economic growth (Syrovátka 2008).

GDP and similar indicators inform relatively very well about the economic performance and the growth of a whole system - but they do not tell anything about the character and the quality of total development (UL Haq 2003).

The index of material life quality has become the first significant alternative to economic indicators of a development. The indicator was defined as a minimum set of human needs which should be met even in the poorest countries of the world. The index included the literacy of citizens, life expectancy at birth and infant mortality. The results from every three components were transferred to the scale from one to one hundred; these values were then transferred into an average of total PQLI index (Stantonová 2007).

And thus, in 1990, there was an indicator in the first report on human development which tried to better inform about international differences in the quality of life than the indicators of economic character. The main influence on the form of HDI and initial reports on human development was made by a Pakistani economist Mahbub ul Haq (Syrovátka 2008).

In the report from the year 1990, there were intellectual fundamentals of the concept of human development introduced which the indicator was built on. The main theoretical basis for the new concept was a work by an Indian economist Amartya Sena (UNDP 1990). According to this economist, the growth of income itself is not an aim of the development but it is only a means to reach the other goals. Sena considers the extension of human skills-possibilities to be a real aim of the development. These skills-possibilities give a man freedom to choose any kind of life which the given man wants to live (Sen 1999). There are of course many of these possibilities and they are changing dependent on the level of development but the main possibilities without which there is no further development possible, are as following: to live a long and healthy life, to gain knowledge and to reach means to ensure a decent living standard (UNDP 1990).

Human development index

The Human development index was created with a goal to emphasize that not only an economic growth but also people and their abilities could be the key criteria to evaluate the country's development. HDI can be also used for the question of choosing a national policy, how it is possible that two countries with the same GDP per capita can end up with different results of human development. These contrasts can initiate a discussion about the priorities of government's policy.

The Human development index works with three basic dimensions – components which are the indicator of longevity, education and a decent living standard (Jahan 2003). Despite the fact that the methodology of index was often changing, these three dimensions have remained in different modifications to be included into the aggregate result. Its calculation is made in four steps: operationalization of the concept, standardization of indicators, calculation of partial indices and the calculation of aggregate index (Syrovátka 2008).

The Human development index can be included into complex indicators of the countries' development of socio-economic character. It measures the countries' success in three basic aspects of human development: health, the level of education and incomes. It means that the country can be a leader in economic statistics but people live there in anxiety, illiterate and without a possibility of education. For people, it is much more important whether they live long and healthy, have unlimited access to education or to such a basic material as water. Or whether they can contribute to the country's development without any limitations as mentioned by sociologists who prepare the report. This index is standardized and internationally comparable if it is calculated by using the same method. It reaches the values in the interval <0,1> and based on it, it is possible to make the categorizations of countries into developed and developing and it uses 4 zones according to the level of reached index value and it is a very high human development, high human development, medium human development and low human development (UNDP 2011).

Figure 1. Human development index and its components
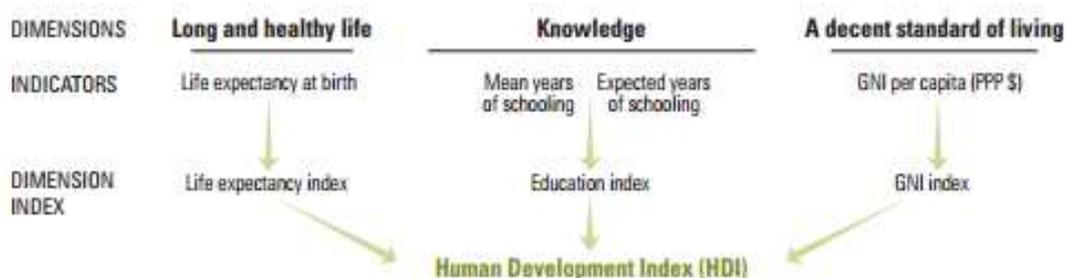
Source: portal undp.org

The component health offers an evaluation of the expected length of life since birth; components of HDI come out from minimum limit of 20 years and maximum limit of 85 years. The component of upbringing is included in the index and it is measured as an average of the years of school attendance for adults of the age of 25 years and expected years after the entry of children into schooling. The average of the schooling years is assumed by the UNESCO institute for statistics based on education from data given in a census and surveys available in a database. Expected assumptions of schooling years are based on the enrolment of children according to the age at all levels of education. This indicator is produced by UNESCO institute of statistics.

The expected years of school attendance is limited to 18 years. The indicators are normalized using the minimum value of zero and maximum intended values 15 to 18 years, or both indices are combined into educational index by the means of arithmetic mean.

The component of living standard is measured by the means of Gross national income per capita. The minimum income is $ 100 (PPP) and maximum income is $ 75.000 (PPP). The minimum value for GNI per capita is set to 100 $, it is justified by a quantity of nonmarket production in the economies which are not recorded in official data. HDI uses a logarithm of incomes so that they would reflect the decreasing importance of incomes with increasing value of GDP (UNDP 2011).

The countries of Central Europe

Central Europe is a part of Europe between Eastern and Western Europe. According to one of the geographic-historical definitions, in a narrower sense, it includes: Germany, Austria, Switzerland, Lichtenstein, Poland, the Czech Republic, Slovakia, Hungary, and Slovenia. Because from the political-economic point of view, we include Germany, Austria, Switzerland and Lichtenstein also into Western Europe, these countries are sometimes not considered to be a part of Central Europe. The Germans or the Austrians consider themselves almost always to be a part of geographical "Central Europe" and political-economic "Western Europe" (www.wikipedia.org).

Central Europe is a region forming the heart of Europe. It includes the German-speaking countries, the Visegrád countries (three West Slavic-speaking countries, and Hungary), which became part of the EU in 2004, and Slovenia, a former Yugoslav republic, now also a member of the EU. Only Switzerland and tiny Liechtenstein are not EU member states but share close economic and cultural ties with the region but also have stayed away largely for economic and historical reasons. It is a large and important region stretching from the Baltic and the North Sea in the north to the Adriatic in the south. It is also home to some of Europe's and the world's most prosperous economies and cities. Lastly, it includes the fabled mountain range of the Alps which acts a transition zone between the Latin, Germanic and Slavic cultures which all call the region home. Central Europe, because of its rich heritage of nationalities, likewise is home to many languages. Some languages enjoy the national status and thus are taught in schools and used widely in the media. Others, however, are only regional languages or minority languages and thus are sadly in danger of eventual extinction even though efforts are underway to try to preserve them (www.wikitravel.org).

The development of HDI in the countries of Central Europe

The analysis was divided into two parts, in the first part, we carried out a comparison of individual countries of Central Europe, despite the fact that these countries were undergoing different political as well as economic changes, but from a geographical point of view, they belong to Central Europe and therefore it was important to monitor and compare the life quality based on a selected index just among these countries during the last ten years. The second part focused on the comparison of the countries of Central Europe to a leader in this ranking, Norway, which in a long-term dimension, holds a leading position according to the values the Human development index works with. We had chosen this comparison especially in order to show the countries of Central Europe in a confrontation with the best ones.

The comparison of HDI in the countries of Central Europe

We sorted out and gathered the collected data and the overview of these data is offered in Table 1 which presents the countries of Central Europe from 2005 to 2014. This time line offers also (i) interpolated data for three monitored years, as for these years, the detailed reports analyzing the Human development index were not carried out and the given values had to be mathematic-statistically complemented.

Table 1. HDI in the countries of Central Europe

Central Europe	2005	2006 (i)	2007 (i)	2008 (i)	2009	2010	2011	2012	2013	2014
Switzerland	0,904	0,908	0,911	0,914	0,917	0,924	0,925	0,927	0,928	0,930
Germany	0,887	0,891	0,894	0,898	0,902	0,906	0,911	0,915	0,915	0,916
Liechtenstein	0,888	0,890	0,893	0,896	0,899	0,902	0,903	0,906	0,907	0,908
Austria	0,853	0,857	0,863	0,867	0,873	0,879	0,881	0,884	0,884	0,885
Slovenia	0,857	0,861	0,864	0,868	0,872	0,876	0,877	0,878	0,878	0,880
Czech Republic	0,847	0,850	0,854	0,856	0,860	0,863	0,866	0,867	0,868	0,870
Slovakia	0,793	0,800	0,807	0,814	0,823	0,827	0,832	0,836	0,839	0,844
Poland	0,805	0,809	0,814	0,818	0,824	0,829	0,833	0,838	0,840	0,843
Hungary	0,802	0,806	0,809	0,813	0,817	0,821	0,823	0,823	0,825	0,828

Source: Own processing according to the used literature

A more detailed development of the acquired values is expressed by Figure 1 where we can see the Human development index in the countries of Central Europe during a time period of 2005-2014. It can be stated that our expectations regarding similar trends of the given countries of Central Europe were fulfilled. Their development could be divided into three key clusters where each cluster is represented by three countries by which the index values and their development are close. The first cluster of the countries which were reaching the highest values of HDI includes Germany, Lichtenstein and Switzerland. The countries of this cluster have long maintained a high quality of life over the average of the countries of Central Europe, as can be seen in Graph 1. The second cluster is represented by the countries which sustain in the average of HDI of the countries of Central Europe and it includes Austria, Slovenia and the Czech Republic. Finally, the third imaginary cluster of the countries includes Poland, Slovakia and Hungary. In these countries, the values of HDI do not reach the average value of the countries of Central Europe during the monitored period of time.

Based on the development of the values of HDI for nine countries of Central Europe, it is possible to state a positive trend which should be also reflected in the quality of lives of the people living in the given countries. Of course, it would be interesting to carry out a more detailed analysis why despite a positive trend of HDI, the countries of the third clusters are still far away from the average of the Central Europe countries. Just more detailed analysis of individual determinants of the monitored index would answer our questions. So far, according to the analysis carried out, we can only say that Germany keeps the strongest position and vice versa Hungary keeps the weakest position from among the countries of Central Europe.

Graph 1. HDI in V4 countries
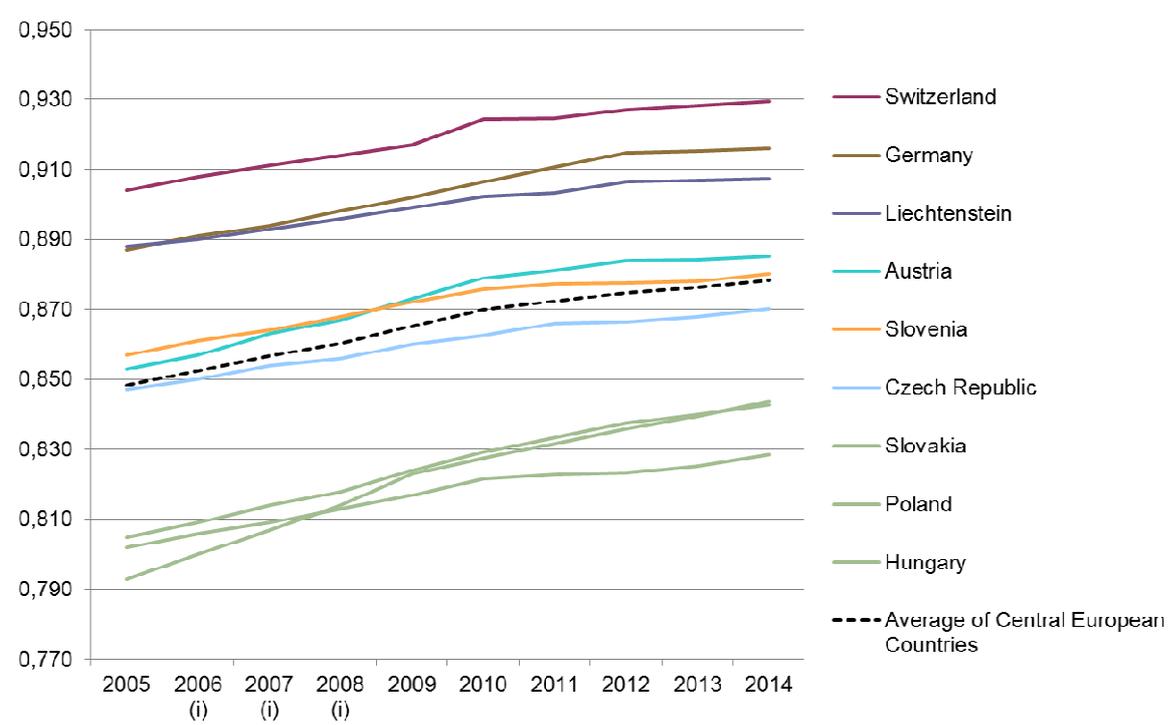
Source: own processing according to the used bibliography

In the last ten years, the countries of Central Europe were undergoing different political as well as economic changes which had of course an influence on the quality of life in these countries which was of course reflected also in the HDI values individually as well as specifically for each country monitored by us. The latest complex reports about HDI provide information for 188 monitored countries from the whole world where also a ranking of these countries based on comparing the index values is created every year. As already mentioned, due to political, economic as well as other changes, the positions of the countries of Central Europe in this ranking are changing every year. Currently, the strongest player from the countries of Central Europe, Switzerland, holds a position number 3 in this ranking while the weakest player from among the countries of Central Europe, Hungary, holds the position 44 but it still belongs to the countries of „Very High Human development".

The comparison of Central Europe with Norway according to HDI

For the second part of the comparison of the examined index, we had chosen a comparison of the countries of Central Europe with Norway as the strongest player holding long the leading positions from among all countries of the world where HDI is carried out. The HDI values in the last ten years are shown in Table 2 while Graph 2 compares the index values of nine countries of the Central Europe with the values of the index of Norway.

Table 2. The development of HDI for Norway

Country	2005	2006 (i)	2007 (i)	2008 (i)	2009	2010	2011	2012	2013	2014
Norway	0,932	0,933	0,934	0,936	0,937	0,940	0,941	0,942	0,942	0,944

Source: own processing according to the used bibliography

Norway is long presented as a leader in the HDI ranking since it holds long the leading positions resulting from annual detailed reports. Also based on the indicators that the index works with, we can say that it usually reaches the best results. Of course, it is not possible to definitely determine a super country regarding also the HDI which also has the weaknesses of its information ability but it works with indicators which offer us a broadscale assessment of the quality of life in the given countries.

By the means of the so called spider web, the Graph 2 offers us a picture of the length of values in comparison with the index leader Norway in the last ten years. As expected, also in this graph, we can see three clusters of chosen countries but it is even more important to see Norway which is represented by a dotted web which offers a limit represented by the best HDI values in the time period of 2005-2014. As can be seen, Switzerland has a considerably positive trend to reach this limit.

Graph 2. The development of HDI in the countries of Central Europe and in Norway
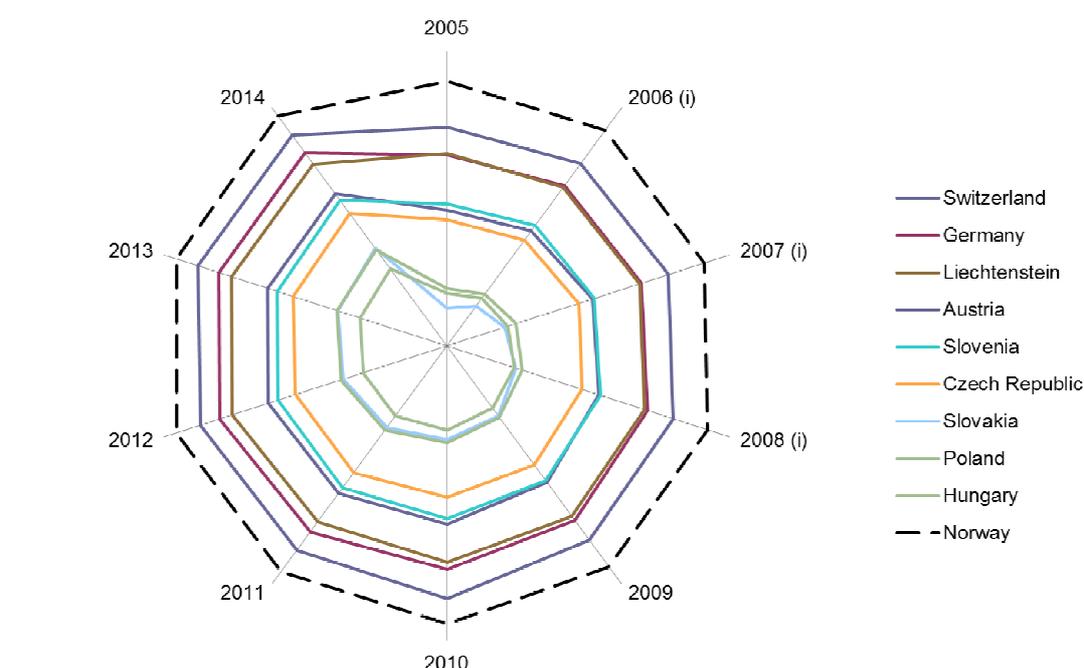
Source: own processing according to the used bibliography

If we wanted to take a look at current positions in the ranking according to the latest report of HDI, then of course, Norway took the first position in the given ranking in the last monitored year, whereas the countries of Central Europe have the following positions: Switzerland – 3rd, Germany – 6th, Lichtenstein – 13th, Austria – 23rd, Slovenia – 25th, the Check Republic – 28th, the Slovak Republic – 35th, Poland – 36th, and Hungary – 44th. If we wanted to take a more detailed look at what stands behind these positions, we would need to compare the individual dimensions and indicators based on which the final value of the index is determined. We can positively assess the growth of the index value in a monitored time horizon but although the trend of the development is positive, we can evaluate negatively the fact that the differences between these countries are not decreasing.

Conclusion

Of course, as already mentioned several times in the paper, it is very difficult to determine and so far there is no unified metric, or a method, an indicator, or an index that would objectively and comprehensively assess the quality of life in a given country. But the present times offer several indicators, methods, indices, which to a certain extent reflect the quality of life in the monitored countries. In this paper, we used one of the offered indices and that is the Human development index which evaluates the quality of life in 188 countries based on several indicators. This index has a tradition since 1990 for the monitored countries. Based on this HDI, we carried out the analysis of the countries of Central Europe. This comparison of the countries has offered us an answer to a question what development was in the countries of Central Europe in the last ten years in criteria that the Human development index is based on. The second dimension of the comparison was offered us by the comparison with Norway as a country which long holds the leading positions in this HDI ranking where we could state that despite a positive trend in the development, the differences between Norway and the countries of Central Europe are not decreasing. Analysing the given issue creates a room for a more detailed discussion about positive and negative aspects determining the final value of the index.

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Analysis of Business Discount Rate in Terms of Equity Valuation

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Abstract

   This paper is devoted to the issue of calculating the discount rate for market valuation of business. It is dedicated to more detailed analysis of inputs for discount rate calculation. In this paper Cost of Equity, which enter the discount rate calculation, is quantified applying CAPM and Build-up model. The calculations are carried out on data of a company from the energy industry for the period 2010-2016. To estimate inputs for Cost of Equity calculation in 2016, method of regression analysis is applied. The aim of the paper is to compare discount rates obtained applying different approaches to Cost of Equity calculation and to choose most appropriate method of calculation under the Slovak conditions. The most difficult point of solution was the determination of inputs for Cost of Equity calculation with the use of their direct estimate into the future. Nevertheless, this method of calculation may be an appropriate solution for the future valuation of business capital.

Key words
Build-up model, Capital Assets Pricing Model, discount rate, risk premium

Theoretical background

   Copeland, Koller and Murrin (2005) define discount rate as the rate of return used to convert payment, which will be received in the future, to its present value. Pratt (2002, p. 6-7) states: "The essence of the cost of capital is that it is the percentage return that equates expected economic income with present value. The rate of return in this context is called a discount rate. By a "discount rate," the financial community means an annually compounded rate at which each increment of expected economic income is discounted back to its present value. A discount rate reflects both time value of money and risk and therefore represents the cost of capital. The sum of the discounted present values of each future period's incremental cash flow or other measure of return equals the present value of the investment, reflecting the expected amounts of return over the life of the investment. The terms "discount rate," "cost of capital," and "required rate of return" are often used interchangeably." Pratt and Grabowski (2008, p. 10) define discount rate as a "yield rate used to convert anticipated future payments or receipts into present value (i.e., a cash value as of a specified valuation date). A discount rate represents the total expected rate of return that the investor requires to realize on the amount invested." Based on the above-mentioned it can be concluded that discount rate represents cost of invested business capital, which usually consists of two parts. First part is risk-free rate of return, which is a reward for the postponement of consumption over time. Second part is a premium added to the risk-free rate which corresponds to the risk of the investment.

   As the basic method for equity valuation is considered Capital Assets Pricing Model – CAPM, also called market model. However, when choosing a method for discount rate calculation, it is appropriate to take into account the type of evaluated business (Maříková, Mařík 2005). In the case of business, shares of which are traded on the capital market, we can take into account only risk appreciated by capital market – systematic risk. In this case the application of CAPM is appropriate. Second type of business is privately held company, shares of which are not traded on the capital market. Then it is necessary to calculate risk premium for overall risk – systematic and specific (unsystematic) risk. In this case more appropriate alternative for business valuation is Build-up model.

Aim and methods used

   The aim of the paper was to calculate discount rate of selected business for its market valuation. Discount rate was calculated with the use of market model – CAPM and Build-up model. Subsequently

were compared the results of these models and were proposed the possibilities of their application in selected business as well as general recommendations for companies doing a business in Slovakia. Partial aim was to determine most appropriate inputs for CAPM and Build-up model under the Slovak conditions, based on the analysis carried out in this paper. CAPM inputs were derived from the modified formula of Damodaran (2001) with the application of Country Risk Premium: $r_e = r_f + \beta * ERP + CRP$, where r_f is risk-free rate of return of 10-year government bonds, β is the sensitivity of the expected excess asset returns to the expected excess market returns, it measures systematic risk of the asset, ERP is Equity Risk Premium. Risk-free rate of return was derived from the current return on 10-year government bonds as well as on the basis of direct view into the future with the use of spot interest rates. β coefficient was determined by method of analogy. Equity Risk Premium was taken over from database of Aswath Damodaran (2016).

The second approach applied in calculating discount rate was Build-up model. This model is used for the calculation of Cost of Equity in the case that we cannot use CAPM – it is the case when business shares are not traded on the stock market and β coefficient cannot be estimated. Build-up model is an empirical method of estimating expected return on equity. It is a typical German approach to equity valuation. Its aim is to use as much factors as possible, therefore it is often called comprehensive Build-up model (Vochozka, Mulač et al. 2012). This method is based on the most complete consideration of individual risk factors (Oščatka 2004). Principle of Build-up model is based on the assumption that independent variables are fundamental factors. Risk of these factors is evaluated and incorporated into equity valuation (Neumaierová, Neumaier 2002). Based on the determination of fundamental factors, there are several Build-up models. Recent empirical studies of Fama and French showed that capital market accepts two risks: (Neumaierová, Neumaier 2002): risk of smaller companies in the form of risk premium for lower liquidity of the shares in the market and risk arising from the fact that market value of business does not exceed its book value. Interest rate calculated with the use of Build-up model includes: risk-free rate of return (usually return on government bonds) and premium for specific risks. Main difference of this method compared to CAPM is that Build-up model does not include β coefficient, which represents systematic risk. Based on the above-mentioned, this method can be expressed by the formula: $E(r_i) = r_f + RP$, where $E(r_i)$ is Cost of Equity, r_f is risk-free rate of return, RP is risk premium, which consists of various factors, according to basic classification it is divided into business risk factors, for example factors of market risk, factors related to size of the business and other specific factors (Štefko, Krajňák 2013) and financial risk factors, for example the risk of fluctuations in cash flow. Risk Premium according to Mařík et al. (2011) is calculated according to formula: $RP = r_o + r_{fin} + r_{LA}$, where r_o is premium for business risk, r_{fin} is premium for financial risk, r_{LA} is premium for other risks, for example for lower liquidity of the shares in the market.

For discount rate calculation we selected the indicator Weighted Average Capital Cost (WACC) expressed by the formula: $WACC = r_d (1 - d)\frac{D}{C} + r_e \frac{E}{C}$, where r_d is cost of debt, d is income tax rate applicable for evaluated business, D is market value of debt invested in the business (interest-bearing), r_e is expected return on equity of assessed business, E is market value of equity, C is total market value of interest-bearing invested capital.

In accordance with objectives and methods of this paper we set the following hypothesis:
H: We assume that discount rate calculated applying CAPM will be lower than discount rate calculated with the use of Build-up model.

This hypothesis was verified by calculating the discount rate applying above-mentioned models. For the calculation and analysis of selected risks, we chose a business from the Slovak energy industry.

Analysis of CAPM inputs
For the calculation of discount rate applying proposed models, it was necessary to identify and analyse their inputs. When calculating Cost of Equity applying CAPM, inputs listed in Table 1 were analysed.

Table 1 CAPM inputs

YEAR	r_f %	β	TRP %	CRP %	ERP %
2003	4.99%	1.48	6.54%	2.03%	4.24%
2004	5.02%	1.34	6.25%	1.43%	4.82%
2005	3.52%	1.40	6.27%	1.43%	4.84%
2006	4.41%	1.59	6.00%	1.20%	4.80%
2007	4.49%	1.52	5.96%	1.05%	4.91%
2008	4.72%	1.36	5.84%	1.05%	4.79%
2009	4.71%	1.38	7.10%	2.10%	5.00%
2010	3.87%	1.41	5.85%	1.35%	4.50%
2011	4.45%	1.32	6%	1.28%	5.00%
2012	4.55%	1.33	7.28%	1.28%	6.00%
2013	3.10%	1.43	7%	1.50%	5.80%
2014	2.07%	1.14	6%	1.28%	5.00%
2015	0.89%	1.24	6.39%	1.21%	5.18%
2016	0.71%	1.13	5.91%	0.98%	4.93%

Source: Authors

Values for the year 2016 were estimated with the use of historical data. We can positively evaluate a decline in risk premiums, namely Equity Risk Premium - *ERP* and Country Risk Premium - *CRP*. The development of estimation of systematic risk *β* for given industry is also positive. Development of risk-free rate of return - r_f shows downward trend, while its predicted value for the year 2016 (obtained by method of regression analysis) amounts to 0.71% - historical minimum. For the calculation of risk-free rate of return, the method of direct estimate into the future with the use of spot interest rate was applied (Horváthová, Mokrišová 2016). Table 2 provides abbreviated overview of spot interest rates development.

Table 2 Spot interest rates

	21.12.2015	22.12.2015	23.12.2015	28.12.2015	29.12.2015	30.12.2015
ZCY1Y	-0.17	-0.15	-0.30	-0.15	-0.15	-0.04
ZCY2Y	-0.10	-0.08	-0.19	-0.10	-0.11	-0.08
....	....	....	....	....	....	....
ZCY14Y	1.38	1.41	1.44	1.39	1.44	1.33
ZCY15Y	1.53	1.55	1.58	1.52	1.58	1.42

Source: Authors based on Ministry of Finance of the Slovak Republic, 2016

With the use of spot interest rates it is possible to predict value of risk-free rate for a period of 15 years. Due to the need for discount rate estimation for the year 2016, the data from the last days of 2015 were used for the estimation of risk-free rate of return. From the development of spot interest rates it is obvious, that from the year 2019 return on government bonds should increase gradually and achieve positive values. This development can be assessed positively. In 2026 return on government bonds should achieve 1% and in the last proposed year 1.42 %.

Analysis of inputs for the calculation of discount rate – Build-up model

To estimate financial risk, which enters into the valuation of discount rate applying Build-up model, it was necessary to calculate selected financial factors from the area of indebtedness, liquidity, activity and profitability. Analysis of indicators of indebtedness revealed that business uses mainly own funds. Very good values reaches factor of risk of capital structure – interest coverage. Based on the above-mentioned we can conclude that indebtedness is not risk driver. The second evaluated area were indicators of activity. Based on the valuation of business activity we can conclude, that analysed company is able to work effectively with its current assets. However, in the area of liquidity, the company achieved negative results. Company`s liquidity is the driver of its financial risk. The last evaluated area for the calculation of financial risk was business profitability. The best value achieved return on assets. For the calculation of

financial risk, achieved values of financial indicators were divided into four levels of risk - low, average, above-average and high. Low risks were related to busines indebtedness and activity and above-average risks were caused by business liquidity. Based on the above-mentioned we can say that financial risk of business is caused by low or inadequate liquidity (the average value of current ratio in analysed period is 0.58). With the use of these factors was calculated average financial risk at the level of 1.64%. From the evaluated risk factors, five were classified as low risks and two were classified as above-average risks.

When calculating business risk, we calculated 25 risk factors. According to the methodology of Mařík et al. (2011) risk factors were linked to the following risk areas: risks of department, market risks, competition risks, risks of management, risks of production process, other problems of profit margins. We classified factors into different risk levels based on own opinion - 5 factors achieved low risk, 11 factors reached average risk, 7 factors achieved above-average risk and 2 factors reached high risk. Above-average risks included these factors: potential of innovations in industry, market saturation, the risk of market penetration, target markets, pricing policy, key individualities and others (Štefko, Krajňák 2013). Based on the above-mentioned we calculated risk premium for average business risk at the level of 9.12 %.

Based on the above-mentioned we can conclude that business risk of analysed company is higher than financial risk. However, business risk contains not only unsystematic risk but also systematic one.

Results and discussion

For the calculation of discount rate, except for equity valuation, it was necessary to evaluate debt. Whereas analysed business has a low and in recent years zero value of debt, it can be stated that discount rate of the business is at the level of Cost of Equity. Values of discount rate applying CAPM are stated in Table 3. As a result of limited availability of data necessary for calculation, these values were calculated for the period 2010-2014. Due to the increase in Cost of Equity, the value of discount rate in the period 2010-2012 is growing. The increase in Cost of Equity was caused by the decline in cost of debt, increase in return on government bonds and partially growth in Equity Risk Premium. Increase in 2012 was caused by growth in Total risk Premium – TRP by 1.28% compared to 2011. In subsequent years discount rate has dropped – in 2014 up to 8.99%. This decline was caused by decrease in return on government bonds, lower risk premiums as well as zero value of cost of debt.

Table 3 Discount rate applying CAPM

YEAR	Discount rate
2010	11.46%
2011	12.03%
2012	13.58%
2013	12.69%
2014	8.99%

Source: Authors

The second method for discount rate calculation was Build-up model. The basis for Cost of Equity evaluation applying this method was the estimate of financial and business risk. Results of discount rate calculation are stated in Table 4.

Table 4 Discount rate applying Build-up model

YEAR	Discount rate
2010	14.48%
2011	14.83%
2012	15.05%
2013	13.64%
2014	12.74%

Source: Authors

In 2010 analysed business achieved discount rate at the level of 14.48%, while in 2014 it was only 12.74%. It means that cost of capital of analysed business has decreased by 2.74% during the analysed period. The decline was caused by Cost of Equity. Finally it is possible to compare calculated values of discount rates (see Chart 1).

Based on the results obtained, we can say that in the case of CAPM we achieved lower values of discount rate compared to Build-up model in each year of analysed period (see Chart 1). Therefore we can conclude that hypothesis was confirmed. The most important difference between calculated values was in the year 2014 at the level of 3.75%. As the risk-free rate of return is the same in both models, the difference was caused by risk premiums which enter into calculation. In the case of CAPM, equity valuation is based on external risks, namely market and country risks. On the contrary, into equity valuation applying Build-up model enter internal risks, namely financial and business risk. Average financial risk of the company achieved the level of 1.64% and average business risk was 9.12%. Within above-mentioned risk occur external as well as internal risks. We can say that the difference of 3.75% reflects value of financial risk as well as value of internal business risk. It leads to increase in cost of capital in the case of Build-up model contrary to CAPM.

Chart 1 Development of discount rates in analysed period
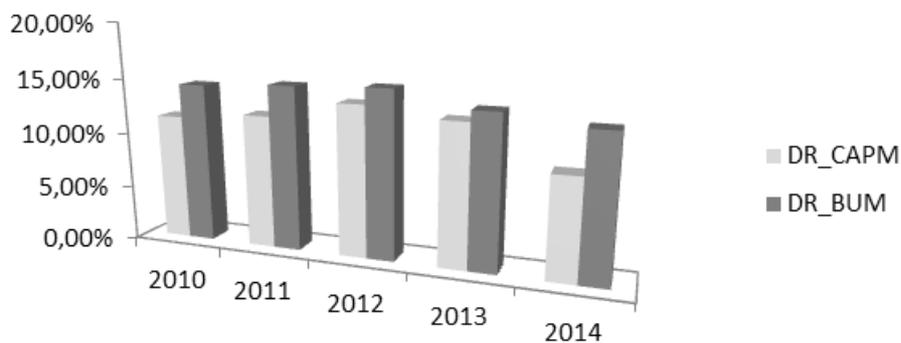
Source: Authors

Summary

In conclusion we summarize advantages and disadvantages of applied models. The disadvantage of CAPM are inputs based on historical data. To eliminate it, it is appropriate to apply prediction of risk-free rate of return with the use of spot interest rates, prediction of β coefficient based on analysis of fundamental factors and prediction of risk premiums with the use of regression analysis. The application of CAPM for the national market should be based on the data of US ERP supplemented by CRP. To complement unsystematic risks, the modification of CAPM with the calculation of specific risks is appropriate; for example in the case of analysed energy company, risks should be supplemented by financial risk. Specific risks are the result of detailed financial and business analysis of company or industry, which should be included in valuation of equity and risks. Build-up model is a good complement of CAPM. This model does not accept β coefficient. It is based on subjective data, enables to make future prediction and respects specific unsystematic risks of each company, resp. industry. The disadvantage of this model is that it does not accept market risk. Based on the above-mentioned, we suggest the application of CAPM with the use of specific risk resulting from financial analysis of business.

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Incidence of Local Development Fee: Theory and Evidence

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Abstract

With the advent of tax and expenditure limitations, state and local governments have been searching for new sources of revenue to maintain or expand public services. The need for new sources of revenue has been particularly acute in localities that have experienced rapid growth. The new act number 447 of 20 November 2015 on Local Development Fee was approved in Slovakia. The Act comes into force on 1 November 2016. The paper points out possible problems associated with the introduction of the Local Development Fee abroad and discribe situation in Slovakia.

Key words
Local Development Fee, Tax incidence, Local Government, Local policy, Infrastructure financing.

JEL classification: H71, H22, R51, R11

Introduction

Local Development Fee (hereinafter only the "Development Fee") is one time charge applied to new developments. Its goal is to raise revenue for the construction or expansion of capital facilities. Development Fee is designed to transfer a portion of the capital cost for new infrastructure from the public to the private sector. Its specific purpose is to ensure that new development pays its own way, alleviating the burden that would otherwise fall to existing property owners. Fees will be required of builders and developers to help pay for example water and sewer systems, streets and street lighting, drainage systems, and parks or green space. Thus, part of the infrastructure or services normally provided by the local government is funded by the developer rather than by general revenue. Slovak Republic has enacted legislation authorizing the local government to adopt Local Development Fee.

Legal Issues

Slovak National Council enacted the Act No. 447 of 20 November 2015 on Local Development Fee. This Act comes into force on 1 November 2016. This Act enacts local development fee. The Development Fee can be established by a municipality in its territory, a separate part thereof or a separate cadastral area, by the generally binding regulation. Subject to Development Fee are land buildings in the territory of the municipality, for which a valid building permit has been issued to permit the construction. In Act there are some points which are not subject to Development Fee. For example: elimination of defects or a building or in serious disrepair of a building, construction of a family house with floor less than 150 m^2, social housing, a healthcare facility, building use as schools, and so on. The liability to pay commences on the final validity date of the building permit. The payer is a natural person or a legal entity in a position of an developer for whom a building permit has been issued except municipalities, self-governing regions or the state. The base of the Development Fee is the floor area of the above-ground part of the building in m^2. The Development Fee rate ranks from EUR 10 to EUR 35 per each m2 or a part thereof, of the floor area of the above-ground part of the building. A municipality can set Development Fee rates for various buildings in the breakdown by act. A municipality can set or change the Development Fee rate by a generally binding regulation only as at 1 January of a calendar year. The Development Fee is an income to the budget of the municipality. The income from the Development Fee can be used for payment of capital expense related to the building, including settlement of land for that purpose: childcare facilities, buildings used for provision of social, sporting and cultural services, social housing, school facilities and vocational training facilities, healthcare facilities, publically accessible parks, landscaping, local roads, parking spaces and technical infrastructure (Act No. 447/2015).

The theory of the incidence of impact fees

The theoretical literature on the incidence of impact fees can be divided into an old view (Altshuler and Gómez-Ibánez, 1993; Delaney and Smith, 1989; Downing and McCaleb, 1987; Snyder et al., 1986; Huffman et al., 1988; Singell and Lillydahl, 1990) and a new view (Yinger, 1998). The old view treats

impact fees as an excise tax on developers, ignoring the new public capital services (or infrastructure) that are financed by the fees. Hence, under the old view, the imposition of an impact fee in a competitive market results in the standard short-run excise tax effect: the supply of new housing shifts up by the amount of the fee, resulting in a higher price paid by new homebuyers, a lower net price received by developers, and a lower quantity of new homes built. An underlying assumption of the old view is that the demand for housing is not perfectly elastic. Based on the assumption that supply and demand are neither perfectly elastic nor perfectly inelastic, the old view predicts that the increase in the price of new homes and the decline in the net price received by developers will both be less than the amount of the fee. In the short-run, therefore, both the new homebuyer and the developer share the burden of the fee—the new homebuyer in the form of a higher price and the developer in the form of economic losses. Because new and existing housing are close but imperfect substitutes, the old view also predicts that impact fees will cause some homebuyers who otherwise would have purchased a new home to instead buy an existing home. This shift in demand in favor of existing homes will increase their price by something less than the increase in the price of new homes. In the long run, developers' profits return to a normal level as their bids for land decline, resulting in reductions in the price of land. Thus, part of the burden of the impact fee is shifted backward to landowners. Huffman et al., however, argue that backward shifting is highly unlikely because landowners have a reservation price below which they will not sell, and they will keep their land off the market until prices rise to that level. This argument is not persuasive. While the existence of a reservation price may make land prices sticky in a downward direction in the short run, it does not eliminate the possibility that impact fees will be shifted backward. In a depressed market with reduced housing construction, reservation prices eventually decline in the absence of buyers.

The chief differences between the old and new view theories of impact fee incidence are that the new view incorporates the public capital services that are financed by the fees, recognizes the impact of property tax capitalization on the incidence of the fees, and assumes that the housing demand curve facing construction firms in a single jurisdiction is horizontal. The latter assumption is equivalent to assuming that new homebuyers are mobile. Yinger (1998) argues that the old view's reliance on downward- sloping demand rests upon faulty reasoning: However, the motivation for downward-sloping demand in the literature is not clear. In particular, most of the articles in the literature argue that demand will slope downward in a community that has nonreproducable characteristics or no close substitutes. With mobile households, however, the value of nonreproducable characteristics will simply be capitalized into the price of housing— with no impact on the slope of the demand curve. While impact fees are not shifted forward to new homebuyers under the new view, the benefits that accrue to new homebuyers from the infrastructure financed from the fee are capitalized into new home prices. If the increase in price that results from the capitalization of benefits equals the fee, then neither the developer nor the landowner bear any burden of the fee since developers' profits remain at the normal level. The fee is borne by the homebuyer in the form of a higher housing price, but net of the benefits received from the fee-financed infrastructure there is no burden. However, if these benefits are less valued by the new homebuyer and therefore result in a house price increase that is less than the fee, restoration of developers' profits to a normal level requires that the price of land declines. On the other hand, if the benefits from the new infrastructure are highly valued by new homebuyers and as a result the increase in the price of housing exceeds the amount of the impact fee, then normal profits for developers require an increase in the price of land. Land prices therefore remain unchanged, decrease, or increase depending upon whether the benefits of the new infrastructure are equal to, less than, or greater than its costs, assuming that these costs are fully covered by the impact fees. The above effects assume no change in the property tax rate. However, the increase in house values due to the infrastructure improvements raises the property tax base in the jurisdiction and increases the revenue that can be raised at the old tax rate.

The property tax is not directly linked to the value of the property in Slovakia yet.

Pros and cons

The municipality can decide whether or not The Development Fee establishes in its territory by a generally binding regulation. It is important to know pros and cons of this step. The greatest pro of exactions is that they allow local governments to assess to development a larger portion of the real costs that the development imposes on the community. The greatest con is the local resistance to such measures, often coming from politically-active interests related to development. This can create a substantial problem at the local level since growth and development represent a major part of the economy for many local government. Below is an overview of authors who deal with the issue.

Bunell (1994) in his article states, Proponents argue that development fees " make developers pay" for the costs their developments impose on communities. This can be a politically popular argument. But the cost of development fees is rarely paid by developers. In areas with strong property markets, the fee will almost always be passed on to the next occupant in the form of a higher purchase price or increased rent. The second possibility is that the developer, knowing that the fee has to be paid, will pay the landowner less for the land. The least likely possibility is that the fee will be paid by the developer. Developer need a certain level of profit for a project to make sense, given the risks involved. If the development fee cannot be passed back to the landowner, or forward to the purchaser, the developer very likely will not go forward with the project. Most empirical studies to-date have found that the cost of impact fees is passed on to new residents in the form of higher home prices. This finding is not surprising for two reasons. First, as a practical matter, development fees are usually imposed in communities with strong real estate markets, in which the costs of the fees are most able to be passed on in the form of higher prices. Second, impact fees generally pay for improvements which make new developments more desirable, functionally and/or aesthetically, and therefore more valuable in terms of the market price they can command. Another problem, communities which are stagnating or declining will be unable to collect such charges-because developers do not want to develop there in the first place, and will be even less likely to do so if an additional charge is imposed. At the end, development fees may be imposed by communities not so much to pay for growth as to discourage new development, and make new development more expensive. Existing property owners often have a powerful incentive to impose development fees, since increasing the scarcity and cost of new housing makes existing homes and developed properties more valuable.

Yuen (2008) in his paper also indicated some problems. It is not so obvious who ultimately bears the cost. When a developer builds homes, even though the developer actually pays the fees when getting the building permits, it is not clear whether the developer bears the cost in the end, accepting a lower profit. It is possible that the developer passes the cost on to the home buyer, or that the developer will offer less when buying land on which to build a project. If you think of the homebuilding process as involving three main players: the owner of the raw land, who sells it to the developer, who builds the homes, and sells them to the home purchaser, the impact fee can conceivably be absorbed by any of these three, or by a combination of all three. If the impact fee is ultimately passed on to the home buyer, it then becomes part of the purchase price and typically is financed within the mortgage. At a 6.25% mortgage, over 30 years, a $6,387 impact fee would cost the buyer about $38/month (study example of Hawaii).

Ihlanfeldt, Shaughnessy (2004) presents the results from estimating the effects of development impact fees on the prices of new and existing single-family homes and undeveloped residential land using unique data for Dade County, FL. Dade County encompasses the entirety of the Miami, Florida Primary Metropolitan Statistical Area. Dade County along with Broward County form the Miami-Ft. Lauderdale Consolidated Metropolitan Statistical Area. Their results provide no support for the argument that development fees reduce homeownership affordability. Development fees have also been praised as an effective anti-sprawl policy. Their results suggest that the rate at which agricultural land is converted to residential use is slowed by impact fees. By reducing the price of vacant residential land, impact fees lower the opportunity cost of continuing to use land for agricultural purposes, causing land to be held for a longer period in agricultural use.

Evidence from Slovakia

Opponent of the Development Fee argue that this fee will slow down the construction of family houses. However, the family house with floor less than 150 m^2 is not subject to Development Fee. Already in 2013 a survey showed that Slovaks build smaller houses. It found the survey of company Economics Construction, which for its on representative sample of Slovak and Czech population prepared research agency Perfect Crowd. Family house in Slovakia since 1998, shrunk on average by half. While 15 years ago in Slovakia built hoses which had an average of 250 m^2, today it is 90 to 110 m^2. 66% of respondents in Slovakia mentioned in the survey living area of 90 to 110 m^2. This mean that the Development fee will not significantly affect the development of the construction of family houses.

The top benefits of Development Fee include:
- Assessment around the new construction (playgrounds, parks, kindergartens, infrastructure).
- Enhancing the quality of life of residents in the area.
- Credit enhancement properties in the area.
- Improved coordination of infrastructure construction between builder and self-government.
- Reduction of corruption and clientelism.

The Development Fee will have a particular impact on developers. It must be said that despite of absence of law until today, reputable developers cooperate with municipality in its territory and understand to need to contribute to infrastructure development. Projects that annually transmit developers for example to Bratislava Magistrate, or district, has today reached a value of millions euros.

Some municipalities already published proposal for a general binding municipal regulation of local Development Fee – Table 1.

Table 1. Development Fee Rate in some municipalities in €

Type of buildings / Municipalities	Pezinok	Bernolákovo	Chorvátsky Grob	Jasenica	Dubova
Residential buildings	35	10	35	35	10
Buildings used for agricultural production	25	10	35	20	15
Industrial buildings	35	30	35	35	18
Buildings use for other business	35	15	35	35	18
Other buildings	35	10	35	20	13

Source: General binding municipal regulations

Some municipalities have used the highest rate such as Chorvátky Grob, Pezinok (except buildings for agricultural production). Municipality Jasenica have used also different rate for external and internal territory cadastral municipality. Rate for external territory we can see in Table 1. Rates for internal territory are lower. Residential buildings 5 €/m2, buildings used for agricultural production 0 €, industrial buildings 15 €, buildings use for other business 15 € and other buildings 0 €.

City District Bratislava – Záhorská Bystrica has published data on the number building permits issued and agreements on cooperation in the construction and development – Table 2.

Table 2. Overview of the number of building permits and Agreements on cooperation in the construction and development

Year	Number of building permits	Number of concluded contracts	Amount of contributions paid
2010	112	25	154 500
2011	110	34	80 500
2012	93	40	142 700
2013	81	34	67 500
2014	119	56	107 000
Total	**515**	**189**	**552 200**

Source: http://www.zahorskabystrica.sk/category/mestska-cast/uradna-tabula

We can see that reputable developers cooperate with municipality in its territory and pay Development Fee without valid law. We can assume that if all developers have to pay Development Fee, municipality get more money to develop the necessary infrastructure.

Conclusion

Today there are no rules to support the development by the developers. In our view, it should be clear in advance where town/city plans development, where it will build on what conditions, including the Development Fee. An investor will know conditions because it possible to read in generally binding regulation as required by law. It will reduce corruption. Amount of the fee does not cover expenditure on investment related to new construction. It is negligible percentage of the price of the apartment or hose or the actual cost of complex infrastructure in the construction of new localities. Development Fee is a contribution to higher quality living environment in towns and villages. The Development Fee rate ranks from EUR 10 to EUR 35 per each m2 or a part thereof, of the floor area of the above-ground part of the building. A municipality can set Development Fee rates for various buildings in the breakdown by act.

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Problematics of Logistic Processes for Deliveries of Goods on the Section of the Last Mile

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Abstract

The aim of the article is to show how presents the distribution of costs in freight forwarding company, and outline what difficulties may arise in the context of the quality of supply, in the absence of expenditure on the improvement of processes in the courier or transport. The article is a theoretical material, which ultimate goal is to provide the practical aspects of logistics operators for use in further research.

Key words

Last mile, logistic processes, shipment deliveries, logistic problems, supply chain improvement

Introduction

Logistics is one of the basic elements of the activity of the modern enterprise. Originally defined as the flow of raw materials and goods, now meets more and more features. Requires that needed the product was supplied in the right place at the right time in the right quantities. Very often, therefore, broadly understood logistics area focuses not only around the space. For the smooth functioning of the supply chain, it is necessary to take account of transport logistics, warehousing and value added services (repackaging, conditioning, cross-dock, etc.) (Coyle J.J, Bardi E., Langley Jr C.J., 2002). Taking into account the issues of supply on the last mile, but it should be focus around the issues of transport. Explore this topic will help you understand the requirements for the supply of eg. raw materials, which include not only the area of Just-In-Time, and focus around the supply Just-In-Sequence. Only it can be seen how significant is the last episode of the supply chain in the form of delivery of the goods to the consignee.

Transport is considered a barometer of the economy. Is also considered to be one of the most important factors affecting the development of economic activity and overall economic growth. If the transport is running in a smooth and structured, the other sections of the national economy also does not note disruptions. Proper operation of the transport sector, however, is associated with aligning negative phenomena occurring in it, such as external costs. Before Polish accession to the European Union many companies representing the sector feared how will look the actual costs of their activities. This was due to the many unknowns that the owners or managers do not take the trouble to get clarification. (Kowalska 2004) Currently, the Ministry of transport is focused on helping companies in the transport and logistic sector in the scope of their activities. Developed strategy for transport development provides information about what to do in the Polish transport in the coming years, but also shows how changes will be made. It focuses its activities around:

- alternative means of propulsion and the use of extensive use of alternative energy sources,
- improve infrastructure, which is to be equipped with integration nodes processes,
- operation of means of transport widely based on new materials and technologies,
- common intelligent control systems and management,
- high flexibility and adaptability of transport operators and logistics,
- minimize the nuisance to the environment sector (Ministry of Transport, Construction and Maritime Economy 2013)

Analysis of the issue of logistics processes for the supply of goods on the last mile

Flexibility and the ability of adaptive transport and logistics operators, requires them to continuous self-improvement internal processes to meet the requirements. They may not, however, settle only on the continuous development of transport departments. From logistics service providers are required to present a strategy that would be in line with the principles of sustainable development for all services rendered by them. Strategy must also contribute to the overall social development and other parts of the economy. Such actions are visible only in the form of externalities, that is, the effects of the economic activities of

manufacturers (both direct manufacturers of these services and their consumers) that interact with the other members of the community (Szczepaniak 2002).

The company's logistics operator, does not have its own rolling stock. Its activities can be divided into service transports network (from one loading point to one place of unloading), partial loads (with a few places of loading to the place of unloading one or more places of loading to many places of unloading)-in both cases to transport used is only one and the same means of transport. Another offered to support, enriched services picking the goods, packaging, labeling, etc. generally called VAS (Value Added Services-services added to standard range covering only bonding). Companies from the industry also support the delivery of cargo and courier. To handle these loads uses a network of branches and one or more of the HUB-s (Karcz 2013).

To maintain a competitive advantage in the market, most operators of logistics-forwarding companies, puts more and more to the level of costs. Business intermediary, does not relieve her of the examination and the effort to reduce the cost of its activities so that in the case of extortion by the consumer market prices of the services provided, be able to do so freely, while maintaining an appropriate level of profit margin. Logistics systems used for the distribution of general cargo are now adjusted to continuous development, therefore, even with a significant increase in e-commerce, as well as the demand for the delivery of only a specific, required at any given time a batch of raw material goods production.

In this solution, operating costs are divided on a number of factors:

- The cost of collection and delivery of shipments from and to clients – carried out by the branch in which the client operates. They are shared, as the carrier that handles the region pursues both pickups and deliveries.
- Storage costs – shall be converted into a single shipment in the form of a storage service. Handling of the shipment (input and output within the cross-dock warehouse) and possible storage in stock/HUB.
- Transport costs line-comprehensive transfer between warehouse branch performing pickup or delivery, and HUB. This cost is also recalculated on each shipment separately.

The first of these costs are closely linked with the concept of last mile, or transport items on the last stretch of implemented delivery. Requirements for logistics operators, to meet customer expectations, forcing business operators to create innovative solutions, unprecedented on the market. Established several years ago to make a night of shipments delivery is an example of this. With the increasing demand for speed car repairs, the service gained in popularity. Currently, car service located in any place in Poland can afford to order parts in the late afternoon, on the day in which the auto goes to the repair parts you need to get ahead of time, in which to work will come first to the mechanics. The courier delivers parts to the site at night, generally between 2.00 a.m. and 5.00 a.m., leaving them in a specially dedicated area to which has access. With the participation of the protection, the pushes them to a special night vault or locks. The evolution of this kind of supply meant that the logistics operators now use specially designed and built small and micro, shown in Figure 1, that are inserted into the recipient and delivery driver leaves the shipment. Supply chain in the context of the time was reduced to several hours of delivery from a central warehouse to service.

Figure: 1. Examples of solutions for small and micro magazines for night deliveries
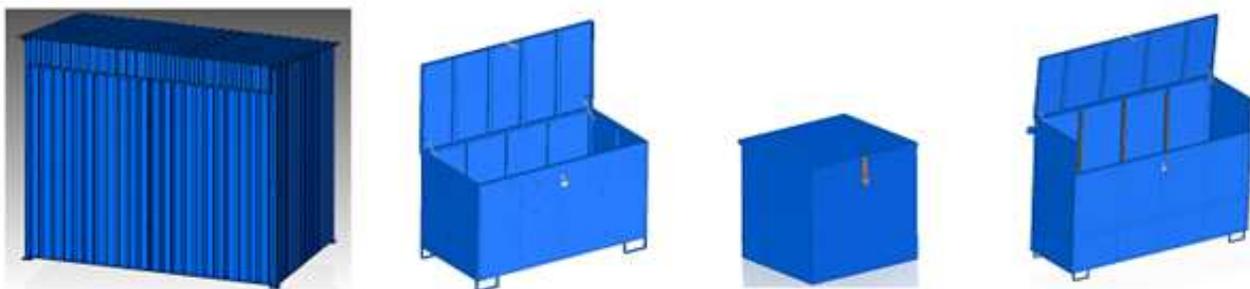
Source: Own preparation on the basis of materials logistics operators

Aspect of the cost for such supplies is completely different than for daily delivery. Keep in mind that as the distribution process flow requires suitable night network connections between storage and transshipment centers for earlier departures of couriers delivery providers. The process of courier transport must be arranged so that the greatest number of items to pick from the customer as late as possible and then sort the goods, load it to the next shuttle connections night to reach without delay to the local distribution centers. In the case of the service delivery and delivery of the day, time of arrivals and departures terminals are longer and less restrictive. For night deliveries often have late afternoon or early evening, the goods must reach the store first cross-dock to about 10 p.m. already separated left on. Check car line at night must take place an hour before 3.00 a.m. to the driver managed to sort and deliver the shipment.

The process from shipment to delivery points can be described as follows:
1. Collection from the supplier on day A, afternoon
2. Deliveries to recipients on day B, till 8 a.m.

The price of the shipment is therefore higher than in the case of supplies daily, as it requires the involvement of more people who are implementing the service at night. One of the solutions that currently courier trying to implement the delivery to designated sites from which then for example. service technicians of boilers, ventilation, air conditioning, elevators will be able to pick them up. Such designs are created with the participation of the eg. petrol stations, which in its characteristics are available 24 hours a day. For the company's logistics operator, this is the opportunity to reduce the cost of a steady supply for the last mile is the last chain, looking from the perspective of this operator. For the customer the offer becomes more flexible, because if necessary, not necessarily for example. arrange space for supplies, or in the case when the final recipient is a mobile technician, a permanent space of possible supply simply has not. There is a possibility for the supply of an individual for example. directly to the car service technician, without his participation (courier is the additional keys), however, this creates a potential risk, for example. damage to the vehicle, its unwanted use – at the time in which for example. the other car in the parking lot of tightening access to the trunk. Therefore, to enable the recipient to take the consignment from a place located in the near distance from the place of his residence, and thus at any convenient or desired for him time, meets the need for which was created on the way of evolution "last mile", while keeping the costs at the appropriate level. The cost factor does not increase, because the station is a place of constant supply, as well as the point at which the courier leaves more than one shipment, so the cost of delivery for a single item reduces the logistics operator, and this translates into the ability to offer lower pricing.

A similar service for the supply of consumer shipments (e.g. implementing shopping over the Internet) is offered for delivery. packing stations. These devices are mounted in locations with bandwidth of people, so that they are the best available. In this case the delivery can also be made at any time, however, the most important aspect of different Paczkomat's from the supply to the specified points (e.g. petrol stations) is shipping dimensions. Paczkomat's can accommodate in their glove box by far smaller shipments than in the case of those that are carried out for example. automotive (car bumpers, windscreens). Solution using the load points is very low (in the last episode of delivery in General is not pulled a man), but limited in its simplicity for specific shipments. The e-commerce market, which in recent years has very large increases in the context of the market and sales volumes, use of these solutions very dynamically and on a very large scale, now worldwide. Was therefore an alternative both in relation to flexibility, and cost for delivery of the mail.

For both solutions (delivery to deliver and pickup locations) operators use the latest available technology, in order to most efficiently implement the service and get involved as the least financial resources. For this purpose use such as geolocation Services couriers to the dispatcher to manage their route in real time, and the driver does not have to wonder where to go next, and the route was optimized for example. having regard to the traffic jams on the road, whether the extra supply of appearing on a given day. Similar process optimizations introduced for example. for better effect fill night transports. To this end, shall apply. double floor, where goods are loaded layered depending on its weight. This allows you to use a smaller number of means of transport and reduces the effect of "empty space transportation". The cost, in terms of one single consignment is reduced both the depreciation of the vehicle, the cost of driver's salary, but also the cost of fuel, taxes, or tolls.

Figure: 2. Example of a solution to use the double flooring in the transport of general cargo

Source: http://www.autoakcesoria.com.pl/pl/poradniki/92.html, 2016

To optimize network courier and bulldoze the "empty runs" that arise for example at the time of the return of the couriers for local cross-dock, and eventually lead to a reduction in the costs of supply at the stage of the last mile, turn away the process of delivery, and pickup goods during return routes to terminals. This process applies to e.g.. component suppliers production to factories in a different, distant from the factory locations. Diagram of the possible variations in terms of receipt and supply components to the factory presents Figure 3.

Figure: 3. Diagram of the service for delivering components for production
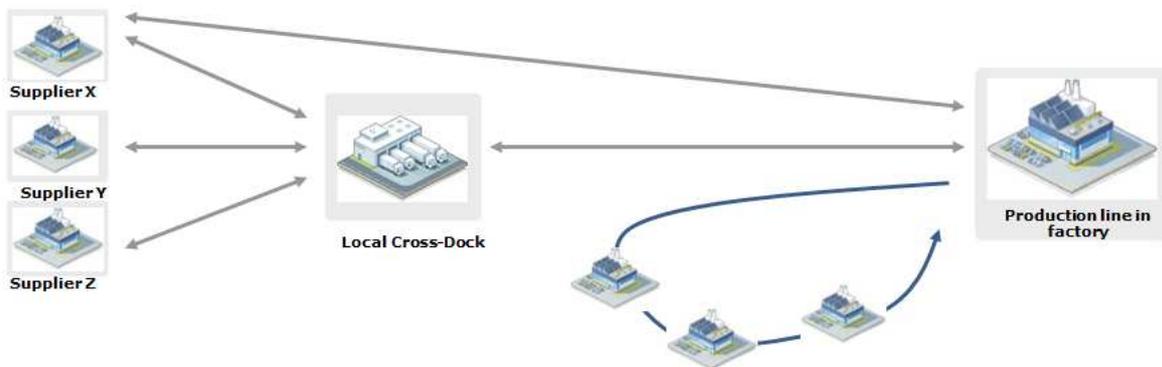
Source: Own preparation based on logistic operators materials

This diagram shows the different solutions that are possible with the use of a courier network for supplying factory components. Possible solutions to the receipt of the goods from each vendor, consolidate into larger loads in the Terminal and the supply of production depending on the need, or directly on the production line from a particular supplier, or use "milk-run"-that is, pick up components from one vendor to the next and finally the delivery of all goods to the factory.

With the development of road infrastructure, and the intensification of activities focusing on meeting the expectations of the client, logistics operators began to use courier vans for express transport over longer distances. Such cars, in fact, are not subject to the law on drivers' working time, may travel on the road, on which they have for example. tonnage restrictions, height, or the width of the vehicle. Demand was at the time of delivery services from one supplier of components to the factory, which was located on the mean distance, and the item was light and small (capacity such cars for delivery express is to 1.2 ton load capacity, 1-10 pallet places EUR, 2-2.2 m height to 4.2 m lenght, 1.8-2 m width). If the components of them reached on time, the factory could be vulnerable to downtime of the production line, so the costs

were disproportionate to even very exorbitant price of the service delivery. Currently, the use of such cars has become very popular, so the level of margins decreased, however, initially the margins achieved by offering such services in excess of 300%. Also in the case of for example. snowstorms on the road, when trucks have greater difficulty in movement, the use of smaller means of transport even greater price becomes reasonable. The sample schema implementation services with guaranteed delivery lead times is shown in Figure 4.

Figure: 4. Diagram of example of express transport
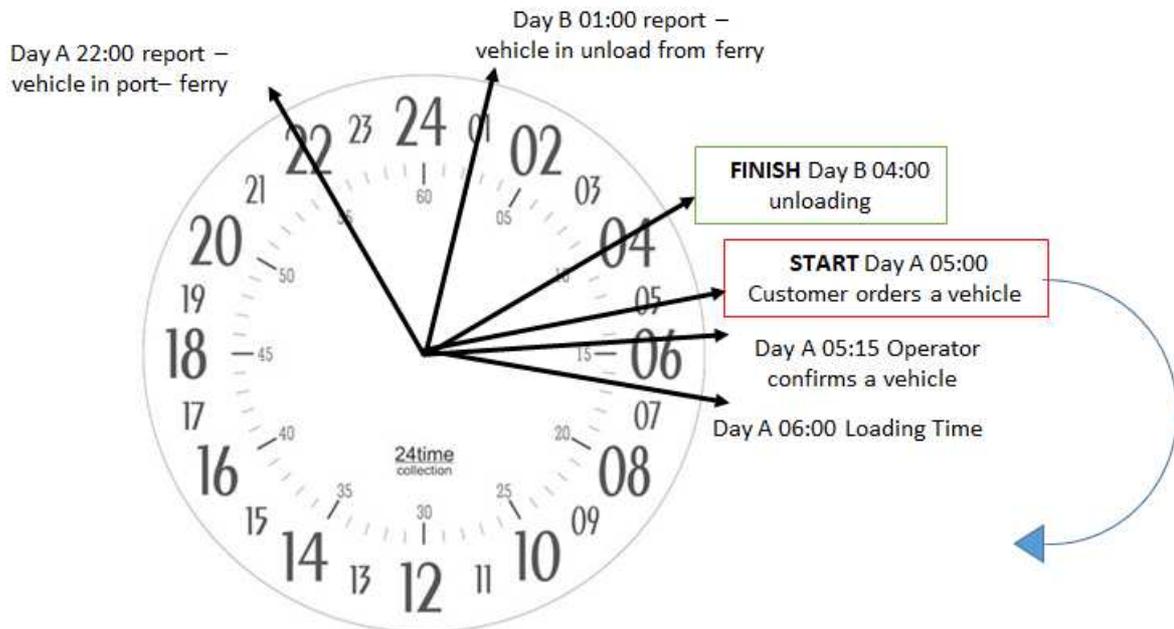
Source: Own preparation based on logistic operators materials

Presented figure shows how the individual hours breaks down the implementation of the transport service. The example shows the transport distance 1800 km, from the southern part of Europe to Scandinavia. Standard time transit for the truck, including the ferry, is more than 48 hours. For case, the transit time was 12 hours from loading to unloading. Fixed a problem related to the service delivery 60 cars within 5 days, so that the Assembly line did not have to be stopped. In this case, the costs were estimated at more than 14 times the budget established for the implementation of the service two transports FTL (Full Truck Load) on this route, however, and so proved to be disproportionately low to downtime costs. Comparison of listed options (standard or Express) presents a Table 1. It also takes into account the comparison to the cost of downtime of the production line.

Tabel: 1. Detailed analysis of the comparative costs for transport variant of the standard and express

	FTL (Full Truck Load) Transport	Transport Express	The cost of downtime of the production line
Number of units	2	60	1
Unit cost	1950 EUR	950 EUR	1000000 EUR
TOTAL	3900 EUR	57000 EUR	1000000 EUR

Source: Own preparation based on logistic operators materials

Summary
Market logistics services offered by operators of 3PL and 4PL evolves, so the company with the most experience and knowledge are now becoming operators LLP (Lead Logistic Provider), which carry out the processes of optimizing logistics departments of its customers, in addition to selecting subcontractors logistics services. To a large extent, from decisions taken by the key sector entities logistics operators depends on the direction of future development of small and medium-sized transport companies sector of Transport & Logistic sector. In a sense enforcement standards by large LLP and putting the specific
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quality requirements, should be translated into an increase in client satisfaction with services, and the further development of this sector. Especially in the field of environmental quality parameters connection note the growing interest in these issues by persons responsible for the management of the enterprises both strategic and operational (Carter, Easton 2011). Logistics in the supply chain are characterized by very high dynamics of changes that occur within them. On these changes affected especially the evolution of what is in the environment of supply chain, considerations and objectives by which it is to work, to the extent effective. As the most significant factors for the development of the concept of supply chains should be adopted: globalization, the development of digitization, partnership, integration processes (such as shopping) or an increase in the needs and expectations of customers. To manage the final stage of delivery (last mile) is therefore essential from the point of view of the customer, as customer service. Widely understood the scope of logistics processes shows how an important element is the client. It is the satisfaction of his needs parent becomes the idea of logistics activities. This gives you the ability to adjust specific activities to market conditions, and thus to gain competitive advantage (Baran, Maciejczak, Pietrzak, Rokicki, Wicki L. 2008). Therefore, the search for better tailored forms meet the needs of the client in the transport, indirect activity. This has created new opportunities for matching offers to needs of the consumer. Even the most polished for supply chain processes, not a sense of fulfilment of the expectations of the client, if the client perceives irregularities in the implementation of the service on the last stretch of delivery. Presented in the article different solutions improve processes by logistics operators analyses the challenges that customers are operators in the context of the supply. Discussed factors affecting business costs operators allow you to look at the logistical processes from the perspective of the people every day working on their optimization.

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The Analysis of the Arbitrage Pricing Model (APM) on the Stock Return.
A Case of Athens Stock Market

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Abstract

The study proposes to verify the arbitrage-pricing model (APM) and its analysis of the APM model is valid on the Greek capital market. We examined the highest market capitalization 31 companies listed on the Athens stock exchange through a dataset collected on a monthly basis for a period from January 2009 to December 2014. The APM model estimates that the macro-economic factors influence on the Athens stock return. The model is tested by performing principal factor and regression analysis by using the software package EViews. The principal factor analysis identifies its macro-economic factor for using load regression analysis. The regression analysis performs macro-economic factors influence on the expected return of the stock. The finding of the study results that the analysis of the APM model is invalid in the Athens stock exchange market selected macro-economic factors.

1. Introduction

The arbitrage pricing theory (APT) is an equilibrium-pricing model. The APT model determines equilibrium rates of return on the capital market. The model derives from risk-return relationship; Ross does assume by risk version or rely mean-variance rule. The initial model explains the linear relationship between expected return and risk as arising because there are no arbitrage opportunities in stock markets. APT requires that the returns on any stock be related linearly to set of factors. In this paper, devoting the APM model is valid or invalid in the Athens stock exchange market (ASE). The finding of the study identified two macros-economic variables such as the exchange rate and the term structure jointly influencing the return of the stock. These macro-economic variables can jointly explain the expected return of the stocks ASE. Our result shows that there is exist relationship the expected return of the stocks between the exchange rate and term structure. However, there is negative relationship between the term structure factor and the stock return. This relationship does not support to the APT theory. On the other hand, the stock return and the exchange rate, but the exchange rate cannot strongly explain a positive relationship to the stock return. The reason for the R-square is very low about 30%. This means that about 30% the variability of stock return can be explained by variations in the exchange rate. The exchange rate risk constitutes 30% of the total risk of the stocks. Our study describes into four parts. The first part describes the introduction and the next part literature reviews some of the empirical evidence on the APT. The third part describes methodology used for data collection as well as performing component principal analysis, factor analysis and regression analysis. The next part describes a verification of the APM analysis of the results. The last part describes a summary and conclusion.

2. Literature Review

Some researcher failed to testable the capital asset model (CAPM) owing to the fact that they assume that the CAPM can test single period and it can measure only one risk factor. As a result, the CAPM shows that one systematic risk effects stock return. Therefore, researchers criticized the CAPM a few years. In 1980s, another testable of model arbitrage pricing (APT) was developed. Stephen Ross has been a longtime critic of the CAPM, questioning the validity of its assumption. In 1976, he developed an alternative model based purely on arbitrage arguments and hence called the arbitrage pricing theory (APT) model. He built the APT model to solve the defect of CAPM. He proves that macro-economic variables effect sensitively asset pricings. Ross called his model APT but it was extended CAPM. The model explains the return of asset, including other macro-economic factors. Ross does not assume risk aversion, and in particular does not assume that investors make their decision in the mean-variance framework. He only assumes that the securities' rate return was generated by common factors. Roll and Ross (1980)

found that only few factor precise five factors were significant. They employed factor analytic techniques to analyze 1260 NYSE listed stocks divided into 42 groups that contained 30 stocks each. They analyzed one decade of daily stock price returns, and then estimated the factor beta in the first step of their tests. Then, they calculated their second-pass regression. Finally, they concluded there were at least four macro-economic variables statistically significant explaining the return of stocks in the USA stock exchange market. Later, Chen, Roll and Ross (1983, 1986) identified four macro-economic factors that significantly influenced securities return. They represented unanticipated changes in four variables; changes in the rate of inflation, change in the index of industrial production, changes in the yield spread between high-grade and low-grade corporate bonds as well as changes in the slope of the term structure of interest rate, as measured the difference in between the yields on long-term government bonds and T-bills. They reflected their five-model of APT; its basic function is the same with security market line (SML) for CAPM. The model estimates five betas the multi regression of securities return on their macro-economic variables. In 1983, Nai-Fu Chen conducted empirical test the APT model. He compared the APT and the SML uses 15 years of daily stock return. He performed the two-step regression analysis. First, time-series data was analyzed to obtain factor betas and average returns for each stock. Second, cross-section regressions of historical average returns from the sampled stocks were contrasted to both the APT and SML model. The finding results that APT predicts average return better that the SML. The APT was able to explain some of the SML's unexplained residual returns. In contrast, the SML was unable to explain anything about error terms from the APT model. In 1988, Lehman and Modest used 750 NYSE and AMEX stocks to identify the factors. They concluded that the interpretation was very weak evidence in favor of a ten-factor model even though the tests actually provided very little information regarding the number of factors, which underlie the APT. The analysis suggested that the tests had little power to discriminate among models with different numbers of factors. Faff, R.W. (1992) tested the APT model an asymptotic principal components analysis of statistic technique in the Australia stock exchange market. He collected data monthly from 1974 to 1987and he divides into three sub period groups. He found that the APT was not able to explain the monthly seasonal mispricing issue. On the other hand, he could deal with some difficulties in previous testing APT ways. Precisely, asymptotic principal components analysis of the statistic method revealed that each factor risk premium is possible to change over time. Many researchers' principle component analysis to test the cross-sectional variance-covariance matrix of return, but he proved to test time-series cross-product matrix of return through the asymptotic principal components analysis of statistic method. Some researchers have shown that the APT model is valid for explaining stock of return. Clare, A. (1995) tested APT model in the UK stock market. Her results found that the APT model was testable model. However, some researchers showed that the APT model was invalid in the UK financial market. Michailidis, G (2007) conducted the APT model in the Greek capital market from 1997 to 2003. He collected data the monthly stock return, total 100 trading stocks on ASE. He chose three macro-economic variables for testing model such as oil prices, industrial production and inflation. He though that these variables explained variance of stock returns. He assumed that the APT did not perform better CAPM is that APT had a considerable estimated error term, although is more advance theory and testing in complex real world. Finally, he concluded that the APT model testing was invalid in the Greek stock exchange market. Dhankar and Singh (2005) conclude that their studies result of the APT model performed for explaining the return of stock in Indian stock market. Later, Dash and Rishika (2011) carried out the model in the Indian equity market. On the contrary, the finding of result was that the APT model was not able to explain for return of stock in Indian capital market. He selected 50 companies that traded on the Indian stock market in S&P 500 between 2005 and 2007. They used weekly data, weekly average closing price of the common stocks, weekly average closing S&P 500 market index, weekly average INR/USD exchange rate, weekly average Mumbai Interbank Offered Rate (MIBOR) interest rate, weekly average oil prices and weekly average inflation rate for testing the APT. Their result shows that the market factor and MIBOR factor were significant role to play in effecting the stock return. Some researches built and test APT model by investigating emerging market economy countries. Febrian and Herwany (2010) tested the APT model in the Indonesia stock market how to explain the ability of the asset return from 1992 to 2007. They divided collecting data into three sub-periods, including before crisis periods (1992-1997), during crisis periods (1997-2001) and after the crisis period (2001-2007). They select actively traded common stocks on the Jakarta Stock Exchange (JKSE) and then used a macro-economic variable as risk factors in the APT model that included the unpredictable factor of inflation, JKSE market index, industrial production index, exchange rate and credit spread. Their studies of result proved that the APT model was valid in testing Jakarta Stock Exchange market and it can explain the measurement of the excess return

every sub-periods. The authors deeply confirm that the APT model explains better the portfolio excess return if it is used for testing the longer time interval. Iqbal, N., Khattak, S.R., Khattak, M.A.,& Ullah,(2012) examined the APT model on the Karachi Stock Exchange (KSE) and he selected four macro-economic factors such as inflation, exchange rate, money supply and oil prices to verify 26 companies stock trade on Karachi Stock Exchange (KSE) between 2004 to 2008. The study of the result confirmed that the APT model is capable of forecasting expected return.

3. Method

In this part, we test the validity of the APM model in the Creek stock exchange market. The APM is the multiple index model that the return on asset is related with different macro-economic factors in the following way:

$$R_{i,t} = \alpha_i + \beta_{i,1} * F_{1,t} + \beta_{i,2} * F_{2,t} + \ldots + \beta_{i,k} * F_{j,k} + \varepsilon_{i,t,}$$

or,

$$R_{it} = \alpha_i + \sum_{j=1}^{k} \beta_{ik} * F_{jk} + \varepsilon_{i,t}$$

Where:

$R_{i,t}$ is the return on the ith asset in the tth period;

α_i is the expected return to the ith asset if all factors take the value zero;

$\beta_{i,1} \ldots \beta_{i,k}$ are the factor loadings; $\beta_{i,k} = \frac{Cov(R_i, I_k)}{\text{Var}(I_k)}$ coefficient beta of factors;

$I_{1,t,} \ldots I_{j,k}$ are the factors in the tth period;

$\varepsilon_{i,t}$ is return that is not explained by the factors meaning that idiosyncratic component;

The study analyzes the validity of CAPM is used by performing a two-stage regression. The analysis of the APM model performs two parts data collection, estimate the multi-factor model.

3.1. Data collection

The research on the APM model carried out the common stocks the highest market capitalization 31 companies belonging to flourishing industries in the Greek country's economy, including telecom, software, construction, infrastructure, finance, and banking, listed on the Athens stock exchange market. For analyzing the APT model, we select the macroeconomic risk factors, including oil pricing, exchange rates, industrial production growth rate, and inflation rate and term structure. The data collected was the monthly closing pricing of stock traded on the Athens stock exchange market and macroeconomic factors data was selected the monthly on the Hellenic Statistical Authority. These dates were taken from the investing.com, www.finance.yahoo.com, www.research.stlouisfed.org and www.statistics.gr at the financial website. The study was a debt crisis period from January 2009 to December 2015. The number of observations for each factor was 72. The market index was used as a proxy for the market. The empirical testing of the APT model was carried out using the software package EViews and the MS Excel spreadsheet program. In the test APT model, we investigated all variables using the natural logarithm approximation in the following way:

1) Monthly stock returns are calculated using the natural logarithm approximation; $R_t = \ln \frac{P_t}{P_{t-1}}$ using the approximation $\ln(1+x) \approx x$. when $x \to 0$

   Where, P_t is closing price of monthly t for asset time.

2) Monthly exchange rates (XE) can be calculated as below

   $XE = \ln(X_{ratet}) - \ln(X_{ratet-1})$

   X rate is exchange rate (EUR/USD) in month;

3) Industrial production growth rate (IP) can be estimated as below

   $IP = \ln(IP_t) - \ln(IP_{t-1})$

   IP is non Adjusted Industrial Production Index in month;

4) Inflation rate (I) is calculated as below

   $I = \ln(CPI_t) - \ln(CPI_{t-1})$

   CPI is consumer Pricing Index in mouth;

5) Term structure difference Greece Government Bond (GGB) 10Y from Greece Government Bond (GGB) 3-month can be measured as below

   $TR = \ln(R_{ft}) - \ln(R_{ft-1})$

   Greece Government Bond is in month

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4. The empirical Test and Results

In this part, we estimate that the APT model is able to explain the return of the stock on the ASE market. We select five macro-economic factor independent variable under the APT assumption. We have a number macro variable, but we do not know which macro-economic variables are significant explaining the return of the stock in the Athens stock exchange market. According to this, we follow that some researcher analyzes APT model used to perform factor model and principal component analysis method. The principal component analysis helps us to find variables, which is significant in explaining the stock of the return. The factor model is performed primarily as dimensionality reduction techniques in the situation and it determines some factors closely to explain the return of the stocks. The factor model is employed two analytic techniques: (1) the dimension reduces the number of variables and (2) the most important influences from all of these variables at the same time. Thus, we use factor model and component analysis in this paper.

4.1 Principle component analysis

Principle component analysis (PCA) requires that the sampling adequacy a set of variables is Kaiser's MSA. We perform the Kaiser's MSA tests its coefficient is 0.535587, meaning that the PCA test is acceptable because MSA is greater than 0.5. (Table 1)

Table 1. The Standard requirements for Principal Component Analysis

Name of variables	Kaiser's Measure of Sampling Adequacy (MSA)
CONSUMER PRICE INDEX	0.602693
EXCHANGE RATE	0.400451
OIL PRICE	0.585232
INDUSTRIAL PRODUCTION INDEX	0.559924
TERM STRUCTURE	0.522831
Kaiser's MSA	0.535587

Then, we test the eigenvalues to decide how many principal components should be considered data collection explaining the variation of the variables. (Table2)

Table 2. The Eigenvalues of the proportion of variation explained by the principal components

Component	Eigenvalue	Proportion	Cumulative
1	1.535404	0.3071	0.3071
2	1.226778	0.2454	0.5524
3	0.961718	0.1923	0.7448
4	0.894187	0.1788	0.9236
5	0.381912	0.0764	1.0000

The table 2 of result shows that the first four components account for about 90% of the total variance in the values. The proportion of the variation explained by each eigenvalue is provided in the fourth column. For instance, about 30.71% variation is explained by the first column eigenvalue. The cumulative percentage explained is gotten by adding the successive proportions variance explained to obtain the running total. For example, 0.3071 plus 0.2454 equals 0.5524, and so forth. Therefore, about 82% of the variation is explained by the first, two and third eigenvalues together. The first, fourth principal components explain about 90% of the variation. This is an acceptably large percentage. Then, we select the number of factors by principal component analysis. The component principal analysis chooses factor that is greater than one the component of eigenvalue. According to table2, two components are greater than one, thus we select two factors and make factor loading extracting method factor matrix. We run principal axis analysis below (Table3).

Table 3. The extraction method: Principal axis factoring matrix

Component	F1	F2	Communalities
TERM STRUCTURE	-0.294735	0.955579	1.000000
INDUSTRIAL PRODUCTION INDEX	-0.074005	-0.201299	0.045998
OIL PRICE	0.462197	0.189798	0.249649
EXCHANGE RATE	1.000000	-0.000124	1.000000
CONSUMER PRICE INDEX	0.023005	0.116357	0.014068
Total Variance Explained			
	Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
F1	1.306501	0.565654	0.565654
F2	1.003215	0.434346	1.000000

As shown from the table4, Kaiser-Guttmen method has retained two factors, labeled "F1" and "F2". The F1 and F2 loadings indicate that the exchange rate load on the first factor and the term structure load on the second factor. The communality influences on single observed variable from all factors related to it. The communality can be explained R-square multiple regression. The communality is from zero to one that it equals one, and the variable can explain fully of the factors and has no uniqueness. On the contrary, the value is equal zero that the variable cannot forecast at all from any of the factors. Our result shows that the term structure and the exchange rate variables communalities are equal one, meaning that both variables can fully explain the factors. We hope that the observation of the dataset is reflected in the model, we suppose the value to be as high possible. Overall, we identified two factor, but we need to find a good way of interpreting them, thus we conduct process doing factor varimax rotation as below (Table4).

Table 4. Varimax rotation from the PCA extraction method

Component	F1	F2
TERM STRUCTURE	-0.137470	**0.990506**
INDUSTRIAL PRODUCTION INDEX	-0.105368	-0.186803
OIL PRICE	0.486676	0.113118
EXCHANGE RATE	**0.987004**	-0.160696
CONSUMER PRICE INDEX	0.041390	0.111153

Extraction Method: Principal Axis Factoring.
Rotation Method Varimax with Kaiser Normalization.

According to Table4, we came to result that the term structure and exchange rate load on the independent variables. The result of table 5 represents that both term structure and exchange rate factors are very high among the factors. Two factors are identified: exchange rate containing the (EUR/USD) and term structure its own. We construct the APT model using the first pass regression for each stock return. The first pass regression follows equation.

$$R_{i,t} = \alpha_i + \beta_{i,exchange\ rate} * F_{exchange\ rate,t} + \beta_{i,term\ stucture} * F_{term\ stucture,t}$$

4.2 The Empirical Test of the results Model

Table 5. The estimate of APM model coefficients and statistics for time series from January 2009 to December 2014

Symbol and companies name		R-squared	Coefficient	Std. Error	t-Statistic	Prob.	Prob (F-statistic)	Durbin-Watson stat
Hell.Petrol (HEPr)	EXCHANGE RATE	0,127781	1,673090	0,539721	3,099919	0,002800	0,010981	1,857394
	TERM STRUCTURE		0,033673	0,049464	0,680763	0,498400		
Hellenic Telec (OTEr)	EXCHANGE RATE		2,315841	0,909148	2,547265	0,013200	0,011152	0,011152
	TERM STRUCTURE	0,127372	-0,078616	0,083321	-0,943523	0,348900		
National Bank of Greece (NBGr)	EXCHANGE RATE		2,494262	1,228530	2,030281	0,046400	0,044456	2,181431
	TERM STRUCTURE	0,090028	-0,099536	0,112592	-0,884046	0,379900		
Aegean Airlines (AGNr)	EXCHANGE RATE		1,346373	0,640859	2,100888	0,039500	0,068658	1,802030
	TERM STRUCTURE	0,077963	-0,024243	0,058733	-0,412768	0,681100		
Athens Water (EYDr)	EXCHANGE RATE		2,179197	0,646118	3,372754	0,001200	0,005239	1,970394
	TERM STRUCTURE	0,147122	0,064424	0,059215	1,087972	0,280600		
Corinth Pipe (CORr)	EXCHANGE RATE		2,813602	0,981332	2,867127	0,005600	0,008503	1,878776
	TERM STRUCTURE	0,134514	-0,046633	0,089937	-0,518505	0,605800		
Creta Plastics (PLAKR)	EXCHANGE RATE		0,816260	0,389647	2,094872	0,040000	0,052537	2,424917
	TERM STRUCTURE	0,085411	-0,023404	0,035710	-0,655394	0,514500		
Elton S.A. (ELNr)	EXCHANGE RATE		0,745591	0,433481	1,720006	0,090100	0,001682	1,844003
	TERM STRUCTURE	0,175981	-0,106536	0,039728	-2,681676	0,009200		
Elval (VAL)	EXCHANGE RATE		1,749436	0,836330	2,091800	0,040300	0,057099	2,127284
	TERM STRUCTURE	0,083100	-0,045542	0,076648	-0,594174	0,554400		
Euro Reliance (EREr)	EXCHANGE RATE		0,516281	0,780239	0,661696	0,510500	0,077400	2,471073
	TERM STRUCTURE	0,074609	-0,137042	0,071507	-1,916479	0,059600		
FHL I Kiriakidis Marbles and Granites SA (KRKr)	EXCHANGE RATE		0,229436	0,778507	0,294713	0,769100	0,139045	2,187077
	TERM STRUCTURE	0,058034	-0,129801	0,071348	-1,819261	0,073400		

Folli Follie (HDFr)	EXCHANGE RATE		2,596238	0,778262	3,335942	0,001400	0,000274	1,989762
	TERM STRUCTURE	0,220071	-0,116426	0,071326	-1,632306	0,107400		
Fourlis Hld (FRLr)	EXCHANGE RATE		2,997147	1,047350	2,861648	0,005600	0,012730	2,435036
	TERM STRUCTURE	0,123866	-0,017021	0,095987	-0,177322	0,859800		
Frigoglass (FRIr)	EXCHANGE RATE		1,891098	0,753853	2,508578	0,014600	0,013132	2,044672
	TERM STRUCTURE	0,123041	-0,062614	0,069089	-0,906284	0,368100		
Halcor (XAKO)	EXCHANGE RATE		2,894032	0,979248	2,955360	0,004300	0,005809	2,220483
	TERM STRUCTURE	0,144450	-0,054904	0,089746	-0,611769	0,542800		
Hell.Exchanges (EXCr)	EXCHANGE RATE		3,529369	0,697154	5,062538	0,000000	0,000012	2,093997
	TERM STRUCTURE	0,290793	0,022305	0,063893	0,349095	0,728100		
Iaso (IASr)	EXCHANGE RATE		1,654542	0,743362	2,225756	0,029500	0,019965	1,909134
	TERM STRUCTURE	0,111837	-0,074559	0,068127	-1,094401	0,277800		
Iktinos Hellas (IKTr)	EXCHANGE RATE		0,258077	0,647685	0,398460	0,691600	0,048280	2,479194
	TERM STRUCTURE	0,087750	-0,134141	0,059359	-2,259834	0,027100		
Intracom Hold (INRr)	EXCHANGE RATE		2,796297	1,035865	2,699481	0,008800	0,010880	1,648799
	TERM STRUCTURE	0,128025	-0,065061	0,094935	-0,685321	0,495500		
J. & P. Avax (AVAr)	EXCHANGE RATE		2,898224	0,801876	3,614302	0,000600	0,000480	2,044080
	TERM STRUCTURE	0,206712	-0,064475	0,073490	-0,877335	0,383500		
Kri-Kri Milk (KRIr)	EXCHANGE RATE		0,616180	0,574305	1,072915	0,287200	0,025576	1,915535
	TERM STRUCTURE	0,105146	-0,112594	0,052634	-2,139201	0,036100		
Lamda Develop (LMDr)	EXCHANGE RATE		2,419995	0,689697	3,508780	0,000800	0,000764	2,199400
	TERM STRUCTURE	0,195473	-0,051165	0,063209	-0,809462	0,421200		
Lykos Inform. (LYKr)	EXCHANGE RATE		1,177774	0,530566	2,219845	0,029900	0,033415	1,918418
	TERM STRUCTURE	0,097866	-0,037592	0,048625	-0,773090	0,442200		
Marfin Invest (MRFr)	EXCHANGE RATE		4,347501	1,013845	4,288133	0,000100	0,000284	1,742717
	TERM STRUCTURE	0,219189	0,084335	0,092917	0,907643	0,367400		

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Stock	Variable		Coefficient	Std. Error	t-Statistic	Prob.		
Motor Oil (MORr)	EXCHANGE RATE		2,182248	0,576248	3,786997	0,000300	0,000410	2,360766
	TERM STRUCTURE	0,210475	-0,032050	0,052812	-0,606868	0,546000		
Mytilineos (MYTr)	EXCHANGE RATE		2,587060	0,761041	3,399370	0,001100	0,003840	2,429659
	TERM STRUCTURE	0,155116	0,019969	0,069748	0,286303	0,775500		
Public Power (DEHr)	EXCHANGE RATE		2,106223	0,929860	2,265096	0,026800	0,036817	1,959434
	TERM STRUCTURE	0,095212	-0,052777	0,085220	-0,619311	0,537800		
Techn Olympic (OLYr) Athens	EXCHANGE RATE		2,256535	0,924450	2,440950	0,017300	0,046073	2,157149
	TERM STRUCTURE	0,089042	0,004135	0,084724	0,048809	0,961200		
Terna Energy (TENr)	EXCHANGE RATE		2,837174	0,826620	3,432259	0,001000	0,000722	2,285584
	TERM STRUCTURE	0,196824	-0,075064	0,075758	-0,990838	0,325400		
ThesKi Water (TWSr)	EXCHANGE RATE		1,665701	0,595756	2,795948	0,006800	0,022595	2,040919
	TERM STRUCTURE	0,108499	0,020812	0,054600	0,381177	0,704300		
Thrace Plastic (THRr)	EXCHANGE RATE		2,837174	0,826620	3,432259	0,001000	0,000722	2,285584
	TERM STRUCTURE	0,196824	-0,075064	0,075758	-0,990838	0,325400		

The following in the estimate of the APM model regression equation. The value of the coefficients and statistic measures are presented in the table above. The result of the table5 indicates that the level of R-square ranges between 0, 0580340 and 0,290793. This means that from 0, 0580340 and 0,290793of the variance all stocks return can be explained by variation in the exchange rate and term structure. The R-square, a practical measure that ranges from 0 to 1, gives the percentage of the total variance of that market risk; the remaining percentage is non-market risk. According to this table5, the percentage of R-square is very low, thus the percentage of non-market risk is high. However, the R-square values, as can be seen in this table5, are low because the R-square using an individual stock monthly rate of return and the data set is small meaning that there is a weak goodness fit line. The weak goodness fit means that the regression line results the highest SSE. The sensitivity exchange rate of the coefficient APT model ranges from 4,347501 to 0,229436. We test the null hypothesis test that the exchange rate of coefficient regressor has significant explanatory power. The hull hypothesis significant level is equal to 5 percent we can test the null hypothesis (two-sided) in which a parameter equals zero: Ho: $\beta_0=0$ and Ho: $\beta_1=0$. The P-value gives the exact level of significant for the same null hypothesis test. In our example, we can reject the null hypothesis the exchange rate of beta because all exchange rates of beta P-value is less 5 percent (Prob <0.05). This means that the exchange rate beta has a significant role to play influencing all stock returns. Then, we examine the second variable of the null hypothesis that the null hypothesis (two-sided) in which a parameter equals zero: H$_o$: $\beta_0=0$ and Ho: $\beta_1=0$. In our table3 represents that all structure P-value is greater 5 percent (Prob>0.05), except for three term structure. We accept the null hypothesis that the term structure of betas is insignificant it means that the coefficient of the stated independent variable is statistically insignificant at 5% level. This result shows that the term structure of the betas has insignificant value for explaining the return of stocks. The three-term structure beta has a significant at a level 5 percent, but they can negatively explain the variation of the return of stock. We test F-statistic the null hypothesis that parameters are equal zero. H$_o$: $\beta_0= \beta_1=0$. From the table5, we reject the null hypothesis twenty six stocks independent variables at the 5 % significance level, meaning that two

variables which exchange rate and teem structure can jointly influence to the return of stocks in the Athens stock market. However, five stocks independent variables are insignificant at 5% level, thus we accept the null hypothesis meaning that exchange rate and teem structure variables cannot jointly influence to the return of stocks in the Athens stock market. As can be seen from the table5, DW (Durbin-Watson) test statistic confirms that there is no autocorrelation in the residuals because DW is close at two, meaning that the residuals are not exist correlation previous residuals of the return stocks.

5. Summary and Conclusions

The most essential complication testing the APT identifies the relevant set common risk factors. Our study proposes to verify the APT model in the Athens stock exchange market. We can claim that after testing the APT model, it is evident that the model was not testable for evaluating the data in the Athens stock exchange stock from January 2008 to December 2014. The finding of result shows that one macro-economic factor that the exchange rate significant influence on the return of stock in the Athens stock exchange. Nevertheless, unfortunately, the exchange rate cannot strongly predict to explain the return of the stock. The testing of the APT result is supportive under APT assumption. The assumption of APT theory shows that the APM model identify the relevant common factor, which strongly influence and explain on the stock return. Taking into account, we concluded that the analysis of the APT is invalid in the Athens stock market selected macro-economic factors. We recommend that any researcher who testing the APT model on the Athens stock market in the future. They consider company factors such as market capitalization, book-to-market value and price-earnings ratio (P/E) the analysis of the APT model in the ASE market. In our view, the APT model is testable and valid in the Greek capital market with company factors. We faced a several limitations during the study. The study main of limitation is related to poor data. Because, we tried to test the model with simple size using, for study it is limited. On the other hand, the model does not consider company factors such as market capitalization, book-to-market value and price-earnings ratio (P/E) due to fact that they directly influence on the asset return. Apart from these factors, the model cannot pay attention quantitative factors that are government policies, industry cycle, and political risk and so on.

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Enterprise Performance Management
in Models of Financial Performance of SMEs

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Abstract

The main objective of this paper is to analyze standard and modern approaches and apply effectively models of measuring the performance of financial management in the small and medium enterprises with an emphasis on increase of financial performance, using linear regression modelling. Methods of empirical analysis, comparison, synthesis and the linear regression analysis were used in this paper. Furthermore, the research includes new model of financial management for selected sample of SMEs. The result of this paper are two multiple linear regression models, using as predicted models in order to enhance financial performance for SME in various sectors of the EU economy.

Key words
Enterprise Performance, small and medium-size enterprises, linear regression analysis, new regression models

Introduction

Small and medium-sized enterprises (SMEs) have a unique place in the developed economies and contribute to the flexible introduction of new products to the market, increase of innovation and the development of a competitive environment, they generate employment opportunities, are adaptable, but also vulnerable to changes. In Europe, there are nearly 21 million SMEs, accounting for 98% of all enterprises in the EU and they employ more than 75 million people (Veber, Srpová 2008; Tučeková, Geist 2013).

Over the recent period there have been significant changes in the approach to measuring the financial performance of businesses on the global market. The transition from the standard financial indicators and models that are based on the accounting profit to the financial models that take into account the economic profit and market criteria for SMEs is not so obvious. Despite the theoretically based importance of the issue of analysis of financial management and performance, the owners do not really attach sufficient importance to them and they pay more attention to the absolute standard indicators such as the accounting profit, costs, and revenues. Owners of small and medium-sized enterprises often consider the accounting results to be the fundamental performance indicator. However, the latest trend of recent decades is not an effort to maximize the reported earnings (Book value of the company, which is the difference between the amount of corporate assets and the amount of accounting-valued corporate liabilities), but to maximize the market value of the company.

According to Hyránek, Grell and Nagy (2014), the methods and models which focus on the financial performance are a combination of three major financial characteristics, i.e. produced operational cash flows, capital necessary to generate cash flows and cost of the capital employed. These authors divide approaches to measuring the financial performance into two main groups:

1. Analysis of financial performance by means of standard return on assets indicators (ROA, ROE, ROI)
2. Modern approaches that prefer to increase the market value by means of advanced indicators (return on net assets – RONA, cash return on gross assets – CROGA, cash flow return on investment – ROICF, the indicator and model Economic Value Added – EVA and its modifications – relative EVA, EVA ROS, EVA Momentum, DEVA and others).

Authors Jackson and Singh (2015) in their study point out that both of these approaches have their advantages for the practice of analyzing financial performance and are used not only individually, but especially in their combinations as they are complementary. It should be noted that in the first case, the indicators are of a statistical nature, as they are analyzed in terms of accounting, not taking into account the current market situation and not reflect barriers to entry into foreign markets (Pietrasenski, Slusarczyk 2015). In contrast to this, the economic and market indicators reflect the current state of the market and economy of the country in which the company operates (Štefko, Krajňák 2013). Despite the fact that both types of indicators are important, it is necessary to keep in mind that nowadays, when the consequences of the global economic and financial crisis are still phasing out, it is almost crucial for the financial management of companies to analyze the financial, economic and market types of indicators as they are inter-linked and in their mutual analysis they provide more relevant information on the current situation and the financial performance of the company.

Modern financial performance indicators that reflect the concept of Value Based Management and take into account the economic profit of the enterprise can, over time, find their important place in the Slovak SMEs. Here it should be noted that they are still not attributed as important, unlike the situation abroad. Authors, who are engaged in this issue in the proper depth, highlight the fact that despite its significance, the model that is based on the application of EVA indicator is still underestimated in the context of corporate financial management. Horváthová, Mokrišová and Suhányiová (2013, p. 27) state that it is an operational tool for managing business performance, which shows a strong correlation with the equity market.

To analyze the effectiveness of the financial management of SMEs with emphasis on their financial performance, it is possible to use several existing models (Jenčová and Litavcová 2013). A basic approach to analyzing financial management may be represented by the indicator EAT (Earning after Taxes), which is the standard absolute indicator of financial performance (Šofranková 2015). For models which are based on the economic profit, it is possible to use the EVA model. These models include various modifications of calculations in relation to the specifics of the accounting legislation. In the case of the EVA model, there area number of options for its calculation, and these modifications are appropriate for different types of enterprises, depending on the conditions of the economy in which they operate.

This is what creates the area for selection, modelling and design of appropriate models to measure the effectiveness of financial management with an emphasis on the financial performance of SMEs, which is the subject of this research study.

Methodology, research problem

The main objective of this paper is to analyze the standard and modern approaches and apply effectively models of measuring the performance of financial management in the small and medium-sized enterprises with an emphasis on the increase of financial performance, using multiple linear regression analysis.

The research sample consisted of a group of small and medium-sized enterprises, which by their prevailing activity in accordance with NACE Rev. 2 belong to manufacturing (section C), namely Division 10 Manufacture of food products and the models for measuring financial performance were applied on the selected sample for the period of one year of 2014. From this selected group were chosen those companies which during the studied period met the following 3 test criteria:

- they employed up to 250 employees,
- showed a positive result of Earnings after Taxes (EAT),
- reported a non-negative equity.

By using statistical methods, models of multiple linear regression to measure the effectiveness with emphasis on the financial performance of enterprises were developed and analyzed in order to identify the indicators with the most significant impact on the performance of SMEs.

Research problem

Is the financial performance of a selected group of SMEs affected by the measurement and applications of the standard management model based on the accounting indicator EAT sufficiently?

Is the financial performance of a selected group of SMEs with the application of a modern management model based on EVA affected to a greater level, more effectively?

Thus obtained and collected information and data, considered to be the secondary sources, of financial statements of SMEs were processed by means of the software MS Excel 2010 and for processing the Excel-coded data the statistical software STATISTICA was used.

The objective of the analysis of the three selected groups of financial indicators was to determine whether the selected group of SMEs (40 companies) deals with the issue of effectiveness of the financial management with an emphasis on their financial performance by means of appropriate application of the standard and modern models. In order to achieve the objectives set, the following scientific methods were used to process the necessary information and data to tackle the problem:

- Time series analysis, Regression analysis, Correlation analysis.

To reflect the dependence of the values of variable *Y* on the selected variables *X*, the *multiple linear regression Model* in a general, well known form was applied:

$$y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5 + b_6 x_6$$

Thus selected multiple linear regression Model is relatively simple for practical application in SMEs and the results proved to be sufficiently statistically significant. For purposes of this paper, two multiple linear regression models were created, developed and analyzed – for year 2014:

- Model 1 – SMFM (Standard Model of Financial Management), which represents the equation in the form EAT = f (R, E, L3, NWC, TID, ROE)
- Model 2 – MMFM (Modern Model of Financial Management), which the equation formed as EVA = f (R, E, L3, NWC, TID, ROE).

Table 1.Variables in the models SMFM and MMFM

	Variables		Unit of measurement
y_1	EAT (Earnings after Taxes)	standard indicator of financial performance	EUR
y_2	EVA (Economic Value Added)	modern indicator of financial performance	EUR
x_1	R (Revenues)	standard absolute financial indicator	EUR
x_2	C (Costs)	standard absolute financial indicator	EUR
x_3	L3 (Current liquidity)	Standard ratio financial indicator	coefficient
x_4	NWC (Net Working Capital)	standard differential financial indicator	EUR
x_5	TID (Total Indebtedness)	standard ratio financial indicator	% (decimal expression)
x_6	ROE (Return on Equity)	standard ratio financial indicator	% (decimal expression)

Source: own processing within the research

It should be noted that despite the relatively short period of time and a small test sample obtained, the acquired partial results may be considered beneficial for further analyses and research of financial performance for the needs of financial management and financial decision-making for SMEs.

Results and discussion

On the basis of testing the appropriateness of the multiple linear model SMFM for 2014, as set out in Table 2, it can be concluded that the model chosen is, according to Fisher's test criteria for the chosen significance level $\alpha = 5\%$, adequate (p = 0.000000). The adjusted coefficient of determination of R^2, which explains the variability of the dependent variable EAT for 2014, reached the level of 76.32%. The outputs of each parameter of the regression analysis model SMFM are shown in Table 3 and in the Pareto chart –Graph 1.

Table 2. Output of the analysis of adequacy of the SMFM model based on EAT for 2014

Dependent Variable	Sum of Squares (SS) test of the whole model vs. Sum of Squares of Residue (indicators_2010-2014_final)									
	Multiple R	R Square	Adjusted R Square	SS Model	DF Model	NS Model	SS of Residue	DF of Residue	NS of Residue	F	p
EAT	0.89424	0.79966	0.76323	31.18670	6	5.19778	7.81332	33	0.23677	21.95312	0.00000

Source: own processing by means of the STATISTICA software

Table 3. Output of the regression analysis of the model SMFM for 2014

Effect	Parameter estimates (indicators_2010-2014_final) Sigma-restricted parameterization					
	EAT Param.	EAT Sm.Ch.	EAT t	EAT p	-95.00% LmtSpol.	+95.00% LmtSpol.
Abs. term	-0.0000	0.076936	-0.00000	1.000000	-0.1565	0.1565
Revenues	16.5184	2.259606	7.31030	0.000000	11.9212	21.1156
Costs	-16.4077	2.255155	-7.27565	0.000000	-20.9959	-11.8196
"L3"	-0.1881	0.104334	-1.80246	0.080614	-0.4003	0.0242
NWC	0.2036	0.108298	1.88006	0.068952	-0.0167	0.4239
Total indebtedness	-0.1009	0.105719	-0.95410	0.346969	-0.3160	0.1142
ROE	0.2088	0.083930	2.48738	0.018098	0.0380	0.3795

Source: own processing by means of the STATISTICA software

Graph 1. Pareto chart of statistical significance of the variables of the SMFM model for 2014
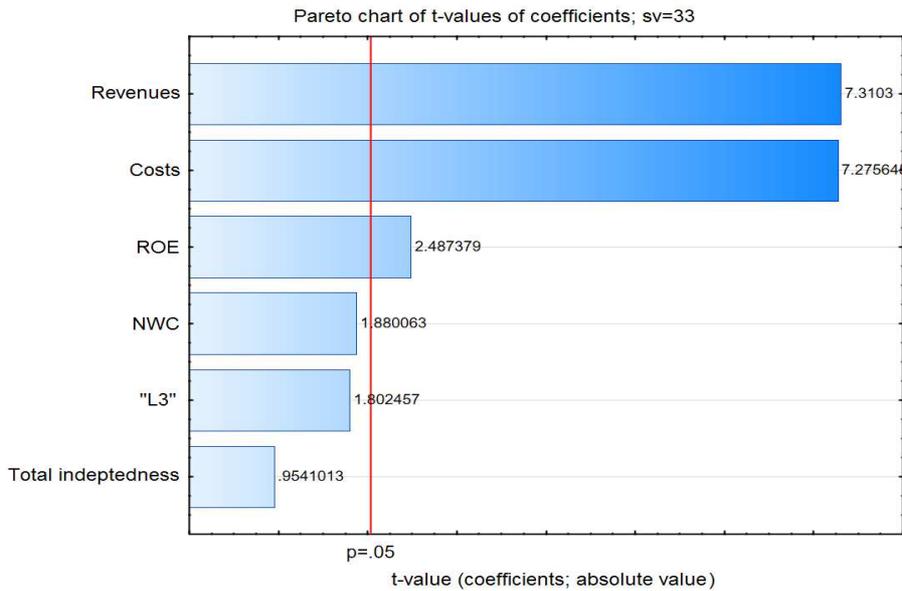
Source: own processing by means of the STATISTICA software

Table 3 and Graph 1 show statistically significant independent variables, namely revenues, costs, and ROE and their impact is illustrated in Table 4.

Table 4. Impact of the selected independent variables on the dependent variable EAT for 2014

	Absolute term	Revenues	Costs	L3	NWC	Total indebtedness	ROE	Check sum
y1(2014)	0	7.3103	7.27565	1.80246	1.88006	0.9541	2.48738	
	0.00%	33.67%	33.51%	8.30%	8.66%	4.39%	11.46%	100.00%

Source: own processing by means of EXCEL

The variability of the dependent variable EAT is most significantly affected by the variable Revenues – 33.67%, then by Costs – 33.51% and the last statistically significant variable is ROE with a share of impact of 11.46%.

The shape of the model by means of which the relationship between the standard financial indicator EAT and the significant independent variables for 2014 is expressed is as follows:

$$EAT_{(2014)} = 16.5184 \cdot REV - 16.4077 \cdot COS + 0.2088 \cdot ROE$$

By increasing the revenues by €1, the traditional indicator of financial performance EAT value for 2014 will increase by €16.52, maintaining constancy of the impact of the other factors. In the event of an increase in costs by €1, the indicator EAT will fall by €16.41, provided that the impact of the other factors

is constant. If constancy of the impact of the other factors is maintained and return on equity increases by 1 unit, then the dependent variable EAT for 2014 will increase by €0.21.

Table 5 provides an analysis of the model MMFM for 2014, which shows that the chosen model of multiple linear regression is, according to Fisher's test criteria, appropriate (p = 0.000000) at the selected significance level α = 5%. The adjusted coefficient of determination of R^2 reaches the level of 75.82%, which explains the variability of the dependent variable EVA. The outputs of each parameter of the regression analysis model MMFM are illustrated in Table 5 and in the Pareto chart – Graph 2.

Table 5. Output of the analysis of adequacy of the MMFM model based on EVA for 2014

| Dependent Variable	Sum of Squares (SS) test of the whole model vs. Sum of Squares of Residue (indicators_2010-2014_final)									
	Multiple R	R Square	Adjusted R Square	SS Model	DF Model	NS Model	SS of Residue	DF of Residue	NS of Residue	F	p
EVA	0.89185	0.79540	0.75820	31.02068	6	5.17011	7.97932	33	0.24180	21.38199	0.00000

Source: own processing by means of the STATISTICA software

Table 6. Output of the regression analysis of the model MMFM for 2014

Effect	Parameter estimates (indicators_2010-2014_final) Sigma-restricted parameterization					
	EVA Param.	EVA Sm.Ch.	EVA t	EVA p	-95.00% LmtSpol.	+95.00% LmtSpol.
Abs. term	-0.0000	0.077749	-0.00000	1.000000	-0.1582	0.1582
Revenues	18.1551	2.283483	7.95060	0.000000	13.5093	22.8009
Costs	-18.4475	2.278985	-8.09461	0.000000	-23.0841	-13.8109
"L3"	-0.1454	0.105436	-1.37904	0.177159	-0.3599	0.0691
NWC	-0.0210	0.109442	-0.19192	0.848979	-0.2437	0.2017
Total indebtedness	0.0744	0.106836	0.69646	0.491019	-0.1430	0.2918
ROE	0.2217	0.084817	2.61348	0.013396	0.0491	0.3942

Source: own processing by means of the STATISTICA software

Graph 2. Pareto chart of statistical significance of the variables of the MMFM model for 2014
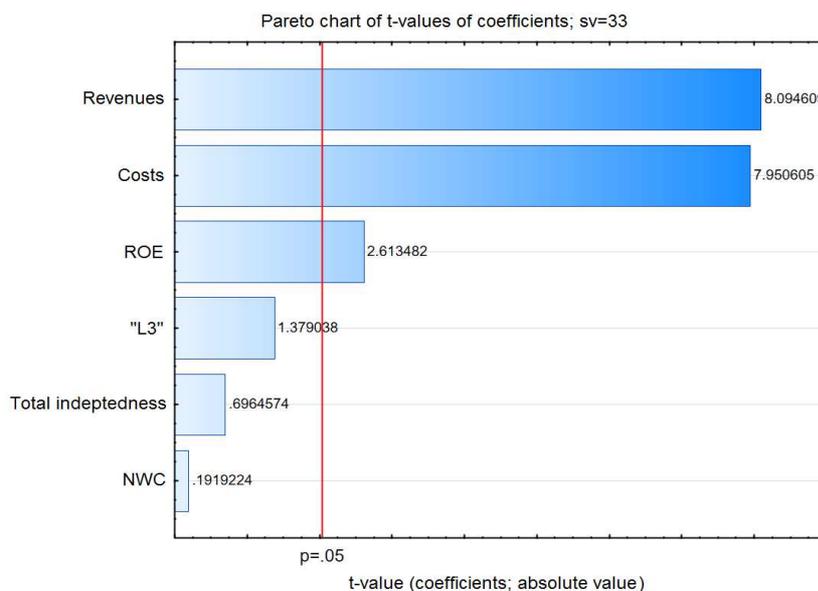
Source: own processing by means of the STATISTICA software

As shown in Table 6 and Graph 2, out of the selected six independent variables, statistically significant are the variables Revenue, Costs, and ROE, the impact of which is shown in Table 7.

Table 7. Impact of the selected independent variables on the dependent variable EVA for 2014

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	Absolute term	Revenues	Costs	L3	NWC	Total indebtedness	ROE	Check sum
y2(2014)	0	7.9506	8.09461	1.37904	0.19192	0.69646	2.61348	
	0.00%	37.99%	38.68%	6.59%	0.92%	3.33%	12.49%	100.00%

Source: own processing by means of EXCEL

The variability of the dependent variable EVA is most significantly affected by the variable Costs – 38.68%, then by Revenues – 37.99% and the last statistically significant variable is ROE with the impact of 12.49%.

The shape of the model by means of which the relationship between the modern financial indicator EVA and the significant independent variables for 2014 is expressed is as follows:

$$EVA_{(2014)} = 18.1551 \cdot REV - 18.4475 \cdot COS + 0,2217 \cdot ROE$$

If the revenues increase by €1, the modern indicator of financial performance EVA value for 2014 will increase by €18.16, maintaining constancy of the impact of the other factors. In the event of an increase in costs by €1, the indicator EVA will decrease by €18.45, provided that the impact of the other factors is constant. If constancy of the impact of the other factors is maintained and return on equity increases by 1 unit, then EVA will increase by €0.22.

The conducted regression analysis gives findings about which indicators of the newly created models have the most significant effect on the performance of the analyzed groups of SMEs. In both models the effects of three variables – revenues, costs and return on equity were confirmed for the analyzed year. It was also confirmed that the acquired results correspond to the actual trends in managerial practice. The created models have been designed with a link to the value generators for the purpose of prediction of the future development of the indicators EAT and EVA with an emphasis on improving financial performance in the analyzed group of SMEs.

Summary

Nowadays, in the EU global market, SMEs need to pay particular attention to their financial management. SMEs often use in practice only ex post financial analyses, which are the standard analyses of basic financial ratio indicators. To determine the current state of financial management on the global market, such analyses are no longer sufficient and it is necessary to focus on more advanced, modern methods – the indicator and model Economic Value Added – EVA and its modifications, which reflect the market environment and analyze financial management more thoroughly and efficiently. In this paper, two models of management of financial performance of SMEs were compared, and it was proved that in the modern financial management model based on EVA, more accurate results were achieved, higher percentage of variability of the most significant financial indicators. And on this basis thereof it is possible to predict the trends of financial development and further development more effectively. These developed models for measuring and assessing financial performance are relatively simple and should be easily applicable in real managerial practice.

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Simplified Taxation System: Role and Impact on Small Business Development in Ukraine

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Abstract

The article deals with the issue of the role of simplified taxation system in Ukraine, which aimed to support small business. The research explores the features of the simplified taxation system in Ukraine and its influence on the development of small businesses in terms of overcoming the financial crisis. The article determines the advantages of simplified taxation system and the main problems of its implementation.

The article determines the fiscal and regulatory functions of simplified taxation system; presents the characteristics of groups of taxpayers of single tax and limits of use the simplified taxation system in accordance to the Tax Code of Ukraine. The dynamics of single tax in the structure of revenues of local budgets are presented in the article.

Simplified taxation system, accounting and reporting has become the main instrument of support small business in Ukraine. Despite the identified problems of simplified taxation system for the years of its existence in Ukraine, it still demonstrates its significant role not only as a fiscal tool but also as a means of preserving the social stability and incentive of business development.

Key words

Simplified taxation system, economic development, small business development, single tax

Introduction

International experience and practice assure that an important element of the market economy is the existence and interaction of big, medium and small enterprises. The small business is considered not only as a supplement to large-scale production, but as an independent flexible, effective and progressive form of functioning and development of modern productive forces.

To form and realize the policy mechanism of supporting small business almost all developed countries pay attention to the prospect of business entities, their functional features to ensure the authority of the country in the international markets; to the providing of new ideas, know-how of science and technology, scientific achievements, advanced saving technologies and others [1].

Overcoming the economic crisis, an important part of state policy, which aimed to promote entrepreneurship, is tax supporting of small business. In this way foreign countries achieve significant success in government management, ensure social and political stability in society, form conditions for growth of employment and means.

Simplified registration of small businesses activity stimulates the development of business, and also considerably improves the economic performance and provides, even small, but stable tax revenues to the budgets.

Ukraine has chosen foreign policy priority of integration with the European Union. So that, there is particular important question of adjustments of national standards of the tax system in accordance to the European Union tax system standards.

Results and Discussions

Considerable attention as in European countries (Italy, Germany, Great Britain, Switzerland, etc.) as in Ukraine is given to the simplified taxation system of small businesses. In some countries in addition to the simplified taxation system the additional conditions for decreasing of taxes are introduced. It is mostly reduce the shadow economic activities and give an opportunity to increase the volume of tax revenues to the budget. The main advantage of a special tax procedure under the simplified declaration is its simplicity. Each taxpayer can independently determine their tax liability through the use of appropriate tax rates which depend on income and number of employees.

Simplified taxation system has been widely used around the world. This is due to several reasons:

- accounting is the basis of doing business, simplified taxation system allows to reduce unnecessary accounting of costs which inherent to the nature of small businesses;

- simplified taxation system reduces barriers of starting a business and saves financial resources through the economy of administrative costs;
- despite the fact that the productivity and competitiveness of many entrepreneurs, who have chosen a simplified taxation system, leave much to be desired, however, prevent unemployment;
- application of simplified taxation system is important instrument for reducing the shadow economy.

In accordance to the Tax Code of Ukraine [2] simplified system of taxation and reporting in Ukraine is represented by four groups: three groups - payers of single tax; and the fourth group - payers of fixed agricultural tax (Table 1).

There are some limits for using the group of simplified taxation system, among them are: number of employees, annual income, types of activity.

Tab. 1: Characteristics of a simplified taxation system

Group	Number of employees	Annual Income	Types of activity	Single tax rate
I	without employees	no more than 300 000 UAH	- retail sale of goods from trading places in the markets - consumer services	1% — 10% of minimum salary
II	no more than 10 employees	no more than 1 500 000 UAH	- consumer services - activity in the restaurant industry - trade in goods	2% — 20% of minimum salary
III	without limits	no more than 5 000 000 UAH	any activity that is allowed to use simplified taxation system in accordance to the Tax Code of Ukraine	3% of income (if taxpayer of VAT) 5% of income (if taxpayer doesn't pay VAT)
IV	without limits	the share of agricultural commodity production per year equals to or exceeds 75 %	agricultural producers	arable land, hayfields, - 0,81%; perennial plants -0,49%; ground water fund – 2,43%

Source: own processing according to the Tax Code of Ukraine (artificially of May 15th, 2016)

Single tax is an essential component of local taxes and fees, formed revenues of local budgets (Figure 1).

In recent years, the proceeds from the single tax have increased. This growth caused mainly by increasing number of taxpayers as natural, as legal entities. Also, growth of single tax caused by increasing of taxpayers who doing business in agricultural sphere. In accordance to the data (Figure 2) the share of single tax of natural persons is more than 70 % [4]. Statistical data about the volume of single tax shows the tendency of increasing. So that, simplified taxation system is really demand.

Compared to other taxes, single tax in the structure of the consolidate budget takes not so big place, but the main function of the single tax, first of all, is regulatory function, which should be aimed to support small businesses through the simplification of tax accounting and tax paying.

Graph 1. Single tax in the structure of revenues of local budgets
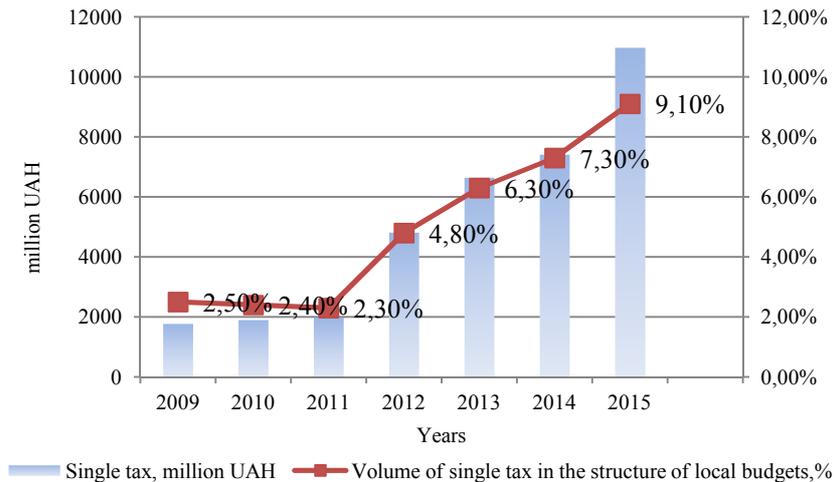
Source: Ministry of Finance, 2016 [3]

There are some problems to apply the simplified taxation system, among them are:
- using a simplified taxation system carried out by some entities to evade taxes on labor through the "tax holes";
- taxpayers often deliberately reduce turnover in order to stay in some groups of single taxpayers and to applicant simplified taxation system;
- some companies deliberately share business on few small businesses in order to reduce tax risk and to stay on the simplified taxation system and others.

State Fiscal Service of Ukraine notes that the impact of a simplified taxation system on legalization of economic activity is dissimilar: on the one way - the simplified taxation system encourages the legalization of economic activity, on the other way - it provides opportunities of expansion of shadow operations [3].

Actually, Betliy O., Burakovskiy I., Kravchuk K. [5] proved, that simplified taxation system may contribute to achieve the complex of interrelated objectives, such as small business development, increasing revenues into the budget, reducing unemployment and reducing social tension.

To solve the problem of using the simplified taxation system of big companies and to leave on the simplified taxation system only small business it should be established the limits of number of employees to the level – 50 persons. Actually, the Commercial Code of Ukraine [6] establishes, that the number of employees of small business is not more than 50 persons. So that, for the III and IV groups of simplified taxation system needs to set the level of number of employees not more than 50 persons. Also it needs to reduce the level of annual income. As a result, the simplified taxation system will use only small business and it helps to solve the problem of tax avoiding.

Graph 2. Share of legal entities and natural entities of single taxpayers
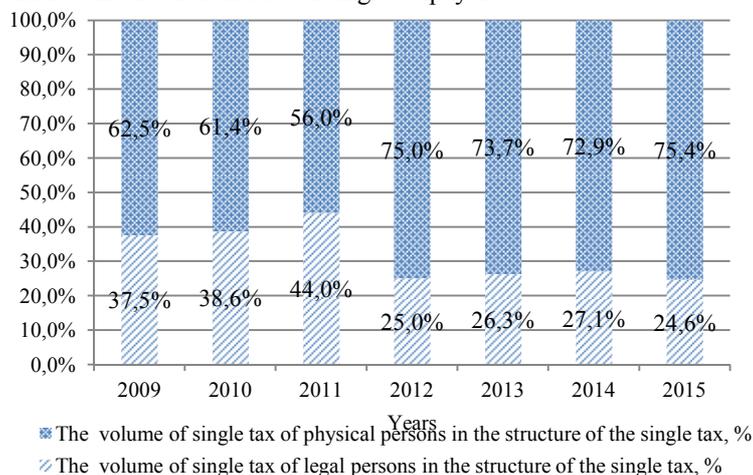
Source: Ministry of Finance, 2016 [3]

International experience has shown that sustainable economic development is possible in terms of liberalism. Providing economic growth it is important to ensure business autonomy and limits of state intervention in the economy.

In terms of simplify taxation entrepreneurial entities have the opportunity to release financial resources and to foster the efforts to strength their own positions on the markets and to search for new capabilities to ensure the effectiveness of financial activities and to provide competitiveness in the external environment.

So that, Ukraine should implement tax reform, that will support small business entities and insure the integration of the country with the least losses and minimum risks of the national economy. It is important to note, that that Ukraine should try to keep up and also go faster than other economies to provide successful government and business performance in Europe.

Summary

The simplified taxation system is important for economic and social perspectives. Simplified taxation system has become so-called "tax culture" [7] when taxpayers accustom to pay taxes, record bookkeeping, with a gradual transition to the general taxation system.

In terms of anti-crisis, the strategy of state tax policy should provide business development, should improve living standards, economic growth by supporting business through a simplified system of accounting and reporting.

Today simplified taxation system, accounting and reporting has become the main instrument of support small business in Ukraine. Despite the identified problems of simplified taxation system for the years of its existence in Ukraine, it still demonstrates its significant not only as a fiscal tool but also as a means of preserving the social stability and incentive of business development. Advantages and disadvantages of the simplified taxation system are under discussion in the context of tax reform, which is defined as one of the priorities direction of economic reforms in the country.

Consequently, state tax policy of support small businesses should be formed on the principles of the country's authority in the international markets and should be solved important social problems and increased welfare of citizens.

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Harmonization of Direct Taxation in the EU: Solution or an Issue?

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Abstract

Tax harmonization can generally be seen as a next evolutionary step in the history of taxes development. At the same time it is the idea respectively a process which raises a number of discussions and embarrassment. The main aim of the article is to analyze conditions and phases of tax harmonization process in the European Union. There are examined (more or less in detail) tax systems of selected Member Countries. Research is focused on direct taxation. At last the article tries to find a relevant answer to the question: is the harmonization of direct taxation real plan or only a fiction?

Key words

Tax, tax harmonization, European Union, cluster analysis.

Introduction

Tax issues are a constant topic of discussions in media, at government sessions and also in integration groupings. Taxes are an important part of everyone's life and their development has so far never stopped. Quite the contrary, the development is ongoing and brings new ideas and new processes that need to be monitored, investigated, analyzed and solved. The idea of tax harmonization in the European Union is not a new one, but still present and actual. Although Europe is currently addressing other important topics such as migration or Brexit, in this article we devote the idea of tax harmonization in the EU as well as the field of taxation necessarily related to actual issues mentioned in this grouping.

Theoretical background

Tax harmonization means removing or minimizing any tax boundaries within the European Union. Tax harmonization can be divided into positive and negative. Positive harmonization is a process of convergence of national tax systems in the EU through the implementation of directives, regulations and other legislative instruments. Negative harmonization is a result of the ECJ's activity. There are implemented measures based on ECJ law into national tax systems. It is not regarded as harmonization in the strict sense, because it does not create the same rules for all Member States. (Nerudová 2007)

Figure 1. Forms of international tax cooperation
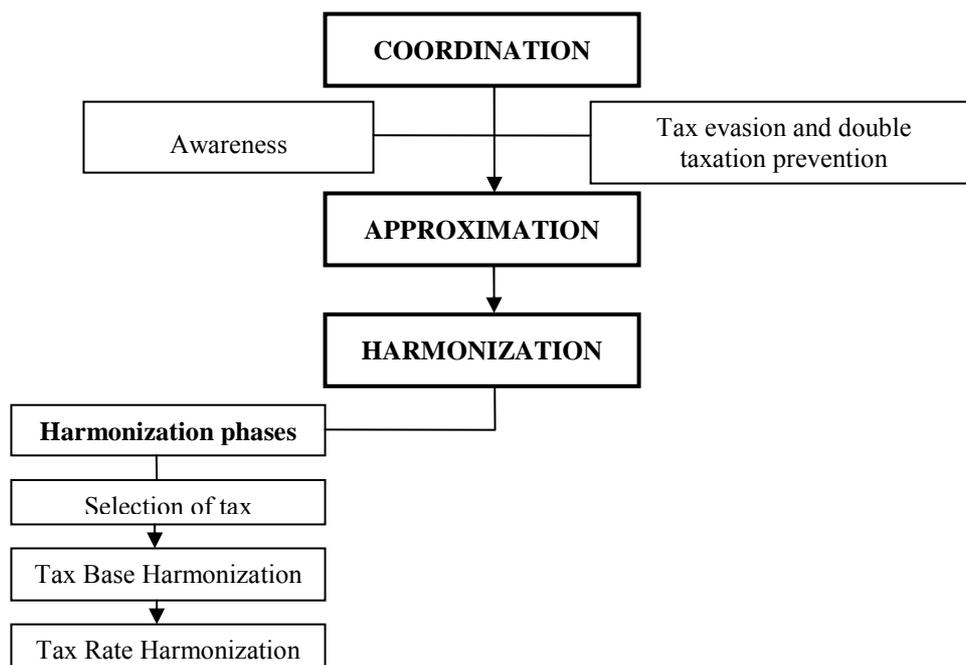
Source: Široký, 2010

When we talk about harmonization we talk about a process that is the culmination of mutual convergence of tax systems. However, cooperation in the area of taxation has different degrees.

If harmonization is understand as a convergence of tax systems, it is not absolutely necessary to pass through all these phases. The process can be stopped at the stage of harmonization of tax base and tax rate could remain different.

Figure 2. Levels of tax harmonization in the EU
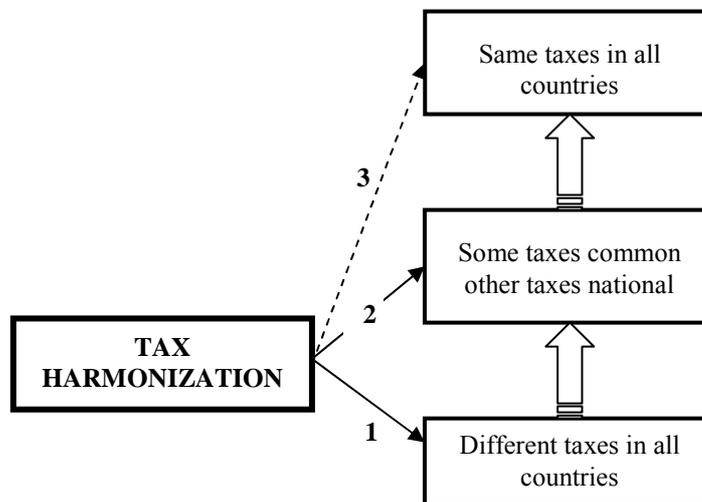
Source: processed according to Široký, 2010

First extreme in this process is the complete standardization of taxes in an integration group (that means same tax bases, tax rates, the same tax administration and tax authorities). Second extreme is called zero (none) harmonization, which is the opposite of the above-mentioned standardization.

Figure 2 shows that nowadays tax harmonization in the EU stands somewhere between level 1 and 2. The longest way in the figure is the way leading to level 3 – Same taxes in all countries. But that level is more just vision than the future reality.

To optimize the tax system it is necessary to find and create compromise solutions from contradictory principles and requirements which could minimize losses caused by taxes in a specific tax system. In tax theory, optimal tax structure is the one that simultaneously respects both contradictory tax principles - efficiency and justice. (Lénártová 2015)

Theoretical approaches can be applied to various aspects in determining rules for approximation of taxes and tax systems within integration groupings. There is mainly a conflict between efficiency and justice, the tax principles, that are perceived by each subject in the process of tax harmonization differently. However, any discrepancy brings new knowledge and development of new approaches into ideas that arose with shaping European Union.

Material and methods

Imputed data are data from Eurostat database. Research method is cluster analysis. There are used two clustering methods – hierarchical agglomerative clustering and non-hierarchical clustering. The analysis was conducted in statistical software R 2.15.2. There are three variables, Personal income tax, Corporate income tax and Net social contributions in the EU. The objective of cluster analysis is to achieve such groups of states, which would be characterized by certain homogeneity. Cluster analysis sorted data into groups with the greatest possible similarity within the group and the largest difference between groups.

Basic methods of clustering we used were:
- **Hierarchical methods** are based on sequentially joining of clusters, their number decreases continuously until finally all clusters are combined into one. This method is graphically displayed as tree diagram respectively cluster dendrogram.

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Wards method involves an agglomerative clustering algorithm. It looks for groups of leaves that it forms into branches, branches into limbs and eventually into the trunk. Ward's method starts out with *n* clusters of size 1 and continues until all the observations are included into one cluster. (Pennsylvania State University)

Ward's method use the Euclidean distance defined by formula:

$$d_{ij} = \sqrt{\sum_{k=1}^{K} (x_{ik} - x_{jk})^2}$$

Where x_{ik} is the value of „k" variable for *i-th* object and x_{jk} is the value of „k" variable for *j-th* object. For calculated distance is than determined the rule of linking statistical units into clusters.

- **Non-hierarchical methods**

If we consider two variables clusters can be visualized by using non-hierarchical method k-means. On the basis of previous hierarchical method is considered the same number of clusters.

Table 1. Collection of selected direct taxes and social contributions in 2014 (% GDP)

Country	Personal Income Tax	Corporate Income Tax	Net Social Contributions
Belgium	12,8	3,2	16,9
Bulgaria	2,8	1,9	7,7
Czech Republic	3,8	3,4	14,8
Denmark	29,4	2,7	1,1
Germany	:	:	16,5
Estonia	:	0,3	11,1
Ireland	9,5	2,4	5,8
Greece	5,8	1,9	13,4
Spain	:	:	12,5
France	8,8	2,7	19,2
Croatia	3,9	1,8	11,8
Italy	11,8	2,2	13,4
Cyprus	2,5	6,4	9,0
Latvia	5,9	1,5	8,7
Lithuania	3,6	1,4	11,5
Luxembourg	8,9	4,4	12,3
Hungary	:	:	13,1
Malta	6,0	5,5	6,9
Netherlands	7,0	2,6	15,4
Austria	10,5	2,2	15,4
Poland	4,6	1,7	13,2
Portugal	7,7	2,8	11,7
Romania	3,5	2,2	8,6
Slovenia	5,0	1,4	14,6
Slovakia	3,0	3,2	13,6
Finland	13,0	1,9	12,8
Sweden	14,7	2,8	3,7
United Kingdom	8,7	2,3	7,6

Source: processed according to Eurostat, 2016

Results

Hierarchical agglomerative clustering

There are „p" objects in the analyzed group, namely 28 countries in which are pursued „k" quantitative characters (3 variables), the distance d_{ij} between *i-th* element and *j-th* element is Euclidean distance. There are missing values of variables in some countries. It is necessary to remove them from the dataset. If variables are in different units, it is necessary to implement scaling, which means unit conversion to a comparable level.

Figure 3. Cluster dendrogram according to Ward's method
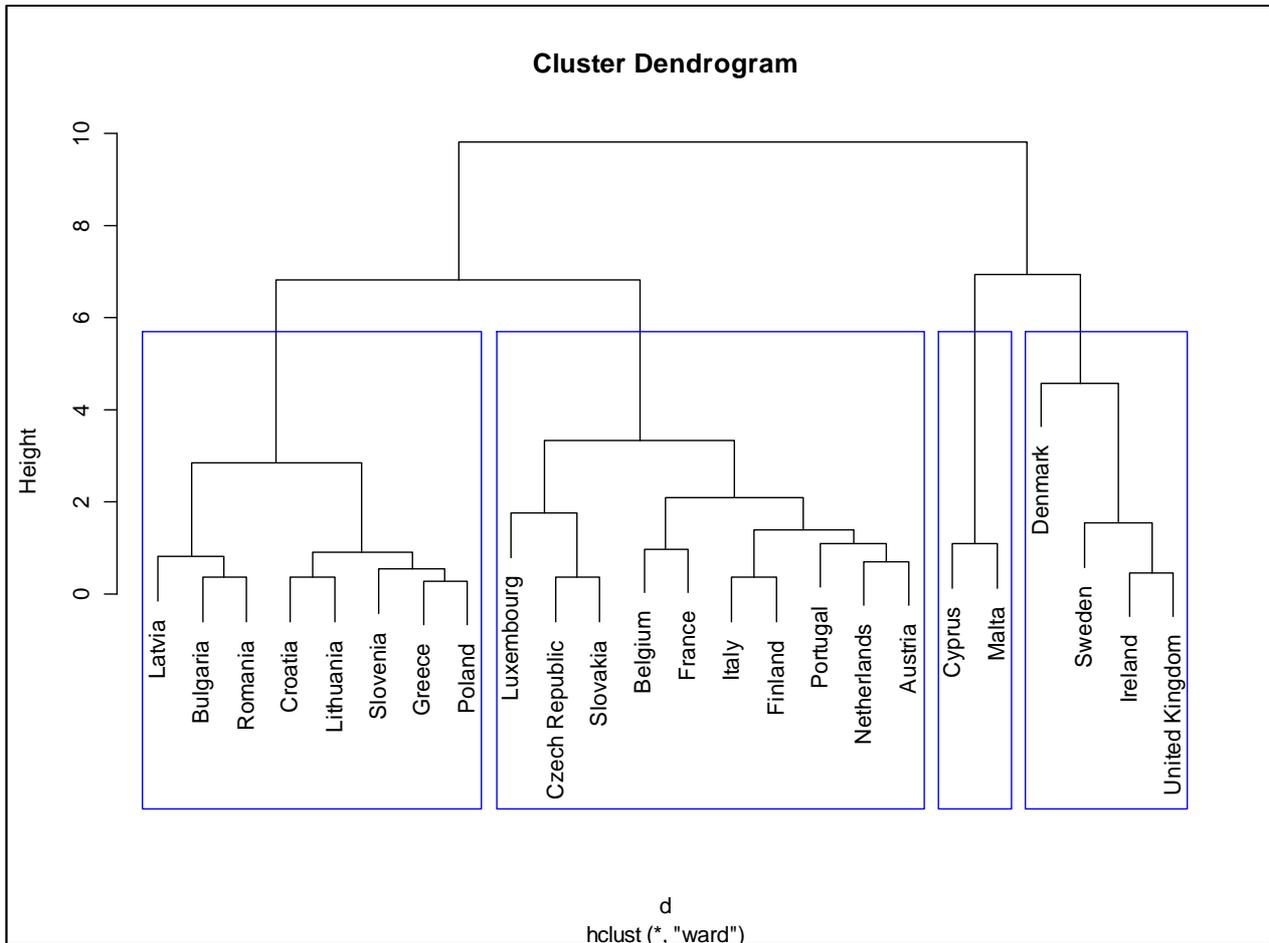
Source**:** own processing in R 2.15.2

In the dendrogram we can identify 4 groups of countries with similar characteristics. These groups are highlighted in color.

Non-Hierarchical clustering

K-means clustering is the most popular partitioning method. It requires the analyst to specify the number of clusters to extract. A plot of the within groups sum of squares by number of clusters extracted can help determine the appropriate number of clusters. There are only two components, but they explain 80,52 % of the point variability.

Figure 4. Scatterplot with 2 components and 4 clusters
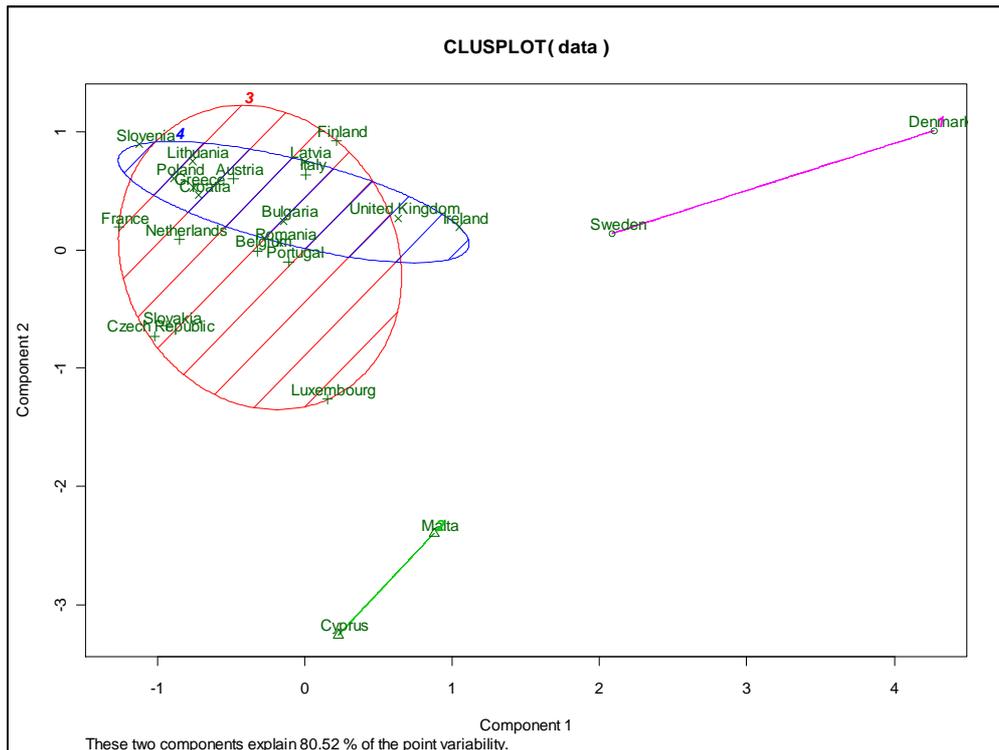
Source: own processing in R 2.15.2

Although clusters 3 and 4 show a different variability of components 1 and 2, plots overlap each other. Therefore, we have chosen for the input parameter three clusters for the following illustration.

Figure 5. Scatterplot with 2 components and 3 clusters
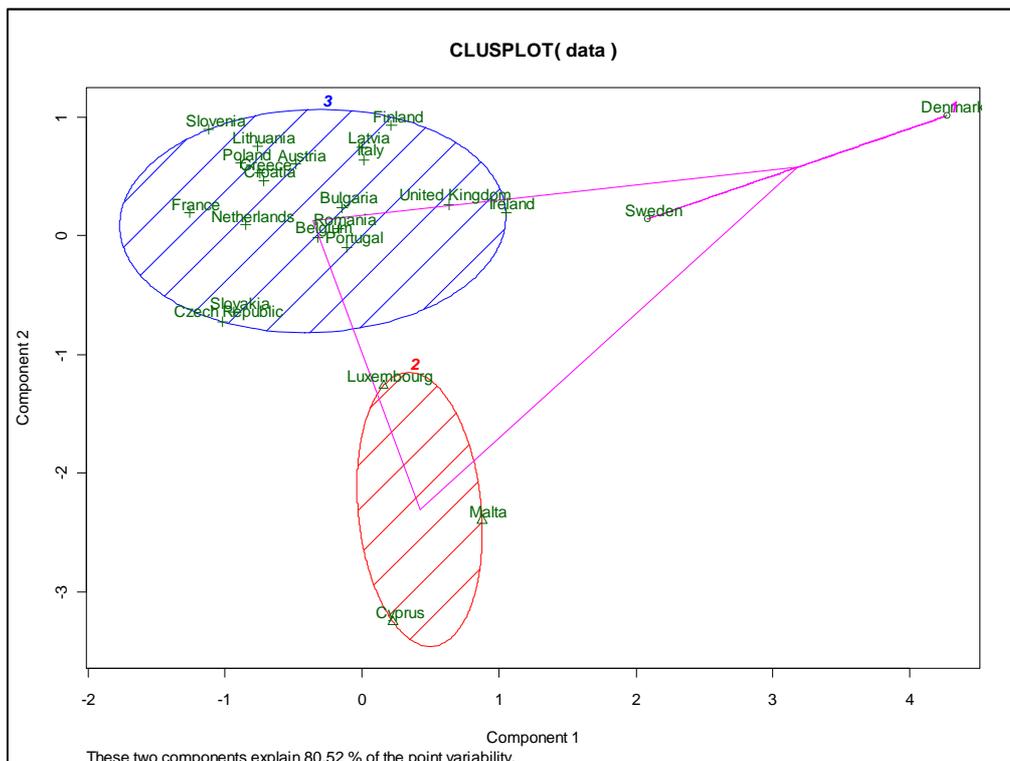
Source: own processing in R 2.15.2

Cluster analysis fundamentally confirmed the intuitive breakdown of countries during working on article. There are four groups of similar countries. Most of EU countries are in cluster no. 3.

Due to testing we have chosen 3 clusters as an imputed command for K-means clustering. We consider the data set, which contains n=28 objects, and partition it into k = 3 clusters. The ellipses are based on average and covariance matrix of each cluster and their size is such that they contain all points of their cluster. Cluster no. 2 displays less variability of Component 1. Cluster no. 3 is quite extensive because of objects on boundaries of ellipse.

Lines between clusters centers indicate the distance between clusters. In our case it resembles an isosceles triangle. The largest shading intensity indicates the largest density of divided objects in ellipse respectively cluster no. 3.

There are not only differences between collections of direct taxes in the EU. Next Table 2 shows differences between tax rates in case of certain direct taxes in selected Member States. The differences are significant even at four from 28 countries.

Table 2. Rates of selected direct taxes in selected Member States

Tax/Country	Slovakia	United Kingdom	Finland	Czech republic
Personal income tax	5%, 19%, 25%	20%, 40%, 45%	6,50% - 31,75% ***R** 15% or 35% **N***	15%
Corporate income tax	22%	20%	20%	5%, 19%
Land tax	0,25%	N/A	0,8% - 1,55%	0,25% - 0,75%
Building tax	0,033 €/m^2	N/A	1,5% - 3,0%	0,07€ - 0,3 €/m^2
Vehicle tax	50 – 218 €/year	0 – 663,68 €/year	43,07 – 260,25 €/year	44,35 – 155,2 €/year
	engine capacity	CO_2 emissions	CO_2 emissions	engine capacity
*R – residents ***N – non-residents**				

Source: own processing according to available data

Summary

On the one hand there are supporters of tax harmonization which claim it could improve labor mobility, reduce potential to tax evasion and tax differences which deform the common market. On the other hand tax competition brings economic stimulus of contest and savings in public budgets.

Based on the comparison of selected taxes in the EU countries can be confirmed considerable differences in taxation of income, consumption, real estate, motor vehicles etc. This only confirms how difficult the effort of convergence of Member States complex tax systems is. Any efforts to formulation and following adoption of a regulation or a directive in common tax policy is rather lengthy but above all extremely complicated process of negotiations, analysis, debates, as well as inconsistencies and contradictions. Therefore, the question is whether the tax harmonization is still pragmatic idea or just unachievable objective, which has not been attained for dozens of years during EU existence. It is possible to consider the convergence of various tax systems, further development of mutual cooperation in preventing tax evasion, unifying and simplifying accounting and taxation rules for international companies operating in the territory of the Union. The comparison of tax systems in the article confirmed that tax systems are affected by geographical location of the country, also by results of past demographic, social, political and economic development in different parts of Europe. Cluster analysis suggested possible options for convergence of tax systems – start at first with harmonization in clusters of countries with similar characteristics, then in the whole cluster.

Recently, we can see that nowadays it is difficult to find common ground in a much clearer and more fundamental issues of common elementary issues of the European Union, so it is likely that tax harmonization is currently theme in the background.

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Implications of the Financial Crisis on the Performance of Greek Public Hospitals

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Abstract

The purpose of this paper is to point out the particularities of the Greek Public Hospitals and to discuss the implications of the financial crisis on their performance. Special reference is made to the problems of mismanagement and corruption.

Introduction

Public health expenditure (per capita) increased four times on average for the countries of OECD and five times in Greece, between 1980 and 2007. These developments led the various governments of countries with a National Health System to take measures with important reforms. Initially emphasis was given to an improvement in the structure of the National Health System, aiming to reduce costs. But as these efforts failed to tackle the problem, emphasis was shifted towards the development of private organizations supplying medical services. Unfortunately, that was not the case for Greece.

Characteristics of the Greek Public Hospitals

The main characteristics of the Greek public hospitals can be summarized in the following:

- Public hospitals are financed mainly from the State budget. The total contribution of the State Budget in the financing of public health expenditure is above 4% of the GDP compared with an average 3,7% for the countries of OECD. Therefore nobody expects an increase of financing from the State Budget under the current financial conditions.
- The very high operational cost for relatively lower quantity and quality of services. Although the governments promise the full coverage of health care expenditure for everybody for free, in fact the capacity of the public hospitals is limited. So, many people (with medium and higher incomes) inevitably seek for alternatives in the private health sector.
- Big corruption and considerable contribution of the health sector in the big underground economy of Greece.
- All the above mentioned characteristics are very often presented to citizens as social goods and free health care for everybody. In other words populism is a problem affecting among other things, the performance of public hospitals.

Description of the Current Situation

Health services are provided by 124 Public Hospitals in the 13 regions of the country, as they are presented in the following table.

REGION	NUMBER OF PUBLIC HOSPITALS
ATTICA	45
CENTRAL GREECE	8
THESSALY	5
CRETE	3
CENTRAL MACEDONIA	18
EASTERN MACEDONIA&THRACE	8

WESTERN MACEDONIA	5
NORTHERN AEGEAN	4
SOUTHERN AEGEAN	2
WESTERN GREECE	10
PELOPONNESE	6
IONIAN ISLANDS	5
EPIRUS	5
TOTAL	**124**

The number of public Hospitals has been reduced in comparison with 146 hospitals in 2010 (ETHNOS 1/3//2010). The reduction is due to mergers dictated mainly by the demands of the lenders of the country. Additionally there are more than 200 health centers providing primary medical care, 13 military hospitals serving mainly the needs of the armed forces of the country and 3 non-profit seeking hospitals (functioning with a different status, considered neither as public nor as private hospitals). There are also 170 private hospitals (69% of the total available beds are covered by Public Hospitals and the rest 31% are covered by Private Hospitals).

Weaknesses of the Public Hospitals

Despite the spending of huge amounts of money from the State Budget, the Public Hospitals continue to have significant problems in their operation. These problems arise from the following particularities ruling their function:

- Lack of efficient management and control, as they are usually managed by political party members and not specialized professional managers.
- Public Hospitals are subsidized according to their deficit at the end of the year and not according to their budgets, plans and their available resources.
- Lack of transparency in the transactions between Public Hospitals and social insurance funds. The cost of nursing is determined arbitrarily by the government, below the real values. Additionally the social insurance funds pay their obligations to the hospitals with long delays. These problems have become even bigger under the current conditions of the financial crisis, as the funds have serious liquidity problems due to the difficulties in collecting their receivables from companies and individuals and besides due to their excessive dependency on the State Budget .
- The Greek Public Hospitals cannot price their services offered to citizens without social insurance and especially services to individuals with very high income. In this way, the hospitals accumulate bad debtors and miss the opportunity to have more revenues and their deficits have to be covered by the State Budget.
- Lack of an efficient program of procurement of medical equipment, materials and medicines. The field of procurements in the Public Hospitals is full of corruptions with the involvement of doctors, administrative staff and private companies (suppliers).
- Lack of an efficient human resources management. There are hospitals which are understaffed and others with redundant staff. It is too difficult to transfer staff from one hospital to another.

Forms of Corruption in the Healthcare System

In a study carried out for the European Commission in 2013, 75% of the respondents agreed that the giving and taking of bribes and the abuse of positions of power for personal gain were widespread among people working in the public hospitals. The respective average percentage for the EU was only 30%.

The big difference in the respective percentage shows the magnitude of the problem of corruption in the Greek health care system compared with other countries of the EU. Tolerance for corruption is very big as many people think that they benefit from various forms of corruption, therefore they are reluctant in reporting professionals of the health system. In a country with a huge underground economy informal payments in the healthcare sector constitute a considerable part. The people involved want to have priority against other people, regarding access to healthcare and bypassing the waiting lists. Corruption is also related to procurements of medical equipment and pharmaceuticals. For medical equipment, it is unfortunately common to set up standard specification favorable for specific suppliers and excluding

others. This is called photograph tendering and unfortunately the existing legal framework is not appropriate to hinder practices like this. In the case of procurement of pharmaceuticals, there are companies which promote their products to hospitals by contacting doctors and other staff in relatively high positions. The doctors etc, are "compensated" by receiving the travel expenses of medical conferences abroad for themselves and sometimes even for their families. The benefits of the corrupted staff involved include also offer of jobs for their relatives and other illegal practices which are very difficult to be investigated by justice and police officials. (Sometimes the benefits take the form of revolving doors, where officials of Ministry of Health and Public Hospitals, when they retire, they are hired by pharmaceutical companies and medical equipment suppliers in very well paid jobs.)

Unfortunately opinion leaders like academics are often influenced by some pharmaceutical companies to prescribe their products. Of course the application of electronic prescription has improved the situation as doctors can be detected easier.

Impact of the Crisis on the Performance of Public Hospitals

We are certain that the financial crisis has deteriorated the performance of Public Hospitals. But we are not convinced that the impact on the crisis has led to more corruption. Because, first the various governments have already received the message from the society and second the patients and their relatives cannot afford to satisfy the demands of the corrupted officers anymore.

On the other hand it is evident that the financial position of the Public Hospitals has deteriorated due to the increased cuts in the State Budget, leading to lack of liquidity. Besides, the difficulties faced by the social insurance funds (connected with the high rate of unemployment, the lack of staff and the lack of an efficient collection mechanism), lead to problems affecting the value of receivables of the Public Hospitals.

Another important development that had a negative impact of the performance of Public Hospitals was the haircut of the bonds held by the Hospitals. This process had a devastating effect on the Public Hospitals. The haircut of the bonds, held by the social insurance funds, had also a negative repercussion on Public Hospitals, as their receivables from social insurance funds were very badly affected.

Shortages of necessary materials have undermined the image of Public Hospitals and led many citizens to Private Hospitals. Restrictions in hiring staff, imposed on Public Hospitals (as on the rest of the public sector) by the lenders of the country, had similar results.

Perspectives of the performance of the Greek Public Hospitals

The serious problems of the Greek economy have created a new reality. This new reality, in which the government has to try for the fiscal adjustment, has restricted the public resources available for the social health. Inevitably the Public Hospitals feel the impact of the measures. The situation was not ideal before the crisis, but became very bad under the new conditions. In order to overcome the problems a number of actions are needed:

- There must be realized, that nothing is given for free. The so called "free health" has been made by the citizens with a very high price. The Greek citizens have paid as tax payers the real cost of health plus the cost of corruption. Citizens with high income have to pay for the services they enjoy. Citizens with lower and medium income will also pay through their social insurance funds. The State Budget will pay only for the citizens without insurance.
- The social insurance funds (SIF) must pay for their people in accordance with their receipts, taking into account the ageing of the population, providing for the necessary reserves for financing increased expenditures in the future. The SIF should not rely on grants given by the State Budget, given the new financial condition of the country.
- Implementation of principles of Management in all the aspects of the hospital's functions. All the medical services must be priced accordingly and the patients must know precisely the cost of their medical treatment. The cost must be paid to the hospital and not to the doctor himself. Given the very difficult situation in the economy of the country, public hospitals and their management must realize that they cannot rely on the State Budget. They need to understand that they should rely on the fees received from the social Insurance Funds and take into account the difficulties arising from this reality.
- The Government should encourage the competition between the Public Hospitals and also their competition with the private ones. The Public Hospitals should take advantage of the more expensive equipment and approach patients with higher incomes who demand a higher quality "hotel" infrastructure. Of course the extra services provided to the high income patients should be paid by the patients themselves.

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Intellectual Capital as an Element of Financial Statements – the Empirical Research Report

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Abstract

Knowledge-based economy seems to need new solutions in the field of financial accounting. If knowledge is the most important in today's economy, the financial statement of a knowledge-based enterprise must not focus only on financial capital. The article presents empirical economic information taken from a financial report on intellectual capital developed for a small consulting and training enterprise "INNpuls" Sp. z o.o. The focal point of this report is a knowledge-based balance sheet revealing the value of intellectual capital. Further in the article, a financial analysis of this knowledge-based enterprise is carried out through calculating, among others, return of knowledge (ROK) indices and the intellectual leverage degree.

Key words

Intellectual capital, financial accounting, knowledge-based balance sheets, financial analysis

Introduction

Modern economy and society are subject to fundamental changes. The essence of these changes is the emergence of a knowledge-based economy. In a knowledge-based economy, as the name suggests, the key production factor is knowledge. Unfortunately, traditional accountancy responsible for the creation of micro-economic information does not record knowledge resources controlled by the companies. As a result, traditional financial reporting fulfils the information needs of enterprise stakeholders to a lesser and lesser extent.

Therefore, research on the disclosure of intellectual capital in financial reporting is becoming very significant. This article presents the results of implementation works aimed at the experimental application of the theory of intellectual capital accounting in a small knowledge-based enterprise "INNpuls" Sp. z o.o. in Rzeszów. The quintessence of this research is a knowledge-based balance sheet revealing the "intellectual capital" item and a basic financial analysis of this balance sheet.

1. The characteristics of "INNpuls" Sp. z o.o. as a knowledge-based enterprise

"INNpuls" Sp. z o.o. in Rzeszów is a modern and dynamic **consulting and training enterprise**. Since the beginning of its activity, the enterprise has been aiming at changing the face of the south-east Polish region through the support of businesses, local government units, research institutes and other entities undertaking pro-development activities and expressing their desire for change and development. This is accomplished through assistance and expert consulting in the search for new opportunities, creating and developing innovative products and services, contact with potential partners, supporting investment processes and the acquisition of external funds.

"INNpuls" Sp. z o.o. offers a wide range of **knowledge-based services**, such as:

- effectively obtaining grants from regional, national and international sources,
- comprehensive project management,
- development and implementation of strategic and development documents,
- investment consulting,
- training for the public and private sector.

The most important economic resources of "INNpuls" Sp. z o.o. are the competences of the team of employees providing knowledge-based services for the enterprise's clients. At the beginning of 2014, this enterprise employed twelve qualified employees (including the President and Vice President of the Management Board). During that period, two new qualified employees (i.e. 1 and ½ FTE) were acquired and one qualified worker disappeared. The accounting period closed with a status of thirteen qualified employees (i.e. 12 and ½ FTE).

Throughout the accounting year, tall operations relating to intellectual capital were recorded on an ongoing basis. These operations were documented with relevant accounting documents and decreed

according to register system of the analytical accounts of the book of competence. The main economic operations increasing the value of intellectual capital were **trainings** attended by the qualified employees employed at the unit. The qualified employees were trained on the initiative of the enterprise's Management Board, but also on their own initiative.

2. Knowledge-based balance sheet

On the basis of the accounting books, extended with a book of competence, a knowledge-based balance sheet was prepared, showing the status of resources of the enterprise at the beginning and end of 2014 - Table 1.

Table 1. Knowledge-based balance sheet of "INNpuls" Sp. z o.o. for 2014

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(unit stamp)

KNOWLEDGE-BASED BALANCE SHEET FOR 2014

	ASSETS	01.01.2014	01.01.2014
α.	**Competence assets**	**1,382,099.93**	**1,221,725.69**
I.	Management competences	616,781.34	493,883.51
1.	Strategic competences	382,311.44	363,445.88
2.	Administrative and financial competences	234,469.90	130,437.63
II.	Consulting competences	457,530.98	448,591.03
III.	Training competences	307,787.61	279,251.15
A.	**Fixed assets**	**1,964,440.55**	**1,972,308.67**
I.	Intangible and legal assets	288,202.93	9,990.00
II.	Tangible fixed assets	1,676,237.62	1,962,318.67
III.	Long-term receivables	-	-
IV.	Long-term investments	-	-
V.	Long-term accruals	-	-
B.	**Current assets**	**1,460,733.00**	**1,176,326.47**
I.	Reserves	-	-
II.	Short-term receivables	361,710.49	237,138.63
III.	Short-term investments	855,475.09	766,711.83
IV.	Short-term accruals	243,547.42	172,476.01
	Total assets	**4,807,273.48**	**4,370,360.83**
	LIABILITIES	01.01.2014	01.01.2014
α.	**Intellectual capital**	**1,382,099.93**	**1,221,725.69**
I.	Received intellectual capital	1,049,081.21	978,707.78
II.	Produced intellectual capital	360.00	-
III.	Capital of experience	332,658.72	243,017.91
A.	**Equity (own fund)**	**1,540,858.38**	**1,431,410.28**
I.	Share capital (fund)	119,500.00	119,500.00
II.	Called-up share capital (negative value)	-	-
III.	Own stock (shares) (negative value)	-	-
IV.	Reserve capital (fund)	635,482.79	624,121.15
V.	Revaluation reserve (fund)	-	-
VI.	Remaining reserve capitals (funds)	676,427.49	574,172.67
VII.	Profit (loss) from previous years	1,882.00	-
VIII.	Net profit (loss)	107,566.10	113,616.46
IX.	Total net profit write-offs during the accounting year (negative value)	-	-
B.	**Liabilities and provisions for liabilities**	**1,884,315.17**	**1,717,224.86**

I.	Provisions for liabilities	-	-
II.	Long-term liabilities	263,000.00	294,560.00
III.	Short-term liabilities	30,220.00	315,795.61
IV.	Accruals	1,591,095.17	1,106,869.25
	Total liabilities	**4,807,273.48**	**4,370,360.83**

Developed by: author

This knowledge-based balance sheet requires a brief comment, since the items "competence assets" and "intellectual capital" included in the sheet may not be known to all. Competence assets (assets, item α.) and intellectual capital (liabilities, item α.) show the total value of competence (intellectual capital) attributable to the team of employees.

Strategic competences (assets, item α. I. 1) include the competence value of a two-person Management Board of the enterprise. Their increase results from undertaken trainings and calculating the increase of professional experience.

Administrative and financial competences (assets, item α. I. 2) include the value of the competences of qualified employees supporting the work of the Management Board, i.e. the chief accountant, the Board assistant and the settlement (accounting) specialist. The rapid increase of their value results primarily from acquiring the chief accountant at ½ FTE. Additionally, this increase results from calculating the growth of professional experience.

Consulting competences (assets, position α. II) include the value of the competences of five qualified employees involved in consulting. In this group, one qualified employee disappeared and one new qualified employee was acquired. The change of the value of this item results from the fluctuation of qualified employees, undertaken trainings and calculating the increase of professional experience.

Training competences (assets, position α. III) include the value of the competences of three qualified employees involved in the organisation and delivery of trainings. There were no changes of qualified employees in this group. The increase of the value of this item results from the undertaken trainings and calculating the increase of professional experience.

Received intellectual capital (liabilities, item α. I) shows the cumulative value of intellectual capital attributable to the whole team of employees, which was not financed by the unit. The increase of the value of this item shows the dynamism of the enterprise in acquiring intellectual capital from external sources.

Produced intellectual capital (liabilities, item α. II) shows the value of intellectual capital attributable to the whole team of employees, which was financed by the unit in 2014. Since, in previous years, the unit did not carry out intellectual capital accounting, it is impossible to reliably reproduce this value for previous years and show the cumulative value of the produced intellectual capital. Therefore, the value of the produced intellectual capital dated 01.01.2014 amounts to zero, thus it has been accrued as the received intellectual capital. The increase of the value of this item shows the tendency of the enterprise to finance the intellectual capital from the enterprise's own resources.

Capital of experience (liabilities, item α. III) shows the estimated[1] value of the increase of experience among the whole team of employees. To estimate this capital, an interest rate of 5% per year was adopted. The explanation for the calculation of the capital of experience is the concept of the alternative capital cost. The funds used for the production of competences (intellectual capital) could alternatively be used for financial assets, e.g. the purchase of bonds or the establishment of a bank deposit, thus they would bring a certain percentage.

The remaining items of the knowledge-based balance sheet – i.e. A. Fixed assets, B. Current assets, A. Equity (own fund), B. Provisions and liabilities – require no special comment.

3. Financial analysis of the knowledge-based enterprise

The financial analysis of the knowledge-based balance sheet of "INNpuls" Sp. z o.o. for 2014 was carried out in accordance with the methodology described in the following scientific publications:

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[1] Traditional accounting also makes use of reasonable estimations - e.g. the depreciation rate of fixed assets reflects their estimated consumption, not actual.

- Lesław Niemczyk, *Analiza finansowa przedsiębiorstwa bazującego na wiedzy (Financial Analysis of the knowledge-based enterprise)*, „Gospodarka Narodowa" (National Economy) 2014, issue 4, p. 143-164.
- Lesław Niemczyk, *Zarządzanie wiedzą 2.0 – rachunkowość finansowa kapitału intelektualnego jako baza informacyjna zarządzania kapitałem intelektualnym (Knowledge management 2.0 – financial accounting for intellectual capital as an information basis for intellectual capital management)*, "E-mentor" (E-mentor) magazine, issue 1, p. 50-53.

At the beginning of this analysis, it has to be stated that the traditional instruments of financial analysis, e.g. ROA, ROI, ROE, and ROS indices, cannot provide information in order to formulate an overall assessment of the knowledge-based enterprise's economics. Therefore, the financial analysis of the knowledge-based enterprise includes:

- the analysis of the structure and dynamics of the knowledge-based balance sheet,
- profitability indices of the knowledge-based enterprise,
- examining the intellectual leverage degree.

In 2014, the **sum of knowledge-based balance sheet** in the analysed enterprise increased from PLN 4,370,360.83 in 2013 to PLN 4,807,273.48, an increase of PLN 436,912.65, i.e. 10%. This increase was caused by the increase in every category of assets disclosed in the knowledge-based balance sheet, i.e. competence assets, fixed assets and current assets.

At the examined unit, **intellectual capital *per capita***, thus attributable to an average of one qualified employee, amounted to PLN 110,567.99 dated 31.12.2014 and PLN 101,810.47 dated 01.01.2014. This team of qualified employees developed the following result values.

Sales revenues of the unit increased from PLN 1,688,546.10 in 2013 to PLN 3,184,495.30 in 2014, an increase of PLN 1,495,949.20, i.e. 89%. The **profit on sales** increased from PLN 48,304.19 in 2013 to PLN 143,354.80 in 2014, an increase of PLN 95,050.61, i.e. 196%. The **net profit** decreased from PLN 113,616.46 to PLN 107,566.10, a decrease of PLN 6,050.36, i.e. 5%.

A vertical analysis of the knowledge-based balance sheet is understood as an examination of the percentage of the selected item in aggregate. Juxtaposing the value of the competence assets (intellectual capital) with the sum of the knowledge-based balance sheet, two twin indices are obtained, i.e. the competence assets structure index and the intellectual capital structure index:

$$\text{structure index of competence assets} = \frac{\text{competence assets}}{\text{total assets of knowledge-based balance sheet}} \times 100\%$$

$$\text{structure index of intellectual capital} = \frac{\text{intellectual capital}}{\text{total liabilities of knowledge-based balance sheet}} \times 100\%$$

In 2014, these indices at "INNpuls" Sp. z o.o. were as follows:

$$\text{structure index dated 01.01.2014} = \frac{\text{PLN } 1,221,725.69}{\text{PLN } 4,370,360.83} \times 100\% = 27.95\%$$

$$\text{structure index dated 31.12.2014} = \frac{\text{PLN } 1,382,099.93}{\text{PLN } 4,807,273.48} \times 100\% = 28.75\%$$

Interpretation: About 1/3 of the assets at the examined entity are competences (intellectual capital). The share of competences in the sum of the knowledge-based balance sheet increased slightly.

A horizontal analysis of the knowledge-based balance sheet is understood mainly as an examination of the dynamics of key reporting values. This dynamics is shown by the two next twin indices:

$$\frac{\text{dynamics index}}{\text{of competence assets}} = \frac{\text{competence assets}_t}{\text{competence assets}_{t-1}} \times 100\%$$

$$\frac{\text{dynamics index}}{\text{of intellectual capital}} = \frac{\text{intellectual capital}_t}{\text{intellectual capital}_{t-1}} \times 100\%$$

In 2014, these indices at "INNpuls" Sp. z o.o. were as follows:

$$\begin{matrix}\text{dynamics index} \\ \text{of competence assets} \\ \text{(of intellectual capital)}\end{matrix} = \frac{\text{PLN } 1,382,099.93}{\text{PLN } 1,221,725.69} \times 100\% = 113.12\%$$

Interpretation: The index higher than 100% indicates that the value of competence (intellectual capital) increased from period to period in nominal terms. In 2014, this was an increase of 13%.

The basic instrument of an index analysis of a knowledge-based enterprise is the ***return on knowledge (ROK) index***. It has a structure similar to the profitability indices known from the classic financial analysis (i.e. ROA, ROI, ROE, ROS):

$$\begin{matrix}\text{profitability index} \\ \text{of competence assets}\end{matrix} = \frac{\text{net financial result}}{\text{competence assets}}$$

or

$$\begin{matrix}\text{profitability index} \\ \text{of intellectual capital}\end{matrix} = \frac{\text{net financial result}}{\text{intellectual capital}}$$

In 2014, these indices at "INNpuls" Sp. z o.o. were as follows:

$$\begin{matrix}\text{ROK index} \\ \text{dated } 01.01.2014\end{matrix} = \frac{\text{PLN } 113,616.46}{\text{PLN } 1,221,725.69} = 9.30$$

$$\begin{matrix}\text{ROK index} \\ \text{dated } 31.12.2014\end{matrix} = \frac{\text{PLN } 107,566.10}{\text{PLN } 1,382,099.93} = 7.78$$

Interpretation: The ROK index is at a high and satisfactory (positive) level. About 8-9 Polish groszy of net profit fall into each Polish zloty of operated competences (intellectual capital). The drop of the index was caused by the fact that the high financial result for 2013 included a significant share of other operating revenues. The profit on disposal of non-financial fixed assets amounted then to PLN 102,000, which very clearly overstated the net financial result with the values of PLN 113,616.46.

Intellectual leverage is an instrument for the enterprise's intellectual capital management, providing the basic answer to the question concerning how the financial result is influenced by the acquisition of additional competences. The basic formula of intellectual leverage is as follows:

$$\text{intellectual leverage degree} = \frac{\text{result on sales}_t - \text{result on sales}_{t-1}}{\text{intellectual capital}_t - \text{intellectual capital}_{t-1}}$$

In 2014, the intellectual leverage degree at "INNpuls" Sp. z o.o. was as follows:

$$\text{intellectual leverage degree} = \frac{\text{PLN } 143{,}354.80 - \text{PLN } 48{,}304.19}{\text{PLN } 1{,}382{,}099.93 - \text{PLN } 1{,}221{,}725.69} = 0.59$$

Interpretation: There is a phenomenon of the positive intellectual leverage with a very high intensity at the unit. The increase in the value of the controlled competence (intellectual capital) by one Polish zloty contributes to the increase of the result on sales amounting to 59 Polish groszy. This clearly proves the nature of the unit as a knowledge-based enterprise.

The unit's intellectual leverage depends on the impact of changes in the value of the controlled competences on the dynamics of sales revenues and operating costs. These dependencies are shown by the two next indices:

$$\text{productivity degree of competence assets} = \frac{\text{operating revenues}_t - \text{operating revenues}_{t-1}}{\text{competence assets}_t - \text{competence assets}_{t-1}}$$

$$\text{cost intensity degree of competence assets} = \frac{\text{operating costs}_t - \text{operating costs}_{t-1}}{\text{competence assets}_t - \text{competence assets}_{t-1}}$$

In 2014, the values of these indices at "INNpuls" Sp. z o.o. were as follows:

$$\text{productivity degree of competence assets} = \frac{\text{PLN } 3{,}184{,}495.30 - \text{PLN } 1{,}688{,}546.10}{\text{PLN } 1{,}382{,}099.93 - \text{PLN } 1{,}221{,}725.69} = 9.33$$

$$\text{cost intensity degree of competence assets} = \frac{\text{PLN } 3{,}041{,}140.50 - \text{PLN } 1{,}640{,}241.91}{\text{PLN } 1{,}382{,}099.93 - \text{PLN } 1{,}221{,}725.69} = 8.74$$

Checking the correctness of calculations:

$$\text{intellectual leverage degree as the difference of competence productivity and cost intensity} = 9.33 - 8.74 = 0.59$$

The in-depth analysis of the intellectual leverage confirms that the unit's revenues react to the increase of the value of the controlled competences (intellectual capital) more strongly than the costs. This means that the development of the unit is endogenously determined by the acquisition of additional competences (intellectual capital), i.e. trainings or admitting the next qualified employees to the enterprise. However, the competition in the sector and the size of the regional market may pose a barrier to this form of development of the enterprise. If these barriers of a demand-driven nature could be neutralised, each next qualified employee acquired in the enterprise would generate approximately a profit on sales worth 59 Polish groszy for each Polish zloty of disclosed competences (intellectual capital). Therefore, the effectiveness of intellectual capital management of the unit is at a very high (even a model) level.

Summary

As seen from the above, intellectual capital accounting provides necessary economic information in order to formulate the assessment of the knowledge-based enterprise's functioning. The scope of information of the knowledge-based balance sheet is broader than of the traditional balance sheet. The reporting items "competence assets" and "intellectual capital" may be found in the knowledge-based balance sheet. A comparison between the total value of these new reporting items and the value of the traditional assets and liabilities can answer the question: which is more important in the analysed enterprise - the traditional capital, or knowledge.

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The Globalization of Business Management in Slovak Companies

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Abstract

On the base of contemporary stage of controlling utilization in business and based on analysis of theoretical and practical approaches we present chosen methods, models and techniques of business controlling. Our primary interest focuses not only on theoretical basis of solution but also on practical application under conditions of Slovak companies, during financial and economic crisis. EVA is both a measure of value and also a measure of performance. The value of a business depends on investor's expectations about the future profits of the interprise. Stock prices track EVA far more closely than they track earnings per share or return on equity.

Key words
Business Performance, Controlling, Costing, Management, Performance measurement, Planning, Recesion

Introduction

Latest quantitative macroeconomic indicators and results of Slovak economy show negative development in more fields (negative economic growth measured by GDP, growth of unemployment, growth of budget deficit and deficit of public finance). But on the other hand we can say that reached results and its decline is comparable with development in V4 countries.

New Euro currency accepted just in the time of world economic crisis can be mentioned as one important feature which highly differs Slovak economy conditions from those in neighbour countries. Many studies and analysis present that Euro acceptance had many positives from the long run period (more foreign investment, currency stability, business area stability, elimination of currency differencies, simplification of trade, decreasing of transaction costs, lower capital costs, higher transparency of prices etc.). As a negative aspect of Euro it was considered the lost of independent monetary policy of NBS and also higher level of inflation after currency acceptance (temporal effect) and single costs of currency transition.

Contemporary development of Slovak economy under above mentioned non-standard conditions can be characterised that we can see partial and at the same time integrated impact of two decisive important factors:

- world financial and economic crisis,
- new Euro currency acceptance.

New currency accepted just during world crisis causes that many positives and negatives, presented in studies, have not expressed till now or they have different or neutral or contrary impact. As an example we can mention relatively low level of inflation (but it can be transformed into negative deflation) after Euro acceptance because of financial and economic crisis influence. On the other hand we can mention stability of exchange rate which seems to be during these crisis years (currency devaluation in other countries) as a handicap for Slovakia and its chosen branches (retail market, tourism, hotels and restaurants) compared to other V4 countries (Czech republic, Poland, Hungary). When we look at the same problem by the eyes of Slovak consumers, we can see advantages of new currency just now in the times of world economic crisis. There are the following advantages: prices transparency, simplification of tourism and travel, cheaper foreign products and services as it was supposed before conversion into Euro currency. But because of crisis, there are eliminated positive impacts as higher foreign investments and stability of business environment. The same impact (positive or negative) as before Euro acceptance we can specify the following – elimination of currency differences, simplification of trade, decreasing of transaction costs, the lost of independent monetary policy of NBS, single costs of currency transition.

In spite of the above mentioned factors impact we can specify the following decisive negative aspects caused separately by the world financial and economic crisis:

- strong decline of Slovakia export caused mainly by demand crisis in the world markets,
- lower utilization of production capacities within Slovak companies in the chosen branches (automotive industry, engineering, wood processing industry, metallurgy, chemical industry, electrotechnical industry, shoemaking industry etc.)
- lower foreign capital input and lower investment consumption,
- growth of unemployment in the chosen branches, decline of hoseholds consumption, total growth of unemployment,
- decline of investment and consumers loans,
- decreasing of tax income for national budget and its higher deficit.

Given negative trend of the chosen Slovak economic indicators further grow worse because of Euro currency just now, during world financial and economic crisis.

As the decisive influence of both impacts it can be specified the following:

- strong decline of Slovak retail market revenues as a result of consumers foreign purchases which was caused by the decline of ability co compete with prices. This was affected by the both impacts:
  a) new currency acceptance – assessment of the fixed exchange rate SKK/EUR in 30th June 2008 (before new currency introduction). This exchange rate was 15% below the central parity,
  b) world financial and economic crisis – strong decline of national exchange rates compared to EUR in the neighbour countries: Czech republic – 10%, Hungary – 20%, Poland – 30%
- lower capacity utilization in the chosen branches (retail market, tourism, hotels and restaurants)
- decreasing of budget incomes and its higher deficit because of lower VAT and consumption tax incomes,
- unemployment growth in the chosen branches.

1. Chosen managerial methods and their applications effects during the period of economic crisis in business performance management of companies

Fundamental changes in macro and micro environment impact managing process of companies during last years. These changes have initiated modification of traditional managerial systems, conceptions, methods and tools as well as necessity to generate new untraditional managerial techniques. Therefore, there are applied and designed new progressive approaches in the field of economics and business planning. Our project focuses mainly on the field of measurement and planning new and modern performance indicators, on basic knowledge about the latest approaches and methods how to manage them as for example: business management and planning oriented on processes (Activity Based Management, Activity Based Costing), Balance Scorecard (BSC), Shareholder Value Planning and Benchmarking, system of KPI (Key Performance Indicators), EVA conception (Economic Value Added) and many others. Further research and application of the above mentioned methods under conditions of the period of economic crisis seems to be inevitable condition for their survival and successful progress.

Except of that, during last years of companies´ management is impacted by the world financial and economic crisis and by its effects. These above mentioned and many other changes have initiated modification of traditional managerial systems, conceptions, methods and tools for companies managing as well as necessity to generate new untraditional managerial techniques.

Significant Slovak authors of publication "Strategic planning" (Husár, J., Šikula, M., Baláž, P., Slávik, Š., Buček, M. 2006) competently argue about importance and effects of global changes on strategic planning under conditions of world economy globalization. There are also other factors which impact content and methods applied in management of industrial companies, e.g. move from central planning economy to market economy, level of decentralization in companies´ management, latest paradigms in management e.g. integrated management, strategic oriented management, move from functional oriented model to process management, efforts to implement controlling oriented approach and logistics approach into the system of management. And because of that also in the field of economics and business planning there are launched and applied new and more progresive approaches, e.g. in the field of measurement and planning of modern performance indicators. Continuously, there are arising new knowledge about progresive approaches and methods of their optimization, e.g. business management and planning oriented on processes (Activity Based Management), Balance Scorecard methodology, Shareholder Value Planning

and Benchmarking, system of KPI (Key Performance Indicators), EVA conception (Economic Value Added) and many others. Further research and application of these above mentioned methods in woodprocessing companies seems to be inevitable condition for companies survival and successful struggle with competition.

Nowadays, it is necessary to create complex integrated model for the most accurate performance measurement. Also it should be searched ways and reserves under given economic conditions by taking into account most effective utilization of production inputs. As it is well known, in the past, the most of methods focused mainly on financial performance of a company which can be evaluated by various methods, criterions and indicators. But companies mostly use only partial approaches of performance evaluation. It misses complex approach which would enable to take into account also many important nonfinancial strategic parameters of the future performance. As the most applied methods can be mentioned the following:

- parallel systems of indicators
- pyramid systems of indicators
- rapid creditworthiness and bankruptcy indicators
- indicators based on the theory of managing the value formation
- approaches based on accounting performances, etc.

Many papers of specialists on national and international conferences confirm that this problem is very topical and actual. International scientific conference titled "New theory of economics and management" was held in Prague, VŠE, Faculty od Business Administration, October 2006. Almost one fourth of all papers focused on actual problems of companies performance and modern methods of its management. Among others we can mention one method – Balance Scorecard. Important papers dealing with this topic presented world reputed American authors. (Kaplan, R. S., Norton, D. P. 2005) or German author with Hungarian roots (Péter Horváth 2002).

We can also mention Czech authors: married couple of Neumaier who have proposed financial oriented model of performance measurement and benchmarking INFA for the Czech industrial companies and services. In the future they want to focus on strategic oriented dynamic scorecard (DS INFA) – see (Neumaierová, I., Neumaier, I. 2007). As an important contribution to the given topic we can consider also results contained in the work of Czech authors (Pavelková, D., Knápková, A. 2005).

As the most important effects of the implementation above mentioned methods for the social and economic practice in Slovakia we can consider the following outputs:

- Design of the complex evaluation model for the measurement of companies performance with the sight on particular areas: economic, strategic, area of business processes.
- Design of the complex reporting system for traditional and untraditional indicators of companies performance in areas: financial-economic, investment, strategic and area of business processes.
- Design of the complex managerial methodology focused on increasing of Slovak companies goodwill which is expressed on the base of EVA indicator (Economic Value Added) by the goal-oriented managing of traditional and untraditional indicators for the performance measurement in the following areas: financial-economic, investment, strategic and in the area of business processes.
- Analysis of values reached in Slovak companies during latest years in traditional and untraditional performance indicators for the areas: financial-economic, investment, strategic, business processes.
- Benchmarking of values reached in Slovak companies in traditional and untraditional performance indicators for the following areas: financial-economic, investment, strategic, business processes. Classification of companies into particular performance groups from the point of view of reached performance parameters.
- Design of alternative strategies focused on increasing of complex performance by the performance managing within financial-economic, strategic and business processes areas.

By the above mentioned we expect performance increasing of Slovak companies what will expressed in the transformation process, in the growth of value added, in the higher contribution of companies to the Slovak GDP and finally in the improvement of competitiveness in the EU markets.

2. Economic value added as performance measure

In the early 90´s, value-based performance measures, such as Economic Value Added have gained immense popularity. Economic Value Added, commonly known by its registered trademark EVA, is already used by more than 250 large companies. The literature reports that more and more large companies are deciding to adopt the EVA performance measure as the guiding principle for their corporate policy. Frequently, EVA is regarded as a single, simple measure that gives a real picture of stockholder wealth creation. The reports claim that implementing an EVA policy triggers a company's stocks to rise and its leading managers to act more like owners. In addition to motivating managers to create shareholder value and being a basis for management compensation, value based performance measurement systems have further practical advantages. An EVA system helps managers to make better investment decisions, identify opportunities for improvement and consider short-term as well as long-term benefits for the company. Furthermore, studies suggest that EVA is an effective measure of the quality of managerial decisions as well as a reliable indicator of a company's value growth in the future. In summary, constant positive EVA values over time will increase company value, while negative EVA implies value depreciation [2].

EVA is a measurement tool that provides a clear picture of whether a business is creating or destroying shareholder wealth. EVA measures the firm's ability to earn more than the true cost of capital. EVA combines the concept of residual income with the idea that all capital has a cost, which means that it is a measure of the profit that remains after earning a required rate of return on capital. If a firm's earnings exceed the true cost of capital it is creating wealth for its shareholders.

Recognized by economists since the 1770s, residual income is based on the premise that, in order for a firm to create wealth for its owners, it must earn more on its total invested capital than the cost of that capital. Notationally, residual income (RI) for period t is:

$$RI_t = NOPAT_t - WACC_t \times CAPITAL_{t-1} \qquad (1)$$

To compute residual income, begin with net operating profits after tax (NOPAT) and subtract the total cost of capital measured as the weighted-average cost of capital (WACC) times the total invested capital (CAPITAL).

NOPAT can be defined as a result of the following formula:

$$NOPAT = EBIT \cdot (1-t) \qquad (2)$$

where EBIT is Earnings Before Interest and t is tax rate. NOPAT includes both effect reached by using assets of a company and interest paid to creditors.

CAPITAL represents long term invested capital. It is sum of equity and invested capital. The other way of defining capital is to summarize fixed assets and net working capital (net working capital = current assets – short term liabilities). Both approaches offer the same results.

In EVA model Weighted Average Cost of Capital (WACC) is used for calculation of economic value added and as a discount rate transferring future values of EVA to present value to the date of valuation.

$$WACC = r_d (1-t) \frac{D}{C} + r_e \frac{E}{C} \qquad (3)$$

In this formula: r_d is the cost of debt
                              r_d is interest for external capital provided
                              t is income tax rate
                              C is value of balance sum
                              D is debt
                              E is equity

A basic construction of EVA measure is clear from following formula:

$$EVA_t = NOPAT_t - C_t \times WACC_t \qquad (4)$$

If EVA > 0 than we can say a company is successful. This is the only case wealth of shareholders increases because they gain more than what their original investment was. The service to creditors is included there, too. In case EVA = 0 a company produced just as much as it was invested and EVA < 0 leads to destroying of wealth of shareholders.

Developed EVA to help managers incorporate two basic principles of finance into their decision making. The first is that the primary financial objective of any company should be to maximize the wealth of its shareholders. The second is that the value of a company depends on the extent to which investors expect future profits to exceed or fall short of the cost of capital. By definition, a sustained increase in EVA will bring an increase in the market value of a company. This approach has proved effective in virtually all types of organizations, from emerging growth companies to turnarounds. This is because the level of EVA isn't what really matters. Current performance already is reflected in share prices. It is the continuous improvement in EVA that brings continuous increases in shareholder wealth.

Finally, to help you consider whether economic profit is an appropriate performance metric for the company you are evaluating, we have discussed the following strengths and weaknesses (tab. 1).

Tab. 1   Strengths and Weaknesses of EVA [2]

Strengths	Weaknesses
• If you had to rely on only one single performance number, economic profit is probably the best because it contains so much information (mathematicians would call it "elegant"): economic profit incorporates balance sheet data into an adjusted income statement metric. • Economic profit works best for companies whose tangible assets (assets on the balance sheet) correlate with the market value of assets - as is often the case with mature industrial companies.	• Although some proponents argue economic profit is "all you need", it is very risky to depend on an single metric. • The companies least suited for economic profit are high-growth, new-economy and high-technology companies, for whom assets are 'off balance sheet' or intangible.

Source: Own research

Conclusion

Fundamental changes in macro and micro environment impact managing process of companies during last years. These changes have initiated modification of traditional managerial systems, conceptions, methods and tools as well as necessity to generate new untraditional managerial techniques. Therefore, there are applied and designed new progressive approaches in the field of economics and business planning. Our project focuses mainly on the field of measurement and planning new and modern performance indicators, on basic knowledge about the latest approaches and methods. EVA is both a measure of value and also a measure of performance. The value of a business depends on investor's expectations about the future profits of the interprise. Stock prices track EVA far more closely than they track earnings per share or return on equity.

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Some Aspects of Unemployment in Selected Countries

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Abstract

Unemployment is part of the economy. It is a negative phenomenon. This article deals with analysis of unemployment and tries to show, how it affects the economy. We analyse the unemployment from various aspects. We study the unemployment divided according to age, according to industry etc. The selected period for analysis was the period of 10 years.

Key words

Unemployment, Germany, Hungary, Slovak republic

Introduction

Unemployment is part of the economy as a negative phenomenon. Various authors have defined different unemployment. We can say that unemployment occurs when the citizens want, but cannot find work.

According to Fuchs (2002) between unemployment and the economy there is a close relationship since their beginnings. This may be due to the fact that the unemployment after a while began to appear as part of the science of the economy. Unemployment is currently such issue that has received increased attention. The importance of unemployment is proved by the fact that already in the 1930's it was a priority in economic policy. In this respect it is also important what weight is attributed to unemployment from the perspective of economic trend (Fuchs, 2002).

According to Jirová (1999), unemployment can be defined as a condition of the economy where the persons in working age can work, so they are able to work but they cannot find a job.

OECD defines unemployment rate like the number of unemployed people as a percentage of the labour force, where the latter consists of the unemployed plus those in paid or self-employment. Unemployed people are those who report that they are without work, that they are available for work and that they have taken active steps to find work in the last four weeks. When unemployment is high, some people become discouraged and stop looking for work; they are then excluded from the labour force. This implies that the unemployment rate may fall, or stop rising, even though there has been no underlying improvement in the labour market.

Martincová (2005) describes the natural unemployment rate as a measure of where the labour and product markets are in equilibrium. She explains that this level occurs at a level of voluntary unemployment, in which its effect on the growth and decline in price and wage inflation are in balance. At the natural rate of unemployment, inflation is at standstill, and even does not accelerate or slow down. However, the natural rate of unemployment is equal to zero, because there are still a number of people without jobs. This rate is very closely linked to inflation.

Aims and methodology

The aim of the article is to identify, if there are any relationship between the GDP and the unemployment. We choose 3 countries for the analysis. They were Germany, Slovakia and Hungary. The analysed period was 10 years. We gain data necessary for research from Statistical Office of Slovak Republic, from OECD yearbook and from Slovstat.

We set one hypothesis, which was verified in all three selected countries. For verification of hypothesis we used statistical programme Gretl.

Hypothesis 1 - We assume that there is a statistically significant relationship between the level of GDP in the country and the unemployment rate in the country.

Discussion

Now, we analyse the unemployment in selected countries, where first is Slovakia.

Graph 1. Unemployment in Slovakia in %
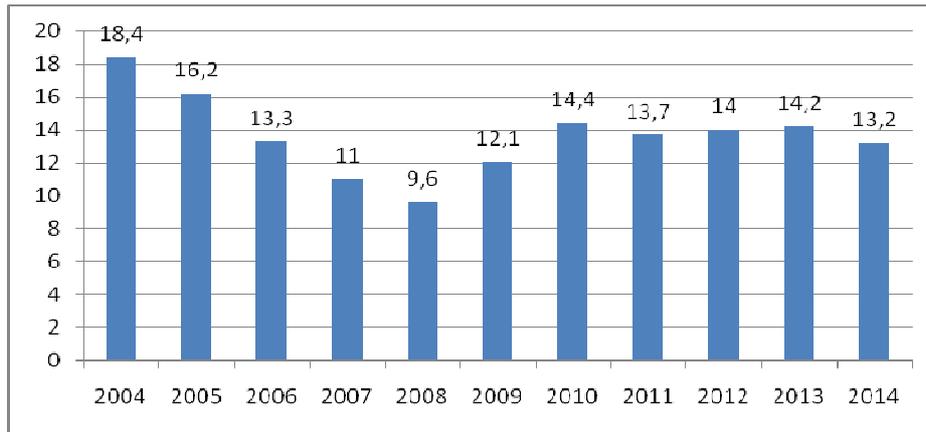
From this graph we can see that the highest unemployment rate in the period was just in 2004. The lowest unemployment rate was recorded in 2008, since then the rate has continued to climb.

In terms of unemployment, Germany is one of the countries with the lowest unemployment rate. The development of this indicator the economy is shown in the graph below.

Graph 2. Unemployment in Germany in %
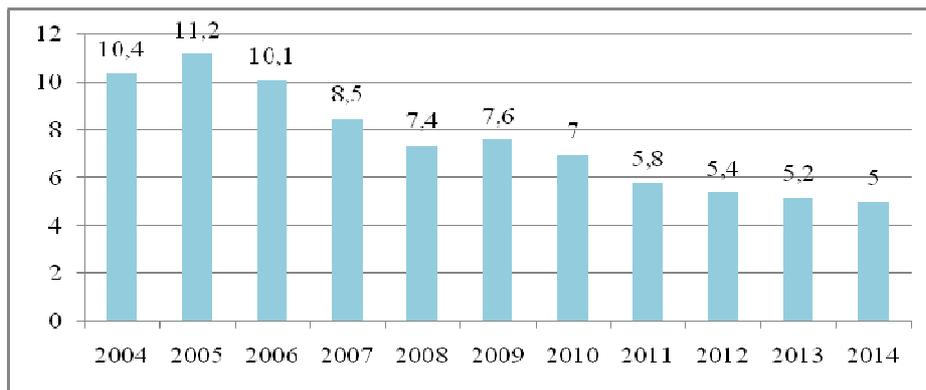
From the above graph we can see that the unemployment rate in 2004 stood at 10.4%. From 2005 to 2014, unemployment decreased until it reached 5%. This value was a sign of good economic situation.

Hungary does not belong to a strong economy. Regarding unemployment, the rate is displayed in the following graph.

Graph 3. Unemployment in Hungary in %
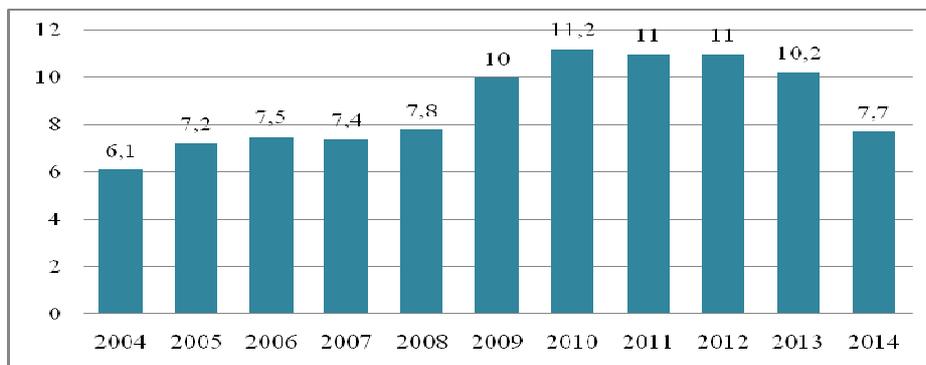
In the analyzed period in 2004, the unemployment rate was 6.1%. In subsequent years, the graph shows that unemployment rose until 2010, when it reached the highest value of 11.2%. In subsequent years, the value decreased to 7.7%. This decline may also be due to economic growth as well as the government programme to support employment, which the government launched in 2011.

Unemployement of young people in selected countries

One of the problems in the context of unemployment is unemployment of the youth. The table is compiled according to the data from the database of the European Union. Eurostat describes youth unemployment as the unemployment rate for persons aged 15-24 years as a percentage of the labour force of the same age based on the International Labour Organisation (ILO).

Table 1. Unemployement of young people in selected countries in %

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Germany	13,7	15,4	13,6	11,8	10,4	11,1	9,8	8,5	8	7,8	7,7
Hungary	15,5	19,4	19,1	18,1	19,5	26,4	26,4	26	28,2	26,6	20,4
Slovakia	33,4	30,4	27	20,6	19,3	27,6	33,9	33,7	34	33,7	29,7

Source: own processing according to data from OECD

The table shows the data on unemployment among young people in selected countries. Germany has in these countries, the lowest unemployment rate in 10 years. Maximum value of the unemployment rate was in 2005, when it reached the value of 15.4%. It reached its lowest level in 2014, at level of 7.7%. The values of the indicator of youth unemployment in Hungary are higher than in Germany. In the year 2004, however, in this case it is much higher than that achieved in Germany in the same year. This year was for Hungary in the given period a year ago, with the lowest value (15.5%). In the following years, unemployment among young people was rising, when in 2012 it reached a maximum of 28.2%. In Slovakia, the unemployment rate of young people was in high numbers. Of all countries it has the highest peaks. The average rate of unemployment for the period is 29.39%. Its lowest level in 10 years was achieved in 2008 (19.3%). Compared to Germany, the lowest value is also high, and more than twice higher than in Germany. Also in comparison with Hungary we have higher values. The highest value was in 2012, representing 34%, which means that more than a quarter of young people was unemployed.

The sectoral division of employment in selected countries

This part offers a graphic representation of employment according to sector for all the selected countries. Data are presented in thousands of people employed in the industry.

From the graph we can see that the greatest number of people employed in Hungary is in the service sector. Development of employed persons in the period analyzed increased since 2005. In 2009, a slight decrease occurs, which persists until 2011. Services were within employment affected by the economic crisis. Since 2011, however, employment in services has managed to increase. Agriculture employs the fewest number of people and its development within the analyzed period remained almost constant.

Graph 4. The sectoral division of employment in Hungary in thousand people
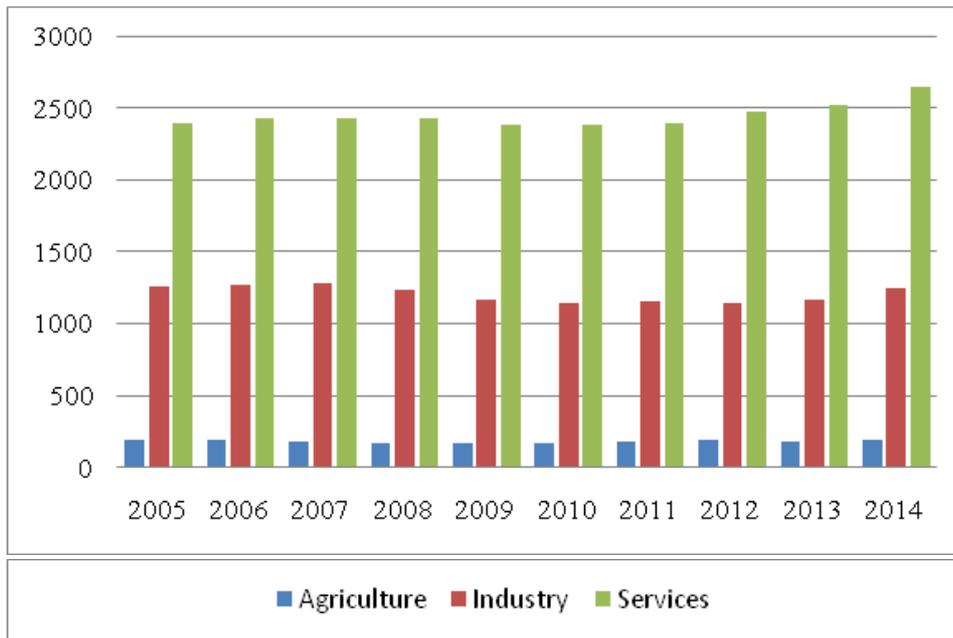
Source: own processing according to data from OECD

Germany again is dominated by the service sector, which has the highest employment. Employment within other industries is the half. Employment is the lowest in the agricultural sector. Development of employment is gradually increasing over the analyzed period, which can be seen mainly in the services sector. The decrease of employed persons in the industry in 2009 may be a consequence of the economic crisis. In subsequent years, however, employment increased.

Graph 5. The sectoral division of employment in Germany in thousand people
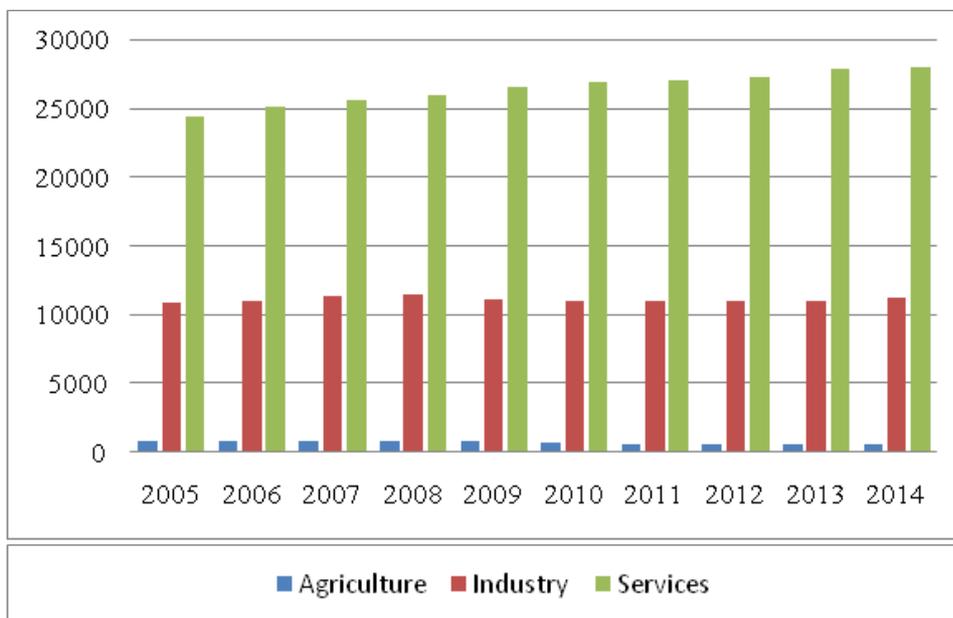
Source: own processing according to data from OECD

Change in employment in Slovakia is mainly in the industrial sector. The other analyzed countries have a minimum number of persons employed in this sector, in Slovakia, however, employment in it is substantially higher. Since 2005, employment in industry increased, but in 2009 there was reduced the value of the indicator, which was also caused by the economic crisis. By now, the employment in the industry did not increase to a value before the crisis. On the other hand, the services sector within the

analysed period prospered. Services were not affected either by the economic crisis and employment continued to rise. On the contrary, the agricultural sector is in decline in the number of persons employed.

Graph 6. The sectoral division of employment in Slovakia in thousand people
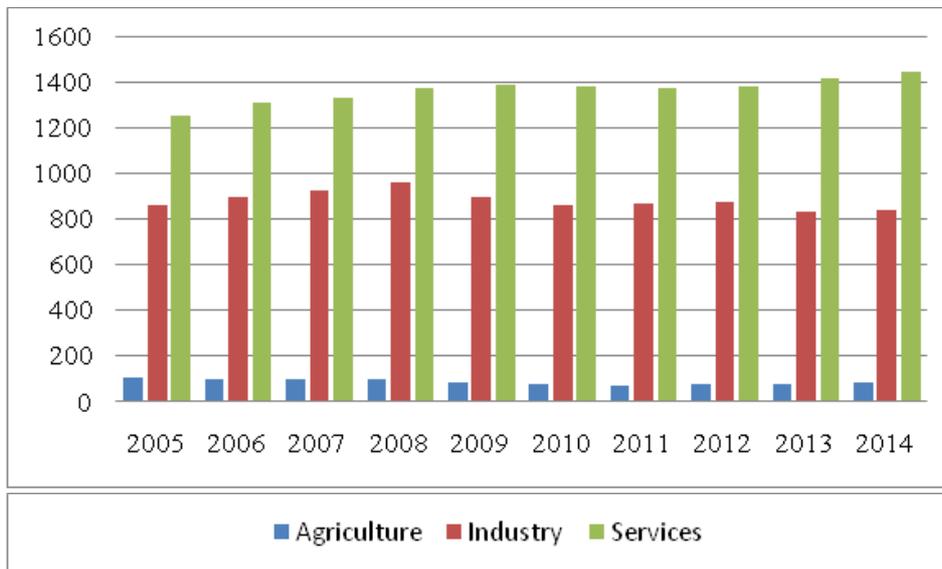
Source: own processing according to data from OECD

On the basis of the first hypothesis test was performed on the p level, when we investigated its height. This value is shown in the following table.

Table 2. Verification of hypothesis for Slovakia

Hypothesis Slovakia		
p value = 0,0459		
Unemployment	GDP	
1,0000	r = -0,6108	Unemployment
	1,0000	GDP

Source: own processing

The following table shows the value of p (0.0459), which is lower than 0.05; therefore we accept this hypothesis. This means that in Slovakia there is a significant relationship between the level of GDP and the unemployment rate. We then determined via using the Gretl programe the correlation coefficient, which has a value of -0.6108. A negative number in this case is an indirect dependency, which means that the greater the value of one variable, the lower the value observed in the other variable. The value of the correlation coefficient is relatively close to the figures -1, so this statistical relationship can be considered strong.

P-value is 0.0572 for Hungary. This value is very close to the 0.05 significance, but this hypothesis is rejected, which means that the unemployment indicators and GDP in Hungary can not confirm a statistically significant relationship.

The table shows the value of p for the first hypothesis. The resulting value is of 0,001; which means that this hypothesis is confirmed. Among the indicators of unemployment rate and GDP in Germany there is a statistically significant relationship.

Table 3. Verification of hypothesis for Germany

Hypothesis for Germany		
p value = 0,001		
Unemployment	GDP	
1,0000	r = -0,9180	Unemployment
	1,0000	GDP

Source: own processing

Having established the level of significance we have found coefficient of correlation, which is also shown in the table under the name of r, by using the statistical programme Gretl. The coefficient has a value of -0.9180, which means an indirect dependency. Given the high value of the coefficient, we can say that the relationship between indicators is very strong. The result of calculating the correlations within hypotheses for Germany means that the higher the unemployment rate in Germany, the lower growth of the GDP in the country.

Summary

The biggest problem of unemployment in the countries surveyed, we identified youth unemployment. This problem exists in all countries, but in a different extent. Our analysis shows that on average the lowest unemployment rate within the youth has Germany (10.71%), Slovakia has the highest (29.39%). Suggestions for improving unemployment in the analyzed countries should therefore be directed mainly to this group.

To tackle youth unemployment would be necessary to harmonize the education and training system with the system of employment and social systems. The point is that graduates of different types of schools cannot be employed due to lack of experience required by employers. This problem has persisted for a long time, it would be necessary to create jobs and offers, where graduates could acquire the necessary experience and knowledge.

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Fair Value – Messenger or Contributor?

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Abstract

Did fair value accounting play a role in financial crisis? This appendix explores the issue. Fair value accounting implies that assets and liabilities get measured and reflected on a firm`s financial statements at their market value, or close substitutes. Extensive academic research done over the past 20 years shows that financial statements that reflect the market values of assets or liabilities provide information that is relevant to investors. In other context, fair value accounting is just a messenger carrying bad news. In contrast, there is also another research stream which is quite critical of the perceived merits of fair value accounting, and which worries about how it undermines what constitutes the core of financial reporting. More specifically, it is argued that fair value accounting is difficult to verify, may be based on unreliable assumptions or hypotheses and provides management with too much discretion into the preparation of financial statements. Hence, according to this view, fair value accounting is not necessarily a neutral or unbiased messenger. Moreover, fair value accounting creates a circular dynamic in financial reporting, with markets providing the input for the measurement of many assets, thus affecting reported earnings which are then used by analysts and investors to assess a firm's market value. If markets become volatile, as has been the case in recent months, reported earnings also become more volatile, thus feeding investors apprehensions. Therefore, since fair value accounting is associated with more volatile and less conservative financial statements and, it may have allowed managers to delay the day of recognition as well as distorted investors and regulators' perceptions of financial performance and stability at the end of the financial bubble. However, once the economic pendulum swung back, fair value accounting may have magnified their views as to the severity of the current financial crisis, hence accelerating some negative trends.

Key words
Fair value accounting, governance, risk management

Introduction

Despite its almost universal adoption by accounting standard setters, the merits of fair value accounting continue to generate intense and passionate debates among academics, business people, regulators or investors. A surprising element underlying these debates is the apparent irreconcilable positions adopted by participants in favour or against fair value accounting. However, the current financial crisis has significantly raised the level and stakes in that discussion, with fair value accounting increasingly being under attack. For instance, the U.S. Congress recently mandated the Securities and Exchange Commission to investigate and report on fair value accounting's contribution to the financial crisis.

In reaction, some standard setters such as the Canada's Accounting Standards Board, the Financial Accounting Standard Board and the International Accounting Standard Board have recently introduced temporary provisions waiving some aspects of fair value accounting for financial institutions.

The purpose of the Appendix is to provide additional insights into the role played by fair value accounting in the financial crisis. Since the crisis is still ongoing, there is no direct or formal empirical evidence about such role, which may be perceived, actual or potential. However, by analyzing the conceptual and empirical foundations of fair value accounting, it may be possible to draw some inferences and to assess if and how fair value accounting underlies some of the recent turmoil in financial markets. In that regard, the Appendix aims to achieve the following objectives. First, we intend to provide a brief overview of fair value accounting, including its impact on financial statements. The overview includes a summary of the opposite viewpoints on the merits of fair value accounting. Second, we present and discuss the theoretical and empirical underpinnings of fair value accounting. Thirdly, we analyze the measurement and valuation challenges that arise from the use of fair value accounting. Finally, on the basis of the above analyses, we sketch a tentative framework to understand fair value accounting's role and potential contribution to the financial crisis. While fair value accounting can conceptually apply to all aspects of a firm's financial statements, we will purposefully focus on its application to financial instruments and financial institutions (Škoda, Gabrhel, 2015).

Contexts

Fair value is defined as the price at which an asset could be exchanged in a current transaction between knowledgeable, willing parties (FASB, 2006).

For liabilities, fair value is defined as the amount that would be paid to transfer the liability to a new debtor. Under fair value accounting (FVA), assets and liabilities are categorized according to the level of judgment (subjectivity) associated with the inputs to measure their fair value, with three (3) levels being considered. At level 1, financial instruments are measured and reported on a firm's balance sheet and income statement at their market value, which typically reflects the quoted prices for identical assets or liabilities in active markets. It is assumed that the quoted price for an identical asset or liability in an active market provides the most reliable fair value measurement because it is directly observable to the market (« mark-to-market »). However, if valuation inputs are observable, either directly or indirectly, but do not qualify as Level 1 inputs, the Level 2 fair value assessment of a financial instrument will reflect

- quoted prices for similar financial instruments in active markets,
- quoted prices for identical or similar financial instruments in markets that are not active,
- inputs other than quoted prices but which are observable (e.g., yield curve) or correlated prices.

Finally, certain financial instruments which, for example, are customized or have no market, will be valued by a reporting entity on the basis of assumptions that presumably reflect market participants' views and assessments (e.g., private placement investments, unique derivative products, etc.). Such valuation is deemed to be derived from Level 3 inputs and is commonly referred as "mark-to-model" since it is often the outcome of a mathematical modelling exercise with various assumptions about economic, market or firm-specific conditions (FASB, 2006). In all cases, any unrealized gain (or loss) on financial instruments held by an institution translates into an increase (decrease) in its stockholders' equity and, consequently, an improvement (deterioration) in its capitalization ratios. Detractors, among them David Dodge, the former Governor of the Bank of Canada, argue vehemently that FVA has accelerated and amplified the current financial crisis (McFarland, Partridge, 2008). Their argument can be summarized as follows. Starting in 2007, the drop in the price of many types of financial instruments led financial institutions to mark down the asset values reported on their balance sheets, thus weakening their capitalization ratios (let's think about the first write-offs following the start of the subprime crisis). To improve their financial profile and to enhance their safety zone with respect to regulatory capital requirements, these institutions started to sell securities or close down positions on some financial instruments in markets that were increasingly shallow as a result of the emergence of a liquidity crisis. These sales magnified the downdraft in quoted prices, thus bringing additional devaluations, etc.

Along these lines, William Isaac, former Chairman of the U.S. Federal Deposit Insurance Corporation, argues that "mark-to-market accounting has been extremely and needlessly destructive of bank capital in the past year and is a major cause of the current credit crisis and economic downturn" (Jeffrey, 2008). However, FVA can count on broad support from the accounting profession, standard setters and regulators. For instance, in a recent speech, Nick Le Pan, Canada's former Superintendent of Financial Institutions, argued that FVA is only a messenger and should not be criticized for merely reflecting the poor underlying economic outlook (McFarland, Partridge, 2008).

Barbara Roper, from the Consumer Federation of America, argues that sound accounting principles, such as FVA, led to the exposure of underlying problem assets. In her view, FVA provides more accurate, timely and comparable information to investors than any other accounting alternative.

Theoretical and Empirical Foundations Underlying FVA

FVA's theoretical and empirical premises are relatively solid. In fact, it is one of the few accounting standard that can be traced back directly to accounting-based scientific research. More specifically, there is consistent empirical evidence, accumulated over the past 20 years, that a firm's stock price is more closely associated with the market value of its underlying financial or real assets than with their historical cost, i.e., their purchase price plus related expenses (Barth, Beaver and Landsman, 2001).

The superior relevance of market-derived values is even more obvious in the case of financial derivatives which historical cost is often close to zero but which market value can fluctuate widely (Venkatachalam, 1996). In other words, fair values, or marked to market values, have been found to be more relevant indicators of firm value than traditional historical cost-based figure (Škoda, Hrazdilová Bočková, 2014).

An interesting early study on the relevance and implications from FVA was performed by Bernard, Merton and Palepu (1995). For many years, Denmark's accounting standard-setting and banking regulatory authorities have relied on mark-to-market valuation for the assets of their commercial banks.

Bernard, Merton and Palepu find that Danish banks' book values, which reflect mark-to-market valuations, seem to provide more reliable information to investors than historical cost-based figures then provided by U.S. banks. Moreover, they do not find evidence that Danish bank executives manipulate mark-to-market numbers to circumvent regulatory capital ratios. However, they also point out that the Danish and U.S. capital markets are not quite similar and that their findings may not completely hold in a U.S. setting. On the basis of these empirical findings, many accounting professors have actively lobbied standard setters such as the Financial Accounting Standards Board to

- introduce FVA into financial statements, initially through footnote disclosure,
- gradually reduce the relative scope of historical cost-derived assets and liabilities in financial reporting and,
- modify the conceptual framework underlying standard setting to state more clearly that the primary goal of financial reporting is to provide information that is relevant to investors (presumably, stock market investors) and that, as such, FVA should be emphasized over historical cost (Škoda, Majerčáková, 2015).

Academic research's influence over the standard setting process has been greatly enhanced by the involvement of many leading accounting professors favouring FVA into the decision-making process of standard setters or regulators such as the FASB or the SEC. In that regard, it is important to note that there is currently a joint project between FASB and the IASB to adopt a unique conceptual framework for accounting standard-setting. The draft framework, which should be adopted within the next year, clearly states that the main purpose of financial reporting is to provide information that is relevant for investors, with emphasis on market values and cash flow forecasts as the most critical drivers underlying financial reporting (FASB, 2008).

Measurement and Valuation Challenges

Despite its many tangible or perceived benefits to investors, the adoption and use of FVA undermines several critical foundations of financial reporting to which we have become accustomed. More specifically, the implementation of FVA explicitly confirms the primacy of financial markets and of investors in the determination of accounting standards. Essentially, the broader social issues and implications arising from accounting standards for stakeholders beyond investors are assumed away.

The potential danger of relying on capital markets-based findings to directly prescribe accounting standard has been highlighted more than 30 years ago by Gonedes and Dopuch (1974).

Following a first wave of capital markets-based studies that mapped their findings directly into standard-setting issues, Gonedes and Dopuch explain that observing an empirical relation between accounting amounts and equity prices or returns does not provide sufficient evidence about the desirability or effects of a particular standard, even if markets are informational efficient. Their conclusion rests on the fact that accounting standards are essentially a public good. Therefore, standard setters' mandate and responsibility is to develop standards after making the appropriate social welfare trade-offs, which do involve more parties than just investors. Hence, deciding about a particular accounting standard requires that social preferences be specified.

From a different perspective, Holthausen and Watts (2001) put forward the argument that the value-relevance literature has little to say about standard-setting issues. In their view, without an underlying theory that explains, predicts and links accounting, standard setting, and valuation, value-relevance studies simply report associations.

Other conceptual foundations of traditional financial reporting are also set aside to effectively implement FVA. On one hand, emphasis on value relevance implies that accounting conservatism a remnant of the past. Within the conservatism perspective, financial statements anticipate bad news, i.e., before a transaction is actually done or concluded: hence, an asset is written down if it is deemed that it has suffered a permanent impairment or if expected economic conditions suggest that the firm will not be able to recover its value. Moreover, such write-down is permanent, i.e., the asset will not be re-evaluated upward in the future even if economic conditions change in the meantime. Still within a conservatism perspective, financial statements will only reflect good news if there is an arms' length transaction: the impact of any appreciation in the value of an asset or of the signature of a new contract will be reflected

on a firm's financial statements only the asset is actually sold. In contrast, within a FVA perspective, both realized and unrealized losses and gains are recognized on financial statements. Moreover, assets that have been marked down can be re-evaluated upward. As an accounting principle, conservatism traces its roots back to the financial scandals that marked the early twentieth century. Interestingly, some of the firms involved in these scandals were actually using variants of FVA (Flesher and Flesher, 1986).

The Enron case also illustrates the potential negative consequences from dropping conservatism and replacing it with mark-to-market accounting, with management strategically selecting bid or ask prices to value its energy contracts. Enron was a key market-maker or, sometimes, the only market-maker, in some markets, thus facilitating managerial discretion (Weil, 2001).

Reliability as well as verifiability is the other financial statements qualities that may be severely undermined by the use of FVA. In light of its emphasis on investor relevance, FVA heavily relies on the estimation of future cash flows or on market-based values. However, as we all know, it is impossible to know the future: one can validate only the rigour and reasonableness of hypotheses and assumptions underlying a forecast. From that standpoint, even market values are essentially forecasts of expected future cash flows. Such a situation provides a striking contrast to historical cost, for which it is possible to verify exactly what is an asset's purchase price, as well as related acquisition costs. Furthermore, in the case of financial instruments that are not traded on an organized market, their valuation for financial reporting purposes relies on numerous assertions by management, assumptions about the appropriate benchmarks or markets, or the reasonableness of a valuation model inputs. Some recent studies show that FVA provides corporate managers with greater discretion in the measurement and recognition of assets and liabilities, thus potentially undermining their reliability. For instance, focusing on accounting for stock options, Aboody, Barth, and Kasznik (2004) find that managers select valuation model parameters to strategically manage estimates of disclosed employee stock option fair values. Their finding raises the broader question of whether managers will behave similarly when selecting model parameters for fair value estimates of other financial instruments.

FVA implicitly assumes that, at the end of each reporting period, an entity sells its assets or settles its liabilities at market or model-estimated prices at that same time. A liquidation balance sheet is not prepared very differently. However, such a view contradicts the going concern assumption which essentially states that a firm is expected to continue its operations for the medium to long term. The going concern assumption is needed for the preparation of regular and consistent financial statements as it underlies the reported values of many other assets and liabilities beyond financial instruments.

By emphasizing market- or model-based measurement, the use of FVA also affects the relative role of accountants in the preparation of financial statements. While historical cost-based financial statements are squarely under the control of accountants, FVA-derived assets and liabilities often require the expertise of other professionals such as actuaries, valuation experts or financial engineers, with accountants being more likely to play a secondary role, e.g., verifying underlying assumptions, hypotheses, etc.

FVA and the Financial Crisis: Some Thoughts

It is still too early to conclude on FVA's role in the current financial crisis: not all data is available, additional analyses must be completed and all its consequences cannot be observed. However, relying on prior research findings and on available data, it is possible to draw some inferences about the contribution of FVA to the financial crisis.

More Volatile Financial Results

Most prior research shows that the adoption of FVA translates into more volatile financial results – earnings (Barth, Landsman and Wahlen, 1995). Hence, financial markets' extreme volatility over the past two years has contributed to raise financial institutions' volatility, potentially amplifying the perception by investors, regulators and governments as to the seriousness of the crisis. More practically, the drop in reported earnings is even more dramatic in light of the record earnings reported in prior years, with FVA pushing down earnings in the current period but boosting earnings in prior years. Two examples illustrate the potential impact of FVA on the volatility of reported earnings.

Crédit Suisse

Within the context of the subprime crisis, the stock market value of most financial institutions depends extensively upon investors' assessment of their direct and indirect exposure to subprime-related loans or derivatives. The valuation information disclosed by financial institutions that evolve in the same markets largely influences such an assessment, with more recent market quotes driving such valuation. In that regard, the saga surrounding Crédit Suisse's release of its 2007 earnings is quite enlightening. On

February 12, 2008, Crédit Suisse reports record income from continuous operations of 8.5 billion Swiss Francs. On February 19, 2008, Crédit Suisse announces that some additional control processes have led to the re-pricing of certain asset-backed positions in its Structured Credit Trading business, with the current total fair value reduction of these positions being reduced by an estimated $U.S. 2.85 billion. Finally, on March 20, 2008, Crédit Suisse reports that its 2007 operating income has been revised downward by 1.18 billion Swiss Francs (789 million Swiss Francs after tax), close to a 10% difference with the initially reported figure.

The Crédit Suisse story illustrates the difficulty of pinning down the fair value of many assets when the underlying valuation methodology is complex and subject to shifting hypotheses and assumptions about the future. Crédit Suisse`s experience also shows that reported results for a given period may be subject to a wide margin of error, or discretion, or even restated.

Lehman Brothers

In its last reported financial statements before it went bankrupt, Lehman Brothers reported a loss of $U.S. 2.4 billion for the first six months ended May 31, 2008 (vs. a net income of $U.S. 2.4 billion for the first six months ended May 31, 2007). The shift of $U.S. 4.8 billion in net income is largely driven by a dramatic fall of $U.S. 8.5 billion in Lehman's revenues from principal transactions, which include realized and unrealized gains or losses from financial instruments and other inventory positions owned. A significant portion of the downward shift in principal transactions revenues is actually explained by unrealized losses of $U.S. 1.6 billion in the first semester of 2008 vs. unrealized gains of $U.S. 200 million in the first semester of 2007. Thus, accounting at fair value for some financial assets amplified Lehman's downward earnings performance.

Hence, it can be put forward that FVA, through its magnifying impact on earnings volatility, may have contributed to aggravate investors', regulators' and governments' perceptions with respect to the severity of the crisis, itself characterized by record volatility in the prices of many securities and goods.

On a related note, the increased volatility brought forward by FVA is conducive to the use of equity-based compensation, especially stock options, which value is then enhanced (according to the Black-Scholes model, volatility is one of the key inputs in option valuation). Prior research suggests that there is a strong association between performance volatility and the use of stock options (Magnan, 2006).

Through FVA, the outcomes from aggressive risk-taking in investment and financing strategies will directly flow into reported earnings, thus further leveraging the potential gains to be derived from stock options and other incentives. Many financial institutions involved in the current crisis made extensive use of stock options and other incentives, allowing unrealized gains.

Some of the fiercest critics of FVA argue that, far from enhancing transparency and relevant financial reporting, it actually provides corporate managements with ways to avoid the day of recognition and to delay asset impairments. In other words, the adoption FVA undermines financial statements' conservatism and leads to changes in managerial behaviour. For instance, Ross Watts (Massachusetts Institute of Technology) argues that the elimination of conservatism brought by FVA leads to the capitalization of unverifiable future cash flows unto the balance sheet (Watts, 2003).

Such unverifiability and managerial opportunities to make strategic valuation choices introduce significant noise into the financial reporting process that may be costly to investors. Moreover, by moving firms away from transaction-based accounting, FVA is contradicting SEC efforts to tighten revenue measurement and recognition standards to ensure that only completed sales transactions get reported into the financial statements and affect earnings.

Experience shows that, until the advent of SAB 101, several firms had applied aggressive revenue recognition criteria that dramatically boosted reported earnings and growth rates. Earnings restatements following the enactment of SAB 101 were often sizable and led to significant stock price falls, even if reported cash flows were not affected. In other words, conservative accounting provides information that is useful beyond the estimated cash flows from a particular contract and protects investors and creditors from managerial opportunism.

The case of Lehman Brothers illustrates Ross' argument. As of November 30, 2007, 75.1% of assets measured at fair value were measured according to Level 2 or Level 3 inputs. In other words, the large majority of assets supposedly valued at fair value were not valued on the basis of directly observable quoted prices. By May 31, 2008, that proportion had increased to 81.7% of assets measured at fair value, suggesting that barely 18% of assets supposedly valued according to FVA were "marked to market". Further empirical work as well as the liquidation of Lehman Brothers will provide additional evidence regarding the extent to which its assets may have been overstated or purposely shifted into Levels 2 or 3 to

hide developing losses and give management more discretion. At the very least, its actions suggest that FVA reporting may work well for investors when assets trade in deep and efficient markets but may become less transparent when market conditions become more difficult or less liquid. On that note, it is telling that Lehman Brothers was an early adopter of both SFAS 157 (Fair Value Measurements) and SFAS 159 (Option for fair value measurement), deciding to implement their provisions in the first quarter of its 2007 fiscal year.

Does FVA Reflect Underlying Business Performance or Allow Financial Institutions to Delay the Day of Recognition?

The Lehman case, as well as many others, raises the issue of FVA applicability as it is being extended from instruments traded in liquid and organized markets to credit-type instruments that are often securitized and which are not quite transparent about their underlying assets. The valuation of these credit-type instruments is made difficult by the lack of direct information, with heavy reliance on credit rating agencies' opinions. Moreover, the market for these instruments is not as deep and liquid than traditional instruments such as bonds, equities or foreign currencies.

It does appear that markets were not as efficient as they should have been in assessing the value of these structured investment vehicles or securitized pools of assets and may have relied too much on the judgment of parties such as credit rating agencies which themselves had partial information and were facing some potential conflicts of interests (since they charged fees to render opinions on specific securities).

Accounting and the Market: Mirrors Facing Each Other

The integration of market values on corporate balance sheets mandated by accounting standard setters contrasts with the trend by many analysts and sophisticated investors to use financial statement data to gauge whether a firm's stock market value has moved away from its fundamental or "intrinsic value" (Lee, Myers, Swaminathan, 1999).

These divergent trends raise a fundamental question as to the grounding of financial statements. More specifically, MacIntosh, Shearer, Thornton and Welker (2000) argue that the market uses accounting earnings, along with other information, to value firms' stock and other securities. However, the prices of many of these securities underlie derivatives' prices, which then find their way into financial statements through FVA, thus completing a circular sequence! As MacIntosh et al. say: "Companies' earnings determine security prices, which determine derivative prices, which determine companies' earnings in short, neither the accounting sign nor the financial market sign appear to be grounded in any external reality. Instead, each model appeals to the other model for the only "reality check available."

Lehman Brothers' equity-based compensation illustrates the self-referential sequence that FVA introduces into financial reporting and stock market prices. In 2007, Lehman granted close to 39,000,000 deferred share units to its executives and employees. On the basis of the firm's quoted stock price on the dates at which these grants were made, the overall value of the grant was around $2.7 billion. Since 2006, SFAS 123 has mandated the measurement and recognition of equity-based compensation at fair value, using an amortization method for grants that have a long-term vesting period, bringing Lehman Brothers' expense for equity-based compensation in 2007 to $1.8 billion, close to 25% of earnings before income taxes and equity-based compensation expenses. Hence, on the one hand, the amount reflected as an expense by Lehman on its financial statements reflects the current quoted price of its stock at grant date. On the other hand, investors rely on Lehman's reported earnings to assess its prospects and value its stocks.

The chain of decisions exactly matches the above quote from MacIntosh et al. In addition to equity-based compensation, a significant proportion of Lehman Brothers' assets were stocks and stock-based derivatives (more than a third of its FVA assets). Since shares traded on a stock market are all affected to a varying degree by the same secular trends and fluctuations, one can argue that Lehman Brothers earnings and its stock price were mutual reflections of one another, possibly detached from underlying real operations. Such a conclusion can probably be extended too many financial institutions deeply involved in the current crisis or engulfed by it.

Interface between Financial Reporting and Regulatory Capital

One key criticism against FVA is that its use in the current crisis has led to a reduction in the value of financial institutions' assets, which translated into a severe shrinking of their capital ratios, forcing them to deleverage and sell further assets at distressed prices, thus feeding the downward spiral. However, in that scenario, the issue is not necessarily the accounting itself but how financial regulators use accounting information. In other words, FVA-based financial reporting is only the messenger that a firm's solvency is undermined by its financial strategies or lending practices, but it is up to regulators to figure out how to use such information (Jeffrey, 2008).

Messenger or Contributor?

The above discussion suggests that assigning a messenger role to accounting potentially downplays its actual importance and relevance to the current crisis since the message is not neutral but conditioned by accounting standards. However, two issues arise from the use of FVA-derived information in regulatory oversight. First, FVA information is highly volatile and unstable. For example, according to FVA, the wild fluctuations of the stock market over the past few weeks, with many daily closings showing gains or losses from the preceding day of between 5-10%, imply similar fluctuations in any stock market-based assets. Hence, a firm may be solvent one day (assuming a large stock market gain), insolvent the next two days (assuming large stock market losses), and solvent again on the fourth day! While informative, is FVA-based financial reporting useful to regulators in planning and timing their interventions? The answer is that FVA information alone is probably necessary but is not sufficient. Other performance and risk metrics are needed to identify the targets of regulatory actions. A similar argument can be used to justify that FVA information is not sufficient for long term governance purposes as it is not stable enough and difficult to verify. In some sense, the reliance on FVA-based information may have two opposite implications regarding the length and severity of the current crisis. On one hand, the discretion underlying FVA figures have allowed managers to delay the day of recognition when underlying subprime assets started to unravel. Moreover, the additional volatility that it introduces into financial statements may have amplified the impression of financial performance and stability in the bubble period. On the other hand, once the values of underlying assets started crashing, FVA induced balance sheet realignments and recapitalizations may have further magnified the crisis.

Second, some argue that FVA values are actually a red herring and that the real issue is the quality of the accompanying disclosure (Leone, 2008). For example, Susan Schmidt, a former governor of the Federal Reserve Board and bank CFO argues that the focus should be on disclosure so that everyone, regulators and investors alike, understand the drivers behind fair value estimates.

Actually, FVA derived can be deceptive: up until close to the crisis, both Lehman Brothers and AIG appeared solvent and sufficiently capitalized, with significant portions of their balance sheet relying on FVA. However, what the FVA point estimate values did not tell was the extent of the downfall risk both firms were facing if events did not evolve according to expectations, Lehman default swaps. Looking at both firms' financial statements before the crisis, it would have been difficult to assess the potential magnitude of losses to be incurred because of these exposures. Hence, it can be ventured that FVA without adequate additional disclosure is neither fair nor a good reflection of value that is at risk.

Conclusions

The purpose of the appendix was to briefly present fair value accounting, its origins, application and implications for financial reporting as well as its potential role during the financial crisis. While no definite conclusion can be reached at this early stage, there is reason to believe that fair value accounting is more than just a messenger carrying bad news and, therefore, may have contributed to the acceleration of the crisis, especially in the financial sector. While the relevance of fair value accounting for investors cannot be questioned, its other qualities (or weaknesses) may have been overlooked by standard setters and regulators.

Fair value accounting for financial instruments is part of a broader trend in accounting standard setting to move away from "accounting" toward estimating expected future cash flows and incorporating into financial statements, i.e., "fore counting" (Magnan, Cormier, 2005).

The trend undermines decades if not centuries of accounting practices and concepts such as conservatism and verifiability and requires a completely set of valuation skills and knowledge from accountants. The current crisis constitutes the first serious challenge to this trend, and to fair value accounting in particular, and is likely to generate abundant empirical research over the next few years which will allow us to better assess the pros and cons of fair value accounting.

However, if not fair value accounting, what else? Standard-setters, and many accounting academics, argue that there is no alternative measurement or reporting model. For instance, Barth (2007), a member of the International Accounting Standards Board, argues that "Although opponents of more comprehensive use of fair value have some legitimate concerns, standard setters are unaware of a plausible alternative."

In contrast, Watts (2003) argues that accounting standard setters should focus on accountants' core competence, i.e. "...providing verifiable conservative information that market participants can use both as inputs in their own valuation and as calibration for their own and others' unverifiable information."

As such, we would argue that the debate is at two levels: Barth is talking about the measurement of a final output while Watts refers to the validity of the various measurement inputs, the output being of some importance but mostly in terms of providing financial statement users and other stakeholders to adapt, modify or "test-drive" the resulting output. Beyond fair values, measurement assumptions and hypotheses are probably more critical since they allow users to reconstruct the reality according to their own priors.

However, underlying the debate, one must not lose sight that various financial and economic interests are at play – additional powers for standard setters, additional business for providers of accounting and valuation services, increased uncertainty about their bonuses for managers and executives, etc. Hence, viewpoints and arguments from interested parties must be reframed accordingly.

The debate goes further than accounting and financial reporting and deals with the essence of what accountants are expected to contribute to society and, implicitly, what competences and skills they must possess to deliver in that regard. One may surmise that current accounting standards, such as those relating to fair value, probably overstretch accountants' capabilities and prior learning and obscure other informational needs by investors and other interested stakeholders.

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Key Performance Indicator Analysis of the Slovak and Czech Food Businesses

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Abstract

Due to the ever changing economic environment it is necessary to monitor and analyze the performance developments of each company in the market space. The food industry is an important industrial and economic subsystem of the portfolio in each country. Over the past years there have been significant changes in measuring the financial performance of companies. The new concept of value company management draws its attention to owners and to their expectations in terms of maximum investment profit. The aim of the paper was to analyze, identify and compare key performance indicators of selected Slovak and Czech food business. The tool for identifying key performance indicators was the orrelation matrix with help of which there was found out the mutual correlation among the selected financial indicators and the EVA indicator, one of the modern enterprise performance evaluation tools today.

Key words
Performance, financial indicators, indicator EVA, Key Performance Indicator, food businesses

Introduction

Measurement and performance evaluation of a business is nowadays a very topical issue, but at the same time considerably extensive and complex process. According to Wagner (2009), in general, the performance can be defined as a characteristics describing the method or process by which the observed body carries out that activity, on the basis of similarity with the recommended implementingway of this activity. The performance concept should be seen as an attempt of the company for achieving the best possible value of the investments put in business activities (Frost 2005). European Foundation for Quality Management (EFQM - European Foundation for Quality Management) defines "performance" as "rate results achieved by individuals, groups, organizations and processes" (EFQM 1999).

Among traditional absolute indicators of financial performance in the business practice, which development by the time can be monitored, mainly belong gross and net profit, revenues, costs, added value, netto cash flow etc. Among traditional relative indicators of financial performance are also indicators of profitability, activity, liquidity and other indicators of financial analysis ex post. Modern indicators of financial performance, that factor in the concept of managing of values and factor in the economical profit of company, as the time passes also are finding their places in the Slovak small and medium size enterprises. Here it's important to mention that here they still don't have as big meaning as abroad (Šoltés et al. 2015).

During the last period there have been many significant changes not only in performance measurement approaches, but also changes in the use of methods and performance appraisal tools. Business performmace measuring begining dates back to the second half of the 20th century, in Western Europe and the USA, where the emphasis was to provide operational and tactical performance, and a key indicator of the performance was the result of management and profitability indicators, which began to be used later. As far as for the seventies and eighties of the 20th century it is significant that the attention when measuring the performance of a company was focused on innovations that resulted in the so-called advanced performance indicators that take into account the consequences of current actions and decisions for the future development of business performance and value of economic profit (they are indicators, such as MVA - Market Value Added, EVA - Economic Value Added). In the same period there is a harmonization of indicators, based on the harmonization of accounting data and methods for their detection. In the nineties of the 20th century there is a change in the assessment of performance when the assessment of business performance using indicators of profitability goes to the performance

evaluation, which is expressed by changing the market value of the company and the value of free financial funds. In this period there is also criticism of synthetic indicators, mainly because of lack of understanding of the causes that affect their achievement and because they are mainly financial indicators.

Developments in measuring business performance can be viewed by four generations of corporate performance indicators.

Table 1 Developments of business performance indicators

Generation 1	1. Generation 2	2. Generation 3	3. Generation 4
Profit margin	*Profit increase*	*Profitability on capital (ROA, ROE, ROI)*	*Creating value for owners*
Profit/Revenues	*Profit maximization*	*Profit/Invested capital*	*EVA, MVA, INEVA, CVA*

Source: own processing by Pavelková, Knápková 2005; Jenčová 2014

At the forefront of enterprise performance evaluation non-financial indicators are occured, particularly because of the development of new measurement theories and performance management. The focus is on the creation of indicators to measure performance which do not contain only financial input but also non-financial, that they would accept the individual functional areas of the company and its strategy as well as those making it possible to measure the performance of the various levels of management. Performance measurement is the process of quantifying the efficiency and effectiveness of business activities. Effectiveness corresponds to the extent to which customer requirements are met. Efficiency is a measure of denouncing how efficiently resources are used for the organization to provide a certain level of customer service. Assessment and measurement of a company performance (Enterprise Performance Management) is linked with defined business objectives (formulated in the strategy). Through these targets owners formulate their demands for recovery of invested capital as well as other objectives and executive management runs a business in order to reach these goals. Assessment of business performance is a comparison of the achievements of the objectives enunciated in the corporate strategy (and to compare these results with comparable companies in the sector - benchmarking). To build effective system of the enterprise performance management it must be supported by a powerful motivation model, which ensures implementation of the decisions taken to improve enterprise efficiency (Goncharuk 2012). The issue of business performance evaluation both in theory and application is in constant motion. Globalization of the national economies creates new priorities in the businesses management. It is a strategic management and innovations, effective organization structures creation, business culture and business ethics formation (Šírá 2015). Globalization coupled with increasing competition forces companies to the application systems of performance evaluation on a daily basis and systemically. That can be seen in the shift from financial analysis through controlling to the current concept of business performance evaluation through key performance indicators KPI (Key Performance Indicators). The system of key performance indicators is so purposefully and dynamically defined set of indicators of business performance, the content and form of which depends on the subjective needs of management and owners as well as the state of the environment in which business operates (Klučka 2006). If the very concept of a company performance evaluation is understandable, in the actual development and implementation of an evaluation system there still remains a number of questions the solution of which is unique due to the specificities of the particular company.

Every economic sector has its own specific rules and laws that determine the level of business risk and substantially and overall performance that businesses can achieve. All the business sectors have to face macroeconomic (external) while factors and the extent of their influence in various sectors may be different. The attractiveness of the sector will be mainly affected by its growth potential, the prospect of ndustry profitability, stability or volatility of demand, competitive forces, the uncertainty and risk of the future development of the sector, possible entry or departure of large enterprises.

Food industry in Slovakia is an important industrial and economic subsystem of Slovakia portfolio. The agri-food sector is a high priority for Slovakia's economic policy because of their specific role and importance in ensuring food demand, while managing natural resources and the implementation of socially important outside production functions.Among the main sectors of manufacturing industry in the Czech Republic there is included the food and drink production a well. Feedstock of the Czech food

industry are domestic agricultural products, products of forestry and water economy and imported raw materials.

Materials and Methods

The aim of the paper was to analyze, identify and compare key performance indicators of selected Slovak and Czech food businesses. The paper has been developed based on secondary data from the financial statements of selected food businesses, that we have obtained from publicly available data Commercial Bulletin and database accounts of enterprises registered by the company CRIF - Slovak Credit Bureau, Ltd. Industry is one of the key sectors in the national economy of each country. Food industry in terms of the statistical classification of economic activities in SK NACE Rev. 2 belongs to the section C - manufacturing, which includes divisions 10 to 33 (10 - Manufacture of food products 11 - Manufacture of beverages, ... 33 - repair and installation of machinery and equipment). For processing the paper there were the samples created at random choice for each analyzed country separately. The sample for the Slovak Republic consists of 164 food businesses and the sample for the Czech Republic consists of 90 food businesses.

For assessing the analyzed food businesses preformance we used the indicator EVA (Economic Value Added), one of the advanced performance indicators. This indicator EVA has several modifications of calculation (Horváthová et al. 2015) and for the realized the analysis we chose the indicator EVA - equity and applied the following relationship:

$$EVA\ equity = (ROE - r_e)\ x\ E$$
where *ROE - Return on Equity, E - Equity, r_e - alternative costs of Equity.*

For the calculation of the re - alternative costs of equity the CAPM was used by prof. Damodaran (2014) and we applied the following relationship:

$$r_e = r_f + \beta\ x\ ERP + CRP$$
where *r_f – Risk Free Rate of Return, β – coefficient of systematic risk, ERP – Equity Risk Premium, CRP – Country Risk Premium.*

Finally, it is necessary to evaluate the applied capital asset pricing models. Based on above mentioned conclusions, we can assume that the most appropriate model for quantification of cost of equity will be CAPM (Hečková et al., 2014). This model is necessary to modify by conditions of Slovak Republic. Issue considering is the encompassment of the financial risk, which is specific for food industry, since as according the calculations is evident that liquidity is the poor place of this sector (Kiseľáková et al., 2015).

EVA indicator of equity was due to the use of correlation analysis adjusted for EVA (ROS).

$$EVA\ (ROS) = EVA\ equity\ /\ Sales$$

EVA (ROS) represents operating profit margin, which is more meaningful than the classic return on sales. Investors may, according to the value of the indicator EVA ROS assess how much added value has been created in the company for shareholders (Hostettler 1998).

Selected financial indicators were divided into 7 groups:
- the group of liquidity ratios (**LIQUIDITY**) - quick ratio (L1) current ratio (L2), total ratio (L3) security indicator (L4),
- the group of activity and stability indicators (**ACTIVITIES & STABILITY**) - turnover of receivables (AS1), the turnover of short-term liabilities (AS2), stock turnover (AS3), debt ratios (AS4), the stability of the company (AS5),
- the group of profitability indicators (**PROFITABILITY**) - ROA (P1), ROE (P2), profitability on revenue (P3), ROS (P4), profitability on costs (P5), return on assets (P6), return on long-term assets (P7) return on value added tax (P8), return on personnel costs (P9),

- the group of cost indicators (**INTENSITY**) - total cost ratio (I1), manufacturing - consumer cost ratio (I2), personnel cost ratio (I3), depreciation cost ratio (I4), material cost ratio (I5), the economic cost ratio (I6),
- the group of efficiency indicators (**EFFECTIVENESS**) - cost-effectiveness (E1), the effectiveness of operating expenses (E2), the efficiency of assets (E3), the effectiveness of long-term assets (E4), the efficiency of inventory (E5), the effectiveness of debt capital (E6), the effectiveness of equity capital (E7), material efficiency (E8),
- the group of commitment indicators (**COMMITMENT**) - committed assets (C1), committed long-term assets (C2), commitment of stocks (C3), committed the capital not owned by the company (C4), committed equity (C5),
- the group of value added tax indicators (**VALUE ADDED**) - added value share in revenues (VA1), the share of value added in total revenues (VA2), financial productivity through added value (VA3).

To determine the interrelations between selected financial indicators and EVA indicators (ROS) for assessing the performance of the selected food businesses the Pearson's coefficient was used, from the statistical tools, the results of which are shown in the correlation matrix. For statistical analysis STATISTICA software and an evaluation of the MS EXCEL 2007, were used.

Results and Discusion

To fulfill the objective of the analysis, identification and comparison of key performance indicators of food businesses in the Czech Republic and Slovakia, it was necessary to construct a correlation matrix. The performance in this matrix was quantified by Ratios EVA (ROS), which is more meaningful than absolute EVA indicator. This indicator provides a new perspective to measure business performance, while identifying key indicators that determine the creation of added value for shareholders.

Of the 40 analyzed parameters it was confirmed a statistically significant association with the indicator EVA (ROS) for the 17 selected financial indicators for the Slovak food businesses.

Table 2 Correlations among EVA (ROS) and financial indicators in Slovak food businesses (SFB)

Variable EVA (ROS)	Correlations (SFB_164 in PS1.stw) Marked correlations are significant at p < 0.05 N=164								
LIQUIDITY	**L1** .2076 **p=.008**	**L2** .2067 **p=.008**	**L3** .1760 **p=.024**	L4 -.0380 p=.629					
ACTIVITIES & STABILITY	AS1 .0223 p=.776	AS2 .0805 p=.306	AS3 .0838 p=.286	AS4 -.0001 p=.999	**AS5** **-.2883** **p=.000**				
PROTABILITY	P1 .0601 p=.445	P2 .0120 p=.879	**P3** **.4381** **p=.000**	**P4** **.8900** **p=0.00**	**P5** **.3600** **p=.000**	P6 .0601 p=.445	P7 .0482 p=.540	P8 -.0319 p=.686	P9 .0665 p=.397
INTENSITY	I1 -.4193 p=.000	I2 -.1630 p=.037	I3 .1363 p=.082	**I4** **-.4232** **p=.000**	I5 .1047 p=.182	**I6** **-.4926** **p=.000**			
EFFECTIVENESS	**E1** **.3333** **p=.000**	**E2** **.3720** **p=.000**	E3 .1342 p=.087	E4 .0201 p=.799	E5 .0835 p=.288	E6 .1075 p=.170	E7 .0081 p=.918	E8 .0063 p=.937	
COMMITMENT	**C1** **-.5990** **p=.000**	C2 -.1144 p=.145	C3 .0263 p=.738	**C4** **.2601** **p=.001**	**C5** **-.7611** **p=0.00**				
VALUE ADDED	**VA1** **.8669** **p=0.00**	**VA2** **.5228** **p=.000**	**VA3** **.1920** **p=.014**						

Source: own processing in STATISTICA

When evaluating the tightness of linear realativity for the selected Slovak food businesses it can be said that the significance level of p < 0.05 indicator EVA (ROS) has a high direct dependence on indicators of ROS (P4) and the ratio of added value in revenues (VA1), while the indicator committed self capital (C5) has high indirect dependency. Significant direct tightness indicator was recorded for share

of value added in total revenues (VA2) and indirect indicator of the commitment of property (C1). Into he one of mild dependence there were enrolled in 6 indicators, and low leakage is between 6 and indicators EVA (ROS). The lowest value was recorded directly depending on the total ratio indicator (L3).

Of the 40 analyzed parameters it was confirmed a statistically significant association with the indicator EVA (ROS) in 6 selected financial indicators for Czech food businesses.

Table 3 Correlations among EVA (ROS) and financial indicators in Czech food businesses (CFB)

Variable EVA (ROS)	Correlations (CFB_90 in PS1.stw) Marked correlations are significant at $p < 0.05$ N=90								
LIQUIDITY	L1	L2	L3	L4					
	-.1151	-.1027	-.0822	-.0094					
	p=.280	p=.336	p=.441	p=.930					
ACTIVITIES & STABILITY	**AS1**	**AS2**	AS3	AS4	AS5				
	-.3023	**-.3175**	-.1064	-.0489	-.0336				
	p=.004	**p=.002**	p=.318	p=.647	p=.753				
PROFITABILITY	P1	**P2**	P3	P4	P5	P6	**P7**	P8	P9
	-.1668	**-.3628**	-.1430	-.1165	-.1679	-.1668	**-.3911**	-.0348	.0022
	p=.116	**p=.000**	p=.179	p=.274	p=.114	p=.116	**p=.000**	p=.745	p=.983
INTENSITY	I1	I2	I3	I4	I5	I6			
	.1299	.1688	-.1652	-.1165	.1948	.1246			
	p=.222	p=.112	p=.120	p=.274	p=.066	p=.242			
EFFECTIVENESS	E1	E2	E3	**E4**	E5	E6	E7	E8	
	-.1510	-.1440	-.1637	**-.3701**	-.1086	-.1071	-.0976	.0859	
	p=.155	p=.176	p=.123	**p=.000**	p=.308	p=.315	p=.360	p=.421	
COMMITMENT	C1	C2	C3	C4	C5				
	.1600	.0884	.1301	.0612	.1478				
	p=.132	p=.407	p=.222	p=.566	p=.165				
VALUE ADDED	VA1	**VA2**	VA3						
	-.1595	**-.2205**	.0521						
	p=.133	**p=.037**	p=.626						

Source: own processing in STATISTICA

When evaluating linear dependence on selected Czech food businesses it can be said that the significance level of $p < 0.05$ indicator EVA (ROS) are modest in direct or indirect dependence on any indicator. All the indicators became negative of Pearson coefficient, which means that it is an indirect relationship between the selected financial indicators and indicator EVA (ROS). In the interval of mild dependence there were included five indicators as return on assets (P7), committed long-term assets (E4), ROE (P2), the turnover of short-term liabilities (AS2) and receivables turnover (AS1). The lowest indirect linear relationship was recorded for the indicator of value added share in total revenues (VA2).

The following table brings the comparison of selected financial indicators, where there have been linear dependence on the significance level of $p < 0.05$ confirmed for the selected Slovak and Czech food businesses.

Table 4 Comparison of the correlation coefficient for dependent financial indicators according to the groups of indicators

	LIQUIDITY			**ACTIVITIES & STABILITY**			**PROFITABILITY**				
	L1	L2	L3	AS1	AS2	AS5	P2	P3	P4	P5	P7
SFB	0.208	0.207	0.176			**-0.288**		0.438	0.890	0.360	
CFB				-0.302	-0.318		-0.363				-0.391
	INTENSITY		**EFFECTIVENESS**			**COMMITMENT**			**VALUE ADDED**		
	I4	I6	E1	E2	E4	C1	C4	C5	VA1	VA2	VA3
SFB	-0.423	-0.493	0.333	0.372		-0.599	0.260	-0.761	0.867	0.523	0.192
CFB					-0.370					-0.221	

Source: own processing (Note: SFB – Slovak food businesses, CFB – Czech food businesses)

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Comparing the analyzed financial indicators in terms of a linear dependence on the indicator EVA (ROS), we can see for both anylyzed food business groups the compliance only for one indicator, namely in the group of VALUE ADDED for the indicator variable share of value added in total revenues (VA2), while the difference is that the Slovak food businesses there is a direct and significant dependence and for the Czech food companies there is an indirect low tightness. For the Czech food companies, the linear relationship between indicators EVA (ROS) and analyzed financial indicators from the group LIQUIDITY, INTENSITY and COMMITMENT has not been confirmed. In the analyzed Slovak food businesses such a situation has not occurred.

On the basis of the analysis we can conclude that the key performance indicators of food businesses in Slovakia, there might be the following indicators included: current ratio (L2), an indicator of stability (AS5), return on revenues (P3), the economic cost ratio (I6), the effectiveness of operating expenses (E2), committed equity (C5) and the share of value added in revenues (VA1). As the key performance indicators of the Czech of foodstuff companies, these financial indicators have been chosen according to the analysis realized: Turnover of receivables (AS1) and sales of short-term liabilities (AS2), return on assets (P7), committed long-term assets (E4) and the share of value added in revenues (VA2).

Summary

The food industry is an important industrial and economic subsystem of the portfolio of each country. Ensuring its performance is one of the primary tasks of the Slovak and Czech economic policy. In tackling food business performance it is particularly important to identify key performance indicators which can be increased by optimizing the performance of these companies. The tool for identifying key performance indicators was correlation matrix, which appears to be important to insist on corporate performance. It gives us information about the functional areas of the company, requiring the intervention of control for increasing performance. If it is possible to realize the analysis of selected key performance indicators for the whole industry, then there can be identified weaknesses and strengths of the industry and apply the facts to predict the development of the sector in the future.

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Determination of the Value of the Company in Insolvency

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Abstract
The main idea of this document is to explain the underlying processes of recovery. The aim is to highlight the opportunities and threats of creditors in recovery of their debts. Finally, propose solutions to avoid losses during the restructuring.

Key words
Debt, debtors, bankruptcy or recovery proceedings, bankruptcy or recovery administrator

Introduction
The economic bankruptcy, while a negative phenomenon, but in a market environment, especially among entrepreneurs, natural phenomenon. In times of crisis it is typical of an enterprise requiring its recovery, resizing production capacity.

Businesses that have grown long before the crisis set up its production capacity in terms of the then sales. Forecasts on which they were purchased expensive equipment, production lines, failed to materialize.

But financing of these assets due to the low capacity utilization disrupted and caused the insolvency of the company.

The issue of determining the value of property has recently become increasingly more up to date and in the Slovak Republic. Recovery expert witnesses began to acquire its importance just transition to a market economy.

Addressing restitution, privatization, business transfers and total transfers of assets, non-monetary contributions to business, business started to enter into bankruptcy they liquidated the state-owned enterprises and so on.

Methods for determining the value of the company insolvencies
By Mr. Mařík M. surveyed the liquidation value, provided that it is not the preconditions for the existence of the business and business assets will be divided in some way, sold off or liquidated. Regards to the valuation largely static, focused on market opportunities to absorb the business assets at certain intervals.

It is essential that the liquidation of a company takes place under external pressure, particularly creditors, or whether it is a largely voluntary liquidation. It can be presumed that the liquidation value of the pressure is usually much lower than the liquidation value under normal conditions of sell out asset management in terms of convenience, not in terms of speed. Very difficult task is to determine the liquidation value of the assets in specialized, such as specialized machinery, factory buildings, etc. In general, the liquidation value is often low.

This is particularly true for older property and also for specialized assets.

The basic method at a static valuation of the company is liquidation method. This method is provided for in the Ministry of Justice of the Slovak Republic no. 492/2004 collection establishing a general value of assets in Annex 1.

Winding method determines the general value of companies and their parts in the winding-up, which is associated with the liquidation (§ 70 bus.coll) as the sum of the universal values of individual assets less the general value of borrowed funds and the costs of disposal or at the end of the activity the entrepreneur bankruptcy as the sum of the universal values of the components of the business assets objectified coefficient realization the date of valuation.

To use the method of determining the liquidation of company general value to compare the ordinance procedure.

a) The general value of the company **at the end of business liquidation** is the value of the business assets of the company and the liquidation method specified by a certain date, which remains the owner

of the property after the sale, after repayment of all foreign sources, including the remuneration of the liquidator and any costs of disposal. It provides as follows:

(By the decree of the Ministry of Justice of the Slovak Republic no. 492/2004 coll. establishing a general value of assets.)

$$(1) \qquad VŠH_L = \sum_{i=1}^{n} VŠH_{ZMi} - VŠH_{CZ} - VŠH_{NL}$$

where:

$VŠH_L$ - the general value of companies and their parts determine its settlement method (in EUR)

$\sum_{i=1}^{n} VŠH_{ZMi}$ - The sum of all components of the universal values of assets which are the subject valuation (in EUR)

$VŠH_{CZ}$ - The market value of borrowed funds (in EUR)

$VŠH_{NL}$ - The market value of the costs associated with the liquidation (in EUR) .

b) The general value of the company at the end of business bankruptcy is determined by the liquidation method as follows:

$$(2) \qquad VŠH_{LK} = k_S \cdot \sum_{i=1}^{n} VŠH_{ZMi} + VŠH_{FÚ}$$

where:

VŠHLK - the general value of the company determined the liquidation method (in EUR)

VŠHZMi - universal values of all components of the property subject to assessment (in EUR)

$VŠH_{FÚ}$ - The market value of financial accounts, which means cash in hand and cash equivalents, accounts in banks (excluding short-term financial assets) (in EUR)

ks - a summary coefficient of realization assets as a whole taking into account the special specifications, which are not taken into account in determining the universal values of individual assets and have an impact on the final general value of the property as a whole.

The amount of the aggregate coefficient and realization includes specifics extremely expert organization reviewed and justified. As a rule, realization coefficient equal to about 1,0 .

The market value of the property that is used to secure claims of secured creditors and goods under customs supervision, the expert report determined separately (§ 69 of Act no. 7/2005 on bankruptcy and restructuring) .

When determining the general value of the company must sponsor an expert to know the intention of determining what the value of the company is the sponsor interest. The proper question in this case is very important to know the expert to answer it correctly.

In determining the liquidation value of a company general method is the result of the probable value of the firm determination of the sum of the universal values of the components after deducting foreign resources and remuneration of the liquidator and decommissioning costs.

This value is higher than 0. A value of less than zero points to the inability to meet its payment obligations and thus a proclamation for bankruptcy. When using the method of liquidation at the end of

business bankruptcies in the individual assets affected by the coefficient of realization is not counted the value of financial accounts which said coefficient is not affected - has a constant value. Determine the value of a company by the above method is in the process of opening of insolvency proceedings and the resulting value tells us about the possible proceeds from the realization of a bankruptcy before paying the costs associated with bankruptcy.

In addition to this static method, it is possible to use other dynamic method of determining the value of a company in insolvency proceedings. In this case, the equity has not a method but a method of yield.

When applying the dynamic method a prerequisite for determining the value of the company that is not in insolvency proceedings the infinite life of the company, ie the assumption of continued business. This assumption is mainly used the yield method of determining the value of a company, even in the simplest form of this method , now little used form of perpetual annuity. In this case, the yield value determined by the ratio V_h consistently achievable profit after tax Z_r and a capitalization rate i_k.

$$(3) \qquad\qquad V_h = \frac{Z_r}{i_k}$$

On infinite lives are built more complex formula for the valuation of income, where the largest part of value is determined by continuous annuity, both in times of growth, as well as in times of crisis. Life also brings situations where infinity estimated life of the enterprise is becoming increasingly only fiction. Everyday experience brings us the experience that the company Insolvency is common practice. This fact should be incorporated into the procedures for determining the company's value. Thus, it is necessary to distinguish the value of fixed enterprise value of enterprises unstable.

Insolvency the company itself is not a new concept. It is impact on the value of the business to be considered, so that the results of the strategic and financial analysis and financial planning included the estimate of the useful life of the company. For the company with limited service life it is appropriate to use the method of calculating the company value.

Method of calculating the amortized value of the business was originally developed in the USA. Its aim was to set a ceiling on debt. The basic character corresponds to the revenue method, so it is possible to use amortization method for determining the value of a company.

The basic character corresponds to the revenue method, so it is possible to use amortization method for determining the value of a company. Unlike conventional discounted cash flow method but in this case we find out, how much cash we can drain off the enterprise, regardless of whether they come from the results of its own management or from disposal.

In use of amortization methods for determining the value of a company is more of a rarity. In practice is preferred equity rather the method for determining the value of a company especially the liquidation method.

The essence of the amortization method is to estimate the expected life of the company T , during which the company will still work and produce positive operating results. Upon termination of this lifetime period is calculated with the liquidation value of the company. The value of the company is then in a variant equity as follows:

$$(4) \qquad\qquad H_n = \sum_{t=1}^{T} \frac{FCFE_t}{(1+i_{)k}{}^t} + \frac{Ln_T}{(1+i_k)^T}$$

where:
H_n - net value of the company (i enterprise value for the owners)
$FCFE_t$ - free cash flow to equity in a year t
i_k - The discount rate at the cost of own capital
Ln_T - Liquidation value of the company at the time of disposal at the end of year T , converted to the level of equity

This process however has obvious shortcomings:
- An estimate of the liquidation value of 5-10 years
- The main problem, however, is an estimate of the remaining life.

Difficulty estimated useful remaining life is one of the main reasons why foreign theory and practice applied to the infinite life. The logic of calculation is not entirely correct. It is impossible to be satisfied with alternation in the event that a determination of the useful life period of enterprise infinite life, although it is obvious that the company doesn't have a great perspective. This error is acceptable for large enterprises, concerns, where we do not expect a quick closure due to insolvency. For smaller and weaker enterprises, however, that risk is much higher.

Research the various methods of application in practice

With reference to the scientific research I found the application of different methods for determining the value of enterprises in practice.

To imagine the target group of the research sample I found the number of insolvency proceedings in Slovakia.

For these I had set the condition that I will examine insolvency proceedings since 2006 when the effective Act on Bankruptcy and Restructuring. The research sample is divided into two groups, the bankruptcy and restructuring.

Basic statistical overview is as follows:

Table 1 Insolvency proceedings

year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Received proposal	645	775	841	1060	1248	1408	1251	1326	1388	1470
Debtor filed FO	113	153	169	182	221	339	351	481	550	687
Crediter filed PO	373	329	378	518	597	672	445	379	360	294
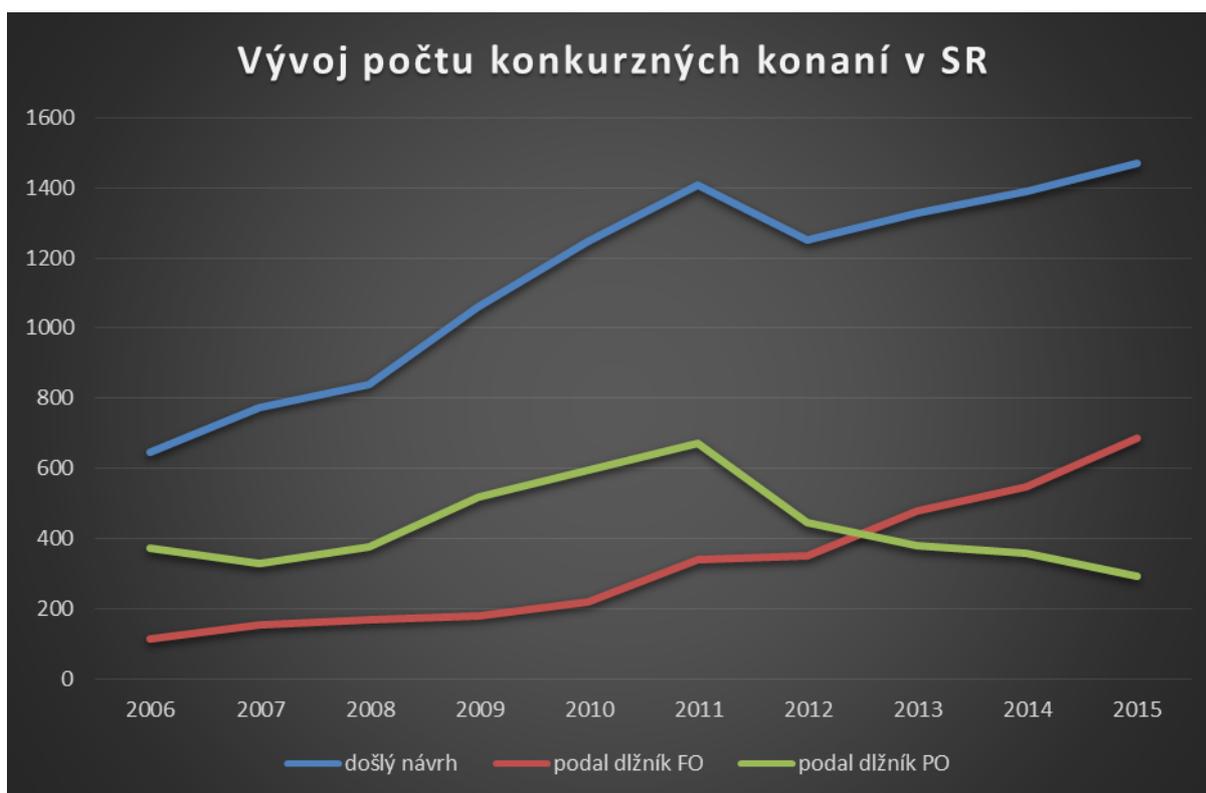
From the graph it is clear that despite the decline in the number of proposals for bankruptcy in 2012 a trend line is steadily growing number of proposals character. We see, however, a change in the number of insolvency of legal persons whose number of proposals from 2011 is decreasing, even though the number of the natural person is growing sharply.

Table 2 Restructuring proceedings

Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Received proposal	10	9	15	78	129	135	115	148	142	116
Debtor filed	10	9	15	78	120	131	107	145	132	113
Crediter filed					7	4	8	3	10	3
Proceeding FO		1	2	5	17	16	15	7	13	21
Proceeding PO	10	8	13	73	112	119	100	141	129	95
Bankruptcy		1	1	9	15	18	24	11	24	19
rp approved		2	4	3		1			1	17
rp declined					2	6	5	1	7	3
rp confirmed	1	1	8	12	49	71	49	54	90	76

Source: www.justice.gov.sk
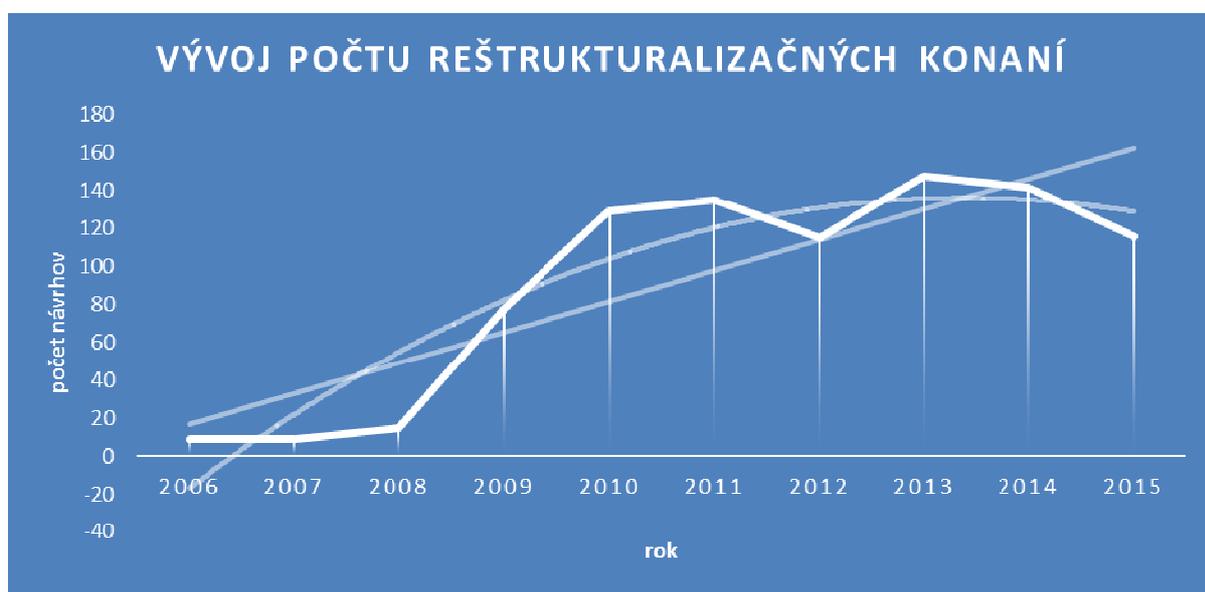
For efficient scientific research I have abstracted from the insolvency proceedings, which for this part of the research are not sufficiently explanatory power. In future scientific research, I focused mainly on restructuring proceedings.

Of the 897 submitted proposals for restructuring I have examined 448 submissions. The actual filing consists of restructuring report, which includes the determination of the value of the company and comparing the amount of satisfaction of creditors in bankruptcy and restructuring proceedings.

The results of scientific research

The actual scientific research is not yet fully completed and still need to be analyzed to evaluate all input data. But it is already possible to state that the use of various forms of determining the value of the company in insolvency proceedings is alarmingly low.

In examining 448 the number of reviews restructuring only in eight cases was the use of equity method of determining the value of a company. The dynamic form of determining the value of the company was not used in any of the cases examined!

Continuation of the research will focus on alternative calculations data provided in selected companies where restructuring has already taken place and the comparison of computed results with reality.

Conclusion

Research itself is determining the value of a company in insolvency proceedings pointed out on the enormous weaknesses of each method of application in practice. The main cause is the direction of

individual opinions in restructuring the legal plane. Assessments submitted are treated at the court therefore they are written especially for the understanding of lawyers.

With practical calculations on ongoing scientific research we confirm needs to change the method of calculating the possible level of satisfaction of the creditors and therefore we show a substantial need for actual research.

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Intangible Assets – the Fourth Production Factor

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Abstract

The increasing importance of the tertiary sector, the [introduction and] establishment of new technologies supported by the shift of the production focus of the classical factors of production to a new "fourth factor of production" (Stewart , TA (1998) and Edvinsson , L. / Malone , MS (1997) , p . 23), recently challenged equally the scientific world as well as the industry.

It is about the "incognisable", it is about the intangible assets of a company. (Hamel , G. / Prahalad , C. K. (1995) , p . 57) This paper deals with the influence of intangible assets on the company's value. We examined selected CDAX companies within the period from 12/31/2001 and 06/13/2016. As a proxy for intangible assets, R & D expenditures have been used

Key words

Intangible Assets, Digitalization, Innovation, Valuation

1. Introduction

The three classic economic factors, labor, capital and land, form according to classical economic [theory] by Adam Smith respectively David Ricardo always the basis for any business. Any optimal combination was a guarantor for any company's success in the so-called industrial resp. manufacturing economy. In recent years, however, a new development can be observed. Companies with little stocks of fixed assets, achieve compared to companies with high value of fixed assets disproportionate success. The bottom line therefore must be that there is a kind of asset that is not covered by/included in the balance sheet, but still determins primarily the company's success. This involves the so-called intangible assets / intangible capital. Both terms are used interchangeably within scientific literature, although the expression intangiable assets is used accounting driven, whereas intangible capital considers the influence of intangible resources to the economic value of a company. (main ideas come from the work of Uzik, M. (2009))

2. Definitions and Terms

In the new era of "knowledge-economy" intangible [corporate] assets developed into a significant resource of success. The intangible corporate assets "(...) rather than physical assets drives innovations, revenue and profits growth, and nurtures new competitive advantages." (Seetharaman, A. / Bin Zaini Sooria, HH / Saravanan, AS (2002), p. 128) In spite of our acquired knowledge about the value driving capabilities of intangible [corporate] assets defining boundary and putting it into a systematic grid remains a challenge. The physicall feature of an intangible assets is its intangibility. Hence it is immaterial, i.e. not obeserveable by humans.

The terminology used within [scientific] literature ranges from intangibles or intangible assets (IAS 38), to intellectual capital (Edvinsson, L. / Malone, MS (1997)) or knowledge assets and knowledge capital (Bodrov, W. / Bergmann, P . (2003)) lastely intangible capital (Cummins, JG (2004)).

Finally, most experts are of the opinion that "(...) it is too early to talk about IC definition[s],(…) according to them" (referring to the experts opinion with respect to the IC-Definition), [as] too much of the nature of IC is quiet unknown and hard to capture in explicit terms. "(Seetharaman, A. / Bin Zaini Sooria, HH / Saravanan, AS (2002), p. 129).

Basically, [scientific] literature agrees that any economic organization has intellectual capital (intellectual possessions). These are assets, resources, implicit or explicit knowledge, data, sets of information, intelligence [in the sense of collected information], experience and insights, that all [in combination] can be called a collective corporate inteligence. Stewart stresses that the distinction between data, information, knowledge and intelligence is somehow irrelevant. Rather, the intellectual capital originates in two ways. Firstly, it is the employees' knowledge of specific job roles. These include

communication or special leadership skills. The second way extends the "knowledge foundation" by considering new facts, data or information. A more detailed analysis of each individual structure shows that the intellectual material is to be found within the customer base, the employees themselves and the companys processes (Stewart, TA (1998), p . 80 and p.83).

At this point most authors from the eighties and nineties of the last century identified several terms of intangible capital in [their] numerous works, and hence developed different structures of intangible capital further. [Most] [scientific] works take into account a more or less chosen trichotomy of intangible assets by Hubert Saint-Onge: customer, human and structural capital (Stewart, T. A. (1998), p. 83 and p. 248).

2.1 Knowledge

The input variable information prepared in accordance with the "techne semiontike" a meaningful character that is the purpose of reaching an objective of interest (Picot, A. (1998), p. 67ff). If individual information is bundled in context to enable the information carrier to build specific assets and perform actions, [it] is [understood as] knowledge (Bodrov, W. / Bergmann, P. (2003), p. 35ff). The economic perspective considers knowledge and its application and not sole collection and interpretation. Knowledge contributes [directly] to business value and enables the maintenance of competitive advantages. The information and its generated knowledge [after analysing this knowledge] is [directly] and closely connected to human capital and thus with people. The intangible nature of knowledge and its ability to form intangible capital, move it in the sportlight of each company (Müller, C. (2006), p. 5). In addition to the information, data constitutes another input factor and a resource of knowledge. The computer science refers to data as logical grouped information units (Lipinski, K. (2004), p. 180). Data includes information, terms and commands that are used by human capital for the processing, use or interpretation, and thus represents a resource. So Fritz-enz gives data no special position in comparison to any other resource.

Rather, he stresses that only knowledge of how, why and when data will be tranmsfered makes date a significant resource (Fritz-enz, J. (2000), p. 24). Thus, he puts human capital into the focus of the value chain generated by data.

2.2 Intangible Assets

„The best way to define the term might be to define its component parts first. A dictionary definition of the Word intangible is ‚incapable of being felt by touch' or"not readily discerned by the mind". An asset is an item of value or a source of wealth. Thus, an intangible asset is an item of vallue or source of wealth thaht cannot be felt by touch or is not readily discerned by mind" (Berry, J. (2004))

From a German perspective intangible asset is defined as an asset, which is does not treflect material possessions or in investments respectively a financial investments, however, it is of value for the company.Thus it is of long-term value that can only be quantified in the event of a corporate sale . They are referred to by the term "goodwill" and [booked in] the balance sheet of the acquirer under the item derivative goodwill (Müller , C. (2006), p . 6).

2.3. Intellectual Capital

According to Edvinsson and Malone , intellectual capital is composed of the human capital and structural capital (Kaufmann , L. / Schneider , Y. (2006), p . 26ff . And Müller , C. (2006), p . 18f). Intellectual capital shall not be considered as equity. Rather, it is attributable to the [liabilities] because it is borrowed from stakeholders, customers, employees , etc. (Edvinsson , L. / Malone , M. S. (1997), p . 43).

Graph 1. Intellectual Capital based on Edvinsson und Malone
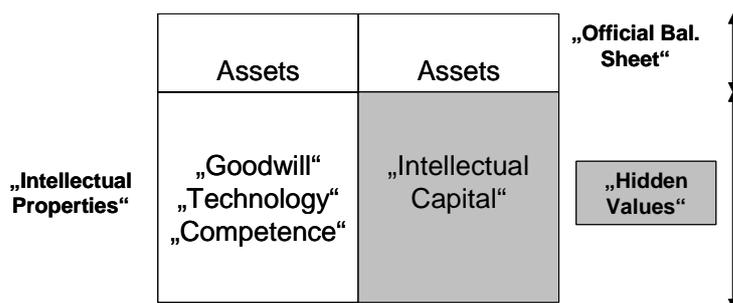
Source: Edvinsson, L. / Malone, M. S. (1997), p. 43

The individual relationships which interact are shown by Edvinsson and Malone in the below market value scheme , which has been already used Edvinsson at Skandia.

By definition, intellectual capital and financial capital accumulate the market value of a company, which can be further differentiated into human capital and structural capital. The latter combines customer capital and organizational capital, which differentiates itself in innovation and capital process capital.

Graph 2. Skandia Market Value Scheme
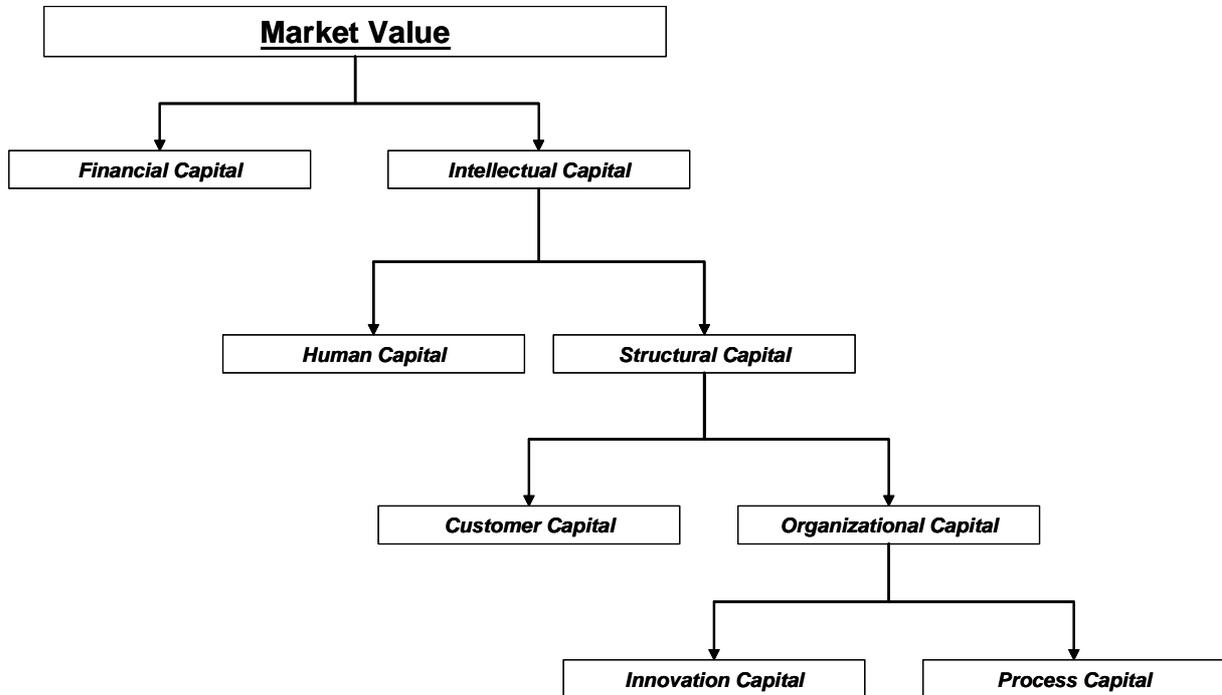
Source: Edvinsson, L. / Malone, M. S. (1997), p. 52

The quintessenz of the above is, that the identification of knowledge, intellectual capital and intangible assets [are considered] as three main factors which have to be used in [our] digital age by companies to successfully survive in the [current and future] markets. However to delimitate these terms is not easy.

Since knowledge is a separate component and was delimitated already above one needs to differ between intangible asset and intellectual capital [unfortunatly] they are used synonymously within reference material. Intangible assets are considered intangible resources of the company. These intangible resources are however understood as knowledge capital or intellectual capital that can be converted into profit and in value for the company (Müller , C. (2006) , p . 7). Thus, intangible assets are to be seen as part of the intellectual capital of the company.

3. Influence of intangible assets to the company's value

It can be deducted from various scientific studies (Aboody , D. / Lev , B. (1998)) that shareholder value is influenced by [several] components of intangible assets.

As examples the works of Heiens , Leach and McGrath (Heiens , AR / Leach , RT / McGrath , LC (2007)) aswell as Nakano (Nakano , M. (2006)) shall be mentioned here, as they specifically investigate the influence of "intangible assets " on shareholder value . [It should be stressed, that] not only the authors of this scientific contributions see [themselves] particularly confronted with the problem of quantifying intangibles.

Most empirical studies [investigate, focus on] spending on research and development [R&D] in order to obtain a quantifiable amount of intangible capital. (Lev , B. / Sougiannis , T. (1996) and Chan , L. K. C. / Lakonishok , J. / Sougiannis , T. (2001)). So, this literature determines a significant positive impact of expenditure on research and development on shareholder value. In this context, Nakano says : " While R & D investments reduce current- year earnings, they build the R & D capability of the organization for the future. Accumulated R & D capability can be expected to create future earnings , Which Relates to shareholders' value " . (Nakano , M. (2006), p . 189).

[On the other hand] Heiens , Leach and McGrath conclude that advertising, goodwill and expenses for research and development do not have a significant influence on shareholder value. "Instead, only intangible assets other than goodwill, Which include the value of patents, copyrights, licenses, and trademarks, have a positive impact on shareholder value" (Heiens , AR / Leach , RT / McGrath , LC (2007) , p . 149).

Graph 3. Intellectual Capital Management
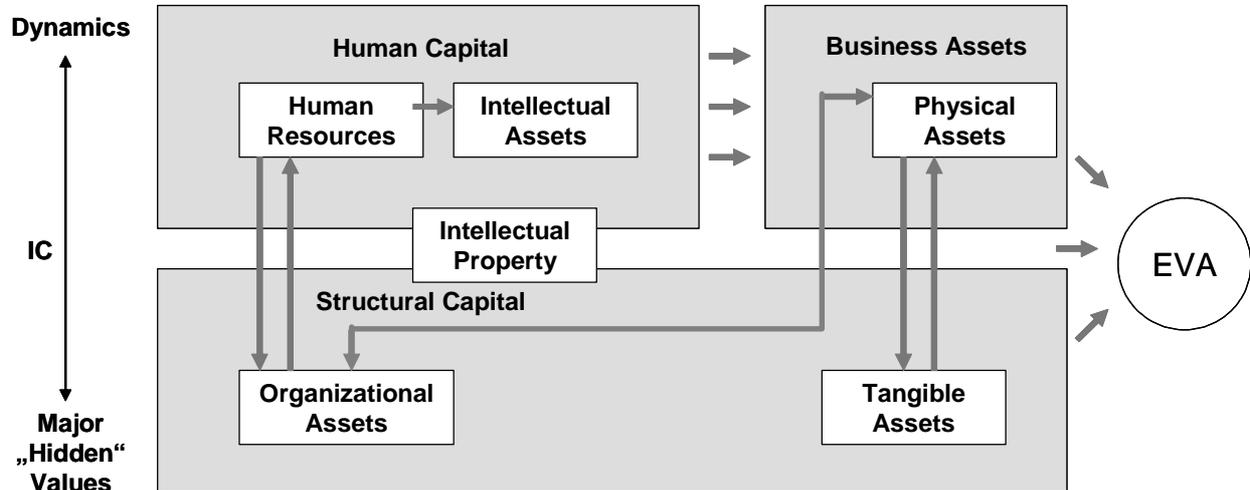
Source: Edvinsson, L. / Malone, M. S. (1997), p. 59

3.1 Methodology

In this work, we examine the influence of R & D investments on shareholder value using suitable proxis. R & D spendings are used by taking the incurred R & D costs weighted by net sales. Thereby we eliminate the influence of scale effects. As proxy for shareholder value, we use the continous yield over the respective closing prices. The investigated time frame starts on 12/31/2001 and ends on 06/13/2016. Starting with the 12/31/2001, we consider a return window of 130 trading days (half of 260 trading days). This parameter makes our periodicity. Overall, we examine 30 datapoints. In addition, we assume a delayed impact of R & D investments on shareholder value. We investigate the impact delayed in intervals of 6, 12, 24, 36 and 48 months.

3.2 Data

We have analyzed 369 selected CDAX companies. The study sample based on the R & D investments, counts 11,280 data values. Afterwards we adjusted for missing values and pairing with the corresponding yields. Lastly we excluded all values that do not have complete time series covering the investigation horizon from the study sample. The [clean data sample] consists of 38 companies with 1,170 data points over the investigation period. [Excluding] for outlier eventually lead to a [data sample] of 1,138 sets.

3.3 Results

The scientic question asked: Is there a correlation of the level of R & D investments and shareholder value? The hypothesis H0 is: There is no correlation between the level of R & D investments and shareholder value. After analyzing the data it is to be noted that we can not reject the hypothesis H0.
As part of our analysis, we have not found any context or correlation between the R & D investment and the respective returns (proxy for shareholder value) .

Table 1. Statistics

		Model	1-1	+6M	+12M	+24M	+36M	+48M
		R	0,05	0,08	0,04	0,03	0,02	0,03
		R-Square	0,00	0,01	0,00	0,00	0,00	0,00
		Adjusted R-Square	0,00	0,00	0,00	0,00	0,00	0,00
		Standard Error of the Estimate	0,47	0,47	0,46	0,46	0,47	0,46
ANOVA	Sum of squares	Regression	0,55	1,35	0,42	0,20	0,04	0,13
		Residual	249,52	236,63	227,17	207,16	194,92	175,78
		Total	250,07	237,98	227,59	207,36	194,96	175,91
	df	Regression	1	1	1	1	1	1
		Residual	1138	1090	1052	976	900	824
		Total	1139	1091	1053	977	901	825
	Mean Square	Regression	0,55	1,35	0,42	0,20	0,04	0,13
		Residual	0,22	0,22	0,22	0,21	0,22	0,21
		F	2,53	6,23	1,94	0,95	0,21	0,62
		Sig.	0,11	0,01	0,16	0,33	0,65	0,43
Coefficients	Unstandardised Coefficients	B	0,00	-0,01	0,00	0,00	0,00	0,00
		Std. Error	0,00	0,00	0,00	0,00	0,00	0,00
	Standardised Coefficients	Beta	-0,05	-0,08	-0,04	-0,03	-0,02	-0,03
		T	-1,59	-2,50	-1,39	-0,98	-0,46	-0,79
		Sig.	0,11	0,01	0,16	0,33	0,65	0,43

4. Conclusion

The digital age, also considered as a new era, is characterized by a fundamental change, which affects all areas of life. It also affects the economy and their productions factors. Thus, the issue shall be discussed, if one should introduce a new fourth production factor in the economy - the intangible asset. In this [scientific] work, we analyzed whether the intangible assets represented by R & D investments have an impact on shareholder value (shown by the steady returns). The results could determine no influence.

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Using the Radial Basic Function Neural Network for Determining the Financial Plan of a Company

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Abstract

A financial plan has a crucial influence on business success. Nowadays there are three main methods of financial planning – intuitive, statistical and causal. All these methods have some advantages and disadvantages. In the past, the intuitive method was in the forefront, and currently is the most optimal causal method. But other methods have been developing recently, specifically for example artificial neural networks, which have their own indisputable advantages. This article describes one type of a neural network – the radial basic function neural network. The aim is to find suitable radial basic function neural networks for predicting the future development of sales from goods sold of the Hornbach company in the Czech Republic. 1000 random neural structures are generated, the top 5 of which are retained. The proposed neural structures are used in practice when compiling the financial plan, which is always derived from the amount of sales.

Introduction

Financial planning is deciding on a way of funding (obtaining capital sources) and investing funds into company property (Gazdíková, Šusteková, 2009). The compilation of such a plan has a crucial influence on competition strategy (Vrchota, 2013). It is the key to business success. The output of the plan are financial statements – the planning balance sheet, profit and loss sheet and cash flow plan sheet (Stehel, Vochozka, 2016). They are compiled for the whole planned period and are elaborated in individual accounting periods and expanded even further in individual months (Vochozka, Rowland, Vrbka, 2016).

According to Vojteková, Bartošová (2009) nowadays there are three main methods of financial planning: intuitive, statistical and causal. The intuitive method is based only on the experience and subjective estimates of the person creating the financial plan. The disadvantages are simplification and a high probability of omitting significant mutual relations (Gansel, 2008). The statistical method extends time series in the future (this especially includes regression analysis, proportional property growth or liabilities growth). The disadvantage is an unrealistic presumption that past developing economic variables will stay the same in the future (Baldacci et al., 2009). In the causal method, input data are based on the information about current company property and current economy results, on the output and other economic plans. The source is the prediction of the development of macroeconomic indicators (Li, 2013). The causal method is the most optimal possible method. Others include discriminant analyses, regression analyses, time series methods and Artificial Neural Networks (ANNs).

In the past, the intuitive method was in the forefront. Presently other methods of financial planning and predictions for companies are developing, for example the ANNs.

ANNs are computation models inspired by biological neural networks (Dvořáková, Vochozka, 2015). Slavici, Mnerie, Kosutic (2012) claim that ANNs' task is to replace human thinking, which doesn't always have the ability to take in and interpret a huge amount of information. ANNs with an excellent non-linear approximation ability quickly developed, and since the 1980s are being widely used in non-linear fields (Michal et al., 2015). There are many types of ANNs. The question is which model could be suitable for determining the financial plan of a company. A possibility seems to be the Radial Basic Function (RBF) neural network.

According to Pazouki et al. (2015) traditionally, a RBF neural network can be thought of as a two-layer feed forward network, which is used for function approximation and time-series forecasting, for classification or clustering tasks (interpolation, chaotic time-series modelling, speech recognition, image restoration, 3D object modelling, data fusion, etc.). Guan, Zhu, Song (2016) claim that the number of neurons in the hidden layer of the RBF neural network is difficult to determine. In general,

we need to test several times according to experience and prior knowledge, which lacks a strict design procedure on a theoretical basis. Besides, we don't know whether the RBF neural network is convergent.

The method of the topology of the RBF neural network is simple, but its generalization ability is strong (Jingfei, Dengqing, Huatao, 2016). It demonstrates a good classification and approximation performance in application (Bartool et al., 2013). The RBF neural network can be trained extremely quickly and the training of a RBF doesn't suffer from a local minimum (Lou, Kuang, 2005). The topology of the RBF neural network comprises of an input layer, a hidden layer and an output layer formed by linear processing units (Gubana, 2015). According to Hashemi, Aghamohammadi, 2013) the basic idea of this neural network is to transform the input data into high dimensional space.

When designing the RBF neural network, the main parameters which are necessary to determine are as follow: the number of nodes in the hidden layer; the center and width of the hidden layer nodes which we can write out, the formula; the weights between the hidden layer to the output layer and the offset of the output layer, the subtraction cluster, etc. (Wang, Huang, 2015, 2). RBF act on the input patterns, and then send the outcomes to the output neuron in the output layer. Thereafter, the output neuron as the final outcome of the network is a weighted sum of the hidden neuron patterns. Generally, a RBF neural network is a multivariate function $\Phi\colon \mathbb{R}^S \to \mathbb{R}$, such that (Pazouki et al, 2015, 1):

$$\Phi(x, x^C) = \emptyset(\| x - x^C \|) \tag{1}$$

where $\emptyset\colon [0, \infty) \to \mathbb{R}$ is an univariate function (often taken to be the Gaussian function), x^C is the center point of the RBF, the norm $\| \cdot \|$ is typically the Euclidean distance, and ^{S} is the dimension of the input patterns.

The RBF neural network has been applied in a wide variety of fields.

It proposes a peak density function to determine the number of neurons in the hidden layer. In contrast to existing approaches, the centres and the widths of the radial basis function are initialized by extracting the features of samples. So the uncertainty caused by a random number when initializing the training parameters and the topology of the RBF neural network is eliminated. The convergence rate and approximation precision of the RBF neural network are improved significantly (Guan, Zhu, Song, 2016, 485). Lou, Kuang (2005) applied RBF neural networks to enterprise credit comprehensive evaluation. The results show that the RBF neural network model possesses the highest precision and best generalization ability under fewer samples than other traditional methods. Its predictive accuracy and adaptability was also confirmed by Hou, Wang, Xi (2003), Hashemi, Aghamohammadi (2013), Wang and Huang (2015), Guan, Zhu, Song (2016) and others.

The aim of this article is to find suitable RBF neural networks for predicting sales on the example of a particular company.

Methodics

Generally, we can define the activities of a company as the conversion of production factors to products. The economic theory proposes labor, land and capital as production factors. Some economists additionally include know-how, or even money, among factors of production. However, these factors are not entirely appropriately defined for the practice of enterprise economy. Therefore, for example Wöhe, Kislingerová (2007) determined the factors of production to be management work, dispositive work, material and fixed assets. It is thus possible to work with production factors at company level and infer a correlation between production factors as inputs and company sales as outputs. Moreover, sales are fundamental building blocks on which the company builds its entire financial plan.

Our model company will be the firm Hornbach, which sells DIY merchandise and products for garden and house work.

We will therefore search for the dependence of sales of a commercial enterprise on production factors, or the expenditure of which. Profit and loss statements for the years 1999-2015 are available, a total of 17 entries for each item of a profit and loss account.

For the purpose of fulfilling the objectives of the article, we will be interested in these profit and loss entries:

1. Sales of goods,
2. The cost of goods sold,
3. Personnel expenses
4. Depreciation of tangible and intangible fixed assets.

Personnel expenses include the salaries of both management and executives. In addition, we incorporated social and health insurance, which is in its way income tax. The depreciation of fixed assets expresses the share of fixed assets consumed in a given marketing year, and therefore must be reflected in the profit or loss of the current year.

For the preparation of the data file, MS Excel will be used. DELL software Statistica, versions 7 and 12, will be used for calculation. This will then be processed by automated neural networks.

We are looking for a an artificial neural network capable of predicting the future development of revenues from goods sold by a business enterprise operating in the Czech Republic.

All used variables are continuous. The data will be divided into three groups:

- Training: 70%,
- Testing: 15%,
- Validating: 15%.

The seed for random selection was set to a value of 1000. Subsampling will take place randomly. Subsequently, 1000 artificial neural structures will be generated, from which we will retain 5 most appropriate results[1].

The activation functions for the hidden and output layers of neurons will be the linear and the logistic function. Other settings will stay default.

Subsequently, a sensitivity analysis will be performed, from which we will determine how individual production factors affect the company's ability to generate revenues from sales of own products and services.

Results and Discussion

We have obtained the five best neuron networks by generation as described in the methodics of the study. They are listed in the table numbered 1.

Table 1. Generated and preserved neuron structures

Index	Profile	Train Perf.	Select Perf.	Test Perf.	Train Error	Select Error	Test Error	Training/ Members	Inputs	Hidden (1)	Hidden (2)
1	RBF 2:2-4-1:1	0,036897	0,155233	0,235495	0	0	0	KM,KN,PI	2	4	0
2	RBF 3:3-3-1:1	0,096987	0,049225	0,272203	0	0	0	KM,KN,PI	3	3	0
3	RBF 3:3-5-1:1	0,046234	0,119551	0,222529	0	0	0	KM,KN,PI	3	5	0
4	RBF 3:3-4-1:1	0,091352	0,079881	0,261555	0	0	0	KM,KN,PI	3	4	0
5	RBF 1:1-4-1:1	0,030387	0,019384	0,035051	0	0	0	KM,KN,PI	1	4	0

Source: Own source

The neural structures are composed of three layers: the input layer, hidden layer and output layer of neurons. The first neural network works with two entrances. The second, third and fourth work with all factors of production. The fifth, on the contrary, assumes the use of a single factor of production for prediction.

Network diagram number one, is RBF 2:2-4-1:1, is shown in the picture number one. It is apparent from the diagram that the network utilizes only two of the three input variables. Specifically, the cost of goods sold and personnel costs.

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[1] This is determined using the method of least squares. When differences between newly generated networks stop being substantial, training will be terminated.

Figure 1. Scheme RBF 2:2-4-1:1

Profile : RBF 2:2-4-1:1 , Index = 1
Train Perf. = 0,036897 , Select Perf. = 0,155233 , Test Perf. = 0,235495
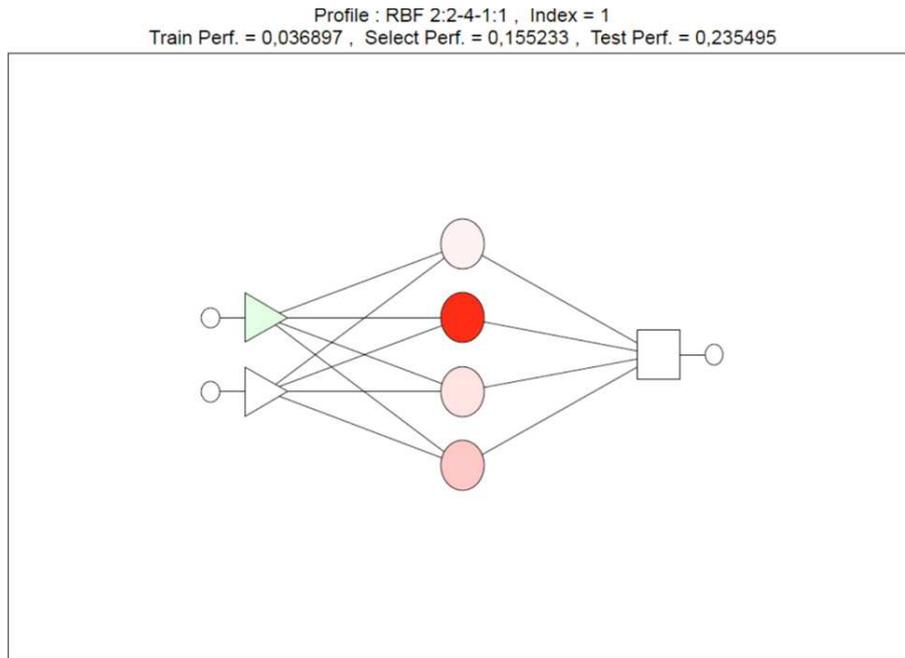
Source: Own source

The network uses 4 neurons in the hidden layer. The scheme of the second generated and preserved network is the subject of picture number 2.

Figure 2. Scheme RBF 3:3-3-1:1

Profile : RBF 3:3-3-1:1 , Index = 2
Train Perf. = 0,096987 , Select Perf. = 0,049225 , Test Perf. = 0,272203
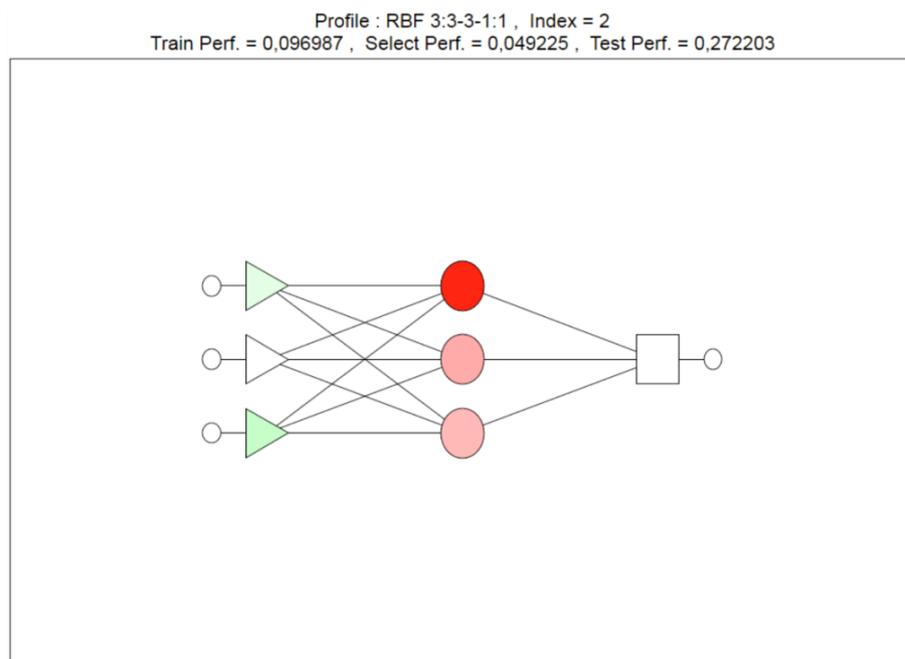
Source: Own source.

RBF 3:3-5-1:1 makes use of all the factors of production. Just like network number one, it works with the cost of goods sold and personnel costs. It additionally includes the depreciation of fixed assets.

The scheme of the third preserved RBF neural network is shown in picture number 3.

Figure 3. Scheme RBF 3:3-5-1:1
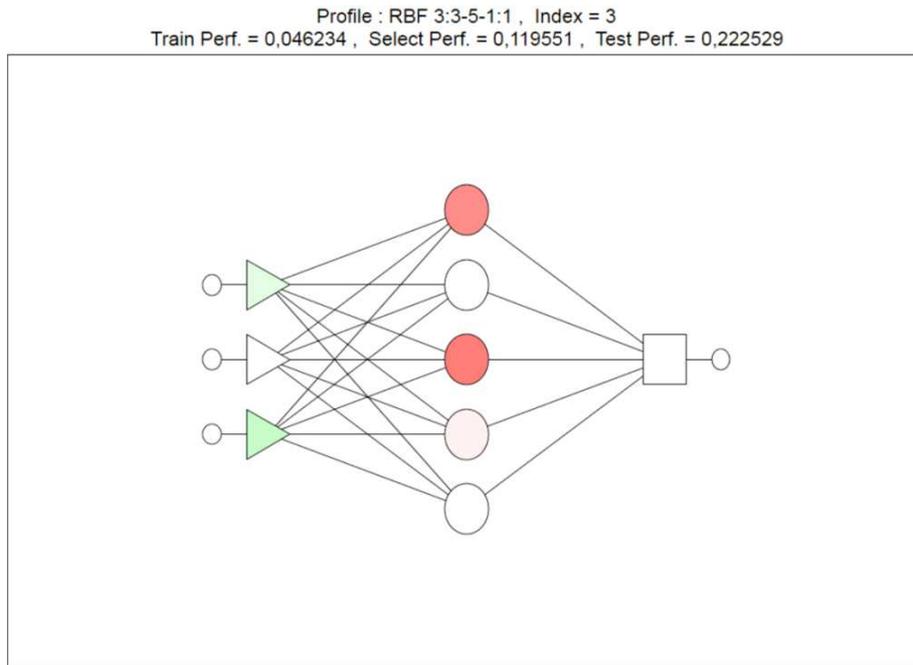
Source: Own source.

The fourth (RBF 3:3-4-1:1) and fifth neural network (RBF 1:1-4-1:1) were similarly generated and preserved.

It is basically impossible to infer which generated network offers the highest performance. It is always necessary to assess the training, verifying and validating data set. If we do so in this case, the most appropriate network cannot be confidently selected. The differences between them are not particularly significant, and thus all generated and preserved networks appear appropriate for sale predictions.

Table number two is inserted for better illustration.

Table 2. Predicted revenues from sale of goods

|	Revenues from sale of goods	Revenues from sale of goods.1	Revenues from sale of goods.2	Revenues from sale of goods.3	Revenues from sale of goods.4	Revenues from sale of goods.5
1999	808224	841864	808951	812616	850306	819644
2000	1523406	1449736	1627517	1536939	1529898	1498184
2001	2071204	2084642	2069274	2089839	2079014	2076427
2002	2071204	2084642	2069274	2089839	2079014	2076427
2004	3391570	3456294	3292643	3319467	3319973	3441225
2006	3891625	3857328	3716785	3816192	3752362	3852236
2011	4664167	4584094	4729909	4802142	4719076	4569551
2012	4980238	4928638	5066390	4861085	5064481	4962555
2013	4787998	4865370	5037842	4845597	5030708	4868548
2015	5096173	5182589	5211719	5174936	5207941	5155323
2016	5554350	5504962	5209854	5491507	5207386	5520039

Source: Own source.

In the table, it is possible to compare the actual amount of revenues from the sales of goods in individual years with predictions according to the individual preserved neural networks. Based on the

residues we estimate the possible absolute error in partial years. It is immediately apparent that we cannot find any significant differences between individual networks even in the table of sales predictions, and so we can once again say that all generated and preserved neural networks appear to be usable in practice.

The sensitivity analysis provides equally interesting results. The analysis always calculates the weight and order of importance among input values for all input values. We have three input values, five preserved networks and always three files. In total, we are working with 36 variable files (two networks do not use all three input variables). We consider the cost of goods sold to be the most important variable. In the case of three networks it ranked first in order of priority, then it ranked twice in the second place. Personnel expenses were placed first twice in the notional importance ranking and ranked second twice. In the case of the fifth neural network, the target variables are not important for calculation. The depreciation of fixed assets ranked third three times, which puts it on the last rung of the importance of input parameters important for calculating revenues from goods sold. In the other two cases, they were not important for the calculation at all.

Conclusion

The aim of this paper was to find a suitable RBF neural network for predicting sales on the example of a particular company.

The aim of the paper has been met. Top five neural structures have been generated and retained. There have been no fundamental differences identified among the predicted values of individual networks. All generated networks are usable for the evaluated the company. The sensitivity analysis subsequently found that it is possible to estimate future revenues based primarily on the cost of goods sold and personnel costs. The depreciation of fixed assets was seen as an irrelevant variable to calculate revenue.

The proposed neural structures are practical to use when compiling a financial plan of a company, which is always derived from the amount of sales. But the truth is that the proposed model always assumes that the demand for the company's products is not limited. It is believed that the restrictions in this case can only be productive capacities.

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Research on the Influencing Factors of Success Rate of Crowd-funding Projects in China

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Abstract

As an important form of Internet banking, crowd-funding has aroused widespread attention in China and has dramatically developed under the national strategy of "Public entrepreneurship, Crowd innovation". Crowd-funding supports entrepreneurship, innovation and creativity, thus effectively easing the contradiction between shortage in capital market and surplus in private capital. It breaks through the bottleneck of the development of China's over-the-counter market. The first part of the paper studies the current situation of China's crowd-funding. The second part of the paper makes an empirical analysis of the success rate of crowd-funding projects. Through a binary logistic regression model, it reveals that target amount and time period of crowd-funding project are negatively correlated with the success rate of projects. It also shows that introductory video, update information, and social information transparency are positively correlated with the success rate of crowd-funding projects. Homepage recommendation is the greatest signal variable and expected time of return is not significant in relation to the success rate. Based on the conclusions of empirical analysis, the paper finally puts forward suggestions for the development of crowd-funding in China.

Key words

Crowd-funding, target amount, time period of project

Introduction

Crowd-funding has been growing up and developing rapidly since it was introduced into China in 2011. As it was widely recognized and accepted by the market and encouraged by governmental policy, crowd-funding has developed explosively in China since 2013. A large number of crowd-funding platforms have emerged and the scale of finance is growing.

Finance 360 Big Data Research Institute and Zhongguancun Crowd-funding Union jointly issued *2016 China Internet Crowd-funding Industry Development Trend Report*. It was revealed in the report that the first crowd-funding platform named "*Demohour*" was established in 2011. During the first couple of years, the development was moderate. Six new platforms emerged in 2012 and 27 in 2013. However, with the outbreak of the concept of Internet banking, the growth of the number of platforms became significant in the following years. 142 new operating platforms were created in 2014 and 125 in 2015. By the end of December 2015, there were 354 crowd-funding platforms all over China and the functioning ones added up to 283. Compared with year 2014, the number of functioning platforms in China increased by 99.30% in 2015 and it was nearly ten times than the year of 2013.

Figure 1 Number of Functioning Crowd-funding Platforms in China (2013-2015)
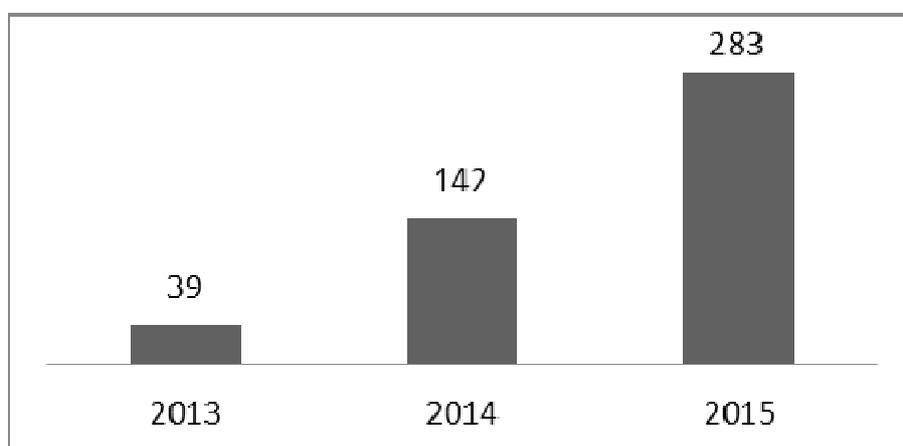
Source: Yingchan Consulting

In 2015, China's crowd-funding industry successfully raised a total fund of RMB 11,424 million, exceeding RMB 10,000 million for the first time in history. The amount of money raised by crowd-funding industry increased by 429.38% compared with 2014. Actually, the industry financed only RMB 2,158 million in 2014 and RMB335 million up till 2013. Up to December 31, 2015 China's crowd-funding industry has successfully financed a total amount of nearly RMB 14,000 million.

Figure 2 Amount of Funds Raised in Crowd-funding Platforms in China
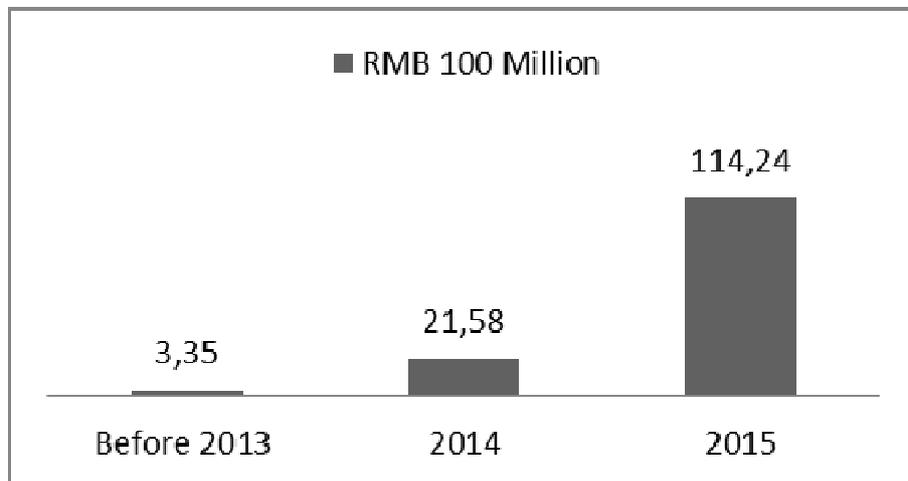
Source: Yingchan Consulting

In 2015, there were 49242 new projects in crowd-funding industry in China. Among them, 33932 were rewards-based crowd-funding projects, accounting for 68.90% of the total number of projects. It was followed by 7778 donation-based crowd-funding projects, accounting for 15.80%. The number of equity-based crowd-funding projects was close to the number of donation-based projects, up to 7532 and accounting for 15.30%, In conclusion, the crowd-funding industry in China has entered a rapid developing stage. It's necessary to study the features of crowd-funding projects and the influencing factors for success of the projects.

Features of crowd-funding projects in China

Data used in this paper was collected from a crowd-funding platform website "www.zhongchou.com". Since its establishment in 2013, the website has developed rapidly. Now it has become the most influential crowd-funding platform in China. Using a web-crawler program in C language, the paper grabbed information of 1937 crowd-funding projects, including 637 successfully completed projects and 1300 failed projects. Basic features of the crowd-funding projects are shown in table 1.

The statistics shows that only 33% of the crowd-funding projects are successful (Table 1). The average completion rate (actual financing amount/ target amount) of failed projects is as low as 9.76%, among which only 10% projects have a completion rate higher than 20%. As regards to successful projects, 85% projects reach a completion rate between 100% to 120% and 8% projects finance more than 150% of the target amount. It's also revealed by the research that for most the successful projects, more than 40% capital are raised during the first and last 10% of the financing cycle. Take a 30-day project for example, more than   40% capital are raised during the first 3 days and the last 3 days.

Table 1 Features of Crowd-funding Projects in China

Variable	Total projects	Successful projects	Entertainment	Collection	Publishing	Anime game	…
Percentage	1	0. 33	0. 30	0. 07	0. 13	0. 03	…
Average Target Amount（RMB）	27221	23114	19785	16102	40129	39337	…
Average Financing Cycle (Days)	47. 35	39. 02	44. 37	37. 11	58. 66	44. 31	…
Success Ratio	0. 33	1	0. 30	0. 46	0. 36	0. 36	…
Number of Posts	9. 77	18. 99	8. 49	10. 85	14. 03	6. 39	
Number of Investors	42. 89	82. 73	42. 88	26. 87	52. 53	38. 26	…
Number of Likes	83. 16	201. 3	103. 55	71. 11	93. 26	60. 83	…
Percentage of Update	0. 13	0. 19	0. 10	0. 17	0. 11	0. 14	…
Percentage of Introduction Video	0. 39	0. 59	0. 56	0. 22	0. 29	0. 53	…
Actual Financing Amount	13403	33399	61769	12151	20960	16603	…

Source: www.zhongchou.com

Through investigation of the crowd-funding projects on "www.zhongchou.com", this paper has the following findings.

Firstly, the quality information of the project shows great differences. Due to the restriction of technology, it is difficult to break through the constraints of information asymmetry in crowd-funding. Since crowd-funding project is based on free choice mechanism of public investors in virtual environment, the quality signal of projects has great influence on the willingness to invest of investors. Excellent quality signal enables the project to get more supporters. In contrast, projects with poor quality signals are not attractive. Even if the feature of the project is favored by particular investors, the negative expectations for the result of financing will also reduce the willingness to invest.

Secondly, the herd mentality of investors is obvious in crowd-funding mode. According to the statistics, the main factors influencing the choice of the project includes the completion rate of the project, the number of supports for project and the number of likes, etc. There exist irrational behaviors such as investors simply referring to these indicators for investment without considering the project itself.

Thirdly, capital accumulation degree has an important impact on attracting investors. Project initiators often spare no effort to accumulate funds in the early stage of crowd-funding, through channels such as raising capital from relatives and friends or self investment. Generally the crowd-funding projects follow the rule of all-or-nothing. That is, once the project fails within the prescribed time, all the capital raised will be returned to investors. For projects close to the expected financing amount, project initiators often take the above measures in order to ensure the projects collect expected amount on the date of maturity. In order to reduce the occurrence of this phenomenon, some crowd-funding platforms such as Kickstarter require that investors can not have the same address, credit card account, name and other information with project initiators and specify the maximum amount of a single investment. In this paper, the website "www.zhongchou.com" does not have limit on the above phenomenon.

Empirical analysis

Considering the low success rate (33%) of crowd-funding projects in China, it's necessary to study the influencing factors of the projects. This paper builds a binary logistic regression model in which the success rate of crowd-funding is dependent variable and the explanatory variables include target amount of crowd-funding projects (TA), time period of crowd-funding projects (TP, in weeks), introductory video of crowd-funding projects (IV), information update of the progress of crowd-funding projects (IUP),

social information of crowd-funding projects (SI), homepage recommendation of crowd-funding projects (HR), expected time of return of crowd-funding projects (ETR).

The data used in this paper are collected from website "www.zhongchou.com", a national crowd-funding platform in China. A binary logistic regression was run with statistic software SPSS19.0 and the results are shown in the following table (Table 2). After introducing seven variables, the model's overall goodness of fit is 243.505, Cox-Snell R2 and Nagelkerke R2 are higher than 0.4. The coefficients of each model are significant at the level of P=0.01or P=0.05.

Table 2 Result of Binary Logistic Regression

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
HR				1.898***	1.578***	2.116***
ETR						-0.049***
SI					0.662**	0.616**
IV		0.863***	0.977***	1.015***	0.889***	0.959***
IUP			1.630***	1.521***	1.178*	1.019**
TA(Log)	-0.125*	-0.178*	-0.212**	1.781**	1.129**	0.886**
TP(Week)	-0.179*	-0.192**	-0.213**	0.209**	0.129*	0.886*
constant	1.299*	1.328***	1.289***	1.781***	1.129***	0.886***
- 2Log likelihood	449.228	403.110	339. 871	323. 887	286. 118	243. 505
Cox-Snell R^2	0.186	0. 225	0. 279	0. 387	0. 392	0. 431
NagelkerkeR^2	0.221	0. 238	0. 291	0. 376	0. 438	0. 486

Remarks: ***P ＜0. 01, **P ＜0. 05,* P ＜0. 1

From Model 1, it is found that increasing the financing amount of project has a negative effect on the success rate of crowd-funding projects. Moreover, increasing the length of financing cycle has reduced the rate of success of the projects. That's because the longer the financing cycle is, the higher the cost of capital the investors bear. Meanwhile, the risk of investment increases when the execution and return cycle of projects is longer. In Model 2, Model 3, Model 5, it is shown that introductory video, information update, and transparency of initiators' social information have a significant positive effect on the success rate of crowd-funding projects. It's revealed in Model 4 that homepage recommendation is the greatest signal variable. First, Homepage recommendation helps the project to be eye-catching and catch the attention of investors. In addition, information on both ends of the crowd-funding platform is asymmetric which makes the investors believe that the platform has a greater advantage of gaining information and the risk of projects recommended on the homepage is lower than other projects. Model 6 shows that projects with shorter return period are more favored by investors, but the contribution of this factor to project success rate is not high. This means that investors are not very sensitive to financing period in the crowd-funding.

Suggestions for the development of crowd-funding finance in China

Reinforce legislation for crowd-funding industry

First of all, the legislation of crowd-funding finance should be sped up. On one hand, establishment of basic laws for crowd-funding should be accelerated. On the other hand, specific laws and regulations should be formulated regarding modes of crowd-funding, financing process of crowd-funding, operating norms, protection of project initiators' intellectual property rights, protection of investors rights and interests. In addition, the amount of crowd-funding finance should be stipulated. In order to spread the risk of crowd-funding project, the amount of financing within specified period of time should not exceed a certain limit. Since some projects may fail to operate and investors may not get the corresponding return, it is necessary to make a clear distinction between crowd-funding and illegal fund-raising.

Establish a sound investor protection mechanism

In view of the current dysfunctional protection mechanism for crowd-funding investors in China, it's necessary to start building a sound protection mechanism from three aspects including investor access, information disclosure and investor protection.

Investor access is to set different levels for investors based on certain criteria, setting threshold for investors to participate in the crowd-funding financing. The aim is to ensure the safety of investors' funds and to limit the risk within a tolerable scope.

As far as information disclosure is concerned, the most effective way at present is to use social media tools, combining crowd-sourcing and other means to disclose information of the crowd-funding project. It involves setting up a stimulating participation mechanism as well as integrating the scattered information.

The protection of investor's rights should include the right to acquaint with the information and the right to participate in discourse during the pre investment period, as well as how to deal with the funds in the event of crowd-funding failure or breach of contract.

Improve social credit system

Crowd-funding is not only a commercial behavior, but also a kind of credit behavior. Since China's current credit system is not perfect, in order to ensure long-term development of crowd-funding financing, crowd-funding platform must strengthen the investigation of the fund-raiser and follow up the development of crowd-funding project. Regulatory institutions should provide services for the crowd-funding platform as well as strengthening supervision. It is the guarantee to achieve a healthy crowd-funding industry by building a set of credit system involving the natural person, legal person and other organizations.

Enhance the operation of crowd-funding platform

In order to improve the operation of the crowd-funding platform, it is necessary to apply innovative information technology to make up for the platform management loopholes. The core competitiveness of crowd-funding is the fast connection between both ends of the platform, relying on the network information technology. Therefore it's critical to establish multi-source heterogeneous information acquisition and analysis system based on large data and cloud storage, to enhance the ability of presenting project related information, to improve financing incentives, self feedback and accountability mechanisms, to fully enhance the risk prevention capabilities of the platform.

Improve Internet financial services system

The relative service of crowd-funding mode is insufficient in China. The adoption of market principle of interest rates have not been completed therefore it's not helpful for reasonable pricing of Internet financial products and services. Credit system is not perfect thus it increases the risk of project default. Variety of financial markets is not rich enough and it has resulted in frequent irrational Internet financial investment behaviors. Therefore it's of great significance to enhance the supporting services of crowd-funding and build the Internet financial services system. In addition, it's urgent to clarify the derivative financial positioning of Internet crowd-funding, take advantage of its operating mechanism, customer experience, market feedback, distribution channels. Last but not least, in order to form a more professional, more specialized financial services system, China should cultivate a small and beautiful, unique, innovative finance environment.

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The Role of Controlling in Sustainable Development
- in the Information Support of Strategic Management

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Abstract

As a result of the complex crises (economical, environmental and ecological) it has become an important question which strategy we should follow to develop the economy, to create more jobs. Moreover it is also relevant to pay attention to the innovation and different ideas, which can help progress the eco-friendly sectors. Some countries including Hungary and the other Visegrád countries have realized that "Green economy" could be a developing point. We must change and solve some problems regarding the use of fossil materials during production as it increases the risk of the security of supply and push up prices. The G20 countries believe in the "Green economy" idea as a great example which is necessary to follow. Beside Spain, Austria and Germany will spend 1.7% of their GDP on developing the traffic system – the main part of the project will be the railway system. On the other hand companies which are environmentally friendly are gaining bigger slice of some markets and becoming more "popular". Truly investing into green energy can be quite expensive but mostly pays off in the long run. The "Green economy" for most of the countries will result a renewal in knowledge and innovation.
During the determination of their strategies, business organisations applying eco-controlling always take into account also the impact of the competitors' steps related to the protection of the environment. If the forward-looking eco-controlling wishes to constitute an integral part of care about the company's future, then it do not have to focus only on individual actions and intervention points but it has to involve also the entire product life cycle into its perspective. Our study illustrates the green or eco-controlling information aspirations for the strategic management in the preparation of decision-making.

Key words
Eco-controlling, green-economy, competitiveness, geoeconomie, V4 countries

1. The functional relationship between strategic management control and eco-controlling

At international level, in the regulation of accounting we can find more stipulations in respect of regulation of environmental accounting and also in connection with the environmental activities; these information is emphasized increasingly dominantly particularly in case of cost-benefit analyses in management accounting. In the future, the volume of information relevant to the accounting of environmental costs must be increased in the accounts. However, it can also be stated that the data provision obligation concerning information related to the protection of the environment should be increased, as well. For example, we can mention probably one of the biggest scandals of today, which hit the Volkswagen group of companies. Between the environmental goals and the goals related to the corporate image, communication and economic competition there are or may be strong, mutually supportive synergies. It is important to mention that the corporate social responsibility and responsible behaviour that targets the protection of the environment in order to achieve ecological and economic sustainability must appear more and more widely in the organisational culture of corporations. The strategies prepared within the framework of eco-controlling therefore always take into account also the impact of the competitors' steps related to the protection of the environment. Agreeing with the opinion of Péter Horváth, in which - by highlighting the controlling methodology - competitiveness is divided into the following:

- According to the "pragmatic" approach, competitiveness means the adaptation ability of firms: the way they can take over the best practice, the technical and organisational solutions successful at other companies (benchmarking). Then the competitiveness of the region and the country depends on the totality of adaptation capabilities of firms operating there.
- According to the "environmental/system" approach, competitiveness means the ability of the company to optimize the elements of its economic environment, i.e. its economic base (capital and labor markets, quality of inputs, infrastructure). Then the region or country is competitive which is able to provide a high-quality economic base necessary for the dominant industry branches and corporations operating there.

- According to the "capital development" approach, competitiveness means the ability of a company or a sector to accumulate human and physical capital and develop the technology. A region or country is competitive if it attracts investments and the establishment of such new production sites and service provision activities which are related to large, mainly international corporations."

In our view, these rules can be supplemented with the competitiveness proposal formulated by IMD in 2005, according to which: Develop aggressiveness in the international markets, together with aggressiveness for the foreign direct investment.

2. The functional and decision supporting tasks of eco-controlling in management

- Timely recognition of future development trends related to the environment
- Formulation of special environmental goals and their integration into the strategic views of corporate management
- Design and introduction of special systems controlling and monitoring environmental steps (e.g. eco-balance, environmental impact study, early warning environmental indicator system, controlling of eco-costs)
- Monitoring of compliance with legal requirements (environmental standards).
- Development and introduction of environmental information devices and systems.
- Development of special environmental indicators, furthermore, provision of environmental information necessary for the decisions.
- Development of methodology for cost and profitability analyses in environmental areas.

The environmental impact studies help, inter alia, to monitor whether the workers or the business itself complies with the statutory requirements or not; whether there is a prepared, regulated to do list for the case of malfunctions and emergencies, or not; whether the risks associated with the specific products have been analyzed or not and whether it is mentioned in the user manual and the other information provided to the consumers, or not.

In addition to the assessment of external environmental influencing factors, these studies focus on mapping of internal environmental awareness. The whole value creation chain is evaluated in the light of better recycling, energy saving and cost reduction opportunities. After the assessment of the internal environmental awareness we can conclude what kind of environmental options for actions are available to the business, so that it can posision itself in the individual markets also from the aspect of environmental protection. The company's management receives information on the implementation of the environmental goals, the environmentally friendly character of products and operational processes, furthermore, the resource conservation opportunities.

It should be noted that the residues of the business do not only load the environment but also degrade the operating and business results. However, costs are not caused only by the after-treatment or disposal of these residues through expensive filtration; these must be stored and moved, which means extra load for logistics. Previously, the residue materials had tied up production capacities; what's more, (unnecessary) amounts of money had to be paid out for them when they were acquired by the business in the form of raw, auxiliary or fuel materials. If we systematically collect and use the data and correlations of waste management, we can create operating profitability opportunities to reduce certain cost blocks. The cost-saving opportunities may amount up to the research and development budget of a future-oriented enterprise. As the waste amounts up to five-ten percent of total costs, but they do not contribute to value creation by anything, the integration of environmental measures into the strategic and operative plans of the business is a fundamental corporate interest, which should be ensured by the strategic management.

Therefore, the environmental costs can be more precisely assigned to the products and technical procedures causing them. By applying activity-based costing we can accurately map the technical cause-effect relationships, and consequently - by using the eco-balances - we can recognize the available cost reduction opportunities in connection with the products causing serious harm to the environment. By taking all these into account, we can more precisely determine the costs per product unit; furthermore, it improves the effectiveness calculations based on the unit cost. It means an information source for the corporate governance if it is possible to compare the ratio of the input - consisting of raw and auxiliary materials, purchased parts and semi-finished products - and the product output.

In the international practice, often a ratio of 20:1 is the result, which means that the company has to take care of the placement and disposal of 19 tons of production-dependent residue per one ton of product. We should also be able to determine the amount of energy necessary per ton of product. This is **the indicator indicating energy efficiency**. Another useful information is the pollutant emission per ton of product, furthermore, the cost of disposal per the same. From among the avoidance, reduction, reuse and disposal of residues, so far the **end-of-pipe technologies** have been focusing almost exclusively on the last one. However, the costs of storage and disposal of waste at the landfills inexorably and progressively increase. The costs related to waste become likewise increased if the enterprises are obliged to take back their old, used products. And, on the other hand, the emission of pollutants energing during waste incineration - despite the use of expensive filters - is significantly greater than if we chose inherently environmentally friendly raw materials. When the waste is burned, the ash deposited on the filters - at best - contains all the pollutants in the waste in a concentrated manner. The EU's environmental legislation supports the economic (material) cycle in which there is no or only a minimal proportion of non-reusable materials. Accordingly, one should primarily strive to avoid all forms of waste. In many places, recycling opportunities started to be applied right because of this regulation, although given the current knowledge, disposal must be improved even under these applications. Compared to the disposal of waste, the prevention of their formation means a much higher environmental quality. The product life model comprising the phases of applied research - development/innovation - material management/production - sales/marketing - use - "post-life" after use can help the management of the business in starting to improve the environmental quality of the product at the phase where the other quality elements are the weakest.

3. The information providing role of eco-controlling

As one needs to keep abreast of development also in the field of environmental protection, this makes it inevitable that a need of the enterprise arises for environmental information. It happens only very rarely that accounting is able to provide adequate information for the control of impact of the specific activities of the enterprise on the environment. Without proper information technologies, it is no longer possible to reasonably protect the environment and to assess - in this context - the complex interaction of the various environmental factors (e.g. air, water, waste, radiation). It is not enough either if the environmental signaling system consists of a single measurement system, as the environmental management needs information which make also the relationship between the various influencing factors recognizable and observable. An integrated database is needed that contains all environmental (protection) information and which can be used jointly by all functional areas. The development department needs the data which introduce the reuse opportunities of the chosen raw materials or the effects of their disposal.

The latter one should cover the monitoring of wastewater discharge, the transport of hazardous materials, the harmful effects of the production of the specific product lines on workplaces and the environment, furthermore, the preparation of energy balances. The recipes must include the emission of all pollutants which can be expected during the processing phase. The environmental data bank should have access to any data that relate to the studied products and procedures - regardless of where they are stored (e.g. records of operating data, production management, accounting, and external data banks). If we create a relationship with an environmental measurement system, it becomes possible to immediately trigger countermeasures upon exceeding the emission limit values. Of course, the operation of the whole environmental system should be integrated by the management of the company. One of the unique tasks of the information system completed and improved in this way is to serve eco-controlling. Its information pyramid is shown in the following figure.

Figure 1. Information pyramid of eco-controlling

Information pyramid of eco-controlling

The eco-environmental vision

The information providing role of eco-controlling in the controlling decisions of strategic management

Mission (environmentally conscious, sustainable corporate development)

External environmental information databases
(international rules and standards, national regulations, corporate norms)

Goals and guidelines (environmental macro norms)

Goals and guidelines (environmental micro norms)

Integrated corporate accounting and cost information system
Complex accounting and cost-energy efficiency partial system
(light green-dark green accounting, eco-controlling cost and energy efficiency

Actions and action plans (measurement of the recognition of tendencies endangering the environment)

Reporting correlations of the corporate information system
Eco-balance
Product environment balance
Process environment balance
Internal environmental rules
Environment protection strategy and policy

Source: My own compilation

It can be stated that the task of classic controlling is to avoid financial difficulties; therefore eco-controlling must ensure the timely recognition of improper development tendencies endangering the environment. During this, it tries to draw accurate conclusions from past data, including - amongst others - the experimental curve, the indicator and index system of the eco-balance, or by using the portfolio analysis. This is supplemented and made more future-oriented by the analysis of factual data (indicators, eco-balance, portfolio analysis, product life cycle curve) and the analysis of possible scenarios (environmental impact study). Relying on the environmental information system, eco-controlling should be able to provide decision-making aids, thereby supporting the company's competitiveness.

The development of competitiveness can be measured mainly at the players of the SME sector.

The "Entrepreneurship 2020 Action Plan", published in 2013 aimed to boost employment and increase the number of small and medium-sized enterprises, highlighting the indispensability of the following three pillars:

- education for entrepreneurship, improvement of the training
- establishment of the right business environment
- setting of role models and addressing specific groups

The measures mainly focus on improving competitiveness, thanks to which the SMEs can take advantage of the opportunities offered by the accession to the EU. According to Incze, the Hungarian SMEs have committed themselves to the global market only to a lesser extent, mostly because they perceive the natural process of globalization and the appearance of multinationals and transnationals in the domestic economic life as a threat.

According to the "environmental/system" approach, competitiveness means the ability of the company to optimize the elements of its economic environment, i.e. its economic base (capital and labor markets, quality of inputs, infrastructure). Then the region or country is competitive which is able to provide a high-quality economic base necessary for the dominant industry branches and corporations operating there.

Examining the environmental information appearing in the specific parts of reports by performing practical research, we examined 150 corporations included in a ranking of international interest, from the 6 industry branches the environmental impact of which can be declared as significant. In an empirical study, we evaluated the amount of provision formed to cover the environmental obligations based on the international accounting standards and the requirements and guidelines accounting to the Accounting Act, furthermore, the components of the supplementary annex in respect of the inventories and tangible assets. The selection took place per scope of activities: Agricultural industry, Pharmaceutical industry, Rubber industry, Chemical industry, Plastic industry, Construction industry. From among the companies included in the test sample, 22%, i.e. 33 companies did not mention anything related to the protection of the environment at all. 117 companies, i.e. 78% of the analyzed sample already include environmental information in its report, in a detailed form (product fee, pollution charge, waste recycling, hazardous waste). The reviewed supplementary annex shows that 50% of the companies (of course, from among those companies who already perform provisioning), i.e. 59 companies describe the information that affect the environment, primarily e.g. the cases of provisioning per industry branch, paying attention to the green accounting information.

The table illustrates the number and proportion of those corporations per industry branch which have not formed any provision at all and which have formed provisions under any title - within which, whether they have implemented the breakdowns required by the law in the supplementary annex, or not, from which the number of those corporations could be found which have formed provisions specifically for environmental purposes.

Table 1. Environmental provisioning per industry branch

Industry branch	Number of corporations	Did not form any provision		Formed a provision		Explained the environmental information in provisioning in the supplementary annex	
Agroindustry	43	16	37%	27	63%	3	11%
Pharmaceutical industry	27	3	11%	24	89%	16	66%
Rubber industry	8	3	37%	5	63%	4	80%
Chemical industry	13	4	30%	9	69%	8	88%
Plastic industry	23	4	17%	19	83%	13	68%
Construction Industry	36	3	8%	33	92%	15	45%
Total	150	33	22%	117	78%	59	50%

Source: My own compilation

Taking a look at the dat of the table, we can see that from among the total of 150 businesses examined, 59 ones have formed provisions related to the protection of the environment, in which it detailed environmental information, thus their relevance to the environment is clear, which may arise out of their activities performed. The strikingly low rate of those forming a provision for the protection of the environment is also shocking because the environmental concern of corporations belonging to the industry branches examined is obvious. In our opinion, the reasons must be sought from two directions: one of the reasons must be sought for in the regulatory environment and the other one in the strategic deficiencies of companies (protection of the environment) - furthermore, the requirements are observed only by a part of them.

4. Summary of conclusions

By using the environmental information system, the environmental pollution potential can be recognized and assessed in a timely manner. It helps in the efficient processing of the incidents occurred, furthermore, in the compilation of documents required for the environmental impact study. However the software market does not yet "suffer" from softwares supporting the establishment of an environmental information system. Thus, the main task of the environmentally conscious management of businesses cannot be else than to ensure already in the product or production development phase that in all functional areas, all the produced and/or used materials/products are recyclable in the highest possible quality, by selecting the appropriate raw materials and manufacturing technologies. This goal is served by the introduction of "waste-free" technologies, the preparation of dismountling plans in parallel with the product development, furthermore, the marking of built-in materials (primarily plastics) - the latter is an essential condition for the later (re-) use of the product.

It can significantly reduce our costs if instead of expensive raw materials we use materials obtained via recycling, by which also the waste disposal costs can be reduced. By taking into account the environment - during the product design - we have to consider one more aspect, as the necessity, appropriatenes and ability of the products to fulfil their function must be assessed and influenced also from the aspect of environmental valuability. If eco-controlling wishes to constitute an integral part of care about the company's future, then it does not have to focus only on individual actions and intervention points but it has to involve also the entire product life cycle into its perspective: each phase starting from production design and product development, through purchasing, manufacturing and sale to the use, furthermore, including also the disposal, degradation or demolition after the use. The warning and signalling systems of the firm must be supplemented with environmental elements, so that it can be able to adapt quickly also in this sensitive field and make the necessary corrective steps.

Summary

Overall, it can be said that the environmentally responsible corporations dislose more and more information on their environmental responsibility, i.e. their activities recognized in connection with the protection of the environment; these are information of economic nature which, of course, are expressed in monetary value and are related to the aforementioned operating costs, thus they can be directly linked to emissions, loads, energy use and waste management. The impact of environmental responsibility on value formation can be already observed in the operation of many corporations and in combination with environmental responsibility, it has a value-adding tendency, i.e. it generates value. Consequently, we can state that the environmentally responsibly operating corporations spend more and more money on the protection of the environment, i.e. one can observe the increase in the costs of environmental governance; however, at the same time they show a reduction of the proportion of expenditures related to waste and other emissions within their cost structure, with an appropriated energy efficiency.

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P2P lending Platform's Pricing Competition Strategy

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Abstract

Based on the theory of two-sided market, this paper has an in-depth research on the issue of P2P lending platform. For the characteristics of P2P lending platform, considering the condition of single-homing competition platform with nine pricing way, draw the conclusion: for investors and borrowers, the equilibrium price is positively related to its average cost or unit transaction costs and the diversity index, negatively related to the direct network externalities and cross network externalities; When one side with a certain kind of pricing, as long as the other party is not charge transaction fees, then the equilibrium price will not change. With the satisfying of the model's assumptions, to some extent, all equilibrium prices are a special case of the implement two-step charge for two sides in the same time. In addition, due to the restriction of matching technology, the profits of charging a registration fee is more than charging transaction fees. From the perspective of social total welfare, charging a registration fee of pricing is better than two-step charges way of pricing for the two sides.

Key words
P2P lending platform, Competition, Pricing, External

Introduction

Dr. Yunus, who has won the Nobel peace prize for 2006, thinks that modern economic theory is not enough to explain and solve the problem of poverty, so he formed the grameen bank in 1983, operating by conducting unsecured microfinance operations and a series of financial innovation mechanism. It not only creates profits, but also makes thousands of poor people out of poverty, especially the poor women, achieving a win-win situation for the poverty alleviation and the poor. The grameen bank's model is the original P2P financial platform's prototype. With rapid rise and prosperity of Internet, Internet financial industry (the combination of Financial and Internet) has made a fast development. For a long time, Chinese small micro-enterprise's financing demand still cannot derives satisfaction from the indirect financing channels such as Banks, this provides the possibility for the domestic P2P financial platform's development. In just a few years, Chinese P2P financial develops from nothing, and shows a strong developing power, Domestic P2P financial platform's development has begun to take shape, but there is no specific legislation, so the domestic microfinance is mainly presided by "China microfinance alliance". With the emergence and development of the P2P lending platform industry, numerous scholars from the domestic and international begin to pay close attention to the P2Pindustry and have a deep research on it.

At present, the research of P2P lending platform is mainly concentrated in three aspects: the P2P's operation mode, P2P pricing and the P2P's risk analysis and regulation. Foreign research achievements on P2P pricing is relatively few, the research content mainly includes the lender's behavior in P2P lending(Yum H, 2012) and the investor's information gathering and the decision-making behavior (Eunkyoung Lee, 2012), domestic representative literature on P2P pricing is Yanhong Cai (2014). As a general rule, there are two kinds of understanding for P2P platform lending pricing. One kind of pricing is studying on P2P lending rates for investors and lenders pricing; the other kind of pricing is studying on P2P platform for users to access platform, namely using the two-sided market theory to research the pricing. This paper is based on the second one.

Rochet & Tirole (2004) argued that the characteristics of the two-sided market is "price structure is not neutral". In other words, it assumes that platform enterprise asks the buyer(B) for the price as P_B, the seller (S) for the price as P_S, when the general price level $P = P_B + P_S$, platform's demands for both of the buyer and seller, remains unchanged, if any price change will directly influence the total volume of platform, the platform market is called a two-sided market. Rochet & Tirole (2003) divided the platform into monopoly platform, competing platform when analysis of the platform pricing strategy; Armstrong (2006) divided the platform into monopoly platform, competing platform and the platform of competitive bottlenecks, which is from the degree of platform competition.

On the Pricing theory of the competitive platform, Hagiu (2006) concluded that in competitive platform, platform tends to ask the single-homing seller for a lower price, and Armstrong & Wright (2007) obtained a similar conclusion. In addition, Armstrong (2004) studied the effects of the platform's product differentiation on the pricing strategy, draw a conclusion that the more difference on both sides of the two platforms, or the more greater market power of platform, the more greater of the price addition of both side on platform, while smaller differences can lead to a platform pricing in the side decline gradually until it is zero. Li Xu (2006) argued that platform operator's compatibility, cross network externality have influence to platform pricing, Li Xu (2009) also pointed out that the degree of competition, and differentiation degree would affect the platform pricing. Lu Jiang (2008) argued that in the case of using two-step pricing, transaction number, externality, user's number would affect the registration fees or transaction fees. Ting-hai zhang (2009), Shansen Zhang (2012) believed that platform matching technology is positively related to registration fees and transaction fees. Therefore, the major influencing factors for competitive platform pricing, are cross network externalities, the user's number, multi-homing, trading times, compatibility, differentiation, and platform matching technology.

Now there are only a few articles studying P2P lending platform pricing problem based on the two-sided market pricing model. Wenjie Xu (2013) was based on the monopoly pricing platform, through the game theory to analysis, pointed out that the more higher conversion cost of one side, the more lower transformation cost of the opponent's conversion cost, the platform could lock and attract more users. Yanhong Cai (2014) considered the pricing strategy under the condition of monopoly platform, concluded that the social optimal pricing of a platform for one side is a new one user's add cost of provide services, and minus this user's across network externality, and the result is consistent with the conclusion of Weyl (2010). In this paper, it is based on the improved optimization of the model, considering P2P lending platform's pricing strategy under the condition of competition, so as to initiate somewhat to research of our predecessors.

Model Assumption

This article is based on the Hotelling model, considering cross network externalities and directly network externality to study the P2P lending platform pricing strategy under the condition of competition. Firstly, it is a competitive platform, so there are two platforms, each platform has users of two side with the investors(I) and the lenders (L),the platform 1's user's number are n_{1I}, n_{1L}, the platform 2's user's number are n_{2I}, n_{2L}, direct network externalities areα_I, α_L (α_I is said the network externalities for investors to investors, $\alpha_L$is said the network externalities for lenders to lenders, and their absolute value are less than 1), cross network externalities are β_I, β_L ($\beta_I$is said the network externalities for lenders to investors, $\beta_L$is said the network externalities for investors to lenders, and their absolute value are less than 1), and suppose two platforms have the same network externalities of each type of user.

For that it is competitive platform, so the two platforms have to carve up the market, thus assuming the users of two platform meet the following conditions:

$n_{1I} + n_{2I} = 1, n_{1L} + n_{2L} = 1$.

And the user's equilibrium results have been obtained as follows:

$n_{1I} = \frac{1}{2} + \frac{\mu_{1I} - \mu_{2I}}{2d_I} n_{1L} = \frac{1}{2} + \frac{\mu_{1L} - \mu_{2L}}{2d_L}; n_{2I} = \frac{1}{2} + \frac{\mu_{2I} - \mu_{1I}}{2d_I} n_{2L} = \frac{1}{2} + \frac{\mu_{1L} - \mu_{2L}}{2d_L}$

μ is the user's utility of access platform, d is the respective diversity index of users for both side, f is the average platform cost of each side's users. Take the example with charging registration fees to both sides:

Platform 1's utility function:$\mu_{1I} = \alpha_I n_{1I} + \beta_I n_{1L} - P_{1I}; \mu_{1L} = \alpha_L n_{1L} + \beta_L n_{1I} - P_{1L}$

Platform2's utility function:$\mu_{2I} = \alpha_I n_{2I} + \beta_I n_{2L} - P_{2I}; \mu_{2L} = \alpha_L n_{2L} + \beta_L n_{2I} - P_{2L}$

Profit function:$\pi_1 = (P_{1I} - f_I)n_{1I} + (P_{1L} - f_L)n_{1L}; \pi_2 = (P_{2I} - f_I)n_{2I} + (P_{2L} - f_L)n_{2L}$

Thus by the profit maximization of first-order conditions, namely the derivative of the profits to the price is zero, we can obtain the optimal pricing strategy of the profit maximization of the platform.

Pricing mode of P2P Lending Platform

In research on two-sided market pricing problem, economists generally assume that same side user is heterogeneous, which is manifested for member-profits difference (charge registration fees) and trading-profits difference (charge transaction fees). Rochet & Tirole (2003) assumes that the user from the platform is trading-profits difference, so the platform charges transaction fees; Armstrong (2006) assumes that the user from the platform is member-profits difference, so platform charges registration fees. Rochet

& Tirole (2006) have a further develop for the two-sided market pricing model, considering two kinds of user heterogeneous, and define it as the membership externality and the usage externality, so platform can implement two-step pricing. Weyl (2010) points out that the platform can make an insulating tariff on both sides, which can achieve any desired number of users.

Since there is only involved in the two variables with both side's number, it makes analysis very simple, and platform pricing can use any way. So considering charging registration fees, transaction fees and two-step charges on either side of the platform. Thereby, it is formed nine different permutations and combination pricing combination, such as table 1.

Table 1. Platform pricing on the classification

I：registration fees L：registration fees	I：transaction fees L：transaction fees	I：two-step charges L：two-step charges
I：registration fees L：transaction fees	I：transaction fees L：registration fees	I：two-step charges L：registration fees
I：registration fees L：two-step charges	I：transaction fees L：two-step charges	I：two-step charges L：transaction fees

I:registration fees, L:registration fees

In this kind of cases, the platforms charge a registration fee for investors and lenders. For that the two platforms take the same pricing when achieving equilibrium, therefore, taking the platform 1 for example, platform 1 utility function can be as:

$\mu_{1I} = \alpha_I n_{1I} + \beta_I n_{1L} - P_{1I}; \mu_{1L} = \alpha_L n_{1L} + \beta_L n_{1I} - P_{1L}$

The profit function of the platform 1 is: $\pi_1 = (P_{1I} - f_I)n_{1I} + (P_{1L} - f_L)n_{1L}$

By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$P_{1I} = P_{2I} = f_I + d_I - \alpha_I - \beta_L; P_{1L} = P_{2L} = f_L + d_L - \alpha_L - \beta_I$

Each platform's profit is: $\pi_1 = \pi_2 = \frac{1}{2}(d_I + d_L - \alpha_I - \alpha_L - \beta_I - \beta_L)$

The consumer surplus of users on both sides in Platform is the sum of each user's net addition; the total social welfare is the sum of two platforms' profit and the sum of net surplus: $W = \mu_{1I} n_{1I} + \mu_{1L} n_{1L} + \mu_{2I} n_{2I} + \mu_{2L} n_{2L} + \pi_1 + \pi_2$

So it conducts that: $W = \mu_{1I} + \mu_{1L} + 2\pi_1 = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - f_I - f_L$

Thus under the condition of platform's maximize profits, the equilibrium price for investors and lenders are positively related to this side user's average cost and diversity index, and negatively related to the cross network externalities and directly network externalities.

I:transaction fees, L:transaction fees

In this kind of cases, the platforms charge a transaction fee for investors and lenders. Assuming that the investor trading amount of the uniform distribution on $[0, t_I]$, P_{tI} is commission ratio charged for the amount of the investor trading, so it can use $\frac{1}{2}t_I P_{tI}$ to be the expected cost for the investors. Assuming that the lender trading amount of the uniform distribution on $[0, t_L]$, P_{tL} is commission ratio charged for the amount of the lender trading, so it can use $\frac{1}{2}t_L P_{tL}$ to be the expected cost for the lenders. c_{tI}, c_{tL} are respectively each side user's cost of unit volume, λ is each side user's matching rate, and $0 < \lambda < 1$. Platform 1's utility function is:

$\mu_{1I} = \alpha_I n_{1I} + \beta_I n_{1L} - \frac{1}{2}t_I P_{t1I}; \mu_{1L} = \alpha_L n_{1L} + \beta_L n_{1I} - \frac{1}{2}t_L P_{t1L}$

The profit function of the platform 1 is:

$\pi_1 = (\frac{1}{2}t_I P_{t1I} - \frac{1}{2}t_I c_{tI})\lambda n_{1I} + (\frac{1}{2}t_L P_{t1L} - \frac{1}{2}t_L c_{tL})\lambda n_{1L}$

By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$P_{t1I} = P_{t2I} = c_{tI} + \frac{2}{t_I}(d_I - \alpha_I - \beta_L); P_{t1L} = P_{t2L} = c_{tL} + \frac{2}{t_L}(d_L - \alpha_L - \beta_I)$

A single platform margins and social total welfare, respectively is:

$$\pi_1 = \pi_2 = \frac{1}{2}\lambda(d_I + d_L - \alpha_I - \alpha_L - \beta_I - \beta_L)$$

$$W = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - \frac{1}{2}t_I c_{tI} - \frac{1}{2}t_L c_{tL} + (1-\lambda)(\alpha_I + \alpha_L + \beta_I + \beta_L - d_I - d_L)$$

Thus under the condition of platform's maximize profits, the equilibrium price for investors and lenders are positively related to this side user's cost of unit volume and diversity index, and negatively related to the cross network externalities and directly network externalities. Compared with the condition of charging registration fees at the same time, the pricing effect of user's network externalities both sides are affected by the transaction amount distribution.

I:two-step charges, L:two-step charges

In this kind of cases, the platforms asks two-step charges for investors and lenders, namely charging registration fees and transaction fees at the same time. Platform 1's utility function is:

$$\mu_{1I} = \alpha_I n_{1I} + \beta_I n_{1L} - P_{1I} - \frac{1}{2}t_I P_{t1I}; \mu_{1L} = \alpha_L n_{1L} + \beta_L n_{1I} - P_{1L} - \frac{1}{2}t_L P_{t1L}$$

The profit function of the platform 1 is:

$$\pi_1 = (P_{1I} - f_I)n_{1I} + (P_{1L} - f_L)n_{1L} + (\frac{1}{2}t_I P_{t1I} - \frac{1}{2}t_I c_{tI})\lambda n_{1I} + (\frac{1}{2}t_L P_{t1L} - \frac{1}{2}t_L c_{tL})\lambda n_{1L}$$

By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$$P_{1I} = P_{2I} = f_I + d_I - \alpha_I - \beta_L - \lambda(\frac{1}{2}t_I P_{tI} - \frac{1}{2}t_I c_{tI});$$

$$P_{1L} = P_{2L} = f_L + d_L - \alpha_L - \beta_I - \lambda(\frac{1}{2}t_L P_{tL} - \frac{1}{2}t_L c_{tL})$$

A single platform's profit: $\pi_1 = \pi_2 = \frac{1}{2}(d_I + d_L - \alpha_I - \alpha_L - \beta_I - \beta_L)$

Social total welfare:

$$W = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - f_I - f_L - (1-\lambda)\left(\frac{1}{2}t_I P_{tI} + \frac{1}{2}t_L P_{tL}\right) - \frac{\lambda}{2}(t_I c_{tI} + t_L c_{tL})$$

Thus under the condition of platform's maximize profits, the equilibrium price for investors and lenders are positively related to this side user's average cost and diversity index, and negatively related to the cross network externalities and directly network externalities. It can obviously see that charging registration fee or charging transaction fees for both side at the same time is a special case of the two-step charges for each side.

I:registration fees, L:transaction fees

In this kind of cases, platform asks investors for registration fees, and lenders for transaction fees. By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$$P_{1I} = P_{2I} = f_I + d_I - \alpha_I - \lambda\beta_L; P_{t1L} = P_{t2L} = c_{tL} + \frac{2}{t_L}(d_L - \alpha_L - \frac{1}{\lambda}\beta_I)$$

A single platform margins and social total welfare, respectively is:

$$\pi_1 = \pi_2 = \frac{1}{2}(d_I + \lambda d_L - \alpha_I - \lambda\alpha_L - \beta_I - \lambda\beta_L)$$

$$W = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - f_I - \frac{1}{2}t_L c_{tL} + (1-\lambda)(\alpha_L - d_L) - (\frac{1}{\lambda} - 1)\beta_I$$

Thus under the condition of platform's maximize profits, the equilibrium price for investors is positively related to investor's average cost and diversity index, and negatively related to the cross network externalities and directly network externalities, and the influence degree of Cross network externalities is restricted by the matching rate. The equilibrium price for lenders is positively related to lender's cost of unit volume and diversity index, and negatively related to the cross network externalities and directly network externalities, the influence degree of Cross network externalities is promoted by the matching rate, at the same time, the impact of the diversity index, the direct network externality and cross network externalities is affected by the transaction amount.

I:registration fees, L:two-step charges

In this kind of cases, platform asks investors for registration fees, and lenders for two-step charges. By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$$P_{1I} = P_{2I} = f_I + d_I - \alpha_I - \beta_L; \quad P_{1L} = P_{2L} = f_L + d_L - \alpha_L - \beta_I - \lambda(\frac{1}{2}t_L P_{tL} - \frac{1}{2}t_L c_{tL})$$

A single platform margins and social total welfare, respectively is:

$$\pi_1 = \pi_2 = \frac{1}{2}(d_I + d_L - \alpha_I - \alpha_L - \beta_I - \beta_L)$$

$$W = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - f_I - f_L - (1-\lambda)\frac{1}{2}t_L P_{tL} - \frac{\lambda}{2}t_L c_{tL}$$

Thus under the condition of platform's maximize profits, the equilibrium price for investors and lenders are positively related to this side user's average cost and diversity index, and negatively related to the cross network externalities and directly network externalities.

I:transaction fees, L:two-step charges

In this kind of cases, platform asks investors for transaction fees, and lenders for two-step charges. By the profit maximization of the first-order conditions and equilibrium conditions of the Hotelling model, so it is obtained:

$$P_{t1I} = P_{t2I} = c_{tI} + \frac{2}{t_I}(d_I - \alpha_I - \frac{1}{\lambda}\beta_L); P_{1L} = P_{2L} = f_L + d_L - \alpha_L - \lambda\beta_I - \lambda(\frac{1}{2}t_L P_{tL} - \frac{1}{2}t_L c_{tL})$$

A single platform margins and social total welfare, respectively is:

$$\pi_1 = \pi_2 = \frac{1}{2}(\lambda d_I + d_L - \lambda\alpha_I - \alpha_L - \lambda\beta_I - \beta_L)$$

$$W = \frac{1}{2}(\alpha_I + \alpha_L + \beta_I + \beta_L) - \frac{1}{2}t_I c_{tI} - f_L - (1-\lambda)\frac{1}{2}t_L P_{tL} - \frac{\lambda}{2}t_L c_{tL} + (1-\lambda)(\alpha_I - d_I) + (\frac{1}{\lambda} - 1)\beta_L$$

Thus under the condition of platform's maximize profits, the equilibrium price for investors is positively related to investor's cost of unit volume and diversity index, and negatively related to the cross network externalities and directly network externalities, the impact of diversity index, the direct network externalities and cross network externalities are affected by the transaction value of distribution, and the influence degree of cross network externalities is promoted by matching rate.

The equilibrium price for lenders is positively related to lender's average cost and diversity index, and negatively related to the cross network externalities and directly network externalities, and the influence degree of cross network externalities is restricted by the matching rate.

The rest of the three kinds of pricing are transaction fees of investors versus registration fees of lenders; two-step charges of investors versus registration fees of lenders and two-step charges of investors versus transaction fees of lenders. Because these are the analysis of a symmetric form of pricing of the front, so each of the relationship is the exchanged location of the lenders and investors, specific results are no longer here.

Conclusion

By the model, it can come to the available pricing strategy, platform profits and social total welfare.
In terms of the pricing strategy:
1. No matter what kind of pricing combinations, the equilibrium price of platform for investors and borrowers is positively related to its average cost or unit transaction costs and the diversity index, and is negatively related to the direct network externalities and cross network externalities. When one side is charged with transaction fees, no matter what kind of pricing the other side charged, direct network externalities and cross network externalities will directly affected by the distribution of transaction value. On one side charged registration fees, other side transaction fees, or one side charged transaction fee, other side two-step charges, the influence degree of network externalities are influenced by the platform matching rate.
2. No matter what kind of pricing on one side, as long as the other side is not charged transaction fees, then the equilibrium price will not change. Under the condition of satisfaction model hypothesis, other models of equilibrium price, to some extent, is a special case of the implement two-step charge at the

same time. So when meet certain conditions, the equilibrium results of the implement two-step charge will degenerate into several models of equilibrium price.

In terms of the profit and social total welfare:

1. Due to the characteristics of the Hotelling model's equilibrium solution, competitive platform divide equally to share the market when reaching equilibrium, as a result the pricing strategy of two platforms is the same, no matter which pricing combinations, platform profits is positively related to the diversity index of both side, and is negatively related to direct network externalities and cross network externalities of both side. That social total welfare is positively related to direct network externalities and cross network externalities of both side, and is negatively related to the average cost, the difference index, transaction fee, unit transactions costs of both side users.

2. For the match rate is usually less than 1, so the four kinds of pricing combination which are not charging transaction fees have the same maximum profit, and in the same four circumstances, charging a registration fee for both side gets a maximum of total social welfare, and charging two-step for both side gets a minimum of total social welfare, and the rest of pricing combination is in the middle level of total social welfare. So, even under the same total profits of the platform, the pricing combination of registration fee for both sides is superior to the pricing combination of two-step charges for both sides.

3. One side is charged by the transaction fee, the other side, regardless of charged registration fees or two-step pricing method, the profit of the combination, will not change, but the total social welfare of charging a registration fee foe the other side is more than charging two-step pricing. So under the same platform margins, a registration fee pricing combination is superior to implement two-step charge pricing combinations.

4. The combination of charge a transaction fee pricing gets a minimum of profit, which indicates that a key factor of platform margins are matching technology when the platform charge the transaction fee for both side users. So in general speaking, there are few platform adopts the pricing strategy. As the parameter of the concrete numerical value is not very clear, when assuming the two-sided platform user's platform costs and transactions costs are the same, considering the diversity index compared with the size of the sum of all kinds of network externalities, so there may be a possibility that the pricing combination of charging a transaction fee pricing for both side will have a minimum platform but a higher social total welfare than any other combination, this depends on the specific values of the parameters.

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3. Regional Development

The Effects of Population Growth on Development of Country - an Overview about India and European Scenario

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Abstract

Economic performance and population growth are expressly linked factors, while a large population might translate to having a large labor force, several key economic factors have contributed to how the Indian and European populations have grown and what differing effects that growth has had on their developing economies. The main purpose of this study is to analyze the relationship between population growth and development of India and European countries determine if the relationship between population growth and development in India and European countries is a short-term or a long run phenomena; how do human resources make an impact on economic development of the country; to examine the sources of variations of economic growth.

This study highlight some of the very important differences in the population growth rates of these two Indian and European countries and how it might explain the variation between their economic development and performance. This study will not only touch upon the pure economic data, but also find a place for political, cultural, and sociological links between the following: per capita income, fertility rates, technological advancement, population ageing, education, population control policy, and government intervention.

Key words
Population, Economy, Development, Growth.

Introduction

Demographic modification in India is giving new economic opportunities. As in several countries, declining infant and children's mortality helped to spark lower fertility, effectively leading to a brief generation. As this cohort moves into operating ages, India finds itself with a probably higher share of employees as compared with dependents. If working-age folks will be profitably used, India's economic process stands to accelerate. Theoretical and empirical literature on the result of demographics on labor provide, savings, and economic process underpins this effort to know and forecast economic process in India. Policy selections will enhance India's realization of economic advantages stemming from demographic modification. Failure to require advantage of the opportunities inherent in demographic modification will result in economic development.

On the other hand if we will have look on present situation the population projections for European countries. The dynamics of migration might prevent some European countries from experiencing population decline in the near future, although fertility has been below replacement for some time. Similarly, the EU-27 population is projected to further increase. Our results confirm that population ageing is underway all around Europe, albeit with clear differences across countries. According to the traditional measures of population age structure, the countries with the oldest populations are expected to be found within the EU. However, these measures do not take into account the longevity change: a man of 65 living in a country with a higher life expectancy might be at a different stage of the life cycle in comparison to a man of 65 living in a country with lower life expectancy.

Relying on three alternative measures of age which consider explicitly changes in the remaining life expectancy, we find evidence that ageing will continue, but 1) it might be more severe in some countries where population is shrinking towards older ages but life expectancy is still rather low; 2) it might not be as fast as it appears when not adjusting for the longevity change.

Objectives of study
1. To analyze the relationship between population growth and development of India and European countries.
2. To determine how do human resources make an impact on economic development of the country.
3. To examine the sources of variations of economic growth.

INDIAN SCENARIO

Figure 1. India's share of world population
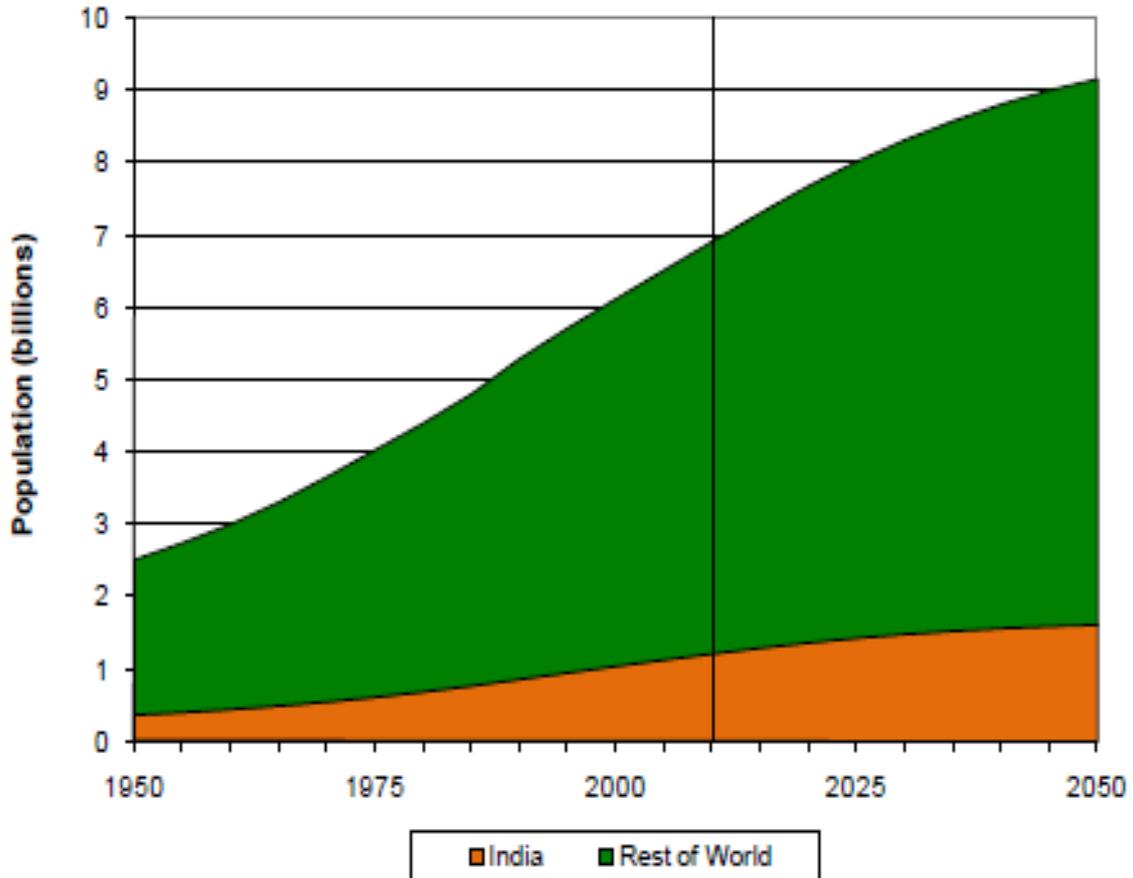
Source: United Nations (2009).

Global population probably increase 2% every year from 1960-2000, a level that's unsustainable within the future, because it interprets into population doubling almost every 35 years. Current Indian population increasing rapidly with the rate of 1.4% every year, while surpassing China's population growth rate is 0.7%. The differentiation between India and China will outcome in India exceeding China with respect to population size in less than 20 years.

During the past few years, drastic progression of population resulted into decline in mortality rates and by a rise in economic gain per capita by globally and in Indian economically too. This study will give overview about size, population growth rate, and structure of Indian population of few past decades as well as scenario of future prediction.

Statewide Population of India

Looking towards an overview about Indian Statewise Population the number is almost over 1.32 billion, India has witnessed a large growth in its population within the last fifty years. As per estimates, India can become the most populated country within the world till 2030 by giving back China.Uttar Pradesh, India's most populated state is currently home to over 210 million people. Most of the states in India are very densely populated as compared to other places in the world, thus leading to danger of environment imbalances. Population growth rate of many highly populated states in India is 5% to 18% in a decade. This growth over the years brings an alarming sign for the whole nation as natural resources are limited in future.

Rank in 2011	India/State/Union Territory #	Population 2011	Percent to total population of India		Rank in 2001
			2011	2001	
1	2	3	4	5	6
	INDIA	1,21,01,93,422	100.00	100.00	
1	Uttar Pradesh	19,95,81,477	16.49	16.16	1
2	Maharashtra	11,23,72,972	9.29	9.42	2
3	Bihar	10,38,04,637	8.58	8.07	3
4	West Bengal	9,13,47,736	7.55	7.79	4
5	Andhra Pradesh	8,46,65,533	7.00	7.41	5
6	Madhya Pradesh	7,25,97,565	6.00	5.87	7
7	Tamil Nadu	7,21,38,958	5.96	6.07	6
8	Rajasthan	6,86,21,012	5.67	5.49	8
9	Karnataka	6,11,30,704	5.05	5.14	9
10	Gujarat	6,03,83,628	4.99	4.93	10
11	Orissa	4,19,47,358	3.47	3.58	11
12	Kerala	3,33,87,677	2.76	3.10	12
13	Jharkhand	3,29,66,238	2.72	2.62	13
14	Assam	3,11,69,272	2.58	2.59	14
15	Punjab	2,77,04,236	2.29	2.37	15
16	Chhattisgarh	2,55,40,196	2.11	2.03	17
17	Haryana	2,53,53,081	2.09	2.06	16
18	NCT of Delhi #	1,67,53,235	1.38	1.35	18
19	Jammu & Kashmir	1,25,48,926	1.04	0.99	19
20	Uttarakhand	1,01,16,752	0.84	0.83	20
21	Himachal Pradesh	68,56,509	0.57	0.59	21
22	Tripura	36,71,032	0.30	0.31	22
23	Meghalaya	29,64,007	0.24	0.23	23
24	Manipur	27,21,756	0.22	0.22	24
25	Nagaland	19,80,602	0.16	0.19	25
26	Goa	14,57,723	0.12	0.13	26
27	Arunachal Pradesh	13,82,611	0.11	0.11	27
28	Puducherry #	12,44,464	0.10	0.09	28
29	Mizoram	10,91,014	0.09	0.09	30
30	Chandigarh #	10,54,686	0.09	0.09	29
31	Sikkim	6,07,688	0.05	0.05	31
32	Andaman & Nicobar Islands #	3,79,944	0.03	0.03	32
33	Dadra & Nagar Haveli #	3,42,853	0.03	0.02	33
34	Daman & Diu #	2,42,911	0.02	0.02	34
35	Lakshadweep #	64,429	0.01	0.01	35

Source: Census # India. "Census of India". Retrieved 2011

Population growth hampers the Indian economic development in many ways -
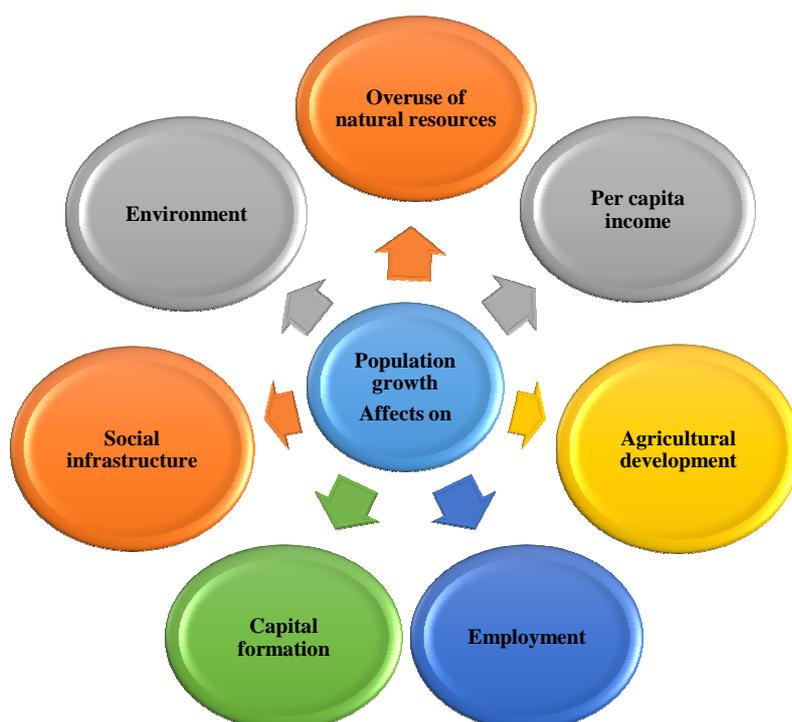
I. Overuse of natural resources

Rapid population growth rises to overuse the country's natural resources. This is significant situation wherever the most of individuals are dependent on agriculture for their bread and butter, as quickly growing population, agricultural field develop slighter and unremunerated to nurture. There's no opportunity of accelerating agriculture production through the utilization of available land.

Accordingly, there are many peoples living in below poverty line. On the other hand we can say, Indian population has increased drastically from 2001 to 2011, which results into overuse of natural resources such as land, forest, oil, water etc , thus imperiling of the well-being of forthcoming generations.

II. Per capita income

The consequence of population growth on per capita income is disapproving. The growth of population inclines to retard the per capita income in three ways:

- It advances the pressure of population on land.
- It leads to escalation in expenses of intake goods because of the shortage of the co-operant feature to intensification their supplies.
- It leads to a deterioration in the increase of capital because of escalation in family size, expenditures increase. These contrary effects of population growth on per capita income function added harshly if the ratio of youngsters in total population is high. Thus a huge amount of youngsters in the population demanded sustainable load on economy.

Figure 2.
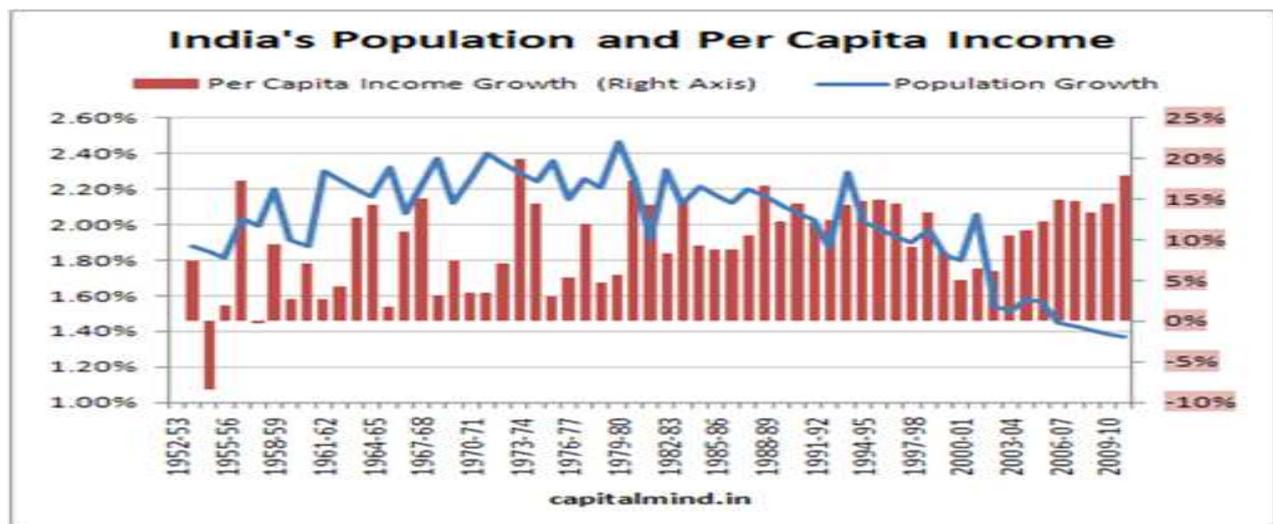
Source- economic survey 2014-15

III. Agricultural development

In developing countries like India, individuals principally living in rural extents. Agriculture is their core profession. Thus through population growth the land peoples quantitative relation is distributed. Density of population toward land increases as a result of land offer is inflexibility.

It improves to hidden unemployment and decreases per capita productivity, thus the multiplicity of landless peoples increases, their wages decrease. Therefore, low per capita, production decreases the proclivity to avoid wasting and invest. As a outcome the usage of upgraded technology and different enhancements on land don't seem to be possible. Wealth development in farming agonizes and therefore the economy is stalled to the survival level. the matter of nurturing increasing population turn out to be severe as a result of critical scarcity of food products.

IV. Employment

Rapidly increasing population plunges the economy into mass unemployment and under-employment. As population increases, the proportion of workers to total population rises. But in the absence of complementary resources, it is not possible to expand jobs. The result is that with the rise in labor force, unemployment and under-employment increases. A rapidly increasing population reduces income, savings and investment. Thus, capital formation is retarded and job opportunities are reduced, thereby increasing

unemployment. Moreover, as the labor force increases in relation to land, capital and other resources, complementary factors available per workers decline. As a result, unemployment increases. India has a backlog of unemployment which keeps on growing with a rapidly increasing population. This tends to increase the level of unemployment manifold as compared with actual increase in labor force.

Figure 3.
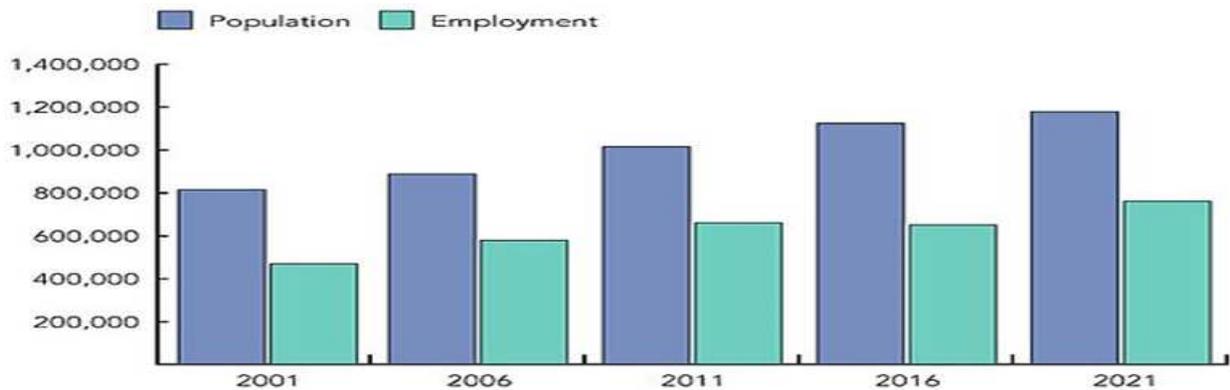
Source: official plan projections

V. Capital formation

Growth of population retards capital formation. As population increases, per capita available income declines. People are required to feed more children with the same income. It means more expenditure on consumption and a further fall in already low savings and consequently in the level of investment. Further, a rapidly growing population by losing incomes, savings and investment compels the people to use a low level of technology which further retards capital formation.

VI. Environment

Rapid population growth leads to environmental damage. Scarcity of land due to rapidly increasing population pushes large number of people to ecologically sensitive areas such as hillsides and tropical forests. It leads to over grazing and cutting of forests for cultivation leading to severe environmental damage. Moreover, the pressure of rapid growth of population forces people to obtain more food for themselves and their livestock. As a result, they over-cultivate the semi-arid areas. This leads to desertification over the long run when land stops yielding anything. Besides, rapid population growth leads to migration of large numbers to urban areas with industrialization. This results in severe air, water and noise pollution in cities and town.

VII. Social infrastructure

Rapidly growing population necessitates large investments in social infrastructure and diverts resources from directly productive assets. Due to scarcity of resources, it is not possible to provide educational, health, medical, transport and housing facilities to the entire population. There is over-crowding everywhere. As a result, the quality of these services goes down. To provide these social infrastructures requires huge investment.

Key facts about India's population

A. Share of population in each age group, separately for males and females

In the past, India's population has grown very rapidly and has imposed a substantial burden of youth dependency on the Indian economy. But in recent years, India's demographic profile has begun to evolve in a way that is potentially more favorable to economic growth.

India's demographic changes are also manifest in its age structure. The population pyramids of Figure show the share of population in each age group, separately for males and females. In 1950, India had a very young population, with many children and few elderly; this gave India's age distribution a pyramidal shape. Moving forward in time, the base of the population pyramid shrinks as the number of working-age individual's increases relative to children and the elderly.

Figure 4. India's population pyramid, 1950, 2010, and 2050
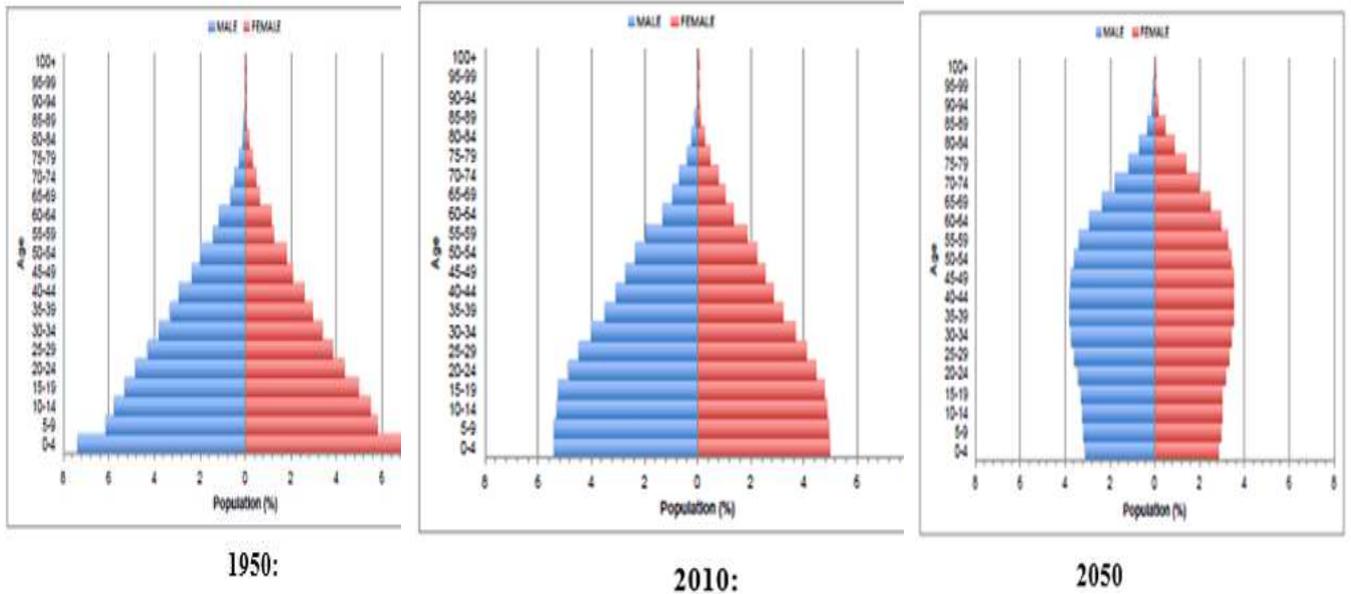
B. Several aspects of India's demographic profile

Figure mention below given an idea about plots several aspects of India's demographic profile over time, revealing significant improvements in basic health indicators. The interplay of these mortality and fertility changes implies sizable changes in the age structure of India's population. Since 1950, India has experienced a 70% decline in the infant mortality rate, from over 165 deaths per thousand live births in the 1950s to around 50 today. India's child (i.e., under age 5) mortality rate has fallen from 138 deaths per thousand in the early 1980s to 75 today.

Figure 5. India's changing demographic profile
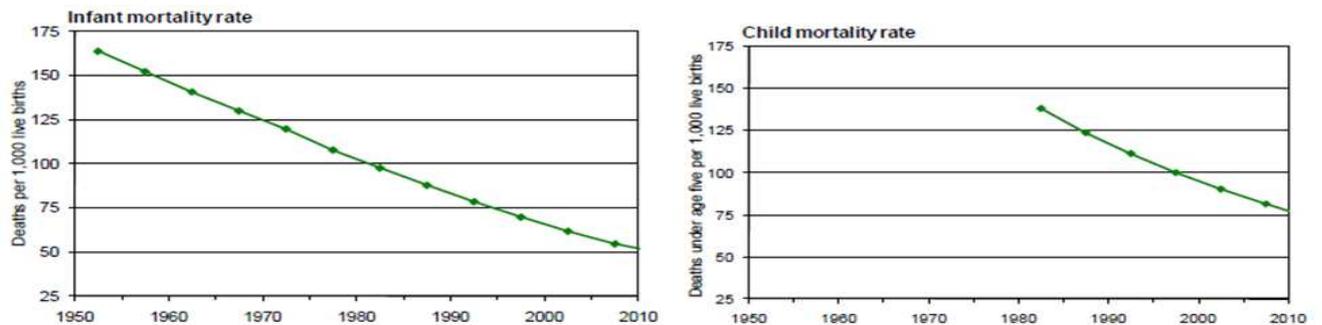
C. an alternative representation of the changing age structure of India's population

In the Figure shows an alternative representation of the changing age structure of India's population: the ratio of the number of working-age Indians to the number of non-working-age Indians under three UN fertility scenarios. The graph also plots the ratio for East Asia, for comparison.

Figure 6. Growth of the working-age to non-working-age ratio in India, 1950-2050
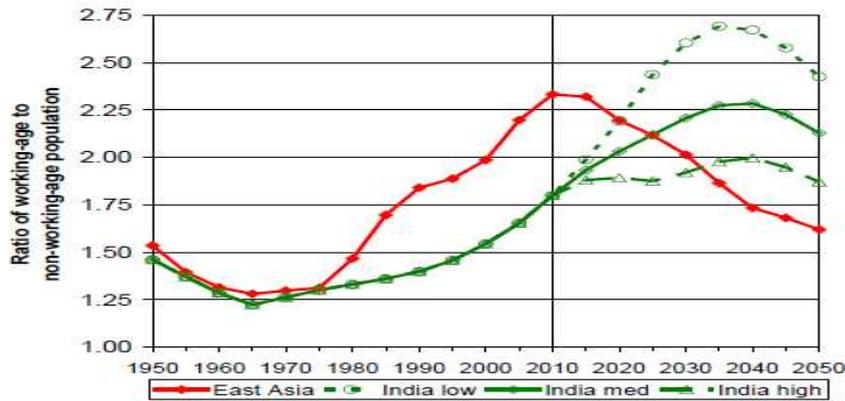
Source: United Nations (2009).

EUROPEAN SCENARIO

Europeans are living longer and healthier lives, and subsequent generations can benefit from longer lifespans lived together. This spectacular achievement of European societies is accompanied, however, by fertility rates below replacement levels and, in a remarkably large number of countries, far under that level. As a result, population growth is slowing down while population ageing accelerates. In particular, rapid increases in the elderly population are predicted for the coming decades due to the ageing of post-war baby boomers. In addition, persistent low fertility rates lead to a marked reduction in the labor force in the near as well as more distant future. These developments reflect the deep transformations in the age composition of European populations. Along with changing family and household structures, they set a largely new demographic scene for development prospects in Europe. Challenges posed by demographic change have increasingly been a focal point of debates on the future of the EU. Population and labor force ageing in particular, accompanied by a shrinking of the work force, raise concerns about future economic growth.

Figure 7.

|	Population, 1 January 2014	Live births	Deaths	Natural change (¹)	Net migration and statistical adjustment (²)	Total change between 1 January 2014 and 2015	Population, 1 January 2015
EU-28 (³)	506 857.5	5 108.4	4 947.0	161.4	951.9	1 113.3	508 191.1
Belgium	11 204.0	125.0	104.8	20.3	34.2	54.4	11 258.4
Bulgaria	7 245.7	67.6	109.0	-41.4	-2.1	-43.5	7 202.2
Czech Republic	10 512.4	109.9	105.7	4.2	21.7	25.9	10 538.3
Denmark	5 617.3	56.9	51.3	5.5	36.8	42.4	5 659.7
Germany	80 767.5	700.0	875.0	-175.0	581.5	406.5	81 174.0
Estonia	1 315.8	13.6	15.5	-1.9	-0.6	-2.5	1 313.3
Ireland	4 605.5	66.5	29.3	37.2	-16.8	20.4	4 625.9
Greece	10 903.7	92.1	113.9	-21.8	-69.4	-91.2	10 812.5
Spain	46 512.2	426.0	396.1	30.0	-102.3	-72.3	46 439.9
France (³)	65 835.6	820.8	556.1	264.7	31.9	296.6	66 352.5
Croatia	4 246.8	39.6	50.8	-11.3	-10.2	-21.5	4 225.3
Italy	60 782.7	502.6	598.4	-95.8	108.7	12.9	60 795.6
Cyprus	858.0	9.3	5.3	4.0	-15.0	-11.0	847.0
Latvia	2 001.5	21.7	28.5	-6.7	-8.7	-15.4	1 986.1
Lithuania	2 943.5	30.4	40.3	-9.9	-12.3	-22.2	2 921.3
Luxembourg	549.7	6.1	3.8	2.2	11.0	13.3	563.0
Hungary	9 877.4	93.3	126.3	-33.0	4.6	-28.4	9 849.0
Malta	425.4	4.2	3.3	0.9	3.0	4.0	429.3
Netherlands	16 829.3	175.2	139.2	36.0	35.5	71.4	16 900.7
Austria	8 506.9	81.7	78.3	3.5	74.6	78.0	8 584.9
Poland	38 017.9	375.2	376.5	-1.3	-10.9	-12.2	38 005.6
Portugal	10 427.3	82.4	104.8	-22.4	-30.1	-52.5	10 374.8
Romania	19 947.3	183.8	253.3	-69.5	-16.4	-85.9	19 861.4
Slovenia	2 061.1	21.2	18.9	2.3	-0.5	1.8	2 062.9
Slovakia	5 415.9	55.0	51.3	3.7	1.7	5.4	5 421.3
Finland	5 451.3	57.2	52.2	5.0	15.4	20.5	5 471.8
Sweden	9 644.9	114.9	89.0	25.9	76.6	102.5	9 747.4
United Kingdom	64 351.2	776.4	570.3	206.0	210.0	416.0	64 767.1

Source-Eurostat (demo_pjanind)

Intergenerational perspective on population ageing

Population ageing cannot be considered as a process that concerns only the elderly. It affects people at all ages because it generates significant changes in family structures and a rising imbalance between young and old cohorts. The young become a numerical minority who coexist with several older
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generations. In such circumstances, the interdependencies between generations and genders should be treated as critical. These interdependencies are shaped to a large extent by social policies; however, they are also deeply rooted in social contexts.

Despite some variations within the adopted projection assumptions all population projections over the previous couple of decades have shown that the European population is obtaining older. The fertility decline below replacement level is that the principal actor within the method of population ageing in Europe in the course of associate degree increasing anticipation that enables additional and additional individuals living a extended and healthier life. Despite a generalized shrinkage of the bottom of the population pyramid all across Europe, European countries find themselves at quite completely different stages of the ageing method, as a result of the heterogeneousness within the pace and intensity of fertility decline, gains in anticipation and migration dynamics.

Figure 8. Transfers of money and time between generations

A. Transfers of money — percentage of total receiving or giving

Parents: 30 %
Sibling: 8 %
Spouse: 4 %
Children/in-laws: 45 %
Grandchildren: 1 %

Older people (aged 50+)

Parents: 4 %
Sibling: 3 %
Spouse: 2 %
Children/in-laws: 66 %
Grandchildren: 12 %

B. Transfers of time — percentage of total receiving or giving

Parents: 4 %
Sibling: 7 %
Spouse: 4 %
Children/in-laws: 46 %

Older people (aged 50+)

Parents: 30 %
Sibling: 7 %
Spouse: 4 %
Children/in-laws: 19 %

NB: The percentages in the chart represent the average across the countries participating in SHARE. Other relatives account for 8 % of time transfers both given and received and 5 % and 4 % of money transfers respectively. Other non-relatives comprise 32 % of receipts and gifts of time and 7–8 % of monetary transfers. These categories are not shown in the chart.

Source: OECD analysis of SHARE data, OECD, 2011, p. 11.

Population size and age structure characteristics

Notwithstanding the below-replacement fertility all around Europe, our projections designate that in the next forty years not all the European countries are expected to face the population shrinkage. There seems to be still space for population increase, possibly favoured by the population age structure and migration flows. On the one hand, we have countries which have been showing below-replacement fertility already for some time and for which a positive net migration plays the most important role, like for some EU countries (e.g. Greece, Spain). Finally, all the other countries are facing, or might face in the near upcoming, a decline in total population though with a clear expansion of the elderly. The EU-27 is projected to face a positive population growth almost throughout the next forty years, mostly due to

expected migration dynamics. Considering the period up to 2030, out of forty-four considered European countries the total population is projected to rise in twenty-six of them and fall in eighteen.

Looking at the European regions,7 in 2007 eastern Europe registers the highest population size (202.0 millions), followed by western and southern Europe. The population size in 2030 and the projected annual rate of population change clearly distinguish between in- and outmigration regions. Southern, western and northern Europe are still expected to show a population increase by 2030, while the whole of Eastern Europe might face a population decline. The Caucasian region is also projected to experience a population increase. Similarly, the EU-27 population might increase in the next 20-25 years. Here the distinction in the future population change is between the old (EU-15) and the new EU members (EU-12), the former being characterized by a positive rate of change, the latter by a negative one.

Table 1. Population size and growth rate in European regions, 2007 and 2030.

	Population size on 1 January 2007 (millions)	Projected population size, 2030 (millions)	Projected annual rate of population change, 2007-2030 (%)
Southern Europe	126.6	130.0	0.12
Western Europe	154.1	170.8	0.45
German-speaking countries	98.1	98.9	0.04
Nordic countries	24.8	27.5	0.45
Central-eastern Europe	77.3	74.7	-0.15
South-eastern Europe	42.5	38.9	-0.38
Eastern Europe	202.0	175.0	-0.62
Caucasus	16.2	17.5	0.35
EU-27	493.3	509.1	0.14
EU-15	390.0	411.5	0.23
EU-12	103.3	97.7	-0.25

Source-Eurostat (demo_pjanind)

Considering the population age pyramid, Figure indicates that the EU-27 population is projected to continue ageing in the next twenty years.

The basis of the age pyramid could reduce further, but the advancement of the elderly population is what appears most clearly. Despite some differences, similar dynamics are projected to prevail in both old and new EU members.

Figure 9. Population aged 65+ (%), years 2007, 2020, 2030.
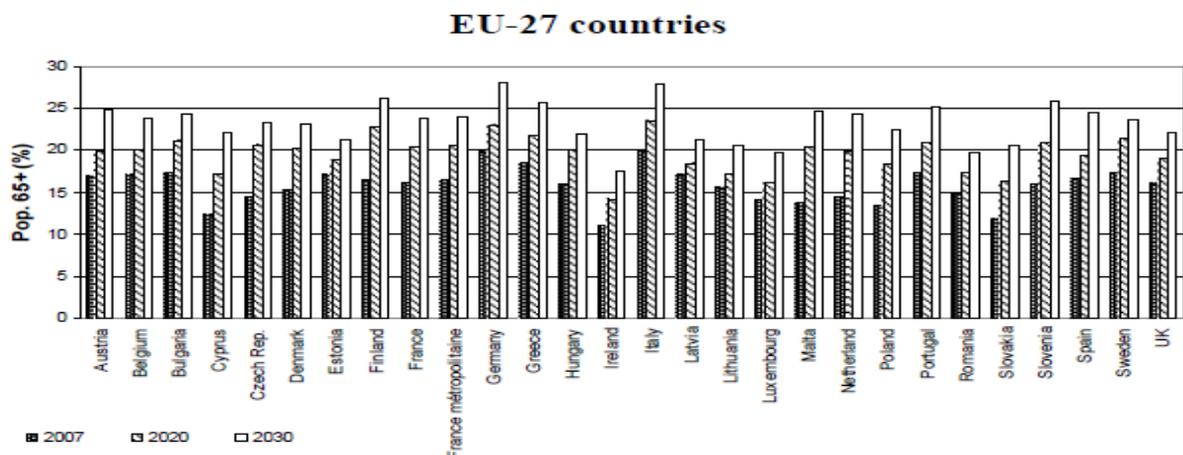
Source-Eurostat (demo_pjanind)

Similarly, the proportion of people aged 80+ might increase in all the considered European countries in the near future. Within the EU-27 the highest level in 2030 could be reached by Italy (9.4%), but also Finland, Germany and Sweden are expected to have figures above 8%. The projected level for the EU-27 is 7.3%.

Considering the European regions, in 2007 the German speaking countries and southern Europe show the highest figures for the 65+ aged population, namely 19.3% and 18.4% respectively. The lowest level is found in the Caucasus (9.9%). The EU-15 countries also have a somewhat higher proportion of people over 65 years of age (17.6%) in comparison to the new Member States (14.5%). In 2030 the German-speaking countries and southern Europe are expected to reach 27.6% and 26.2%, respectively, while in the Caucasus countries the population aged 65+ might represent a mere 15.8% of the total. The German-speaking countries and southern Europe also show the highest proportion of persons aged 80+, who could cover about 8% of the total population in 2030. In the Caucasus and eastern Europe that percentage is projected to stay still rather low between 2% and 4%. In 2030 the difference between the old and new EU Member States is 2.4 percentage points, with the latter countries showing the lower value.

Figure 10. Population aged 80+ (%), years 2007, 2020, 2030.
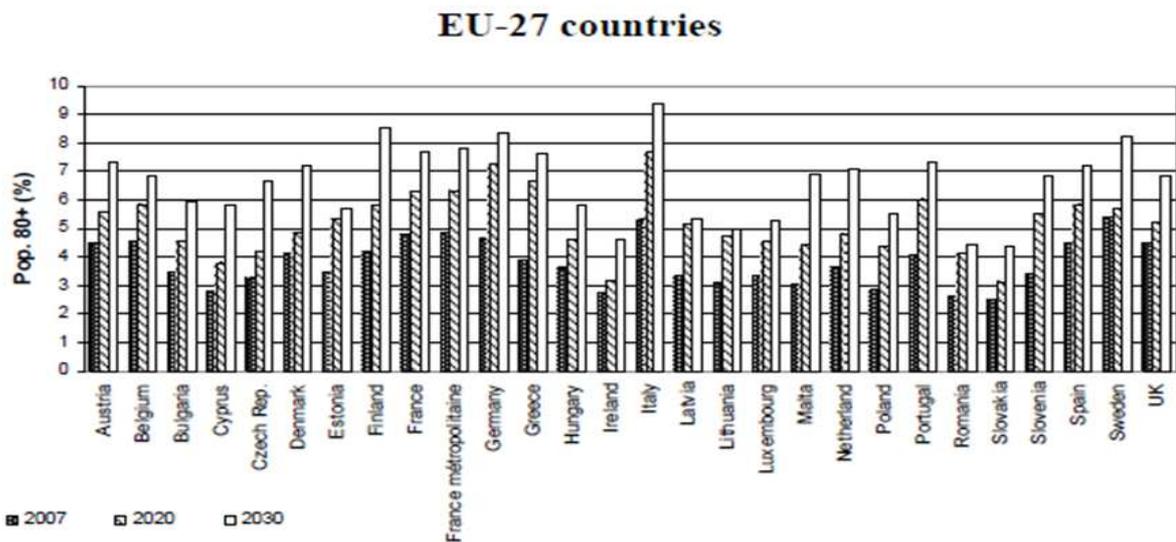
Source-Eurostat (demo_pjanind)

Figure 11. Old- and young-age dependency ratio (%) in the EU, 2007-2050.
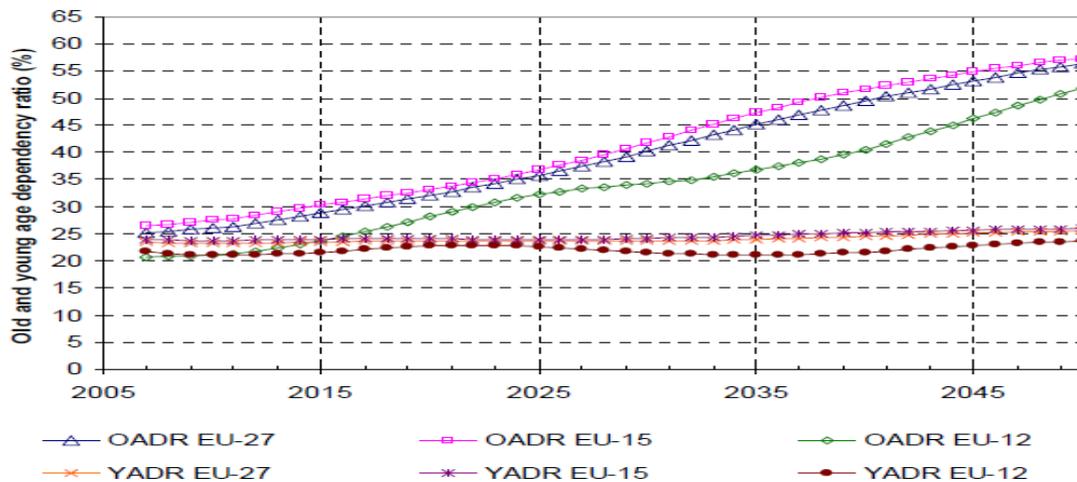
Source: Eurostat

Considering the EU countries during the whole projection horizon, Figure 12 confirms the constantly increasing trend of the old-age dependency ratio for the EU-27, the EU-15 and the new Member States. The indicator might more than double during the period 2007-2050. It is likely to increase from 25.2% to

56.3% in the EU-27, and in particular from 26.5% to 57.3% in the EU-15 and from 20.7% to 52.0% in the EU-12. Conversely, the young-age dependency ratio is expected to show a rather stable trend between 20% and 25% during the whole period, basically because both the younger population and the working population are projected to shrink.

Summary and conclusion

The above study provides an overview about the relationship between population growth and development of India and European countries, while looking towards Indian scenario it demonstrate that high growth rate of population has slowed down the pace of economic development in the developing countries. On the basis of above argument our hypothesis holds true that population growth is constraint for development. It is found that the fast increasing population makes the task of absorbing the labor force in productive activitiesall the more difficult. So large increase in population is more a liability than an asset in the developing countries. It has also been also examined that increasing demand for agricultural land, firewood, dwelling units' etc. results in deforestation which adversely affects soil fertility, causes floods and affects the climate. It can be concluded large size of population and its fast rate of growth increases the consumption needs. This increases consumption expenditure. So saving rate and capital formation does not increase much. A part of resources mobilized by such economies are eaten away by fast growing population. Despite this conclusion we want to express that the correlation between population growth and economic development could be favorable only when increasing population is proportionate to resources available in country and resources are to be exploited in its full capacity, in effective and efficient manner by the skillful, talented human resources in the countries like India. On the other hand when we will discuss about European scenario our projection results confirm that ageing will continue to characterize the near future of the European population. The basis of the age pyramid is shrinking, while the elderly population increases. There are still differences between those European countries that have been facing below replacement fertility for some time already and those countries where fertility has fallen only recently. Life expectancy levels are also not homogeneous around Europe.

However, differential ageing may also be an opportunity to take advantage of the complementary needs of older and younger countries in terms of the global distribution of labor and capital. Policies that facilitate better allocation of both factors can raise overall productivity, benefiting everyone and leading to faster economic and demographic convergence.

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Purpose-built Categorization of the Agricultural Plots for Ensuring the Sustainability of the Economic Performance of Agriculture in Slovakia

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Abstract

Agriculture is the production area which is dependent on the conditions of the natural environment. This fact significantly affects the production orientation and the effectiveness of the agri-food sector. The aim of this paper is to evaluate the development in the categorization of agricultural plots by the regional differentiation of Slovakia at the NUTS IV level (districts) and draw attention to probable development of differentiation of districts in primary agricultural production in Slovakia, while ensuring the sustainability of the economic performance of the given sector and create a spatial map of less-favored areas (LFA) at the district level.

Key words
Natural-climatic conditions, spatial econometrics, agricultural primary production, the sustainability of agriculture

Introduction and theoretical background

The agriculture is a production area that is dependent on the conditions of the natural environment, that ensure the processes of growth and reproduction of living organisms. Strong and efficient agricultural sector allows the country to feed its growing population, create new jobs, earn foreign currency and to ensure raw materials for the industrial sectors. The concept of agriculture is defined in different ways. However, for all definitions is the same common fact that it represents the production of food, feed, fibers and other goods through the systematic cultivation and harvesting of plants and breeding animals (Olajide et al. 2012).

The agricultural sector has a multiplier effect on socio-economic and industrial structure of each nation because of the multifunctional nature of agriculture. Multifunctionality of the new European model is shown in its main functions (Sortino et al. 2009):

- production function - to produce quality food in compliance with food security both in terms of quality and also in terms of quantitative perspective;
- environmental function - to produce positive externalities, reduce pollution and reduce all negative externalities produced by agriculture;
- function of rural development - in this case, this function points to agriculture supporting the sustainable development of rural communities, in line with their history and local culture.

Since land is a production factor just like labor and capital, the concept of productivity and efficiency with emphasis on the spatial dimension can be applied. The concepts such as spatial dimension of productivity and efficiency of land that are related but not identical concepts come to the foreground. The term productivity of the land represents the volume of production of companies produced on one part of the land.

On the other hand, the spatial efficiency reveals information about efficient use of land in the production process. The company is inefficient if it uses more land than is necessary for the level of output, or vice versa inputs of labor and capital or production possibilities curve (technology). In other

words, the enterprise is inefficient when operates below the production possibilities frontier, which also includes land as a production factor (Metzemakers 2005).

The relations between climate changes and agriculture are complicated and varied. Factors that affect the climate are continuously changing and this phenomenon has multidimensional impact on human livelihood. From all areas, currently the agriculture is highly dependent on climatic conditions. In view of these conditions, also indicators related to agricultural sustainability such as volume, yield, area and production value are changed. If the sustainability of agriculture is appear as vulnerable, there will also a fluctuation in economic indicators such as the total quantity of production, trade margin of crops and finished products or wage rates (Alam et al. 2013).

The main climatic factors that affect the economic efficiency of agriculture can be included (Iglesias et al. 2009):

- elevated CO_2 and O_3 concentration in the atmosphere,
- intensity of rainfall,
- temperature and heat stress,
- the impact of extreme events, such as floods or droughts,
- changing sea level,
- and others.

Climate change has an impact on crop and livestock production, water balance, inputs and other components of agricultural systems. Yield of crops and livestock are directly affected by changes in climatic factors such as temperature, rainfall, frequency and severity of extreme events such as droughts, floods and windstorms. Climate change can also change the type, frequency or intensity of pests of various crops and livestock as well as the availability and timing of water supply for irrigation and severity of soil erosion. Over time, people adapted the farming systems and practices to changing economic and physical conditions. This fact was supported by the adoption of new technologies, changing mixture of crops or changing institutional arrangements. Climate change adaptation at farm level can be accomplished in terms of planting and harvesting of crops, in crop rotation, in the choice of crops and crop varieties for cultivation, in water consumption for irrigation, in usage of fertilizers as well as in the technique of soil tillage. These adjustments are the natural consequences of the producers to maximize return of their soil fund. Each adjustment of the company can reduce potential yield stemming from climate change or, on the other hand, improve yields if the climate change is beneficial. On the market level, price and other changes can indicate additional opportunities for adaptation. Through trade so at the international as well as national level, it can lead to a redistribution of stocks of agricultural commodities from regions of relative abundances to regions of relative deficiency (Adams 1998).

The agricultural soil represents the most valuable (irreplaceable) natural resource, in which the physical, chemical and biological processes are still ongoing. It is a place where is created the agricultural reproduction process. The soil is an essential production condition because it provides space for producing and is an essential production factor, because it determines the existence of two main sectors of agricultural production (crop and livestock). The scarcity of soil (as a production factor) is in the fact that the agricultural entities and national economies can dispose with the soil only in a certain amount. This fact ranks the soil among precious resources that affect determination of prices of agricultural products (Kotulič 2007).

The economic characteristics of the soil can be included: scarcity, non-transferability and non-abrasion. The basic property of the soil is also fertility, the ability of the soil to supply the nutrients and necessary amount of water and air to plants during vegetation. The fertility is very different and to a large extent determined by way of machining, types of the cultivated plants and the impact of production processes. It is necessary to harmonize the needs and requirements of the plants on soil, e.g.: heavy soil (cultivation of wheat), light soil (cultivation of barley). For some crops is better alkaline soil, for others acid or neutral soil (Kotulič 2006).

Table 1 Climate and related physical factors affecting the agricultural production at global level

Climate and related physical factors	Expected direction of change	Potential impacts on the agricultural production	Confidence level of potential impact
Atmospheric CO_2	growth	increased biomass production and the higher potential of efficiency of physiological water use by crops and weeds; regulated water balance of soils due to changes in the ratio of C/N	medium
		modification of agroecosystem	high
		modification of the N cycle	high
		lower growth in yields than was expected	low
Atmospheric O_3	growth	decline in crop yields	low
Sea level	growth	disruption of sea level in coastal rural areas and salinisation of water supplies	high
Extreme events	little known but significant increase in the temporal and spatial variability; expected increased frequency of flood and droughts occurrence	crop failure; decrease in yields	high
Rainfall intensity	more intense hydrological cycle, taking into account the regional differences	change of impacts of storms; changes in incidence of torrential rains and floods; better management with water; increase in damage by pests	high
Temperature	growth	changes in crop productivity and sustainability; changes in water requirements; changes in the field of pests and diseases; changes in the quality of crops	high
	temperature differences at the day and night	changes in crop productivity and quality	medium
Heat stress	increase in heat waves	damage to the corn; higher frequency of certain pests	high

Source: European Commission. Joint Research Centre. Institute for prospective Technological Studies. (JRC Scientific and Technical Reports, 2009)

Material and methodological bases

The aim of the present paper is to evaluate the development in the categorization of agricultural plots by the regional differentiation of Slovakia at the NUTS IV level (districts) and draw attention to probable development of differentiation of districts in primary agricultural production in Slovakia, while ensuring

the sustainability of the economic performance of the given sector and create a spatial map of less-favored areas (LFA) at the district level.

Delimitation of less-favored areas (LFA) is determined according to the criteria of Regulation (EC) No. 1257/1999, Article 16-21 with taking into account the natural, economic and demographic conditions of the Slovak Republic. The basic unit for the inclusion of agricultural land to mountain and other disadvantaged areas is the municipality; into the areas with specific disadvantages the cadastral area and into areas with environmental restrictions it is territory called NATURA 2000. At inclusion of the district among districts with worse natural conditions (LFA) and among districts with better natural conditions (NON-LFA), we conducted the expert overlap of individual territories and the prevalent area has become a guiding solution for the inclusion of the district. The underlying data were drawn mainly from official statistical information of the Slovak Republic for the period to 1st January 2012 from scientific books and magazines and from Internet. In achieving the aim were used various standard scientific methods of examination, such as the comparative method, methods of analysis and synthesis.

Results and Discussion

The agricultural production in Slovakia is realized in different natural conditions, which are one of the crucial factor of the different economic efficiency. This fact significantly affects the production orientation as well as efficiency of production. On the basis of soil and climatic conditions, such as categories of soil, soil type, soil depth, graininess, altitude, exposure of the soil blocks, as well as climatic conditions (average annual temperature, annual rainfall, wind) and many others, the Slovak territory is divided into areas with better natural conditions (productive areas) and areas with worse natural conditions (LFA) (Chrastinová a Burianová 2012).

We distinguish three basic types of disadvantaged areas: 1. mountain areas, 2. other disadvantaged areas and 3. areas with specific disadvantages. Agricultural soil classified in mountain areas is located at an altitude of 600 m and in combination with high slope also at lower altitudes. Farming in mountain regions is very limited due to the short growing season and low annual average temperatures. Here is applicable mostly an extensive type of farming and production is more oriented to livestock than crop production. Other disadvantaged areas are characterized by low profitability of their soil. The areas with specific disadvantages are located there, where are waterlogged soil, extremely dry soil, skeletal soil, soil of the flysch zone and less productive soil (Buday a Vilček, 2013).

On the basis of methodology and the expert judgment of individual territories was created spatial map with worse and better natural conditions at the NUTS IV level (at district level), which shows the following illustration 1.

Illustration 1 Specialized regionalization of Slovakia according to natural conditions suitable for agricultural production at the NUTS IV level
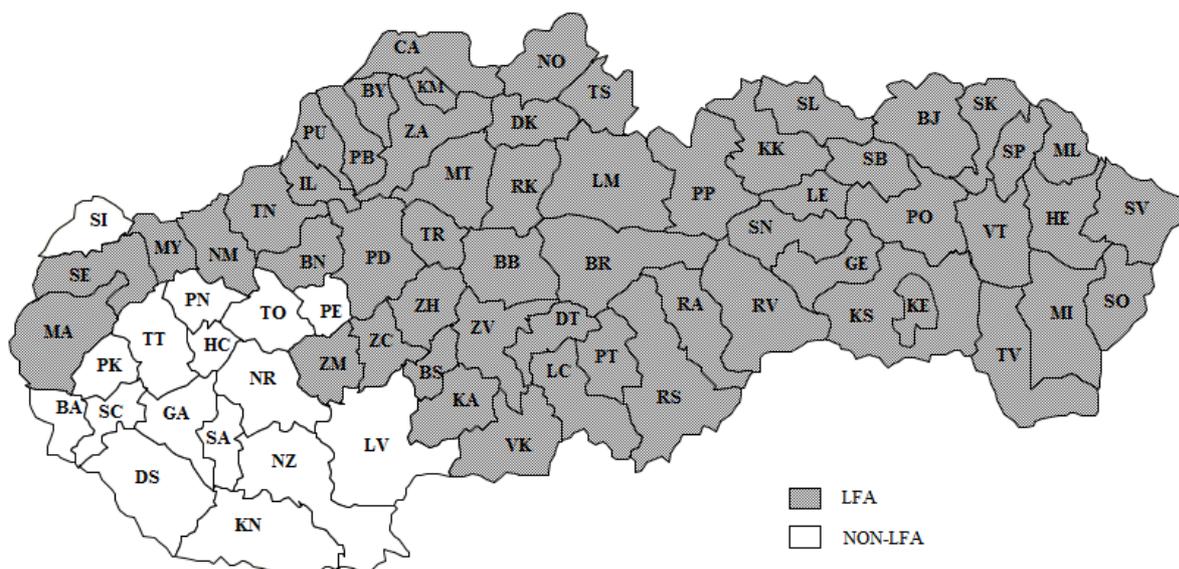
Source: Own processing.

Where: Bratislava I (BA1), Bratislava II (BA2), Bratislava III (BA3), Bratislava IV (BA4), Bratislava V (BA5), Malacky (MA), Pezinok (PK), Senec (SC), Dunajská Streda (DS), Galanta (GA), Hlohovec (HC), Piešťany (PN), Senica (SE), Skalica (SI), Trnava (TT), Bánovce nad Bebravou (BN), Ilava (IL), Myjava (MY), Nové Mesto nad Váhom (NM), Partizánske (PB), Považská Bystrica (PB), Prievidza (PD), Púchov (PU), Trenčín (TN), Komárno (KN), Levice (LV), Nitra (NR), Nové Zámky (NZ), Šaľa (SA), Topoľčany (TO), Zlaté Moravce (ZM), Tvrdošín (TS), Žilina (ZA), Bytča(BY), Čadca (CA), Dolný Kubín (DK), Kysucké Nové Mesto (KM), Liptovský Mikuláš (LM), Martin (MT), Námestovo (NO), Ružomberok (RK), Turčianske Teplice (TR), Veľký Krtíš (VK), Zvolen (ZV), Žarnovica (ZC), Žiar nad Hronom (ZH), Banská Bystrica (BB), Banská Štiavnica (BS), Brezno (BR), Detva (DT), Krupina (KA), Lučenec (LC), Poltár (PT), Revúca (RA), Rimavská Sobota (RS), Stará Ľubovňa (SL), Stropkov (SP), Svidník (SK), Vranov nad Topľou (VT), Bardejov (BJ), Humenné (HE), Kežmarok (KK), Levoča (LE), Medzilaborce (ML), Poprad (PP), Prešov (PO), Sabinov (SB), Snina (SV), Spišská Nová Ves (SN), Trebišov (TV), Gelnica (GL), Košice I (KE1), Košice II (KE2), Košice III (KE3), Košice IV (KE4), Košice - okolie (KS), Michalovce (MI), Rožňava (RV), Sobrance (SO).

Conclusion

While ensuring the sustainability of economic performance of agriculture in the Slovak Republic, the land market will play an important role. Currently, the land market seems to be unbalanced and characterized by a large aggregate supply of the land of a large number of residents who do not intend to continue with farming on the soil. It is the offer mainly of the urban population (Kotulič 2006, Kotulič 2007). Due to the impossibility of complet identification of land, the land market is realized in large part in the form of lease relationships. The sale and purchase of land is restricted to building land and gardens. More recently, it can be seen an increased demand for land, respectively after obtaining the land for rent. In the future, we can expect interest in the purchase mostly small and very small land with a view of expansion of small farms (gardeners, cottage owners, etc.). The land market will evolve toward rental of land by natural persons and the State (Slovak Land Fund).

The Slovak Republic is characterized by a low acreage of agricultural and arable land per capita. There is 0.45 hectares of agricultural land and 0.28 hectares of arable land per capita (Kotulič 2006, Kotulič 2007). In recent years, in Slovakia persists the trend of decrease in acreage of the agricultural land and decrease in area of arable land in favor of permanent grasslands. There is also reduced the area of vines, hop fields, gardens and orchards. The loss of agricultural land was caused mainly due to afforestation, construction of the highway network in Slovakia and due to housing and community facilities.

In the case of radical liberalization of trade in agricultural commodities will be districts with better natural conditions placed at the forefront in ensuring the sustainability of the economic performance of agriculture in Slovakia.

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The State of Agri-foods of Hungary in the First Seven Years in the EU

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Abstract

The agri-food export of Hungary has increased significantly since 2004. Since the EU accession the agri-food export of the country did not only grow – disregarding the setback in 2009 – but the EU has become the dominating market. The objective of this paper is to analyse the market position of the agri-food products of Hungary in the EU market. On the basis of the Constant Market Share (CMS) model it can be stated that in the case of Hungary the significant positive competitiveness effect, the value of which was 61.69%, triggered the expansion of the agri-food export. The positive market size effect also played an important role in the growth of the export. For Hungary this meant 34.51%. However, the structural effect was 3.80%. This means that the export structure of Hungary could not adjust properly to the changes of the import structure of the EU markets. On the basis of quality competitiveness the agri-food product groups of Hungary have increased the market share in EU markets.

Key words

Agri-food products, CSM, competitiveness, market size effect, structural effect, Hungary

Introduction

The food industry is a significant economic sector of Hungary with great traditions. Due to the favourable natural endowments Hungary is capable of producing food products with excellent quality valuable for the market and competitive in foreign markets. (Magda, 2008) In general, the accession had a positive impact upon the sector. It resulted in a consolidation of production, higher current prices, higher export and import quantities, and especially higher farmers' incomes. (Csáki and Jámbor 2009)

Since 2004 agri-food trade of Hungary showed positive balance on the market of European Union. (Vásáry et al. 2013) Since the EU accession the agri-food export of Hungary did not only grow – disregarding the setback in 2009 – but also Hungary has increased the presence in European Union markets (EU intra) compared to non-EU markets (EU extra). Table 1 presents the development of the total export of Hungary as well as the export to the EU.

Table 1. Agri-food export of Hungary (million euro)

Country	Agri-food export	2004	2005	2006	2007	2008	2009	2010	2011
Hungary	Total	2 674	2 805	3 155	4 214	4 763	4 164	4 976	5 799
	To the EU	2 002	2 109	2 353	3 462	3 850	3 476	4 058	4 721

Source: Eurostat database 2012

Qineti and Smutka (2012) note that the agricultural trade of Hungary (and the other V4 countries) responded positively to the accession of the Czech Republic, Slovakia, Hungary and Poland into the European Union. The external trade value and volume have gradually increased to their present value.
In the case of goods exports and imports, agricultural products have approximately a 7% share respectively in the total value (2010). In this regard, it is important to state that the value of both agricultural exports as well as imports of the Visegrad countries is dynamically increasing. Just in the years 2000 – 2010, the value of agricultural export of the V4 countries increased from USD 6 billion to more than USD 30 billion. (Bielik, Smutka and Horska 2012)

Evaluation of competitiveness

The data came from the European Commission COMEXT database regarding 2004-2011. Trade is aggregated according to the products and according to the partner countries. The Standard international trade classification (SITC) is a product classification of the United Nations used for external trade statistics (export and import values and volumes of goods), allowing for international comparisons of commodities and manufactured goods.

The Constant market shares (CMS) analysis

The basic presumption underlying the Constant Market Share (CMS) model is that the share of a country in a market should remain constant given the same level of competitiveness. Any difference between the actual change in the exports of the focus country and the sum of the market competitors should be caused by a change in export composition or competitiveness. The CMS analysis is a technique for analysing trading patterns and trends for the purpose of policy formulation. (Fertő, 2004)

The formal decomposition of export change

The three components of the market share are calculated with the expression:

$$\Delta X_i = \sum_{ij} \Delta x_{ij} = \sum_{ij} x_{ij}(\Delta M/M) + \sum_{ij} x_{ij}[(\Delta M_j/M_j) - (\Delta M/M)] + \sum_{ij} x_{ij}[(\Delta x_{ij}/x_{ij}) - (\Delta M_j/M_j)]$$ where: x represents

the export, i is a country, j is a commodity, M is the demand of external market (the import), Xij is the export of country's commodity, Mj is the total import of commodity.

The first part of equation shows the market size effect: $\sum_{ij} x_{ij}(\Delta M/M)$

The second part is the structural effect: $\sum_{ij} x_{ij}[(\Delta M_j/M_j) - (\Delta M/M)]$

The third part is the competitiveness effect (residual part): $\sum_{ij} x_{ij}[(\Delta x_{ij}/x_{ij}) - (\Delta M_j/M_j)]$

in the CMS model. (Oblath - Pénzes, 2004)

Quality competitiveness

In the literature of economics the so-called quality marketability is defined as the combination of the relative price change and the relative market share changes. The essence of the method is shown in table 2 .

Table 2. Marketability matrix

Relative export price change	Market share change	
	Unmarketable export (Decreasing market share)	Marketable export (Increasing market share)
Increasing relative export price	Price unmarketable	Quality marketable
Decreasing relative export price	Quality unmarketable	Price marketable

Source: Oblath – Pénzes 2004

The table puts the products and the groups of products into the coordinates of market share and export change. Obviously the so-called quality marketable products are in the upper right quadrant, which could increase the export in spite of increasing export price. The marketable products are in the bottom right quadrant, they could increase their export by relatively decreasing export price.

Together with the continuous expansion of the European Union the agri-food export of Hungary shifted towards EU member states while the proportion of non-EU countries decreased significantly in this respect. Therefore it is desirable to scrutinise the agri-food export of Hungary in order to be able to identify the development of the competitiveness of the product groups.

Competitiveness of Hungarian agri-food products on EU markets

The value of the Hungarian food export doupled from the examined first period (2004-2006) to the second one (2009-2011) on the market of the European Union. It increased from 2,1 billion euro to 4,1 billion euro. The export share of meat and meat preparations declined from 23% (2004-2006) down to 17,5% (2009-2011) in the Hungarian food export. The value of meat and meat preparations increased from 502 million euro to 720 million euro. However, the share of cereals and cereal preparations grew from 18% up to 26%. The importance of fruits and vegetables remained considerable, but it slightly diminished (from 17,5% to 14%). Besides, the notable product groups are feeding stuff for animals (9%), sugar, sugar preparations, honey (7%), other edible products and preparations (7%), and coffee, tea, cocoa, species (5%). (Table 3)

Table 3. Structure of the Hungarian food export trade by products (2004-2011)

Product groups	Food export (thousand euro) 2004-2006) mean	Share of Hungarian export from total import of EU	Share from Hunga-rian export	Food export (thousand euro) 2009-2011) mean	Share of Hungarian export from total import of EU	Share from Hunga-rian export
Live animals	98 945	0,0186	4,59%	144 668	0,0226	3,54%
Meat, and meat preparation	502 247	0,0173	23,31%	720 755	0,0190	17,64%
Dairy products eggs	65 238	0,0030	3,03%	219 392	0,0078	5,37%
Fish, crusta-ceans molluscs reparation	7 343	0,0003	0,34%	5 354	0,0002	0,13%
Cereals and cereal preparation	389 849	0,0193	18,09%	1 063 312	0,0363	26,03%
Vegetables and fruits	376 519	0,0070	17,47%	568 500	0,0087	13,92%
Sugar, sugar preparation and honey	142 952	0,0175	6,63%	280 201	0,0278	6,86%
Coffee, tea, cocoa, spices	114 355	0,0063	5,31%	176 485	0,0059	4,32%
Feeding stuff for animals	213 030	0,0155	9,89%	341 134	0,0172	8,35%
Miscellaneous edible products and preparation	139 397	0,0084	6,47%	351 820	0,0145	8,61%
Beverages	83 239	0,0038	3,86%	144 649	0,0055	3,54%
Tobacco and tobacco manufactures	17 551	0,0016	0,81%	26 534	0,0021	0,65%
Adjustments	4 093	0,0078	0,19%	42 010	0,0410	1,03%
Total	**2 154 758**	**0,0087**	**100 %**	**4 084 814**	**0,0126**	**100 %**

Source: own calculation based on COMEXT data base

The evaluation of the Hungarian food export on the basis of Constant Market Share analysis

The value of the Hungarian food export in the EU market increased by €1.930 million by the second period of the examined period (2009-2011) compared to the base period (2004-2006). On the basis of the Constant Market Share the surplus can be divided into its component in respect of product groups as follows. The market size effect was €666 million, which represents 34.5%. Similarly to the pre-accession period – albeit to a lesser extent – the market size effect was significant. On the other hand, the structural effect amounted to only €73 million which contributed to the export growth only 3.8%. Therefore we can state that the Hungarian food export concentrated on products for which EU demand grew at an average rate. The competitiveness effect was significant and presented 61.7% of the total profit with a value of €1190 million. (Table 4)

Table 4. The composition of the growth of the Hungarian agri-food export by means of CMS model

Components of CMS model	Value (euro)	Share (%)
Market size effect	665 973 115	34,51
Structural effect	73 408 922	3,80
Competitiveness effect	1 190 675 324	61,69
Total gain	1 930 057 362	100,00

Source: own calculation on COMEXT database

Table presents the composition of the growth of the Hungarian agri-food export by product groups. The market size effect was positive in all cases. The value of the competitiveness effect was negative only in the case of the product groups of Fish, crustaceans molluscs preparation; Coffee, tea, cocoa, and spices.

Table 5. Results of CMS model for the agri-food export of Hungary (euro)

| Product group	Market size effect	Structural effect	Competitiveness effect
Live animals	9 474 054	63 252 573	25 526 966
Meat, and meat preparation	77 793 536	324 012 493	64 783 305
Dairy products eggs	53 013 982	-161 249 710	136 096 782
Fish, crustaceans molluscs preparation	48 522 532	-267 306 587	-3 553 136
Cereals and cereal preparation	79 884 869	310 501 908	496 720 025
Vegetables and fruits	101 099 905	-114 200 522	111 079 835
Sugar, sugar preparation and honey	16 514 882	87 839 243	104 267 201
Coffee, tea, cocoa, spices	103 874 838	-74 258 560	-12 435 903
Feeding stuff for animals	53 564 390	134 997 429	32 818 271
Miscellaneous edible products and preparation	65 976 894	-8 942 258	149 235 065
Beverages	34 997 593	-129 569 054	46 309 618
Tobacco and tobacco manufactures	16 856 617	-90 740 213	5 854 065
Adjustments	4 399 023	-927 820	33 973 230
Total	**665 973 115**	**73 408 922**	**1 190 675 324**

Source: own calculation on COMEXT database

Investigating the export of the Hungarian agricultural and food products (HS-24) by CMS model for the period 2001-2003 and 2008-2010 Juhász and Hartmut (2012) stated that the value of export change was €1579 million and the market size effect, the structural effect and the competitiveness effect were all positive.

Results of quality competitiveness of Hungarian agri-food export
On the market of European Union the groups of fish, crustaceans, molluscs preparation and that of the coffee, tea, cocoa, and spices proved to be price unmarketable. In case of all other product groups the

Hungarian market share grew in the European Union. The share of a part of these product groups rose meanwhile the average export price dropped. These product groups are: live animals; meat, and meat preparation; dairy products, eggs; feeding stuff for animals and the beverages. However, in case of some product groups the market share grew despite the increasing export price. These quality marketable products are the groups of cereals and cereal preparation; vegetables and fruits; sugar, sugar preparation and honey; miscellaneous edible products and preparations; the tobacco and tobacco manufactures. (Graph 1)

Graph 1. Market positions of Hungarian agri-food product groups on the market of EU

Source: own calculation and construction based on COMEXT data base

A: Live animals, B: Meat, and meat preparation, C: Dairy products. eggs, D: Fish, crustaceans, molluscs preparation, E: Cereals and cereal preparation, F: Vegetables and fruits, G: Sugar, sugar preparation and honey, H: Coffee, tea, cocoa, spices, I: Feeding stuff for animals, J: Miscellaneous edible products and preparations, K: Beverages, L: Tobacco and tobacco manufactures

Summary

After the accession to the EU trade has become simpler and cheaper. Since 2004 the agri-food export of Hungary did not only grow – disregarding the setback in 2009 – but also Hungary increased the presence in European Union markets compared to non-EU markets. On the basis of above findings, it is shown that the results of the CMS model stated noteworthy similarities in the case of Hungary. The rate of the components of the CMS model indicates striking similarities. The model shows that Hungary has significant positive competitiveness effect, triggered the expansion of the agri-food export. The positive market size effect also played an important role in the growth of the agri-food export. The agri-food product groups of Hungary – with very few exceptions – have increased the market share in EU markets during the period. On the basis of quality competitiveness most of them proved to be quality marketable, and some of them price marketable. Only a few agri-food product groups have decreased their market share on the market of EU.

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Some Notes on Municipal Dimension of Relationship Marketing in the Czech Republic

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Abstract

This article deals with relationship marketing and its applicability at the municipal level in the Czech Republic. Territorial marketing in general became rather vogue conception and relationship marketing represents its indispensable component. At first, this kind of marketing is delimitated from both time and factual points of view. Subsequently, empirical analyses accomplished at the municipal level show its scope of application in everyday municipal practice. Since we investigated communities in post-transformation country, the respective state of relationship marketing is describable as not matured yet.

Key words

Communities, relationship marketing, territorial marketing, local and regional development, Czech Republic

Introduction

Local and regional studies currently abound with numerous modern conceptions and approaches. Territorial marketing can be ranked among them. Its utilisation is apparent mainly for the sake of its practical nature. Albeit there are no doubts about its relevance, territorial marketing has not been satisfactorily defined yet. Its perception is rather wide, which applies to both theoretical and practical spheres (e.g. Kotler, Haider and Rein, 1993, Ashworth and Voogd, 1990, Jezek, 2011, Stefko, Habanik, Butorancova, 2010, Stefko and Krajnak, 2013 or Suchacek and Seda, 2011).

Urban and regional marketing is derived from traditional marketing, for which strong market bias is concomitant. And since public and private sectors are getting increasingly intermingled, urban and regional managements started to apply approaches and instruments with distinct market orientation. This fully concerns also territorial marketing which strives for the consonance between specific spatial offer or supply and territorially orientated demand (see also Stefko, Kiralova, Mudrik, Matusikova, 2014, Suchacek, Seda, Friedrich and Koutsky, 2014, Gould and White, 1986 or Hanulakova et al, 2004). In essence, continuous prosperity of individual territories lies behind the application of territorial marketing.

Undoutedly, there are abundant attempts to apply various elements of territorial marketing in contemporary conditions. However, we are entitled to talk about spontaneous and sometimes almost haphazard utilisation of its individual elements or components rather than about programmatic and well considered application. In the future, territorial marketing will be quite frequented as we witness the myriads of modernisation tendencies in societal life, which stress among other widely perceived quality of life (for more information see Suchacek and Seda, 2011).

It is apparent that territorial marketing finds itself in a specific phase in contemporary Czech Republic, which is a typical post-transformation country. Deformation of societal life, which beset the country's settings in the course of socialistic period, manifested itself in grievous drawing on development strategies well-known in advanced countries. Put succinctly, conditions for the application of territorial marketing in the Czech Republic suffer from plentiful shortcomings.

Relationship marketing represents one of the kinds of marketing that is partly transferrable from enterprise to communal practice. It asserts organisation activities cannot be directed merely to customer market; on the contrary, strengthening and cultivation of relation with other external markets matter too. Application of this type of marketing within the municipal practice turns out to be rather vital. This mirrors increasing relevance of human resources quality, importance of networks, relational assets or social capital not only in territorial but also whole societal development (see also Amin and Thrift, 1995, Stefko and Gallo, 2015 or White, 1981).

Relationship marketing, which constitutes inseparable component of integrated marketing arosed in 1980-ies and is quite a new concept. Basically, we deal with the attraction of customers, after which the stage of further cultivation, i.e. maintenance of relations with customers should follow. In case, we are capable to continue our relations with customers, we are entitled to deem the relationship marketing as fulfilled.

For the purposes of the application of relationship marketing in the framework of municipal development, six markets model in relationship marketing plays a dominant role. These six markets are as follows:

- customer market,
- referral market,
- supplier market,
- employee/recruitment market,
- influence market,
- internal market.

More information can be found for instance in Janeckova and Vastikova (1999), Lindgreen (2004), Payne, Ballantyne and Christopher (2005), Christopher, Payne and Ballantyne (2002) or Suchacek and Seda (2011).

Customer market is of utmost importance not only from the point of view of eneterprises but also from the perspective of communities. Less attention should be devoted to transaction marketing underlining gaining a new customer; on the contrary municipal practice should stress the building as well as further cultivation of long-term relations with its customers.

Referral marketing is when we buy something after being referred by our partners and other parties involved. In general we can understand this term as a specific 'word of mouth'. Referral markets can contribute to the creation of the better municipal image. Municipal visitors, entrrepreneurs, investors or journalists spread the information related to the given municipality. In that way, the surrounding milieu, competitive municipalities and other important entities form and specify their notion of the municipality in question.

It should not be omitted, however, municipal inhabitants and employees of the municipal office should identify themselves with their own community too. Referral markets are complete only when taking into consideration the afore mentioned municipal target groups or more precisely, their intangible clue with the given community.

As for supplier markets, they recently witnessed immense transformations, which applies to post-transition countries with even higher intensity. Ossified and non-flexible relations, when organisations endeavoured to 'push' its suppliers into disadvantageous posititions, yield to the relations bassed on mutually beneficial partnerships and collaborations. Thus, contractual partners accomplish some of the functions municipalities transfer on them. The next domain of co-operation with supplier markets concerns the supply of goods, services and subsequent lowering the overall costs of municipality functioning.

Employee and/or recruitment market helps an organization to keep the best people who can add required qualities to the organization. They should be talented, experienced, skilled and trusty. An organization always searches for individuals with particular skills, i.e. those who are highly productive, innovative, effective and who share a given organization's values.

There are only little doubts that human resources represent one of fundamental preconditions for flawless run of the municipality. While generally underestimated in the past, today the employee or recruitment markets should entice much higher attention also at the municipal level. Official municipal fabric requires corresponding human fulfilment.

This basically reflect the fatc that municipal competition increasingly resembles that at the firm level. That is why people with higher education with appropriate skills and practical capabilities are demanded more and more. And since contemporary socio-economic conditions are briefly describable as turbulent and volatile, the above mentioned human resources should be sufficiently adaptable as well as flexible.

In a narrow sense, influence market comprises customers who have bought our product and give feedback to their friends, relatives and neighbours as well as other interested parties. From a municipal perspective, influence market is also pretty influential one. Influence markets include politicans at the national, regional as well as local levels. The same holds true for journalists, managers of important

enterprises, entrepreneurs, banks, state instituttions or PR agencies. Municipal competitors, i.e. other communities, can sometimes also act as influencers.

The task of influence markets consists in the possibilities to affect municipal life from both positive and negative perspectives. These influencers can either support or brake the new municipal investments and projects. Lobbing – and no matter whether 'just to say hallo' or 'last minute call', or some other, often semi-legal strategies – play enourmously relevant role in this context.

Last but not least, internal market concerns employees and customers within the organization. Actually there should be an appropriate harmony among the employee and suppliers and customers so that organization can work together and achieve its mission.

Efficient and effective functioning of the municipality can be achieved provided that every employee gets and gives the adequate service. The main goal of internal marketing is to urge the employees to represent the given municipality as best as possible when interacting with cutomers. And it does not matter whether we deal with telephone, electronic or personal interactions.

Specifically in terms of relationship marketing, those within the organizations must understand how to influence relationships between the community in question and other parties. They should interact in a way that reflects and promotes long-term goals of the community, and resolve conflicts of interest accordingly.

It should be stressed all the markets within relationship marketing do not find themselves in the vacuum. Contrary to that, mutual changeovers are concomitant to them. One person, for instance the tourist who visits the community, thus becomes the municipal customer but at the same time he or she acts also at the referral market. Local maker of internet site is both customer as well as supplier and can operate also within referral market (see also Janeckova, Vastikova, 1999).

Objective and applied methods

The objective of the paper is to show the rise and development of relationship marketing and further on to map this type of marketing within contemporary communal practice in the Czech Republic. Data on relationship marketing and its application within the municipalities of the Czech Republic were gathered on the basis of questionnaire survey. This questionnaire survey has been undertaken in more than 100 municipalities in South Moravian region, Moravian-Silesian region and Vysočina region. Employees occupying high positions in the framework of administrative hierarchy of these municipalities represented the respondents of this research.

Investigated territories epitomise all substantial functional characteristics of regions within the whole country and subsequently can serve as a proper sample for such kind of research. Moravian-Silesian region represents the territory with high degree of urbanization and from the economic perspective it is region with structural problems which can be ranked among so-called old industrial regions with all unfavourable symptoms. Contrary to that, the settlement system of South Moravia is quite a motley and differentiated one. In spite of some microregions beset some specific issues, the economic structure of the whole South Moravian region is relatively diversified. And last but not least, Vysočina region embodies the territory with specific rural problems, which differs from its both previously depicted peers. Researched communities that were selected on the basis of expert estimations in above mentioned regions represent the object of our research. For our purposes, these municipalities create an appropriate base helping to identify the practice of relationship marketing at the communal level.

In the framework of the questionnaire, concrete questions were formulated and possible answers to these queries offered. Return rate from respondents reached about 60%. Likert scale ranging from 1 to 5 proved to be the proper one for such type of research. While the value 5 denoted the highest intensity of the phenomenon concerned, its opposite value 1 marked the lowest intensity of examined phenomenon. This scale was used in the major portion of questions. Some questions could be answered via 'yes' or 'no' schemes. Remaining part of questions was formulated as open that facilitated obtaining some specific information.

Descriptive statistics, like mean, median, and standard deviation, were utilised to describe the basic traits of the data in the study. Moreover, the independent samples t-test was used to compare the values of the means from two samples and to test whether it is likely that the samples are from populations having different mean values. Last but not least, it is worth noticing that territorial marketing in general, and relationship marketing specifically, in the Czech Republic strongly needs an empirical research and our research was one of few of its kind in this country. In that way, we addressed numerous informational as well as methodical gaps within this concept.

Relationship marketing at the municipal level in practice

So far, relationship marketing is only faintly developed at the level of municipalities. The largest attention from the standpoint of municipalities is devoted to the relations with inhabitants of the given community as well as relations with investors. It confirms generally poor situation of municipalities from financial point of view.

The other side of the ladder of municipal preferences is occupied by potential employees. So far, an important question of human resources has been generally underestimated within the communities of the Czech Republic. Networks and networking abounding within public sector offer plausible explanation of this unfavourable phenomenon (for more information, see Table 1). Tourist, politicians and current employees of the community occupy the middle of the hierarchy of groups belonging to relationship marketing.

Table 1. Groups belonging to relationship marketing

	N	Mean	Median	Standard deviation
Population of the community	64	4.06	4	0.85
Investors	60	3.97	4	1.13
Influential entrepreneurs	60	3.75	4	1.10
Tourists	61	3.61	4	1.07
Politicians	61	3.46	3	1.07
Employees of the community	61	3.41	3	1.31
Journalists	62	3.28	3	1.26
Potential employees	58	2.69	3	1.17

Source: author's research

Further question to a large extent concurs with relationship marketing as such. The question has been formulated as follows: 'Which target groups you would like to attract?'

Table 2 reveals all important aspects of the problem. Home investor and tourists represent the most attractive target groups. Surprisingly, people with university education constitute the least important target group. Communities still somehow disregard the fact that inflow of new quality inhabitants to a large degree predetermines their position on mental and investment maps. Moreover, real estate market is not so flexible and quest for a new flat often represents only hardly surmountable hindrance.

Table 2: Target groups municipalities intend to attract

	N	Mean	Median	Standard deviation
Domestic investors	67	4.52	5	0.77
Tourists	67	4.52	5	0.70
New inhabitants	60	4.13	5	1.13
Foreign investors	66	4.09	4.5	1.13
People with university education	60	3.78	4	1.22

Source: author's research

More detailed analysis of gathered data allows us to get some specific information on the state of relationship marketing at the municipal level. Size of municipality was determined as a sorting criterion. Independent samples t-test confirmed differences in some answers for communities under 10 000 inhabitants and above 10 000 inhabitants that were statistically significant.

As for target groups municipalities intend to entice, statistically significant differences manifested themselves in the following domains: foreign investors (Sig. 0.00), new inhabitants (Sig. 0.02) and university-educated people (Sig. 0.03).

It is natural that the size of municipality affects the priorities in the attraction of new inhabitants. Communities under 10 000 inhabitants favour the inflow of any new inhabitants and do not concentrate on university-educated people so intensely. Contrary to that, larger towns with more than 10 000 inhabitants accentuate primarily new inhabitants with university education. Larger municipalities are generally more

attractive than their smaller counterparts. This can be attributed to better working opportunities on the one hand and generally more attractive amenities on the other. Larger communities can subsequently afford rather selective attraction of new inhabitants.

It should also be noted that smaller communities prefer domestic investors while their larger counterparts are much more open to the international investment milieu. Last but not least, journalists (Sig. 0.01) attract much more intense attention of larger municipalities, which is natural as combat for a good position on the mental maps became one of mantras, sui generis, for larger communities.

Conclusions

Relationship marketing currently constitutes one of the most topical themes of territorial marketing. This type of marketing – or more precisely its individual elements and components – is spontaneously implemented within communal practice. Our research showed both hierarchy of individual components within relationship marketing as well as target groups municipalities intend to lure. It is worth noticing there exists some differences between smaller and larger municipalities when introducing relationship marketing. What the municipalities in the Czech Republic have in common is that they get increasingly aware of the importance of individual markets and target groups in the framework of relationship marketing. Programmatic and goal-directed introduction of this type of marketing in the way common in advanced economies is probably only the question of time.

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Creative Industries and Their Contribution to Regional Development

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Abstract

The perception of the creative sector as a driving force for regional development is becoming increasingly popular and widespread. Worldwide, we have witnessed many attempts to promote the creative sector to accelerate respectively sustain regional development. This paper will explore the importance of creative industries for regional development in Prešov and Košice region in more detail. The analysis is based on primary data obtained through a questionnaire survey. In all tested hypothesis was not possible to reject the null hypothesis, i.e. there is no association between regional affiliation of respondents and their opinions.

Key words

Creativity, creative industries, cultural industries, regional development

Introduction

At present, all economies try to rationally mobilize their production factors. Modern development theories consider the technology, knowledge, creativity and some other factors to be factors of production due to exhaustibility of conventional resources and the unsustainability of high economic growth causing concern of scientists, states, communities, third sector organizations and various activists. According Buček et al. (2010) recently, changes in the economy and society can be described as a process of systematic mobilization of knowledge in economic activities, disruption of the traditional boundaries of sectors and as well as companies' borders, enormous mobility of skilled individuals, ideas, knowledge, customers, goods, financial capital, etc. This processes resulted in the basic paradigm that with the transition to a post-industrial stage of development, we will see the growth of the intensity of use of all the knowledge that will be connected with a massive circulation of knowledge in the regions - directly as well as remotely. We will also observe the blending of knowledge bases between sectors. It should be noted that these processes are not the same in all regions, and do not affect all the activities as well.

Studies exploring the system of innovation development in the regions were often focused on the cumulative knowledge creation processes using creativity and their commercial appreciation in individual sectors. However, changes in the economy and in society lead to so-called hypermobility of knowledge - territorial but also sectoral. Therefore local relationships and classically perceived sectoral affiliation may not be determining for the dynamics of the regions' development. The ability to identify new development directions, the ability to identify strategic partners regardless of their location and the ability to appreciate (to the extent possible) new knowledge, creative approaches and results of science will be an important factor for the future success of the sectors in the region.

Nowadays, in the professional community appear new concepts that bring innovative perspectives to categorize the various sectors of the national economy and the elements of the spatial structure, as well as their impact on economic growth and role in regional development. Examples include the concept of knowledge economy, network economy, the silver economy, creative economy, the new growth theory, the concept of open space and increasingly popular the concept of creative industries. It becomes an important aspect of economic growth of the region without the need for high investments, because it is based on ideas, innovation and talent. Increase in the value of an idea is caused by modernization of the company compared to the past when success achieved those who owned manufacturing technologies.

There are territorial specificities (territorial dimension), which point out the fact that the level of knowledge creation and use of creativity is somewhat localized and, for example, depends also on the type of region. Many regions with high levels of agglomeration combine intense local links/linkages with building important external relationships. The social dimension gives a picture of how is the interaction of different agents that have an impact on the dynamics of the use of creative approaches. It is observed how the collective actions are activated, how the dynamics is affected by existing institutions within the institutional support framework. Creation and implementation of support policy (political dimension) can significantly affect the dynamics of creative innovations.

Also in Slovakia we can see a wider awareness of the importance of creative industries for economic development. The aim of the conference on creative industries organized in 2009 by the European Commission Representation in Slovakia entitled "Freedom of Creativity" was to promote the awareness of the creative industries in Slovakia. Worth mentioning is also the seminar "Why creative economy?" organized in 2011 in Bratislava aimed at promoting and strengthening awareness of the importance of creative industries forming part of the national economy, having high potential in the creation of GDP, unemployment reduction and contributing to the competitiveness of the Slovak Republic. Organizers of this event were "Košice 2013 - European Capital of Culture" and the British Council CIF (Why Creative Economy 2011). The event itself (Košice 2013 – European Capital of Culture) can be seen as a significant milestone in the dissemination of ideas of the creative economy.

Creative industries as a driver of economic development

The creative industries include goods and services produced by the cultural and creative industries that depend on innovation (including different types of research and software development) (Creative Economy Report 2013). Creative (along with cultural) industries have some specific features (at local and regional level):

- in the sector there is a predominance of small but flexible and dynamic organisations; these organisation are strongly user-oriented and service-oriented,
- although sub-sectors are quite heterogeneous (for markets, business models or turnover), all of them are human-capital-intensive,
- despite non-technological nature of activities the creative industries are particularly innovative – their innovation performance is above average (Culture for Cities and Regions).

According many recent viewpoints „cultural and creative industries not only drive growth through the creation of value, but have also become key elements of the innovation system of the entire economy", because „their primary significance stems not only from the contribution of creative industries to economic value, but also from the ways in which they stimulate the emergence of new ideas or technologies, and the processes of transformative change (Creative Economy Report 2013, p. 21).

Some authors (for example Stoneman, 2010) distinguish two kinds of innovation - „soft" and technological innovation. Creative industries are characterized by high rates of „soft" innovation, while most of them are generated in music, books, arts, fashion, film and video games (particularly in the form of new products and services) (Creative Economy Report 2010). The creative and cultural industries are:

- Advertising,
- Architecture,
- Art and antiques market,
- Clothing, footwear,
- Crafts,
- Design,
- Fashion,
- Film and video,
- Internet,
- Literature,
- Museums, galleries and libraries,
- Music,
- Performing arts,
- Publishing,
- Software,

- Television and radio,
- Toys,
- Video and computer games,
- Visual (and graphic) arts, etc.

There are different classification systems for creative (and cultural) industries. The best known classifications are:
- UK DCMS model,
- Symbolic Texts Model,
- Concentric Circles Model,
- WIPO Copyright Model,
- UNESCO Institute for Statistics Model.

The United Nations Conference on Trade and Development (UNCTAD) has dveloped own classificaion of creative and cultural industries. UNCTAD approach distinguishes between two types of activities (Creative Economy Report 2010):
- first type is the so called „upstream" activities comprising traditional cultural activities - performing and visual arts,
- second type are „downstream" (more market oriented/commercial) activities such as advertising, publishing or media-related activities).

Methods and methodology

The aim of this paper is not to highlight the differences in the creative potential of the two autonomous regions (Prešov and Košice region), but find out how entrepreneurs and employees working in creative sector perceive creative industries and their importance for regional development. We examined whether they perceive creative industries just like experts in the field, new concepts, and trends. For this purpose the method of questionnaire survey was used. Respondents were chosen intentionally so that they represent organizations of the creative industries in Prešov and Košice region. From more than five hundred sent e-mails, we received back 132 properly and completely filled (i.e. suitable for analysis) questionnaires. Most (60 %) of respondents were from regional centers - Košice and Prešov - which is not surprising given the size of cities and the concentration of economic activities. On the other hand, the least of respondents were from small towns - Sobrance, Rožňava, Snina and Medzilaborce.

The following hypotheses were tested:
H1: Creative industry positively affects the GDP of the region.
H2: Creative industry has a significant share in job creation.
H3: Creative industry in the region has a positive impact on tourism development of international importance.

Pearson's chi-square test was used for hypotheses testing while the level of significance is 5% i.e. the critical p-value for the acceptance/rejection of the hypothesis is 0.05.

Results

1. *The first partial objective was to determine how respondents in the two surveyed regions perceive the impact of creative industry to the GDP of the region.*

Chi-square test for independence was used to determine whether there is a significant association between the two variables, namely whether respondents' residence is related to opinions about positive impact of creative industry on regional GDP. As the p-value 0.14070 is greater than the 0.05 significance level, we can not reject the null hypothesis and observed diameter differences can only be random.

Finding suggests that the perceptions of the importance of the creative industry for regional development in both regions (located in the eastern part of Slovakia) are practically the same. This enables the political sphere carry out a coherent promotion campaign. Surprisingly, even the oversizing of cultural events in Košice (within the framework of Košice 2013 – European Capital of Culture) - which manifests

itself even in these days and represents a fundamentally different model of culture than the model in the Prešov region (and the rest of the Košice region) - did not significantly affect respondents' views.

2. *The second partial objective was to determine how respondents in the two surveyed regions perceive the impact of creative industry on the job creation.*

Chi-square test for independence was used to determine whether respondents' residence is related to opinions about significant contribution of creative industry to job creation. The null hypothesis is made on the assumption that the variables are independent.

Again, the p-value greater than the level of significance indicate that there is no relationship between respondents' residence and their opinions regarding the significant impact of the creative industries to job creation.

Košice self-governing region has the third highest unemployment rate in Slovakia (after Prešov and Banska Bystrica region). As evidenced by the statistics of the Statistical Office of the Slovak Republic (2016) in the city of Košice and Prešov there is the lowest registered unemployment rate; on the contrary, the highest unemployment rates are in Rožňava, Sobrance, Trebišov, Sabinov, Stará Ľubovňa, Snina. Therefore, it would be assumed that residents of different towns and cities in both regions will have different views on the impact of creative industries on job creation. However, in the opinion of respondents from various towns were not found statistically significant differences. Anyway, both regions have undergone joint development which is characterized by the loss of job opportunities and jobs and both are characterized by persistently high (regional) unemployment rate.

3. *The third partial objective was to determine how respondents in both regions perceive the impact of creative industry on tourism development of international importance.*

The chi-square test was testing the null hypothesis, which states that there is no association between the variables.

The p-value is 0.41461 (greater than the level of significance) which means that we can not reject the null hypothesis. At the 0.05 level of significance, there is no evidence of a relationship/association between respondents' location and views on impact of creative industry on tourism development i.e. regional actors in both examined regions tend not to have different opinions.

Interestingly, residents of the regions/cities that are the closest to the activities under the project Košice 2013 – European Capital of Culture i.e. people who are every day confronted with the growing number of tourists not only from the border areas, still do not perceive and/or realize increasing proportion of the participants of many forms of tourism (city of Kosice, High Tatras, Svidník, Spiš region, Tokaj region, and many others).

In this final section are presented other important findings resulting from the surveys investigating the impact of the creative sector on regional development. According to respondents (more than 44%), the lack of state support is considered to be the biggest obstacle to the business/entrepreneurship of creative industries. The second major obstacle is the financing of the business plan in the creative area (this option was chosen by 18% of respondents). It can be caused by the fact that in some sectors there are no special programs for financial support. For example, since 2010 in Slovakia there is the Audiovisual Fund that combines public funding and contributions from private entities – from those that use audiovisual works in their business activities. These include public television (5% of revenue for advertising and teleshopping), private televisions (2% of revenue for advertising and teleshopping), cinema exhibitors (€ 0.03 for each ticket sold), the distributor of audiovisual works (1% of income for distribution of audiovisual works in addition to income from cinemas) and retransmission operators (1% of revenue for providing retransmission). The role of the Audiovisual Fund is (through the mentioned sources) to fund:
- development, creation and production of Slovak audiovisual works,
- the distribution, promotion, marketing support, as well as presentation of Slovak audiovisual works abroad,
- technological development and digitization of cinemas,
- festivals and film festivals,
- research and publishing of professional literature,
- promotion/support of education, trainings and workshops for professionals in the audiovisual industry.

In 1989 was in Strasbourg founded EURIMAGES – European Cinema Support Fund which supports the European audiovisual industry by providing financial assistance for feature-length films, animations and documentaries produced in Europe. It has a total annual budget of €25 million. This financial envelope derives essentially from the contributions of the member states as well as returns on the loans it grants. Eurimages support takes the form of soft loans (co-production support) or subsidies (theatrical distribution and exhibition) (Council of Europe, 2014).

Publishers may receive subsidies for publishing books and non-periodical publications from public or public-private funds that are of particular importance when issuing/publishing the original literature. In Bratislava there is the seat of the Literary Fund - national cultural public institution that promotes the creation of new works, from literary, theater, radio, television and film culture. The primary focus, however, is original literature, scientific and technical literature, journalism and press photography and translation (Literárny fond). In the music industry, artists can receive financial support from the Music Fund Slovakia (national-cultural public institution) or through the grant system of the Ministry of Culture, which annually announces new subsidy system.

Other sectors of the creative industries do not have special support programs, but subjects may benefit from other types of financial support, namely:
- EU Structural Funds 2014-2020,
- Regional Operational Programme 2014-2020,
- Creative Europe program 2014-2020 (European Commission framework programme for support to the culture and audiovisual sectors) - with a budget of € 1.46 billion for the specified years ,
- Fund to support the arts,
- Europe for Citizens 2014-2020,
- Norwegian Financial Mechanism and the EEA Financial Mechanism,
- private sources (sponsorship or donations);
- Cross-border cooperation programs,
- Horizon 2020,
- International Visegrad Fund (the Ministry of Culture the Slovak Republic, 2014).

There are also various endowment funds that support innovative ideas that do not fall under any program or support projects with a public benefit purpose. These funds are, for example, Anna Lindh Foundation, Endowment Fund Slovak Telekom, Orange Foundation or VUB Foundation and others. We note that there are funding options, but not all actors (who have an idea) know about these options.

The survey also showed that respondents do not have a problem to find suitable spaces/buildings for business. The Prešov and Košice self-governing region is characterized by its transboundary/marginal position. Participation in trade shows and events where the region can present itself is very important for tourism (influx of tourists) from neighboring countries - Hungary, Poland and Ukraine. However, only 12% of respondents believe that regions sufficiently support these activities.

Conclusion

One of the major tasks in promoting innovation and growth of the creative industries is intellectual property protection. There is a need to legal protection of activities in the creative industries, namely in the field of authors' rights, industrial property protection and enforcement of intellectual property rights (MK SR: Východiská stratégie rozvoja kreatívneho priemyslu v Slovenskej republike 2014).

Despite the geographical localization of the two regions, which (through their historical peripherality) dimensioning current marginal position in terms of political regions there were found no differences in the perception of the impact of creative industries on selected areas. Investigated areas - regional GDP, job creation (increasing employment), and development of tourism - significantly contribute to regional development. Theorists and professionals on this issue not always have the same opinion. From the abovementioned is evident that actors of creative industry themselves still do not perceive and/or do not understand the opportunities which creative industries concept brings.

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Internet and Internet Advertising and Its Impact on Consumer Behavior

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Abstract

At present, the Internet and Internet advertising form an important part of the life of consumers. Usually, we are not aware of the Internet advertising and yet we can meet it almost everywhere. Thanks to Internet ads we are receiving huge amounts of information that sometimes are not necessary at all. The psychological effect of the Internet advertising plays a major role in the everyday life of the consumer society. The aim of this study is to process theoretical knowledge of the Internet marketing and Internet advertising and its influence on consumer behavior.

Key words

Internet, consumer, Internet advertising, marketing, advertising.

Introduction

Recipients of advertising and customers are a very important element in the marketing communication system. Consumers are free people who have the right to free choice and the choice of goods. Their rights and behavior can be influenced and limited but not predicted. Human behavior in the market is a manifestation of one's physical and mental life, his/ her thinking, habits and opinions. It is therefore not a surprise that a seller should also be a psychologist in order to navigate through a large amount of human types, temperaments and moods that more often than not affect consumer choices. Learning to know and respect consumers is one of the prerequisites for the success of product sales (Monzel 2009).

With the development of the Internet we see businesses to move into the online world of the Internet. Companies are investing in information technology and electronic commerce in order to increase the effectiveness of their operations and improve customer service. To state that a specific action happens on the Internet, a word describing the given action is usually preceded by a letter "e" (like electronic). This is how, for example, the word e-business (electronic business) that is usually understood as a broader term for e-commerce, came into the existence (Blažková 2005). E-marketing is a form of "online" marketing that allows businesses to understand their customers and their preferences and requirements even better and at the same time maintaining effective communication with them as well. Businesses can use email marketing to varying degrees - from promotional activities to the understanding of e-marketing as a business philosophy that is linked to a complex business in cyberspace (e-business).

E-marketing is a perspective marketing trend based on the use of information technology. Information technologies provide new opportunities for communication, commerce, management. E-marketing works with potential and existing customers, creates a customer database, manages call centers, makes online offers, checks customers' interest and their satisfaction with electronic communications. E-marketing is aimed at advertising and direct targeting of marketing activities and thus replaces expensive services and little effective traditional advertising. Virtual marketing, which is the Internet version of the word-of-mouth advertising in the form of an e-mail, provides a variety of other marketing actions a customer wants to share with friends via e-mail communication (Kita et al. 2010; Štefko and Krajňák, 2013).

The nature and importance of Internet marketing and advertising

According to Mariáš and Žák (2004) a revolution in information flows will fundamentally change the world of marketing and affect the lives of various actors involved in the process. The impact of information technology is reflected in the following way:

- product – actively involve customers in product design, adapt the product to customers' needs;
- price – electronic communication allows for active price negotiations of trade partners;
- communication – speed of information, the Internet is a tool for communication and marketing;
- distribution – a fast-moving sector, flawless operation is one of the key criteria for success.

Sedláček (2006) distinguishes several types of e-commerce based on involved parties – customers and suppliers:

- **B2C (Business to Consumer):** this refers to the sale of goods and services from businesses (producers, traders, etc.) to consumers.
- **B2B (Business to Business):** the sale of goods and services between businesses – goods and services are not intended for final consumption.
- **C2C (Consumer to Consumer):** the sale of goods and services among consumers themselves. This category mainly includes auctions and advertising.
- **C2B (Consumer to Business):** the sale of goods and services to final consumers, but the initiative comes from the consumer.
- **G2C A C2G (Government to Consumer, Consumer to Government):** citizens purchase certain goods and services from the state.

A large part of B2B e-commerce is taking place in open trading networks - Internet marketplaces, where sellers and buyers meet online and carry out various business transactions. Networks of this kind can help organizations streamline operations and minimize processing costs, without losing control over the presentation of their brand or risking unwanted competitive meeting in a public place (Kotler et al. 2007).

New forms of e-marketing communication which are being pushed to the forefront and represent the current trends in Internet advertising and business include (Dorčák 2012):

- **related websites -** websites that feature a free link to another corporate site using the system link to link.
- **affiliate programs -** systems are based on the promotion of products through a website of affiliate partners who get some commission for doing so.
- **social networks -** represent a new advertising channel. Sites like Facebook, Twitter, MySpace, Buzz, LinkedIn can attract many new visitors and potential clients thanks to eye-catching ads.
- **professional portals and discussion -** it is a way of promoting and spreading the reputation of the company through professional articles and discussions that provide information about the quality of products and services.
- **microsites -** the main goal is to create a simple website that will promote products and services a company wants to pay particular attention to.
- **advergaming -** they are known as marketing activities that the spread its advertising messages using computer games.
- **word of mouth (WOM) -** these techniques shall initiate a discussion about a brand, create reference programs, communities of common interests such as fan clubs.
- **blogs -** serve for the regular publication of short messages (ie. spots). Individual spots can be usually commented on and so different sized communities form around many blogs very quickly.

Social networks are a new type of web applications. They have started to develop early in the new millennium from their predecessors who had served users before them. These predecessors were quite different - usually discussion servers, online photo galleries, weblogs, servers, data storages and so on. Creators of these Internet services have noticed that for users do not want just publish content, they also want to communicate with other users. Gradually, online services started to be based on the relationship between their visitors rather than on the content (Cooper 2011). Functions of social networking aimed at marketing purposes represent a serious and important advertising channel that can be a useful tool for precise and targeted marketing activities. Targeting based on fairly accurate sociodemographic parameters offers space for highly effective advertising campaigns (www.marketing.krea.sk**).**

Shih (2010) defines three basic types of social media websites:

- **All in one** – these social networks offer users all - online community, entertainment, communication and satisfy their social media needs as well - all in one place. Through such a website a person can connect with friends, upload photos, videos and update their "status." Despite the fact that MySpace is experiencing an outflow of long-term users, its only closest competitor in the United States is Facebook. Other pages in this category include e.g.: QQ.com, Bebo.com, Hi5.com, Friendster.com or Orkut.com.

- **One trick** – this type of social offers only one thing - communication with other people in a strict manner. A classic example of these services is Twitter which since its inception have intended to allow individuals to use short messaging services so they can communicate with other users who follow them.
- **Hybrids** – hybrid social media website tend to focus on one primary function with other minor features of other social networks. Flickr allows its users to share photos and videos and also many other features that can be found on other social networking sites such as adding new friends or joining different groups and the like. Like Flickr, the most popular video sharing service YouTube also offers its users to freely upload their videos so everyone else can see them. YouTube allows its users in addition to its primary function to communicate, evaluate content, manage their profiles etc..

Figure 1. The most used social media in the world and in Slovakia.

Source: Velšic 2012

Advertising serves consumers and consumers support advertising. One of the oldest forms and even today the most effective means of advertising is word-of-mouth. Consumers communicate with each other and exchange data, which are usually perceived as an ad. Communication, endorsement, advice of a specialist, behavior of acknowledged authorities, celebrities and also the use of certain goods and services, etc. are characteristic features of a contact between people. However, elements of advertising may be disseminated intentionally or unintentionally. If a consumer is not indifferent and actively disseminates the advertising, we talk about the intentional spread of the advertising message. Basically, a consumer gives out his opinion on the given advertising tool, its content or form by for example wearing a T-shirt or a shopping bag with the name of a business entity, thus publicly spreading a message (Hubinková et al. 2008).

Often the consumer of an ad judges truthfulness of advertising and builds up trust to it. The consumer observes whether neon signs of an ad are lit, whether the ad states the correct names of the goods, its aesthetics level. Consumers are looking for information and if information is hard to be found or is not sufficient, consumers turn to more accessible source - other consumers. However, information provided by other consumer may not be in line with the interest of a store selling the particular product or its manufacturer and may not support the intention behind the advertising message. Advertisers must realize the risk resulting from the human interaction by improving the quality of advertising and creating a peaceful atmosphere in the market (Stuchlík, Dvořáček 2002).

Commercials, their content, dynamics, color, music, beauty and wide-ranging diversity offered affect young consumers. Commercials are youth's most intense and most frequent media visual and auditory communication channel. Like many other television products commercials and advertising have their positive as well as negative impact on young viewers (Kalka 2007).

On the other hand, commercials and ads can also have a positive impact on young people – they can be perceived as a source of information about products, cultural and professional events, magazines and the like which may be interesting and useful for a consumer/ teenager. Furthermore, they can serve as an impetus for charity work, highlighting the need of helping various vulnerable or disadvantaged minorities or victims of natural disasters. Ads may strengthen empathy, social feeling and have an impact on interpersonal relationships. Ads help people distinguish between what is important and what is not, help them shield themselves and resist manipulation and urge to buy things they do not need, and stimulate or motivate them to work on themselves so they could reach whatever they want and provide

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an insight into themselves. Ads impact on and influence sensory perception, namely sight and hearing. Moreover, ads can enhance the aesthetic sense, and by frequent recurrence of notions strengthen speech skills. The suggestive power of advertising can enhance the natural curiosity and thirst for knowledge (Birknerová 2011).

Analysis of the use and status of Internet marketing in Slovakia

The aim of this study is to highlight the use of Internet marketing, online advertising and social media by ordinary users as well as major international companies operating in the domestic and world markets. The study makes use of processed (secondary data) i.e. domestic and foreign surveys on the use of social networks operating in today's competitive market. In Figure 2 we can see a graphical presentation of the use of social networks within individual regions of Slovakia.

Figure 2. The most used social media in the world and in Slovakia.

Source: Velšic 2012

We can say that the use of social networks is strongly influenced by factors such as age, education, economic activity, income etc. On the basis of the conducted surveys we can argue that social networks in Slovakia are used by one in five (21%) either every day or almost every day. 17% of surveyed respondents use social networks a few days a week and 16% of respondents use social network max. once a week. Despite the very high regional diversity and unlimited access to social networks, Slovakia is being dominated by two social networks. The highest number of users has Facebook, followed by Pokec (http://www.itnews.sk). Relatively under-represented are Windows Live, Twitter, MySpace, and LinkedIn professional network.

Graph 1. The use of social networks in the Slovak Republic
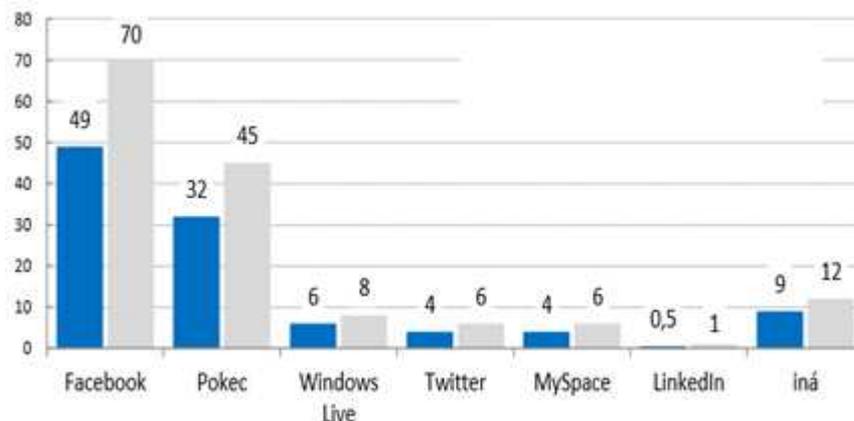
Source: Velšic 2012

PwC measured the digital IQ of companies and found that more than a quarter of companies operating in Europe want to communicate with their employees through social media. More than 26% of European companies invest in technologies that enable them to communicate with their employees via

social media. In 2014, European companies planned to invest in social media. Such an investment would be a path toward better communication with customers and other interested parties outside the company. With regard to external communication such investments made by European companies (35%) were much more rare than those made by the US (49%), and Asia and the Pacific (41%) (https://www.pwc.com).

Graph 2. The use of social networks in the Slovak Republic
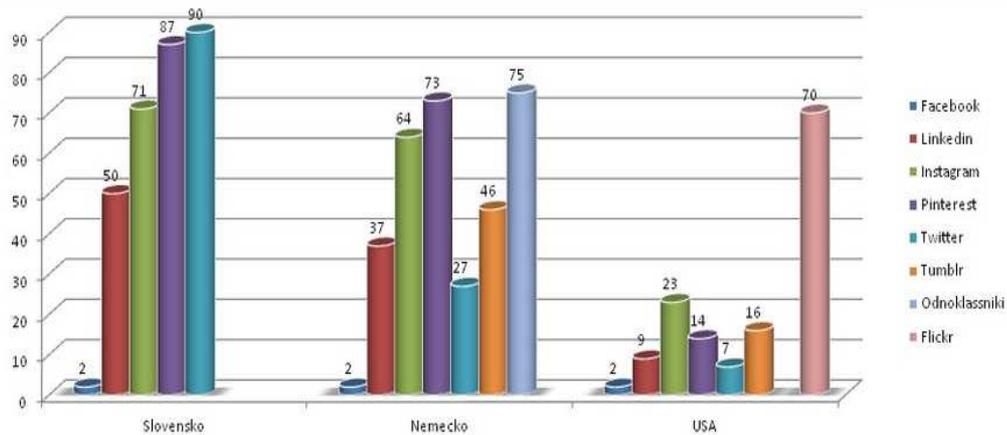
Source: www.inetgap.sk

Based on the results processed in the Graph 2 we can see what social networks dominate in the given coutnries. Its is very interesting to compare the use of Facebook in Slovakia and the USA – the results are striking. Germany and the US use social networks that are virtually absent from the Slovak market or are used very rarely.

Table 1. The overview of the planned investments of the company in the use of social media

% of respondents who planned to increase the use of social networking for business purposes in 2015	Those willing*	Others
Facebook	56%	35%
LinkedIn	44%	30%
Twitter	40%	27%
Blogy	36%	25%
Sectoral or function-specific online communities	33%	25%

* companies with high digital IQ, growth in sales of more than 5% and which are to be found in the upper quarter of revenues, profitability and innovation

Source: www.pwc.com

Despite the fact that many companies recognize the importance of social media and its role in marketing, they still have a problem what tactics and which networks to use. Based on the survey by Software Advice in collaboration with Adobe, we can say that the vast majority of marketers (84%) routinely uses min. three social networks and 70% of them post news on social networking sites at least once a day. Marketers often use visual content, hashtags and usernames as a very important tactic to optimize social media content. In the world of social media, especially Twitter, a hashtag is a word or phrase that describes the content of the post which it precedes (#). Furthermore, research has pointed out that more than 57% of marketers use software systems to manage their posts (Makulová 2014).

Summary

Use of social media is getting more and more popular. It is an indisputable fact that the importance of social media in marketing and trade is increasing and thus Slovak as well as foreign companies react to it. Social networking sites allow their users quick and unlimited communication through which users can share information that can not only promote products and services but also build the image of the company. It is now an indisputable fact that companies must keep up with the development of promotion and information technologies.

The most powerful feature of the advertising process is efficiency – each individual shield themselves against external stimuli and creates a barrier that draws his attention to information consistent with his personality and reject information that are unacceptable or not important. Selective behavior causes consumer to choose and prioritize certain carriers of advertising information over others, influences recipient's attitude to advertising or causes consumer's brain to remember certain message on a conscious or subconscious level.

Some media professionals have seen the Internet boom a few years ago as the end of the TV. They argued that viewers will be more attracted to the interactivity offered by the Internet rather than amused by the traditional passive way of television consumerism. In general, despite the fact that in some countries the overall trust in the media in the recent years has fallen, study reports from several countries confirm that the TV is still remains the main source of information. In Bulgaria, watching TV is the most popular form of leisure. According to the findings from Romania and Slovakia, TV is the main source of information for more than 73% of the population (Dragomir 2010).

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Analysis of the Startup Ecosystem in the Conditions of Slovak Market

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Abstract

The aim of this article is to analyze the startup ecosystem in the Slovak market and according to presented findings suggest recommendations for possible improvements in development and effectivity of this ecosystem. In theoretical background, there are described areas such as business environment, startups, coworking, business angels and even crowdfunding. The analysis consists of primary data gathered from internet research, which act as a base argument for presented startup ecosystem state. Findings are then transformed into a recommendations and limitations for this field.

Key words
Startup, Ecosystem, Slovak market, Entrepreneurship, Investment

Introduction

This paper is focused on the analysis of the startup ecosystem, which in Slovakia is still only developing and may be said it is in the initial phase. The fundamental terms need to be defined so one can comprehend analysed field. We will, therefore, begin with the theoretical background covering areas such as entrepreneurship, entrepreneur, startup, startup ecosystem, coworking, venture capital and so on. All those terms closely relate to following analyses of Slovak startup ecosystem.

The main goal is to analyse the development of Slovak startup ecosystem with a focus on its partial areas. We enclose basic pillars of startup ecosystem and analyse their actual development state. The public sector, corporate sector, organisations supporting startups and startups themselves.

Current ecosystem of startups in Slovakia is just starting to develop and there is still much to do. In Slovakia in the 90s, there were created world famous startups, which broke even in the world. Those are ESET and Sygic. One of the objectives is to determine if there are currently being startups that could inspire young people to start a business of startup venture.

Business environment

The business environment in which businesses conduct business is made up of a variety of business conditions in many areas. They are the legislative, institutional and infrastructure conditions of the market. The business environment may be specified especially by the legislature and ministries, public authorities, State organisation and government-funded institutions and agencies, the courts and public administrations. In addition to it include educational establishments of all types, research and development institutes, entities active in the field of finance, such as banks, insurance, capital market institutions, leasing companies. The business environment is also defined by unions, chambers, associations, organisations and another advisory, potential competitors, and current and potential Collaborators. (Vochozka a kol. 2012) (Štefko, Krajňák 2013).

The Commercial Code governs the status of entrepreneurs, commercial contractual relationships and relationships related to business. According to § 2 (sec.1) Commercial Code (513/1991 Zb.) the business means a systematic activity carried out by independent entrepreneurs in their own name and on their own responsibility for profit. (www.zakonypreludi.sk 2015).

Term "entrepreneurship" consists of two parts, where "ship" has gothic roots and can be translated as "to create something of value, to invest". In the startup context, it could be explained as an investment of time and money into something with a great potential to create certain value. (www.kpmg-studio.sk 2015)

Startup

Startup is a relatively modern concept. The cradle of startups is commonly known area in California, Sillicon Valley. There arose the most successful company of today with billions turnover, which also employ countless people. Although it is quite a new concept, startups have emerged long before this was a

defined concept. There are no two same definition of two businessmen or investors. The majority says that startup is determined by its age, growth, revenues, profitability and stability. (Shontell, 2014).

According to Neil Blumenthal, founder and CEO of Warby Parker, startup company is working on solving the problem where the solution is not clear and success is not guaranteed (Robehmed, 2015).

John Vanahara (2015), successful Czech, which since 2002 operates in the US, points out that it is important to startups grow or produce profit. But the best is when it happens at the same time. If the startup experience high growth, it is a good sign for venture capital investors who believe in the high growth and appropriate financing of the company has reached a stage where it starts to produce a profit, much bigger than the safe investment. In the process of business where is wanted to make a profit as soon as possible, it is characterized by businessman standing feet more firmly on the ground. Vanhara also recalls that during the first year, sometimes longer, startup may never produce a profit, but it is important that at least something going on, so that startup're going, and showed a growth that ensures profits.

When defining startup, it is needed in this area to define the terms that closely integrated. KPMG (KPMG, 2015) research company dedicated to startups, SMEs, defined in its annual research the concept of IDE - Innovation Driven Entity. It can be defined as a company employing innovative technologies, distorting the current business model with the global objectives. These companies have a huge potential of growth, income and value added tax, also characterize their different needs that can not be generally understood as the needs of ordinary companies.

Business model

The term "business model" is according to Feng Zhu (2013) understood as the logic of business management modes and how the enterprise generates and captures capital to its shareholders.

Osterwalder (2015) describes it as the principle of the organization's forms, delivering the capital gains. It is necessary to create such a concept business model that everyone will understand. The author describes a simple nine blocks from which to create a business model of any company. The nine blocks cover four main areas of business: customers, supply, infrastructure and financial viability. Business model should therefore be a kind of plan for the strategy implemented by the company's organizational structure through process to the system. This business model can also be termed as a "The business model canvas" and it is available in a variety of startup events, competitions and forums where you can easy and fast present the important things that a business startup costs and who should get between supporters of either owners or venture capital crowd.

Ecosystem of startups in Slovakia

If we want to describe the ecosystem, the term needs to be defined. According to KPMG (www.kpmg.com), the term is most commonly associated with the biological aspects. Thus the ecosystem is a community of organisms that interact with each other within a certain environment. Therefore this definition can be applied also in this economic context.

Support ecosystem of startups can be divided into four areas mentioned by the research study of KPMG (KPMG, 2015), namely:

- Corporate Sector
- Public sector
- Organizations supporting startups
- Investors.

The last three mentioned areas showed in Slovakia a positive development and high growth during the last year. Corporate sector to support startups stagnated. It is very important for the companies to strongly cooperate with startups because in it can be discovered new talents, help large companies grow, bring to market new products, services and so on.

The ecosystem is called ecosystem because it consists of several interlocking parts that interact. This means that no individual aspect strengthen environment enough to turnover Slovakia to Silicon Valley. The individual feet of the ecosystem must be built gradually and one of them may be a future super company. (Garaj, 2016).

Analysis and results

The analysis of startups will involve the distribution of individual startups to counties and cities in which they were operating and further, that they are active. Analysis of the ecosystem of startups in general will focus on the conditions for their development in the Slovak Republic, funding opportunities, promotions and eventual expansion. There are many startups founded by Slovak, but many of those are projects in cooperation with foreign colleges. This article, however, focuses on startups that have home country Slovakia, to assess the local ecosystem. We may conclude that in Slovakia has so far been established more than 130 startups that could be traced and are also active. Data is divided by regions in startup maps

In Slovakia, there are several private and public providers and brokers, venture capital and other than financial support for startups. Those are Neulogy Ventures (neulogy.com), Slovak Business Agency (sbagency.sk), Club of Slovak Business Angels, Launcher, 42angels.com, crowdberry.sk. Currently, there are 30 coworking centres in Slovakia. Majority of them is located in Bratislava. It is obvious that such facilities are created in the moste active parts of country, specifically west of it na surroundings of greater cities.

Figure 1: Coworking map of Slovakia

Source: Own elaboration

Where startups are formed depends on several factors. It is about econommic maturity of the region, size of population in districts, access to conferences, events and so on. Also important is a level of primary, secondary or higher education. Governments try to increase the competitiveness of its students to be more easily employed by employers who operate in Slovakia. Teaching therefore comes down to memorization and motivating children to do that which will better teach and attend better schools, the greater the chance of being employed. What is, however, quite often forgotten in state educational institutions and teaching is that students may in the future become employers themselves, broth jobs and contribute to increased competition and growth of the Slovak economy. Schools motivate students to become good and educated employees but do not motivate them enough to have tried more and become a good employer. Many people want to be rich since childhood and have a good lifa without work.

Figure 2: Startup map of Slovakia

Source: Own elaboration

The previous figure can be observed that many startups are mainly in the west and in the central part of the country. It should be noted that many of the startups that we seek, do not specify the site of action and thus not given any location. Majority of Startups were founded in Bratislava. Those are in count of n = 23. As you can see from previous map of Slovak startups, there are some in every part of country, even so in lesser nubmers. In the east of the country is higher rate of unemployment and therefore people tend to leav for the jobs in other cities or countries, so they can support their families. It is likely that they are afraid to take more risks and try the business on their own. "TOP 20" startup ecosystems are kept mainly in developed countries. It is therefore likely that many startups whose ideas originated in the east, went west because of the better infrastructure and better conditions for development and growth.

Slovak startup entrepreneur has in 79 % of cases 25 to 34 years and same percentage has higher education of second stage. It points out the fact that educated young people have ambitions to take on the business world. But they do not have to as well experience in business, than their older counterparts like the United States, where startuper age is in average 40 years. Startuper education is mainly from the field of IT (42%) and business (40%). 76 % of them are male and it is worldwide trend. This is one of the weak spots, which should be addressed in ecosystem development in the future. Up to 66 % work within a team of two or three person, which can be considered as positive, because in case of building a business it is important to have multi disciplinary team of people. (KPMG, 2015)

Slovak startup is in its beginnings. 41 % of startups are in the initial stage of testing and they are not generating any incomes, while 35 % generate first incomes and only 4 % expand into new markets. 22 % of startups operated without any employe and same percentage appeared at startups with 10 + employes. 56 % had 1 to 9 employees.

Most investors use to finance its business idea own resources or resources of the family. 39 % of business plans were supported through angel investors. On the issue of revenue in 2015, respondents reported more conservative earnings expectations. Only 4% expect sales of more than € 500,000. Most startups (up 89%) as their object considered to build something new, 57% of startups wants to change the industry in which they operate, and only 43% of them focus on profits.

As mentioned in the theoretical part, the weak part of Slovak startup ecosystem is the corporate sector that lack cooperation with startups. The survey showed that up to 43% of companies have never cooperated with any startups. Inefficient and poor use of corporate funds increases the risk that the Slovak ecosystem and Slovak startups not expand their full potential.

The survey also shows non-financial support and public sector organizations promoting startups. The utmost is provided mentoring and networking, thus informal meetings. The capacity is big, because in 2014 it was only 33% of public sector institutions and 29% of organizations supporting startups at the upper limit of its capacity.

Conclusion and discussion

Our surroundings has very little information on the concept of startup. Therefore, we tried as truthfully and faithfully describe the basic concepts of the theory that we may close as possible. We found that Slovakia is on track to building a quality startup ecosystem. Components of the ecosystem, namely the public sector, organizations supporting startups and startups have very good foundations for growth and development. An area which is still not sufficiently developed because of poor infrastructure resulting in poor quality communication is the corporate sector and how it interacts with startups. Capacity utilization of corporate sector is at a level not even thirty percent, which is on one side good, because there is a room for growth but it also has weaknesses, as this sector has many years of experience, expert teams and capital. Startups in turn can offer know-how, young and determined team. Thus, we found that not all parts of the startup ecosystem is fully engaged in its growth.

We also found that startups usually have good technical and technological aspects of the project. However, presentation skills are far behind average, as well as critical thinking, and the ability to sell themselves. In Slovakia, there were created several successful startups in recent years, but so far they have been successful only in Slovakia or in some neighboring countries.

In the analysis, we found that the majority of coworking is located in the west and in parts of central Slovakia as well as the vast majority of startups. It does not help to compensate for the difference between landscapes regions of eastern, central and western Slovakia.

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Integrating Customer Journey into B2B Website Content

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Abstract

Content marketing is a new term that has developed within recent years. It requires customer-centric approach, and increases the necessity to map customer journey. This is especially important for business-to-business (B2B) companies. The research shed some light on integrating the customer journey into B2B content strategy by analysing 38 global B2B industrial companies. The results have several implications. First, it shows that the leading B2B industrial companies do consider the customer journey in their marketing strategy; however, ignore an appeal of many marketing experts in this field. Second, the results show the importance of focusing not just on certain content types, but to manage content strategy according to the goals of the customer journey. Third, the research illustrates cross-regional in the integration of the customer journey in B2B content marketing. The paper focuses only on the companies' web-sites, what represents the main limitation.

Key words

B2B marketing, customer journey, web content, content analysis

Introduction

Digital marketing changes business relationships. Web content, alongside with social media, has developed into a marketing tool of bi-directional communication. A customer became even more important for any business strategy, because was able to take part in almost any stage of a product or a brand development (Elisa & Gordini, 2014; Holliman & Rowley, 2014). Companies have to understand customers better and know what they what and what brings them to take a purchase decision. In order to do this, companies have to discover a path the customers go through at a website, in social media and other digital marketing tools. Integration of the customer journey into content marketing could help a company to identify the main business goal at any moment of customer experience. Knowing the stages of the customer journey companies could adapt their web content in order to reduce the paths of customers and strengthen business relationships.

This is especially important to business-to-business (B2B) companies, which due to the specifics of the business are more dependent on customers than business-to-customer (B2C) companies.

It is often seen that the best-performing companies represent the best practices; and could be an example for strategy development. The purpose of the current paper is to analyse the websites of the leading global B2B industrial companies and find out the role of the customer journey in their content strategy.

The necessity to provide a research is based on a desire to fill a research gap. Previous research on content analysis was mainly focused on the content analysis of social media (Parveen, Jaafar, & Ainin, 2013). Content analysis of websites was focused mostly on a text analysis (Beninger, Parent, Pitt, & Chan, 2014; Kohli, Kaur, & Singh, 2012). Other studies have examined cross-cultural differences in a content (e.g. (Calabrese, Capece, Di Pillo, & Martino, 2014; Huertas-Garcia, Casas-Romeo, & Subira, 2013; Nacar & Burnaz, 2011).

Background
Content marketing

Content marketing is a new term that has been developed within the last years. It changes the communication with customers from a "broadcasting", one-directional, to a bi-directional (Holliman & Rowley, 2014).

The idea of content marketing is to attract and retain customers by means of communication symbols, constantly providing valuable and relevant information with intend to influence customer behaviour (Content marketing institute, n.d.). Every communication symbol or data presented in a form of a text, an image or a video spread out a message. The main difficulty of content marketing is to code a message in a

way that a customer could understand it and behave in a desired way, and to decode it from the communication symbols received from customers.

According to the latest research (e.g. provided by eConsultansy), both B2B and B2C companies held digital content marketing as very important. However, only 39% of companies have a content marketing strategy (Holliman & Rowley, 2014). Development of such strategy requires clear understanding of customer needs.

Customer journey

Content marketing allows customers to take part in almost every stage of a product or a brand development. So, it positions a customer in the centre of any strategy. This requires clear understanding of customer needs and wishes. In order to understand a customer, and know that brings her or him to a purchase decision, companies should map customer experience, or customer journey.

A model of the customer journey is presented on Figure 3. Marketing literature reveals different variations of the model of the customer journey and uses different names for the models' stages. The current paper will be based on the definitions provided by Vázquez et al. (2014) and Chaffey (2014).

The customer journey consists of four stages, each of which has different goals. During the first stage, awareness, a customer collects information about a product and/or a brand. Within the second, evaluation, stage a customer analyses the received information and provides comparison with similar products and/or brands. At a purchase stage a customer decides whether to take a purchase decision or not. On the last stage, the post-purchase experience, a customer evaluates the purchase experience and decides whether he or she will stay with a company or a product in the future (Edelman, 2010; Vázquez et al., 2014). There is a high probability that a customer will stay with a product and/or a brand if a customer experience is successful and her or she receives relevant and valuable information that helps to make her or his life easier or better.

Figure 3. Customer Journey Model
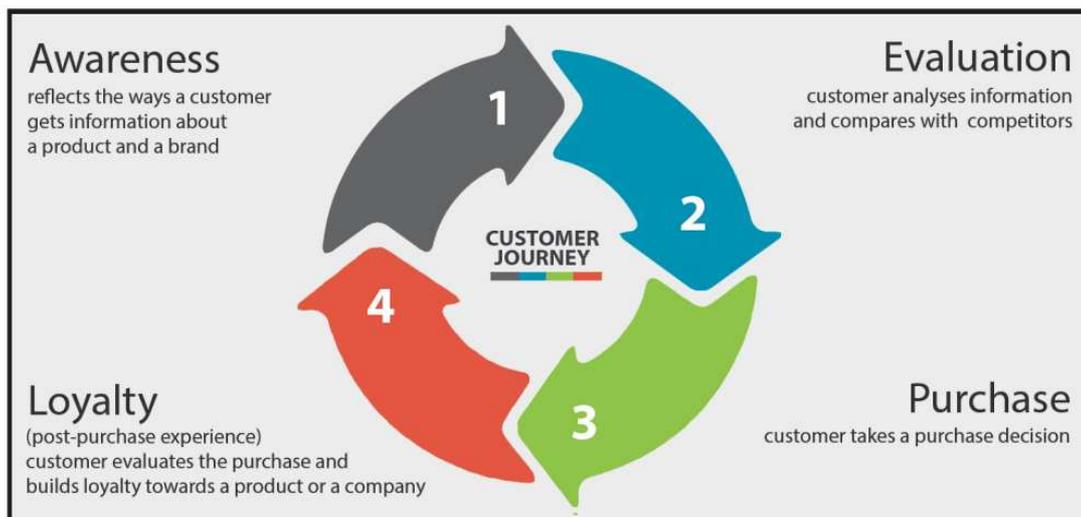
Source: author, based on Vázquez, S., Muñoz-García, Ó., Campanella, I., Poch, M., Fisas, B., Bel, N., & Andreu, G. (2014).

The content reflecting the stages of the customer journey helps to provide valuable information to customers at different stages of their experience.

Content types

At every stage of the customer journey, content has to fulfil a certain function. At the stage of awareness, it has to entertain and evoke emotions. At the stage of evaluation, content has to inspire. Companies have to convince customers to decide for their products and/or brands by means of content. At the stage of purchase content should convince to make a purchase decision. At the stage of the post-purchase experience, content has to be educational and engaging in order to help customers in their existing and potential problems and to build loyalty.

Different types of content target different audience. So, it could be assumed that the more diverse the content on a website, the more possibilities has a company to reach customers at every stage of the

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customer journey. Marketers distinguish two types of digital content: static, as for example, texts, and dynamic, as videos, podcasts, etc. (Holliman & Rowley, 2014). The most useful content marketing tools in B2B are long-form content, such as market research, reports, case studies, white papers, e-books, webinars and videos (Holliman & Rowley, 2014). This could be explained by the specifics of the B2B business.

B2B business

Understanding of the customer journey is especially important for B2B companies. In comparison to B2C companies, B2B companies are based on a smaller amount of customers but have longer business relationships(Holliman & Rowley, 2014; Hristova, 2013). B2B companies are characterised with longer decision time and fewer transactions (Hristova, 2013; Järvinen, Tollinen, Karjaluoto, & Jayawardhena, 2012). Furthermore, values not emotions, play the leading role in a decision process (Gillin & Schwartzman, 2011). In B2B area values are presented in a form of price or similarity of business objectives (Gillin & Schwartzman, 2011). So, B2B companies are even more than B2C companies motivated to understand their customers and provide a successful customer journey design.

All these factors created a background for the current research. Content marketing is a rather new term, and changes the communication with customers from one-directional to bi-directional (Holliman & Rowley, 2014; Hristova, 2013). Customers create customer generated content and herewith take part in the development of a product or a brand. This motivates companies to invest time and resources in the analysis of customers' needs and the decision making process. Companies should have a clear customer journey design to ensure a satisfied customer experience. Due to a higher dependence of B2B companies in comparison to B2C companies from the customers, B2B companies should be very motivated to integrate the customer journey in their content marketing strategy.

A web content featuring the customer journey could considerably influence behaviour of a customer. Content analysis could help to evaluate the status quo of the content strategy used at every stage of the customer journey.

Research Questions and Hypotheses

The aim of the research is to analyse whether B2B companies consider the customer journey in their web content marketing strategy. In order to do so, some research questions and hypotheses have been developed.

R1: Do the leading global B2B companies consider the customer journey in their content marketing strategy?

R2: How does the diversity ratio vary across the stages of the customer journey?

It is also essential to know whether the analysed companies engage with customers instead of trying to sell the products. Companies using B2B content marketing should act as publishers, do not sell their products or services, but provide help to customers to make their life easier or better (Holliman & Rowley, 2014)

R3: Do the leading B2B companies focus on engaging with customers instead of selling their products and services?

The following hypotheses were suggested.

The content used at the stage of awareness has to attract new customers, therefore has to be picky, emotional and attractive. However, as it was mentioned before, B2B companies do not base purchase decisions on emotions. Therefore, the first hypothesis will assume the following:

H1: The content used at the first stage of the customer journey does not play an important role in B2B content marketing.

As it has been mentioned earlier, digital content marketing requires the change of approach to marketing communication. Many scholars (e.g. Halligan & Shah, 2010; Handley & Chapman, 2011; Holliman & Rowley, 2014); Lieb, 2011)) suggest business to stop selling and start engaging with customers. As the analysed companies represent the best practices, it is assumed that they would place high importance at the content used the third stage of the customer journey.

H2: The content used at the third stage of the customer journey is the most important in B2B content marketing.

The main idea of the customer journey is to build communication with a customer in a way that a customer will come back to a company in the future directly by skipping the first two stages of the customer journey. In other words, the second and the following customer journeys should be reduced to two stages – the Purchase and the Loyalty stages. This means that these two stages should be

interconnected, and if a company creates a content to convince a customer to take a purchase decision, it should be interested in creating a content to engage him or her after the purchase.

*H3: The more B2B companies invest in selling, the more they invest in customer engagement*

Whereas the leading global companies are often seen as representatives of the best practices, it was decided to control whether content type diversity depends on financial indicators. It could be assumed that if a company has a lot of employees, it has enough human resources to enable high content diversity. The same refers to the assets available. The amount of total assets could represent the resources that would correlate to a content diversity. In a similar way net income and price per share could be considered. Thus, four financial indicators will be analysed: market value, turnover, net income and price per share.

H4: Financial indicators have positive impact on content diversity.

H5: High employee number has positive impact on content diversity.

Method

Figure 2 - A flowchart for content
analysis of a website
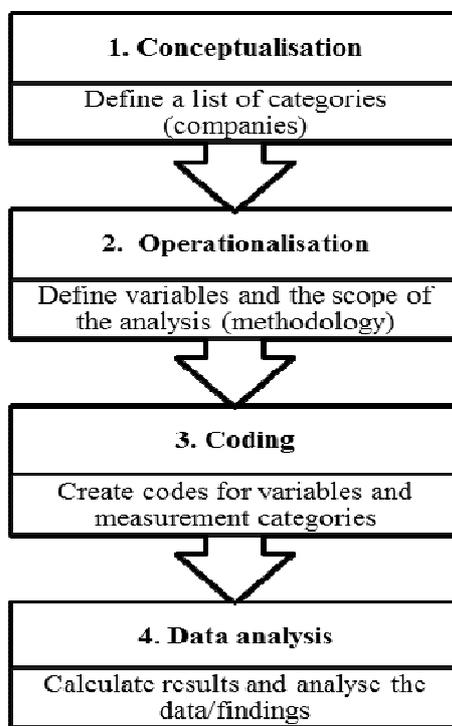
Source: author, adapted from by
Parveen, Jaafar, & Ainin (2013) and
Neuendorf (2002)

The method was based on a content analysis model suggested by Parveen, Jaafar, & Ainin, (2013) and Neuendorf, 2002. The necessity of modification is based on two reasons. First, Parveen, Jaafar, & Ainin, (2013) were examining social media presence, whereby the current research was focusing only on a website content analysis. Second, the methodology suggested by Neuendorf (2002) was applicable mostly to offline non-changing content. Figure 2 illustrates the process of the content analysis of a website, which has been used in the current research.

Stage 1: Conceptualisation (Data collection and procedure)

The first stage involved data collection.

It is often believed that the largest global companies could disseminate best practices, because they have enough resources available and possess synergy of the processes. Based on this assumption it was decided to base the current research on a list of companies of *Global 500*. *Global 500* represents a list of top 500 global corporations. The initial list of 500 companies was reduced to the companies representing

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B2B sector. After that the working list included 76 companies from the following sectors: Chemicals, Construction & Materials, Electronic & Electrical Equipment, General Industrials, Industrial Engineering, Industrial Transportation, Oil Equipment & Services and Support services. Such sectors as Oil Equipment & Services and Support Services were excluded from the analysis due to difference in the nature of the business compared to the other sectors. In order to increase reliability of the research it was decided to concentrate on industrial manufacturing B2B companies. Therefore, such sectors as Industrial Engineering and Industrial Transportation were also excluded from the list. After these manipulations the working list of companies represented 41 global companies from four industries: Chemicals, Construction & Materials, Electronic & Electrical Equipment, and General Industrials.

In order to facilitate the analysis, a spreadsheet in MS Excel was created. A list of companies was complemented by the websites of each company analysed. It is important to note here that only global (in one case, European) websites were taken into consideration in order to avoid the influence of national and cultural characteristics on the content.

After screening out irrelevant companies, three companies were excluded from the list. The first company was focused mostly on B2C sector. The second did not have a global website and led customers directly to a local website depending on the user location. The third company led to a website, which was already included in the list. Upon completion of the categorisation process, a list of companies consisted of 38 companies.

Stage 2: Operationalisation (Scope of analysis)

After obtaining the list of companies and screening their websites, the second stage was to identify the variables, or the types of content the companies use on their websites.

The list of web content types was based on Content Marketing Mix, suggested on the portal Smart Insights (Bosomworth, 2014), and a list of content types presented in a work of Hristova (2009). The pre-screening of the websites let to identify some other content types. Finally, the list included 39 content types. The identified content types were divided into four groups according to the functions at every stage of the customer journey. Table 1 presents the division of the web content types according to the customer journey stages.

Table 5. Variables identified for the content analysis of the websites

Stages of the customer journey	Content type	
Awareness	• Corporate brochure • Games • Corporate Videos • Quizzes • Virals	• Brand images • News & press releases • Expert interviews • Widgets
Evaluation	• "About"& facts • Reviews • Forums • Events	• Celebrity/Experts endorsement • Ratings & awards
Purchase	• Price lists • Data sheets • Case studies & references • Webinars • Checklists • Interactive demos • Product features	• Reports • Newsletter subscription • Supporting docs (CAD-files, visuals, etc.) • FAQ • Annual reports • Ask an expert
Loyalty	• Speeches and presentations* • White papers & studies • Guidelines • Blogs • Product Videos • E-books	• Trend reports • Research magazine • Infographics • Product related background information • Trend / Industry Videos

*not related to an Annual General Meeting
Source: author

It was also important to choose the scope of the analysis: to specify, what levels of the websites will be analysed. There is no widely accepted agreement on how deep should be websites analysed. In general, vertical websites with many levels could be problematic for users searching for specific information or a product (Jano et al., 2015). Jano et al. (2015) provide an overview of the options, suggested by different researchers. Some researchers agree on the analysis of the levels one to three, because the most important information is located on these levels (Jano et al., 2015; McMillan, Hoy, Kim, & McMahan, 2008). Other researchers consider levels three to five as ideal for a website content analysis (Jano et al., 2015).

Considering a whole website creates some difficulties. On one hand, the content is consistently changing, what makes it possible to miss some information. On the other hand, downloading a website might cause copyright issues (Kim & Kuljis, 2010).

The current research focused on the levels one to three. Each time a specific content type was found on a website, it was noted in the working table. The analysis was taken between the 22nd of February and the 6th of March 2016.

Stage 3: Coding

The next stage considered a coding of the identified categories. Information about a content type was entered in the table depending if a company obtained certain content type or not. Every positive entry was coded as 1 otherwise as 0.

The final stage included the data analysis.

Stage 4: Results and discussions

After obtaining a list of companies, screening their websites and entering the data on the content type they use, a deep analysis of the results was provided.

Table 2 displays the total number of content diversification for each company. The subcategories for each indicator are not displayed. The first raw categorised as "Max. points" present the possible number of points available in each category.

It should be noted that out of possible 39 points the average number is 16.6 or 42% of total possible points. 24 out of 38 companies are above the mean score. The scores are ranged from 5 to 27 with a standard deviation of 6.65.

The 15 companies that have received more than 19.5 scores, or half of the possible 39 points, are located in the USA, Germany, France and Japan. Other companies from the Northern America and Western Europe also have relative high scores – 16 to 17 points, with one exception – a company Danaher from the USA that has collected only 8 points. Other Eastern Asian companies have relative low scores – from 5 to 11, except Japanese companies, which scores vary from 16 to 22. The composition of geographical regions was based on the Composition of macro geographical (continental) regions, geographical sub-regions, and selected economic and other groupings provided by the United Nations Statistics Division[1].

A company with the most diverse content is Beyer (a headquarters in Germany) with 27 out of 39 possible points, or 69%. Three other companies have 26 points, or 67% of the total possible points. These companies are located in the USA and Germany. Top three companies with the most diverse content represent chemical sector.

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[1] http://unstats.un.org/unsd/methods/m49/m49regin.htm

Table 2. Website content analysis scores

| No	Company	Awareness	Evaluation	Purchase	Loyalty	Total
	Max. points	*9*	*6*	*13*	*11*	*39*
1	3M	3	2	9	7	21
2	Air Liquide	4	2	5	7	18
3	Air Products & Chemicals	6	2	7	3	18
4	Basf	4	4	7	9	24
5	Bayer	5	3	9	10	27
6	China Communications Construction	1	2	2	0	5
7	China Railway Construction	2	3	2	1	8
8	China Railway Group	1	3	4	0	8
9	China State Construction Engineering	1	2	2	1	6
10	Citic	1	2	2	0	5
11	Danaher	1	2	5	0	8
12	Dow Chemical	3	2	7	5	17
13	E I Du Pont de Nemours	4	3	10	9	26
14	Eaton	1	3	7	6	17
15	Ecolab	3	3	11	9	26
16	Emerson Electric	3	3	10	8	24
17	General Electric	4	3	6	4	17
18	Hitachi	2	4	8	8	22
19	Hon Hai Precision Industry	2	1	7	1	11
20	Honeywell International	3	3	11	5	22
21	Hutchison Whampoa	2	2	2	1	7
22	Jardine Matheson	2	3	1	1	7
23	Keyence	2	3	10	7	22
24	Larsen & Toubro	2	2	5	1	10
25	Linde	4	2	7	5	18
26	LyondellBasell Industries	4	2	8	3	17
27	Murata Manufacturing	3	2	8	4	17
28	Potash Corporation of Saskatchewan	4	2	9	5	20
29	PPG Industries	4	4	9	6	23
30	Praxair	3	4	7	6	20
31	Saudi Basic Industries	3	1	3	1	8
32	Schneider Electric	2	2	10	7	21
33	Sherwin-Williams	5	1	8	6	20
34	Shin-Etsu Chemical	2	3	6	5	16
35	Siemens	4	2	10	10	26
36	Syngenta	3	2	6	5	16
37	TE Connectivity	3	2	7	4	16
38	Vinci	5	4	4	6	19

Source: author

Graph 1 presents the cross-regional differences in the web content diversity. As it is seen from the graph, European B2B companies provide the most homogeneous content marketing strategy in regards to four stages of the customer journey. The Asian companies have the lowest content diversity range comparing to the other two regions. This could be caused by several reasons, including the cultural differences. According to Hofstede (1984), there is high rank of security in Japan and other Eastern Asian countries. High security is associated with high uncertainty avoidance. This is in its turn associated with limited choices and strict amount of data to disclose (Hofstede, 1984; Marcus & Gould, 2000).

Graph 1. Cross-regional differences in web content diversity at every stage of the customer journey
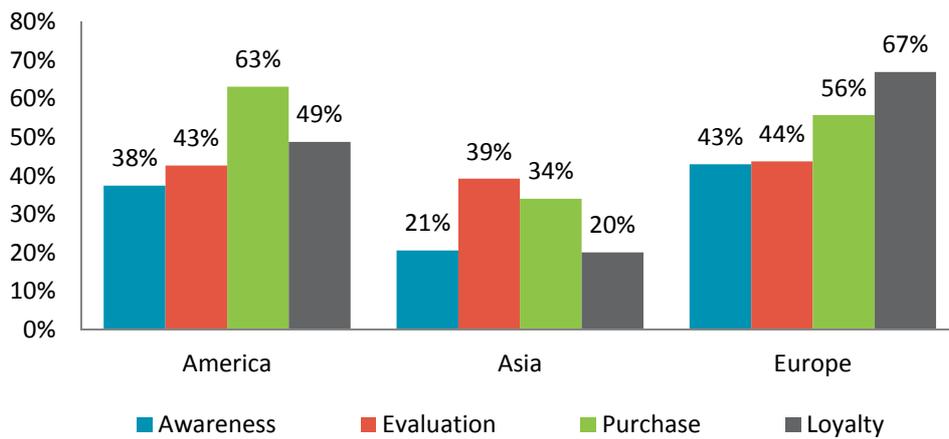
Graph 2: Average web content diversity at every stage of the customer journey
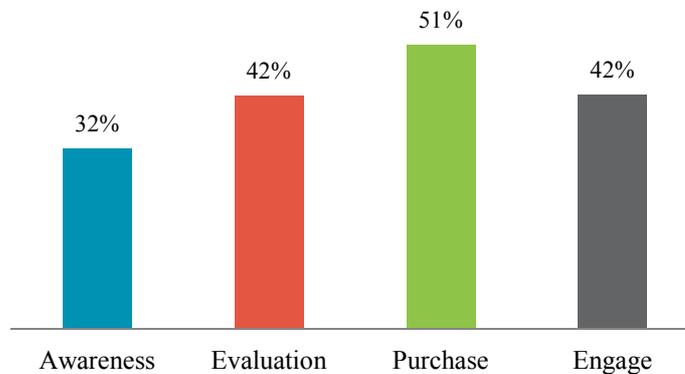
Graph 2 depicts the means of the content diversity scores (calculated as the percentage of the collected scores in the total possible scores) for 38 analysed companies. As it is seen from the graph, the lowest score of web content diversity belongs to the content used at the first stage of the customer journey. It was assumed earlier that highly diversified content aims to cover all possible target audience. Low scores for the first stage of the customer journey let to assume that it does not plays very important role. Therefore, the first hypothesis

H1: The content used at the first stage of the customer journey does not play an important role in B2B content marketing

has been confirmed.

The decision concerning H2 could be also found from Graph 2. According to the analysis, in average, the analysed B2B companies are focused on the content type used at the third stage of the customer journey (marked in green, 51%). Hence, the second hypothesis

H2: The content used at the third stage of the customer journey is the most important in B2B content marketing

has been rejected.

Furthermore, the Graph 2 provides answers to the first and the second research questions:

R1: Do the leading global B2B companies consider the customer journey in their content marketing strategy?

R2: What is the ratio of the web content diversity across the stages of the customer journey?

The results have shown that the analysed companies do consider the customer journey in their content marketing strategy. However, not all content types were used by the companies. A content diversity varies from 13% to 69% from the total available content types.

It is interesting to note that despite the suggestions of the majority of marketing experts to build bi-directional communication based on engagement, many companies are still trying to promote their products and sell them to customers. Thereby, the answer to the third research question is negative:

R3: Do the leading B2B companies focus on engaging with customers instead of selling their products and services?

Table 3 present the statistics of the distribution of web content types.

Table 3. Integration of the customer journey in content marketing strategy by industrial B2B companies listed in *Global 500*

Awareness	%	Evaluation	%	Purchase	%	Loyalty	%
Corporate brochure	47%	"About"& facts	97%	Price lists	0%	Speeches and presentations*	45%
Games	0%	Reviews	24%	Data sheets	65%	White papers & studies	45%
Corporate Videos	74%	Forums	3%	Case studies & references	58%	Guidelines	58%
Quizzes	0%	Events	79%	Webinars	37%	Blogs	21%
Virals	0%	Celebrity/Experts endorsement	8%	Checklists	21%	Product Videos	68%
Brand images	34%	Ratings & awards	39%	Interactive demos	58%	E-books	3%
News & press releases	97%			Product features	87%	Trend reports	45%
Expert interviews	26%			Reports	47%	Research magazine	34%
Widgets	13%			Newsletter subscription	61%	Inforgraphics	26%
				Supporting docs (CAD-files, visuals, etc)	26%	Product related background information	74%
				FAQ	63%	Trend / Industry Videos	45%
				Annual reports	100%		
				Ask an expert	39%		

*not related to an Annual General Meeting
Source: author

Regarding the content types used at the awareness stage, almost every company regularly published news and press releases. Over 70% of the analysed companies posted corporate video on their website. Some mentioned continent types as virals, games and quizzes were not used at all. This could be explained by the absence of necessity to work with the emotional content, to which belong the mentioned above content types.

As regards of the content used at the stage of evaluation, almost every company had a section, related to the facts and history of a company. About 80% of the companies published upcoming events on their websites.

In terms of the content used at the third stage of the customer journey, the companies used all available content types, except price lists. This could be explained by differences in prices among the countries. As the research was focused on the global websites, local prices were not published.

In terms of the content used for building loyalty and customer engagement, the analysed companies actively used all available content types except e-books. One of the reasons could be that E-book production is rather time and resource consuming. Moreover, other less resource consuming alternatives are available on the market, e.g., white papers and research magazines. These alternatives were used by 45% and 34% of the companies respectively.

Practical evidence has shown that among the long-term content only videos, reports, data sheets, case studies, interactive demos and guidelines were used by more than half of the analysed companies. Three out of four groups of the content types contain two to three content types used by more than a half of the analysed companies. The group with the content used at the third stage of the customer journey contains 7 out of 13

content types being used by more than a half of the companies. Consequently, the analysed companies do not address one certain content type but choose few content types as a focus of their content strategy.

To get the whole picture about the web content variation used by the analysed companies, it was decided to provide a correlation analysis of the variables. The calculations have shown a high correlation between the content used at the stages of purchase and loyalty.

Table 6. Correlation analysis

Correlation	Awareness	Evaluation	Purchase	Loyalty
Awareness	1			
Evaluation	0.435	1		
Purchase	0.450	0.259	1	
Loyalty	0.529	0.464	**0,794**	1

Source: author

Table 4 provides confirmation to H3:
H3: The more B2B companies invest in selling, the more they invest in customer engagement.
In other words, the more companies focus on convincing customers to take a purchase decision the more they invest in keeping them engaged after the purchase.

An ordinary least squares regression analysis has shown an absence of correlation between financial characteristics of the companies and the content diversification results. Moreover, the results have shown that market value and total assets have no relationship with the content diversity at the 96.3% and 93% levels, respectively (Table 5).

Table 5. Analysis of correlation between financial characteristics and the content diversity

	Coefficient	t-Statistics	P-Value
Intercept	13.553	6.159	0.000
Market value $m	0.000	2.181	0.037
Turnover $m	0.000	-0.708	0.484
Net Income $m	-0.001	-0.630	0.533
Total Assets $m	0.000	-1.874	0.070
Employees	0.000	0.217	0.830
Price $	0.015	1.479	0.149
R^2=0,385			

Source: author

Thereupon, H4 and H5:
H4: Financial indicators positively influence a content diversity
H5: High employees number positively influence a content diversity
were rejected.

Limitations

The current research is beset with some limitations. The paper considers only website content. As it has been already mentioned by Kim and Kuljiis (2010) websites are characterised with always changing content, which makes the analysis rather difficult. Second, the research does not analyse the whole site, only the levels one to three. An alternative to method used in the paper could be downloading the whole website, as it was suggested in some other studies (e.g. (Beninger et al., 2014; Kim & Kuljis, 2010)). However, this could lead to some legal and copyright issues. This limitation could lead to the fact that some content types could be overlooked and therefore not included in the analysis. Third, the number of the companies was limited. Therefore the findings could not be applicable to all B2B industrial companies. It is suggested to provide a similar research with a bigger sample set. The mentioned above gaps in the research could be used for the future research.

Conclusion

Not many studies have been conducted on the analysis of content maturity. The current study had an aim to provide a framework for content analysis of the websites based on the example of the leading global B2B industrial companies. 39 types of web contents were identified for the purpose of analysis. They were divided into four groups that reflect four stages of the customer journey. The results have shown that the analysed companies actively integrate the idea of the customer journey in their content marketing strategy. However, they still use traditional approach and try to sell their products instead of focusing on building loyalty and engaging with customers. Furthermore, the results have shown the importance of focusing not just on certain content types, but to manage content strategy according to the goals of the customer journey. Other findings show no correlation between the financial indicators and web content diversity.

Implications

The current paper could be beneficial for science, practitioners and academic research. There is a lack of scientific research on digital content marketing. The current paper could be seen as an attempt to develop this area. The paper could be used as a base for the future research. From the practical point of view, this research could be interesting for B2B industrial companies, because it provides the analysis of the content of the leading global companies representing the best practices. The results of the analysis could be used with the purpose to develop and amend a company content strategy. The current research could be interesting for academician, because provide a knowledge base for further development of the topic.

The results of the provided analysis have several implications for managers. First, it has been proven that the leading global B2B companies consider the customer journey in their content marketing strategy. However, they are still selling their products instead of trying to engage with customers. This should motivate managers in a B2B industrial sector to be more flexible and actively react to the market demand. In the digital era customers become more encouraged and develop higher expectations about products and brands. Second, the results show no correlation between financial indicators and content diversity. This confirms again that content strategy should not be dependent on resources. Third, the findings show relative high content diversity variations across the stages of the customer journey. Companies should have clear understanding of that, what stage(s) of the customer journey are most important and focus on two or three content types. Finally, the research has shown relative low importance of the content used at the first stage of the customer journey. B2B companies should be more focused on other stages of the customer journey.

Summary

Content marketing is a new term and there is lack of scientific research on it. Due to specifics of the business B2B companies need clear understanding of customer needs and wishes. Customer journey provides such understanding.

The aim of this paper is to analyse whether the leading global B2B companies consider customer journey in their content marketing. Furthermore the research aims to analyse the content diversity across the stages of the customer journey. To test the hypotheses a sample of 38 B2B industrial companies listed in *Global 500* was used. The methodology has been used in previous research; however was adapted to a website analysis. The results have shown that the leading B2B industrial companies consider the customer journey in their marketing strategy; however, ignore an appeal of many marketing experts in this field.

The results will be beneficial for science, practitioners and academic research. The research has several managerial implications. First, the research provides a deep analysis of content marketing strategies of the companies representing the best practices. Second, the results show the importance of focusing not just on certain web content types, but to manage content strategy according to the goals of the customer journey. Third, the research illustrates cross-regional differences in the integration of the customer journey in B2B content marketing.

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Marketing Communications on Social Networks in Tourism in the Light of the Research

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Abstract

The article deals with an analytical view on social networks used in tourism. New options that were brought by massive use of social networks in the world are reflected in the marketing. Social networks are nowadays a place where many people meet and therefore service providers and retailers should present themselves there. When people are deciding on buying a product or service, recommendations or references from family and friends play a significant role in this process. It is social networks that provide many interesting possibilities for reference marketing. Users have the opportunity to share their feelings and experiences by sharing their views and photos with their friends. This fact is a powerful tool for marketing one's products. In tourism, the industry offering services, this possibility should be widely used because people are very happy to share the photos of the places they have visited.

Key words
Social media, tourism, destination, marketing, strategy

Introduction

Social networking sites as a part of social media represent a phenomenon that has first appeared in the early 21st century, their essence is based on online applications that support the existence of informal user networking, where majority of the content is created by users themselves. The concept of social media can be defined as interactive online applications that encourage the emergence of informal user networks. Users then create and share in these networks different content, such as personal experience, opinions, videos, music or photos. The main basis is formed by the relations between users, their mutual communication, comments, links and reviews (Bačík & Fedorko, 2014).

Currently online environment of social networks dominate communications in the online environment, and as a global trend are part of the modern social media. Options such as community building, accurate targeting of advertising campaigns, the possibility of immediate communication with the target groups and closely analytical indicators constitute a coherent system to the implementation of marketing strategies is undeniable. This makes social networks not only relevant for large multinational firms, but also for small and medium sized companies, along with nonprofit organizations and subjects of tourism as well (Kaplan, & Haenlein, 2010). Social networks as part of social media have changed the way people interact with each other and with companies (Hanna, Rohm, & Crittenden, 2011). Van Dijk (2006) states that social networking sites are unlike social media based on the social bonds that are mutually interconnected. These social ties can have various levels, from the individual (friends, family) to organizational or global. An interesting view on the issue of social networks is presented by Blanchard (2011), who in his publication states that social networking is a communication tool, such as phone or email, which is used for the purpose of corporate actions including public relations, marketing, establishing leadership position, customer service and market research. This system which is with the use of technologies and human thinking continuously evolving and at the same time makes an interpersonal communication easier represents a relevant place and opportunity for the implementation of many various marketing strategies.

Social networking sites offers a rich environment for the information and resources needed by potential travelers who either want to gain familiarity with and to locate something of interest to them, or else desire to search on a given topic and retrieve the relevant information. The advantages of online tourism information search in general include the relatively low cost, customised information, ease of product comparison, interactivity, virtual community formation, and 24-h accessibility (Wang, Head, & Arthur, 2002). It should be emphasized that the information available to individual travelers has

significant impact on various aspects of the traveler's decision making, especially when choosing a destination to visit (Xiang et al., 2015; Wang et al., 2012). As Krombholz et al. (2012) stated, in practice there are certain situations in which social networking sites help us to save time, obtain and process information, which we would not obtain within a reasonable time with the use of just conventional tools. Sharing these values offers organizations the way to promote their products and services not only to the general public but also specific people, knowing that there exists a high probability that they would welcome the given offer. Promotion on social networking sites can be considered a form of word-of-mouth marketing. Word-of-mouth advertising is a verbal communication between providers, independent experts, family and friends and the visitor (Fedorko & Bačík, 2012; Ennew, Banerjee & Li, 2000; Štefko & Krajňák, 2013).

Social networking sites and other emergent forms of social media are having enormous impact on travel planning. Social networking sites and photo/video sharing sites have become more popular serving as websites used for trip planning. Especially during the online planning process, looking at comments and materials posted by other travelers has become one of the most important online activities (Xiang et al., 2015). Social networking sites permit tourists to digitise and share online knowledge (Volo, 2010), emotions and experiential moments (Jacobsen & Munar, 2014) far more widely than in the past. Munar & Jacobsen (2014) also point out studies that examined the effect of user-generated content in tourism (e.g. Fotis, Buhalis, & Rossides, 2012; Litvin, Goldsmith, & Pan, 2008; Ye, Law, & Gu, 2009; Jacobsen & Munar, 2012; Xiang & Gretzel, 2010), while those factors motivating tourist involvement in social media have received less attention (Bronner & de Hoog, 2011; Berger & Schwartz, 2011). Kaplan & Haenlein (2010) have suggested ways that managers can leverage social networks by moderating the consumer discussions.

As stated by Kiráľová & Straka (2013) today visitors want creative, interactive communication; they want to develop relationships with the destination. The success of the destination lies in its ability to listening to visitors, finding their motives for a visit. The perfect tool for such communication is the internet. Application of interactive marketing communications in the destination is particularly evident in relation to the changes in behaviour of visitors. Strategic communication in tourism generally involves connection and optimally also an interaction between visitors and destinations (Sujova, A. & Rajnoha, R., 2012). It can raise awareness and persuades visitors to purchase and re- purchase the product (Scott 2008; Iyer, Soberman & Villas-Boas 2005). Communication with visitors is related to the requirement to inform them of the destination and product offered. Creating an attractive product, pricing it by reasonable price and access to the tourism market is not enough. Visitors must be informed and motivated so that they began to be interested in the destination. The basic objective of the communication is, therefore, creating a demand for the destination (Kiráľová, 2014). Visitors in tourism require a personalized approach, intelligent communication and empathy. Interactive communication is a prerequisite of establishing good relationships with visitors and the satisfaction of both sides (Wang 2008; Oppermann 2000; Fyall, Callod & Edwards, 2003). From this perspective, can be social networks considered in fielt of tourism as an important marketing communication tool.

The research presented in this paper focuses on detecting whether the degree of the perceived impact of the information on social networking sites in terms of travel decision-making depends on gender and age.

Methodology

We have conducted a questionnaire survey to obtain information on possible uses of social networks when promoting destinations. Data were collected through the social network Facebook, via e-mail communication and personal meeting and the whole process took more than a month. After creating and subsequently coding questionnaire items, we published the results for the first time on 2nd April 2014. During the following weeks the questionnaire was published and sent a couple of times. Data collection was finally completed on 7th May, 2014, when we came to their sorting, coding and subsequent evaluation. In that time frame we managed to collect data from 586 respondents. Since the article is devoted to social networks and the possibilities of their use, we continued to work only with the answers of those who are active on any of the social networks. This question was asked in the questionnaire and we got 433 active respondents.

Important advantage and one of the most used options that social networks generally offer is the ability to share content with friends. Very often are shared photos of the places visited by the user. For this reason, we naturally wondered whether the respondents shared photos of places they visited. Sharing these

photos, together with recommendations which are often added to the photos, is of a great importance. A particular destination or area has, in fact, a free promotion that is going on without one's effort, the so called reference marketing.

Results

The data were obtained from 433 respondents, of whom 244 were females (56.35%) and 189 males (43.65%). The gender distribution in the sample roughly corresponds to the distribution of Facebook users by gender in Slovakia (as stated at socialbakers.com). The average age of the respondents in the sample was 25.94 years. This also accords with an average age of Facebook users in our country and in the world, which is around 25 years (Widrich, 2013).

Respondents were therefore asked the question Q1 "Do you share on social networks photographs and descriptions of the places you visited?", and the options were "yes" or "no." Answers are presented in Figure 1.

Figure 1. Sharing photos of visited places on social networks
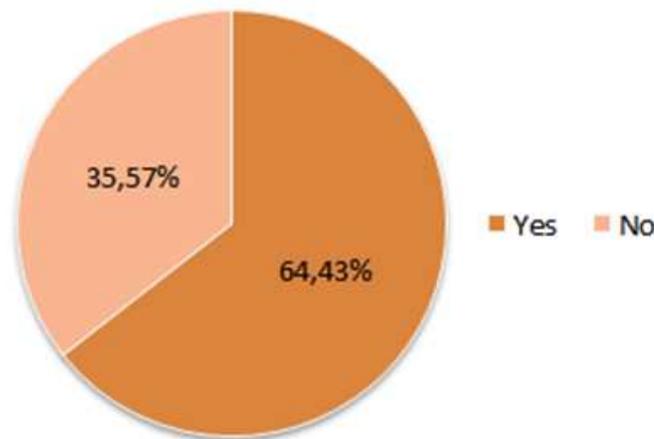
Source: Own elaboration

Based on the opinion of respondents, we can say that almost two thirds of respondents (64.43%) share on social networks places they visited. This data represent a great opportunity, because one's friends can see these photos, and the average number of friends is around 130. In the event that any of the friends gives the picture 'like', a photo can be seen by other friends. In a short time, a photograph and the comments on it can get up to thousands of people.

For the purposes of our research and after careful consideration, we decided to categorize the respondents according to their age (more precisely by year of birth) and then sort them into the so called generations. We used MTV generation V.2 categories by authors Di Falco, Gibbs and Corcoran (2009). The authors divided people based on their birth, and categorized them into five generations, each assigned with and defined by its specific characteristics. Silent Generation (born in the years 1928-1945), Babyboom Generation (born in the years 1946-1964), Generation X (born in the years 1965-1979), Generation Y (born in the years 1980 - 1996) and Generation Z (born in the years 1996). The sample did not feature any respondent who belonged to the "silent generation", as these are people who form a very small part among users of social networks. After categorizing respondents into different generations and after gathering and counting the responses, we got results that we present in the next four figures.

Figure 2, 3, 4, 5. Sharing photos of visited places on social networks based on generations
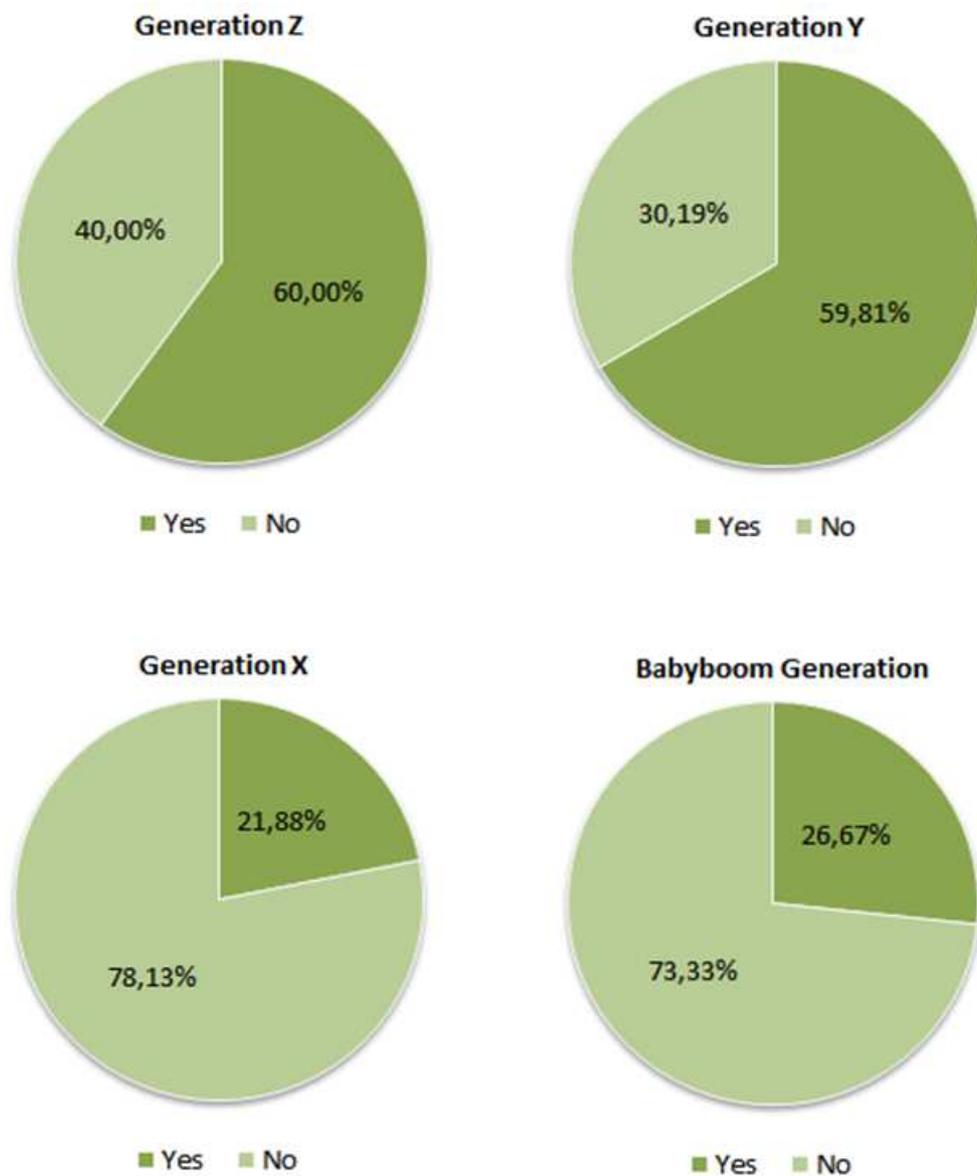
In the question Q1 we can see quite a significant difference between the representatives of the younger generations Z and Y, and the representatives of the older generations X and Babyboom. While representatives of younger generation, in both cases about two-thirds (60.00%, and 69.81% respectively) of respondents, said that they share photos of the places they visited, the situation of the representatives of older generations is vastly different.

The respondents belonging to Generation X and the Baby-boom generation said, in the vast majority, that they do not share photos of places they visited on social networks. Only about a fifth and quarter of the monitored generations (21.88% and 26.67% respectively) answered positively. Overall, it is clear that the possibility to share photos is not as attractive for them as it is for the respondents of the younger generations. This is understandable and in our opinion it is based mainly on the need to protect their privacy, as well as the fact that this form of self-expression is foreign to them and therefore do not need it either.

When examining question Q1, we examined in more details a difference between men and women. The following figure shows the answers of respondents to this question on the basis of their sex.

Figure 6, 7. Sharing photos of visited places on social networks based on sex
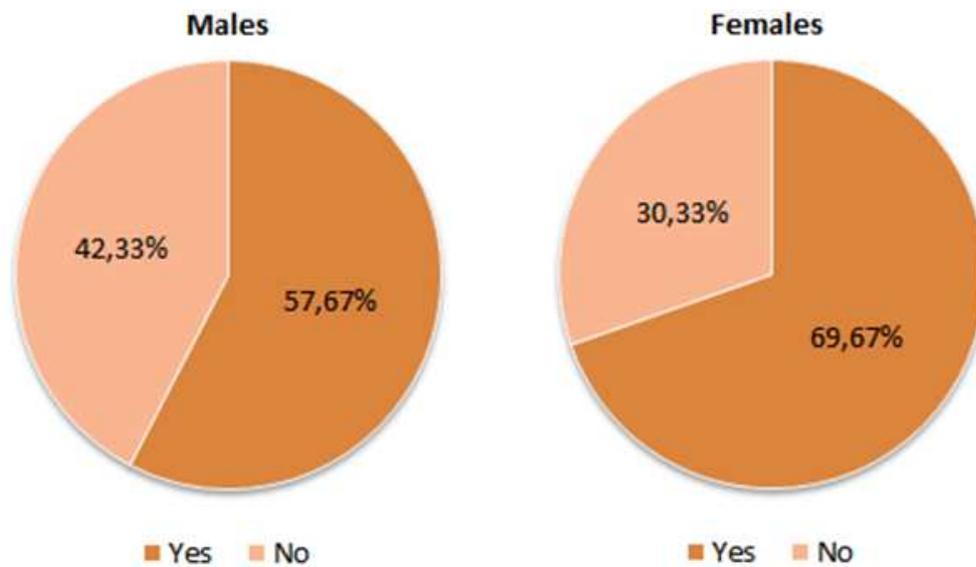
Based on the responses, it is noticeable that men answered less positively than women. According to the measured results, 57.67% of men and 69.67% of women share photos on social networks. Negative attitude towards this possibility is held by 42.33% of men and less than one-third (30.33%) of women. It is clear that women are more likely to use this form of self-propagation, while men are more restrained in this case. We point out, however, that men positively responded in more than half of the cases.

For the sake of thorough research, we have formulated a research hypothesis which subsequent testing allowed for postulation of relevant research outputs.

H1: We assume that the gender of the respondents has an impact on sharing photos on social networks and descriptions of places that respondents visited.

We were observing two variables. The first variable is gender of the respondents (male = 1, female = 2) and the second variable is sharing photos and descriptions of places on social networks (yes = 1, no = 0). The research results are showed in the Table.

Table 1. Sharing photos of visited places and their description on social networks based on sex

Gender	No	%	Yes	%	Overall	%
Male	80.00	51.94 %	109.00	39.06 %	189.00	43.64 %
Female	74.00	48.06 %	170.00	60.94 %	244.00	56.36 %
Overall	154.00	100.00 %	279.00	100.00 %	433.00	100.00 %

In the next step, we tested the hypothesis of independence of observed variables. For the calculation of test criteria we used Chi-square test in the program © Minitab Statistical Software 16. Coefficients calculated by Chi-square test are given in the Table.

Table 2. Results of chi-square test

```
Chi-Square Test: No; Yes
Expectedcounts are printed below observed counts
Chi-Squarecontributions are printed be low expected counts


              No       Yes        Total
     1        80       109        189
           67,22    121,78
            2,430     1,341
     2        74       170        244
           86,78    157,22
            1,882     1,039
     3       154       279        433
          154,00    279,00
            0,000     0,000
Total       308       558        866

Chi-Sq = 6,693; DF = 2; P-Value = 0,035
```

Source: Own elaboration

P-value calculated using Chi-square test was 0.035, which is a value lower than the significance level ($\alpha = 0.05$) at which testing was carried out. The test thus showed that gender significantly influences the sharing of photos and descriptions of places on social networks. From the values reported in association table (Table 1), we can conclude that women were more likely to say yes to the particular question than men (see Figure 6, 7), as shown in the following summary figure.

Figure 8. Sharing photos of visited places and their description on social networks based on sex
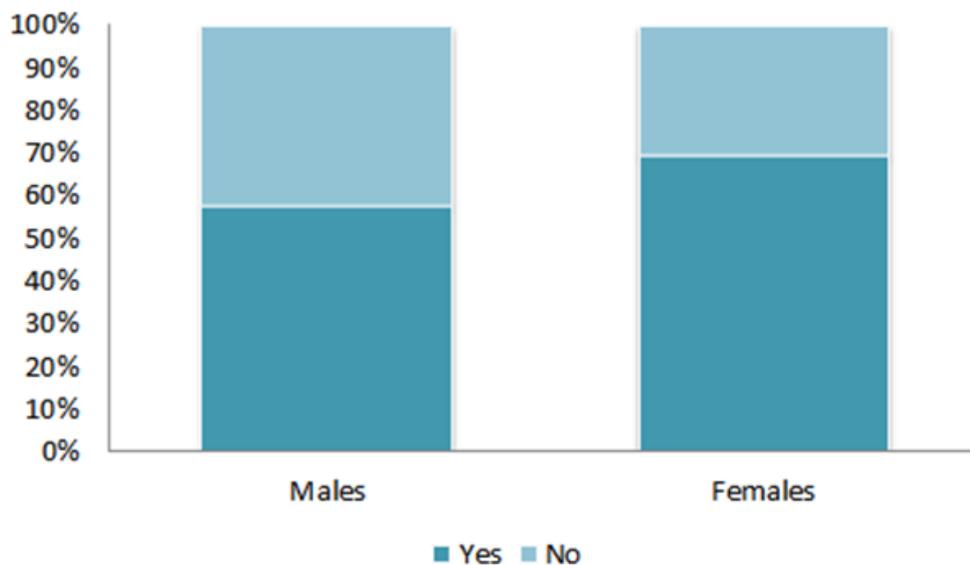
Source: Own elaboration

Based on the results, we confirmed the hypothesis H1, and we can therefore conclude that the gender of the respondents has an impact on sharing photos of visited places and their description on social networks. The difference is in favor of women.

Discussion

Setting up a profile on a social network is simple, but its proper administration is rather a complicated process. Nowadays, however, a large number of people meet there and if we want to reach them, we have to follow them to their environment. It is possible to create and manage fans by organizing various contests, polls, sharing pictures, videos and so on. A crosslink to the website of the tourist destinations, as well as accounts on other social networks is a matter of course.

Activities on social networks should be well thought and regularly exercised. As in every area there is also a need to set goals and steps to ensure their fulfillment. Based on the suggestions and recommendations that we presented in this subsection, we developed a model which could help destinations to improve their marketing communication, which is a pre-requisite for increasing their traffic.

The presented model (Figure 9) consists of five components, namely a website, public relations, profiles, new trends and advertising. All components are essential for effective marketing communication and at the same time they can be linked to social networks, or social networks can be used in their management. For each component is also designed a set of activities to be developed when trying to optimize the use of the proposed components. The individual components of our proposed model have been included primarily on the basis of our research findings, and also on the basis of the professional literature. When developing the model, we have also relied on the principles that are well known and commonly used in the successful marketing communication on social networks. We do not claim that all the activities that are proposed in the presented model have to be carried out. In practice, their selection will be, of course, considerably dependent on the financial, time, personnel, and other options that are available to various religious, cultural - historical and pilgrimage places, or to various religious organizations.

Figure 9. Model of marketing communication of destinations on social networks
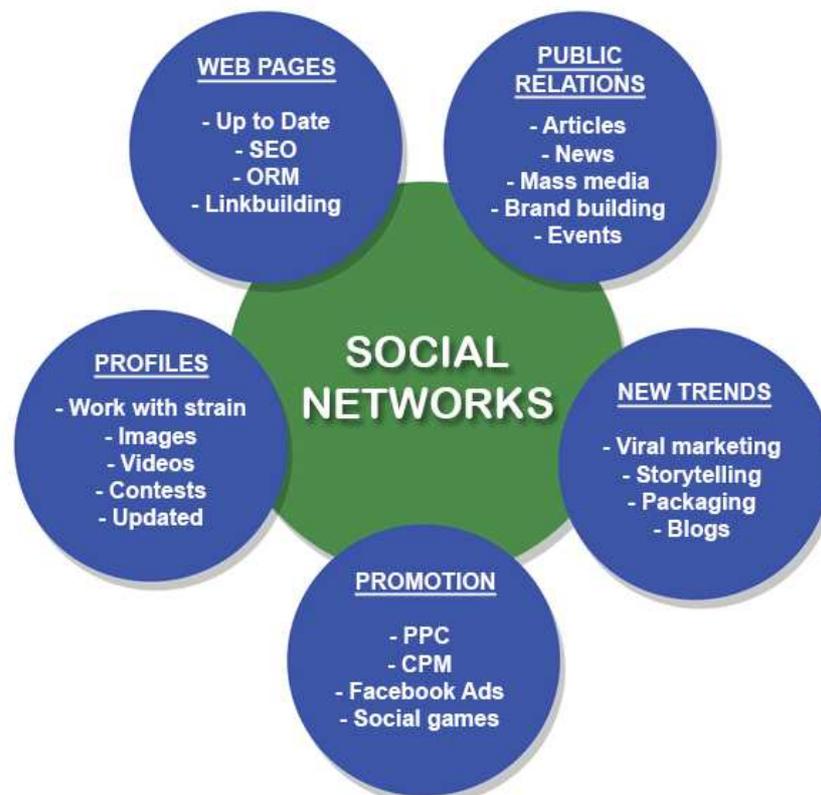
Source: Own elaboration

Proper use of many of the activities proposed would, in our opinion, result in a relatively significant improvement of the current state of marketing communication on social networks in the given area. Successful improvement is an important prerequisite for effective addressing of and communication with representatives of the younger and strong generation, not only at home but also abroad. The end

result of these activities should be reflected in a greater awareness of the various places and in the increased traffic.

The activities that we proposed in the suggested model should not have a dogmatic character. They should primarily serve as a reference or as an aid in deciding on which areas it is necessary to focus. Of course, individual organizations can edit or personalize the proposed model according to their needs. As the online environment is not stationary, but rather constantly changing, it is essential to follow changes and adapt to them as soon as possible. At the end we have to add that with the gradual development of the online environment, it is essential to continually update our proposed model.

Results

A strong motive to go to a specific place is a recommendation from someone. This happens on social networks in most cases through sharing photos that users visited and possibly by writing a comment. If somebody who we trust shows us where he/she was and recommends the place to us, we are prone to visit the place.

The fact that age played a significant role when answering the questions (mainly the younger respondents) was a self-evident assumption even before the testing took place and the results subsequently confirmed the assumption. It is observed that an important factor in this case is the gender of the respondents. Statistically, we proved that photographs from visited places are shared on social networks mostly by women. The results suggest the group on which destinations should primarily focus in their on-line activities. A suitable form of encouragement to share photos may be for example a competition.

The use of different marketing communication tools is an ongoing process in which it is necessary to monitor new trends and respond flexibly to changes. When using the Internet and social networking sites the changes in these trends are often very fast and what worked yesterday, does not have to provide satisfactory results today. Proper and timely response can gain a competitive advantage, but long-term ignorance of new trends leads to decreased interest in our offer, which means decrease in the numbers of tourists.

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The Role of Social Media and Marketing in Building Sustainability Orientation

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Abstract

Sustainable living is getting popular since, people are becoming more environmentally friendly. To begin, most of the market is saturated, thus paying attention to the issues which people are sensitive is vital for the organizations in order to keep their minimum market share. In other words, as much as people show their interest in sustainability, the organizations should more involve their program and marketing strategies in it.

Moreover, since the new generation of communication tools, especially internet was introduced, interpersonal communication has been changed. For instance, social media give more opportunities to people for keeping in touch and exchange their point of view regarding the special issues. In addition, by increasing the popularity of the social media, people's awareness are increasing and consequently organizations inevitably should link their programs and businesses objectives to them; because they are able to drive organizational performance to the proper way.

Perhaps, social media and marketing can be a powerful tool for expanding sustainability. Therefore, we would like to demonstrate the role of social media and marketing in building sustainability orientation. The outcome of the study can be utilized by the organizations to enhance their partners and buyers awareness about their programs.

Key words

Sustainability, Marketing, Social media

Introduction

The concept of sustainabilty has been known since approximately 30 years ago due to increasing global awareness. While in the past few researchers maintain that sustainability is possible by decreasing production and consumption (Jones, Clarke-Hill, Comfort, & Hillier, 2008), marketing efforts are directed towards increasing them; the link between marketing and sustainability really close. In fact, Baldassarre & Campo (2016) notes that poor sustainability behavior directly reduced sales and profits.

There are various concerns expressed in regard to marketing strategy as time progresses, and companies always strive to take on various strategies to gain competitive advantages in the market. Sustainability has become an area of concern for companies as they pursue growth and development (Kumar, Rahman, Kazmi, & Goyal, 2012). Therefore, the sustainability agenda is a pertinent issue that has been increasingly pursued by companies, and it encompasses issues such as environment friendliness or 'green' manufacturing, social responsibility, among others (Reilly & Hynan, 2014).

Furthermore, the flow of information affects consumer decision-making and the evaluation of products (Kotler & Armstrong, 2012). Even, social media can significantly change behavior and brand preferences of the consumers (Kohli, Suri, & Kapoor, 2015). For instance, studies show that user-generated content forms the basis of 67% of all consumer goods purchases (Leeflang, Verhoef, Dahlström, & Freundt, 2014). Therefore, it is a logical to conclude that social media is a radical new trend that companies operating in various platforms including online should exploit (Kaplan & Haenlein, 2010).

It is important to note that the needs and expectations of the customers have changed. Presently, shopping is more than meeting the normal basic needs such as food, water, and clothing, among others. Furthermore, consumers have increasingly appreciated sustainability, and this is the reason it has had become an important factor of consideration in marketing strategy over the past (Mitchell, Wooliscroft, & Higham, 2010). However, information technology and especially internet has been integrated into daily life thereby increasingly efficiency in communication, research, and commerce. As a result, there is need for considerable investments on social media strategies in order to need to not only build a loyal customer base, but also brand ambassadors that can recommend products to others (Leeflang et al., 2014).

This paper presents a study of the role played by marketing, especially social media in building sustainability orientation. The first section contains a short introduction on marketing strategy and sustainability as well as relevant literature reviewed from specific sources. The second part is a description

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of the ways social media causes sustainability orientation. In the third part new issues of sustainability and social media as a case study will be presented. The last section details the conclusion and recommendations for future research.

Sustainability and marketing strategy

Contemporary considerations of marketing strategy have integrated issues of sustainability. It is vital for companies to integrate sustainability in their marketing strategies in order to gain a competitive advantage in the market. Sustainability is envisaged with a future prospect to direct the current efforts and attention to set principles, ethical, and moral values that guide the current conduct (Kumar et al., 2012). It is two-dimensional: temporal and social. While the temporal dimension concerns present and future trade-offs mainly in issues of the environment, the social dimension addresses trade-offs between consumers and others, commonly contained in the subject of ethics (Grunert, Hieke, & Wills, 2014).

The issue of a sustainable tries to make connection between business and environment (Adams, 2006). As figure 1 illustrated below, the assessment sustainability of business practices should be based on environmental, economic, and social dimensions (ConocoPhillips Company, 2006). The reference of economic sustainability pertains to the contribution an organization makes to feasibility of the wider economic system. Environmental sustainability represents the effects of an organization's actions on the physical surrounding and is usually visible to consumers through metrics such as carbon emissions–in other words, being green or environment friendly. Lastly, social sustainability takes into account the actions of a company and the impact they have on the public or local communities in the surrounding, which include such issues as corporate responsibility, safe working environment, among others (Reilly & Hynan, 2014).

Figure 1. Sustainability scope (ConocoPhillips Company, 2006)

Sustainability is an interesting idea for various fields. However, marketing specifically is well positioned to make a substantive contribution to the understanding of sustainability as it is able to determine boundaries, merits, and viability considerations of future operations organizations. Sustainability initiatives drive a change in scope of the face of marketing (such as promotional strategies and product packaging that is mindful of the environment) as well as radical changes in business processes (such as marketing orientation, and treatment of stakeholders such as employees, suppliers, and customers through the process). Furthermore, companies that are emphasizing sustainability with a focus of the market by integrating the key stakeholders into formulation and implementation of marketing strategy are better positioned to create a marketing strategy that is valuable and unique. Therefore, as seen in the figure 2 market-focused sustainability is made up of market orientation, plus stakeholders, and corporate social responsibility. Each of these dimensions is vital, but not sufficient in isolation, for the advent of the issue of sustainability (Tomas & Hult, 2011).

Figure 2. Market-focused sustainability (Tomas & Hult, 2011)
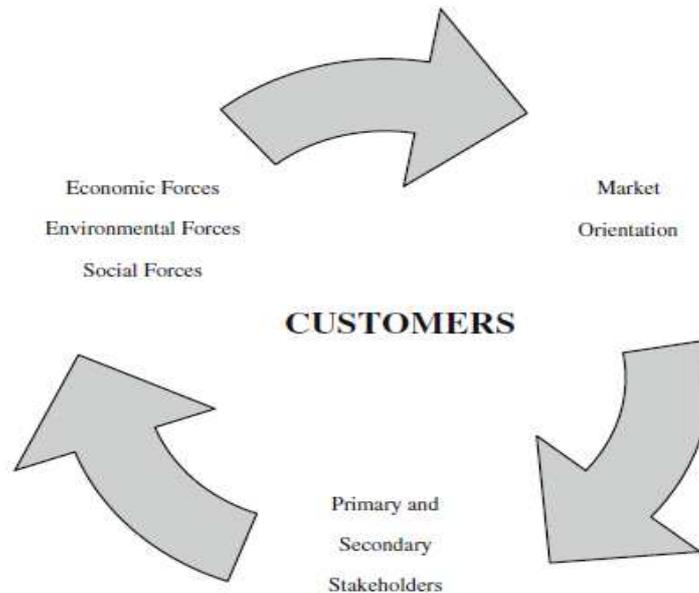
Companies should consider that sustainability is no longer an option but a necessity. The analysis and assessment of sustainability in marketing strategy is an exclusive objective that requires special consideration. In developing a marketing strategy, it is crucial to take sustainability into account, meaning that an organization must embrace sustainability in strategic marketing initiatives and marketing mix. This implies that the strategy formulated guarantees profitable business while negative impact on environment and society. 'Sustainability marketing' therefore deals with sustainable development plan and is defined as the building and upholding sustainable relationships with key stakeholders of a business as well as with the natural environment (Kumar et al., 2012).

Social media and sustainability orientation

Communication forms the basis sustainability marketing. Particularly, effective internal communication in a company facilitates the implementation of key changes that would make the organization more sustainable. Furthermore, a company that fails to communicate its strategies and initiatives externally (to all stakeholders), risks losing customers as potential customers are increasingly socially and environmentally-conscious (Baldassarre & Campo, 2016).

Stakeholders are always eager to know about an organization's sustainable practices. Sustainability reporting is a vital indicator of a firm's commitment to its environmental performance and continuous improvement although it may not reflect sustainable performance. Presently, social media has become an important communication tool for many organizations in regard to sustainability (Reilly & Hynan, 2014). Social media are websites that connect online traffic from the globe with users of similar interests. Such include blogs and applications as YouTube, Twitter, Facebook, and Instagram among others. Current trends show that social media users are increasing. Therefore, companies should also leverage on social media since it has made a considerable impact on e-commerce, consumer behaviors, and business activities (Vafaei & Farkas, 2015).

In regard to sustainability, organizations can be viewed as being green or not green. According to Reilly & Hynan (2014), green companies do not only mention their sustainability initiatives more often in their corporate communications, but they are also more active in social media use and more likely to have a consistent corporate presence in social media.

Baldassarre & Campo (2016) recommends a self-assessment matrix based on the approach of transparency. This method puts firms in four categories, that is, transparent, translucent, dark, and opaque based on two variables: sustainable commitment and communication. Organizations should consider their sustainable behavior from the perspectives of ethics and general marketing strategy. The implication is that it is not enough to realize sustainability without communicating the efforts and promoting such efforts. Therefore, organizations need to make effort to progress toward a more reliable and effective sustainable status, and perhaps to the transparency quadrant.

Figure 3. A self-assessment tool for sustainable initiative transparency (Baldassarre & Campo, 2016)

Being Sustainable	**High commitment**	Translucent Companies	Transparent Companies
	Low commitment	Dark Companies	Opaque Companies
		Low-Profile Communication	High-Profile Communication
		Appearing Sustainable	

New issues of sustainability (case study)

As figure 1 illustrates, Nowadays, more and more sub-categories takes into the account compared to the original categorization – for example, Dannenberg, Frumkin & Jackson (2011) investigated the relationships between the public health, health awareness (one subcategory of social pillar called Safety and health) and sustainability. The researchers defined the mentioned relationships between the people and their environments in the definition of environmental health. Originally, objectives of environmental health are only to control environmental hazards and threats and to promote healthy environments, however, recently environmental health focuses on waste management, built environment, climate change etc. also.

If it comes to the role of social media in building sustainability through environmental health or health awareness, it is necessary the relationships between them. Lapointe, Ramaprasad & Vedel (2014) provide a well-defined overview of the impact of social media-enabled collaboration on creating health awareness in Figure 4. Similarly, social media might be used effectively in building sustainability orientation in case of other subcategories such as waste management, CSR or crisis management.

Figure 4. The users and functions of social media to create health awareness (Lapointe, Ramaprasad & Vedel, 2014)
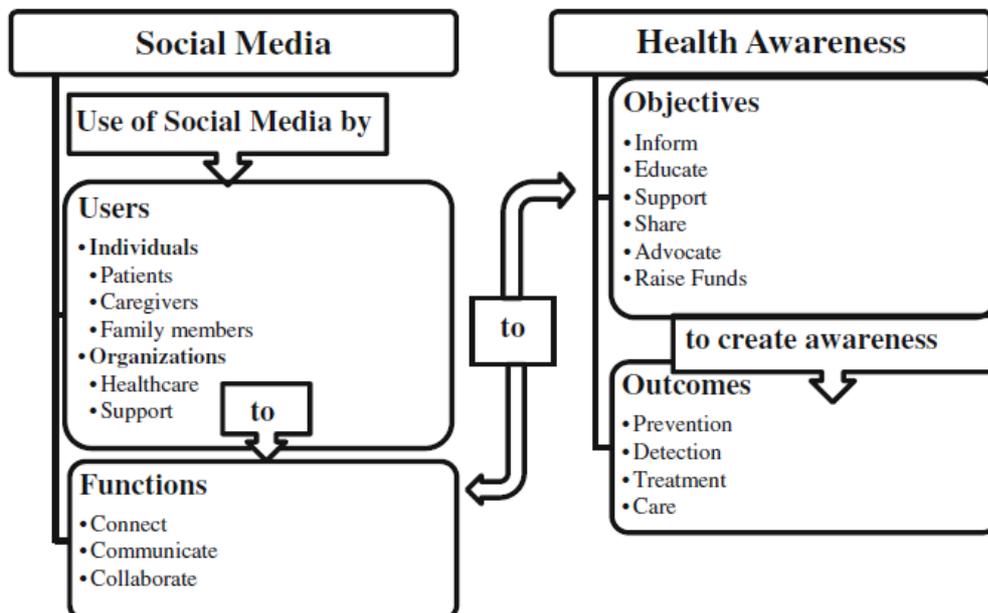
Conclusion

Companies need to consider sustainability issues with greater importance. Sustainability efforts yield mutual benefits on the part of the company and its stakeholders especially the customers. One of the important steps for companies in pursuing sustainability is to address respective issues and challenges in the adoption of sustainability in marketing strategy.

Although sustainability pertains to ethics, it is becoming increasingly relevant from the perspective of marketing and can be particularly vital in a company's relationships with stakeholders. On one hand, corporate responsibility is an important criterion to attract customers. However, such behavior is not sufficient and companies should provide comprehensive reports of specific details of the good initiatives carried out when communicating through social media. The reason for this is that the failure of a firm to communicate its strategies and initiative to external stakeholders is likely to lead to loss of sales especially due to the growing number of customers who are socially and environmentally conscious. Accordingly, informing and engaging employees in the company's sustainability efforts through social media may be an extra benefit to the company in terms of talent retention.

The emergence and pervasive use of social media recently has shaped new online platforms for people to interact, exchange information, and cooperate in various topics of interest. Since social media is a tool for shared communication, external stakeholders are open to give feedback and opinion on corporate messages. Therefore, managers should have awareness of the new era because information on mistakes of a company such as green washing reaches very many people and fast.

Summary

The relationship between marketing, social media and sustainability is getting closer and closer. Sustainability is an idea of the future, and it is the time for firms to incorporate sustainability into their marketing through social media, because the foundation of sustainability marketing is communication and social media is proper platform for communication.

Moreover, previous researches show that doing sustainability initiatives without informing others is not enough and practical, also usually green companies communicate better than not green companies with their stakeholders.

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Assessing the Role of Internal Market Orientation and Internal Capabilities in the Competitive Advantage of the Restaurant Sector in Malaysia

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Abstract

Globally, Malaysia was recognized as the 10th most-visited nation on the World Tourism Organisation. Yet there is still more to do to enhance this sector and the global ranking that has been achieved. In order to do so, more concern needs to be paid in building the competitive advantage of this sector, especially the restaurant sector, which is one of the main tourism sub-sectors. Consequently, the present paper investigates empirically the role of internal capabilities and IMO processes in enhancing the restaurant sector's competitive advantage in Malaysia. All the proposed hypotheses were supported and the suggestions for practitioners and future researchers were provided in the last section of the study.

Key words

Internal Market Orientation, Internal Capabilities, Competitive Advantage, Partial Least Square PLS

Introduction

Among several sectors that contribute to the economies of the countries is the tourism sector. This sector has been considered as the main source of foreign exchange income, and in Malaysian context, tourism industry is among the top three contributors of foreign exchange (Economic Transformation Programme, 2013). Moreover, it plays a vital role in the Malaysian economy accounting for 12.5 percent of Gross Domestic Product (GDP), providing 2.1 million jobs and generating MYR 103.3 billion income from both international and domestic tourists (ETP, 2013). Globally, Malaysia was recognized as the 10th most-visited nation on the World Tourism Organisation. Yet there is still more to do to enhance this sector and the global ranking that has been achieved. To do so, more concern needs to be paid to building the competitive advantage of this sector particularly considering the aggressive competition from the neighbouring countries in the region including Thailand, Indonesia, Singapore, and Philippine, among others. While develop competitive advantage is an important aspect of the story, maintaining it to prevent imitation by competitors is the most important. In this regard, the Resource Based View theory (RBV) posits that the resources that any organizations might own are considered as sources of its competitive advantage. The theory further clarifies that how far these resources are distinguished will determine the power of the competitive advantage (Barney, 1991). Given the fact that service relies more on employees' performance, human resource is one of the vital resources of tourism sector. Thus, to enhance the competitive advantage of this sector, it is important to figure out the main means that could reinforce the employees' performance. More specifically, this study focuses on the restaurant sector as one of main sectors belonging to tourism sector. It is well known that the employees' performance is influenced significantly by the level of satisfaction and loyalty among the employees, and, the impact of satisfaction and loyalty (in service sector) justifies the concern given to enhance them. Moreover, it could be said that employees' satisfaction, loyalty and ultimately, the service quality the company offers are intangible resources that play an essential role in supporting the competitive advantage. The difficulty to imitate these kinds of resources by competitors makes them more valuable for companies.

The Malaysian restaurant industry is one of the promising industries that are expected to grow to meet the level required by the tourism sector. However, this growth is restricted by many difficulties that restaurants need to overcome by determining the best strategies to deal with them. Among those difficulties is the high rate of turnover among the employees in the hotel sector (Abdullah et al., 2009; Nasyira, Othman, & Ghazali, 2014). This issue indicates the presence of dissatisfaction and disloyalty among the restaurants' employees towards their job and companies, which in turn, highlights another problem relating to the the quality of the service offered by the Malaysian restaurants. The situation becomes worse when the turnover includes efficient employees as the cost of recruiting, training, and maintaining the desired level of service quality will be high (Brown & Mitchell, 1993). Moreover, the dynamic competition faced by tourism sector and restaurants industry in the present times makes service offering as one of the main sources of competitive advantage (Barzoki & Ghujali, 2013). Consequently, giving more attention to human resource and their needs has become a basic requirement for overall

success. In another words, restaurants need to achieve several targets in this aspect and this includes job satisfaction, employees' loyalty, and service quality, to build up their competitive advantage in the market (Papasolomous-Doukakis, 2002).

Despite the important role of internal marketing orientation in enhancing the overall performance and competitive advantage of the companies, there is lack of empirical studies in literature concerning internal market orientation compared to market orientation (Gounaris, 2008).Therefore, there is a need to conduct more studies to cover several sectors by which the generalizability of the previous results will be supported. Restaurant sector as service sector is one of the sectors that have been ignored by the researches in this area. Thus, this study answers this call by examining internal market orientation in the Malaysian restaurant sector. The rest of the paper is organized as follows: the next part reviews relevant literature, followed by a presentation of the main hypotheses, and finally, a discussion of the main results and the empirical findings.

Literature Review

IMO and Internal Capabilities

Fang, Chang, Ou and Chou (2014) pointed to three processes as unique resources that can generate unique organizational capabilities. These processes can be narrowed down to focus on gathering related information to meet the employee needs and wants and the full utilization of these resources to create and build up distinguished capabilities that can boost the competitive advantage of the company. According to absorptive capacity theory, the ability of the organization to absorb the knowledge and information either internally or externally is the main antecedent that leads to building capabilities (Cohen & Levinthal, 1990). Moreover, the literature in Resource-Based View (RBV) theory differentiates between resources and capabilities (Barney, 1991; Teece et al, 1997), where resources build capabilities (Yusr, 2013) into special type of resources that the company might own. Capabilities are considered as non-transferable and embedded resources in the firms that reinforce the productivity of other resources within the firm (Lu, Zhou, Bruton, & Li, 2010).

In this context, internal market orientation is a process that produces resources (i.e., knowledge) that help to enhance internal capabilities by which the external market will be reinforced with. Therefore, ultimately, it helps the organization not only to have satisfied, motivated and loyal employees, but several capabilities could be achieved such as learning capabilities, Research and Development (R&D), resource allocation, manufacturing, organizing, skillful. Furthermore, well-trained employees could be another outcome of applying internal market orientation. Keeping updated database regarding the new trends in the market allow the company to predict the needed skills of the future and determine the suitable training programs to provide it. Consequently, several aspects of internal processes will be improved in line with changes in the market. This result is expected as any internal process completion is performed by human, and thus, to improve internal processes, companies need to start with motivating and enhancing the human capital they own. Therefore, internal market orientation concept needs to be extended to include building internal capabilities of the organization that are not limited to satisfying employees. In accordance, this paper proposes the following hypothesis:
H1: IMO processes have positive effect on internal capabilities.

Internal Capabilities and Competitive Advantage

According to Teece et al. (1997), firms need to focus more on building competitive resources that can support their competitive advantage rather than possessing strategic resources only. Consequently, owning resources to create value is part of the story; however, the most important part is to compete and be successful in the market through the distinctive capabilities that the firms possess (Teece et al., 1997; Fang et al., 2014). Furthermore, Fang et al. (2014) stated that the main difference between capabilities and resources is that capabilities help the firms to use it resources more efficiently and effectively to create value.

Accordingly, how far the capabilities owned by our organization are distinctive will keep the firm ahead in the market compared to its competitors. As mentioned earlier, capabilities are the building block of sustainable competitive advantage (Barney, 1991) - the main reason behind this is the nature of the capabilities, which have been classified as intangible assets. In this regard, it is well known that intangible assets are difficult to be imitated and copied by the competitors. In this context, human beings have been classified as intellectual assets that distinguish certain companies from others. Thus, in order to create

special capabilities, companies need to pay more attention, among others, to their employees (i.e., internal customer) to promote motivated, satisfied, loyal, skillful, and a workforce that provides service quality, and possess learning capabilities and creativity as distinguished capabilities that provide competitive advantage to companies. Beside the significant role of these capabilities in boosting the overall performance of the company, they are undoubtedly difficult to be imitated by competitors – the aspect that gives these kinds of capabilities more advantage. In accordance, having such capabilities is an antecedent of maintaining competitive advantage in any company.

Therefore, this paper introduces the following hypothesis;

H2: Internal capabilities have a positive effect on competitive advantage.

IMO and Competitive Advantage

Applying internal market orientation establishes various kinds of resources that build up and maintain organizational internal capabilities. Internal market orientation targets the internal and external environments to predict changes and to effectively respond to the changes. As mentioned earlier, gathering the information regarding the employees' needs and wants is the core of the IMO processes. However, the companies should not focus only on the internal sources of information, rather they should also focus on outside sources to keep the cutting edge company's internal processes and capabilities. Thus, competitors, customers, suppliers, government regulations, among others, can be critical sources of IMO to decide which strategies need to be formed to maintain and upgrade the human resources capabilities. The next step is to provide the available information into suitable form to be used in decision-making – in this regard, clarity, accuracy, and accessibility are the main characteristics of the acquired information to be useful. Lastly, providing all needed facilities to take an action is most critical step in IMO so much so that IMO is considered to have failed if this last stage is not achieved, and, all related cost of the two first steps will be unjustified. Therefore, taking action effectively and efficiently (Kumar, Jones, Venkatesan, & Leone, 2011) to adjust the internal rules and regulations regarding processes, promotions, bonuses systems, recruitment policy, training program in order to provide the necessary skills and capabilities, to do all the needed processes for survival are the ultimate goals that form the core of IMO processes. Hence, it could be concluded that companies that apply IMO will have certain distinguished capabilities (i.e., learning, manufacturing, marketing, R&D capabilities) that play an important role in enhancing the sustainability of the companies' competitive advantage. Building on the above discussion, this paper formulates the following hypothesis:

H3: IMO processes have positive effect on competitive advantage.

Framework of the study
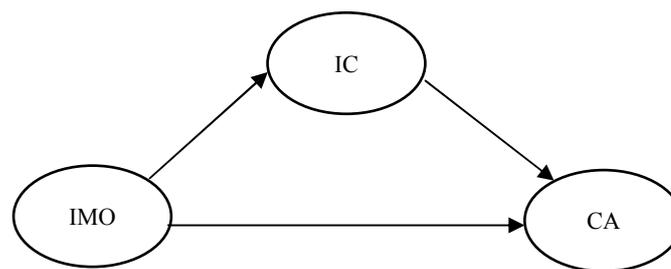
Research Method and Data Collection

Sample and Data Collection

The sampling frame of this study comprised of the managers of casual dining restaurants located in northern part of Malaysia. Out of 150 distributed questionnaires, 100 valid questionnaires were used for the final analysis. Partial Least Square PLS in SmartPLS software was used to analyze and to test the model. Before testing the formulated hypotheses (i.e., structural model) the validity and reliability of the constructs (i.e., measurement model) were assessed (Hair, Hult, Ringle, & Sarstedt, 2014). The results show that all obtained values met the recommended values (Hair, Sarstedt, Pieper, & Ringle, 2012; Henseler, Ringle, & Sinkovics, 2009). The next step is to evaluate the structural model (i.e., testing hypotheses). Table 1 below demonstrates the values of the path coefficients.

Table 1 Path Coefficients

	Path coefficients	SD	T-Value	P-Value	Result
IC -> CA	0.439	0.120	3.647	0.000	Supports
IMO -> IC	0.778	0.041	18.916	0.000	Supports
IMO -> CA	0.241	0.113	2.130	0.017	Supports

Result and Conclusion

As Table 1 shows, all the hypotheses were supported and accepted. The obtained result, furthermore, come in line with literature (Teece et al., 1997; Barney, 1991; Fang et al., 2014). Building competitive advantage is one of the main targets of companies in the current high competitive market and this holds true in the service sector because of the intangible nature of their products. On the basis of the result of this study, internal capabilities of a company significant, statistically and positive enhance its competitive advantage. Accordingly, more attention needs to be paid to maintain the organizational capabilities. However, building capabilities is not an easy task and is compounded by the accompanied cost. Therefore, the main question that arises here is the kind of capabilities the company needs to own and improve, and maintain. IMO processes appear as antecedent processes that help decision makers to answer this question. Thus, IMO needs to be established within the company, not only to satisfy the employees but also to enhance the overall internal processes and to adapt to all the changes in the environment. In fact, IMO and market orientation should be combined to a single process to reinforce the overall performance of the organization internally and externally. Furthermore, any external improvement must come from within the company and as such, the internal processes must be adjusted according to the objectives to be achieved in the external market. Therefore, it is recommended that decision makers use IMO processes as tool to form their strategies and goals, and particularly to pinpoint the necessary distinguished capabilities. Similar to other studies, the present study possesses some limitations, which future studies can address. One of these limitations is small sample size due to low rate of cooperation showed by the respondents. Therefore, it could be useful to extend the sample size to cover service sector in general. This study depends on the perspective of the managers of the restaurants, thus, it is suggested that future studies be conducted based on the employees' perspective. Finally, this study focuses on direct relationships among the proposed variables – this could be extended by future researchers by examining the indirect relationships among the variables by testing moderating and mediating effects.

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5. Tourism, Hotel Management & Spa Industry

Modern Trends in Hotel Management

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Abstract

The paper deals with the issue of management in the hotel industry. It highlights the importance of benchmarking information in this field. It also analyses the current state of hotel business in Slovakia in terms of regions and the creation of added value and monitors their strengths and weaknesses on the basis of benchmarking. Within the portfolio matrix, it shows the distribution of companies and indicates their future development in terms of improving the performance of this industry.

Key words

Hotel Management, Benchmarking. Slovakia. Portfolio matrix.

Introduction

Slovakia is a relatively attractive country from the point of view of its natural and cultural riches. This attractiveness grants high potential to raise the level of business in tourist industry which has not been fully used in spite of the effort for the last few years. What is the reason and what could help develop the business? There is a strong tendency in the society to develop tourism so that this branch of industry play a significant role and make up an essential part of the Slovak economy. Tourist industry in Slovakia needs a system change and applies for its potential to be acknowledged in the national economy. There are conditions for tourism in Slovakia to be, side by side with the information based economy another "pillar" that can support the economy (Šenková 2010). From the point of view of macroeconomics there exist different standpoints on the performance of economy. It is being viewed as a part of the gross national product. If we want to measure performance in tourism in details, we have to see not only its macroeconomics indications but also its microeconomics indicators and to pursue successfulness of every individual subject, which participates in development of tourism. But it is difficult to find out actual states. That is why it is necessary to search for new innovative approaches to evaluate performance of economy in the field of tourism and apply new methodology of management and to grant successful business. The approach which is mentioned in this paper is based on the calculation and prediction of development of enterprises as individual subjects. From the global point of view it is possible to watch their effect on an economy. The proposed methodology is the author´s contribution and it is one of modern information technologies. The methodology also creates basics for a modern information system suitable for all entrepreneurs and non-entrepreneurial sphere in Slovakia. The information system Index of an entrepreneur – IP evaluates the rating of a company according to which it is also possible to monitor the performance of tourist industry. So this enables every company to compare itself with the others on the basic on benchmarking information and to use it in management.

Proposal of innovative methodology of investigating based on benchmarking comparison

Modern information technologies which were not possible in the past make it possible to gain new approaches to assessment the performance of economy. However they are dependent on the quality of inputs which have a very good quality in Slovakia in the form of assigned and regularly published financial statements. This makes a substantial contribution exactly in improving the business environment and improving successfulness of companies. The possibility of monitoring the development of not only one´s own company but also related companies and organisations makes a great contribution to improving the business environment from the point of view of benchmarking. This monitoring enables using various methodologies of evaluation such as, for example, the evaluation of performance based on the indicator Economic Value Added, Balanced Scorecard and some others. In the areas of management and performance measurement, enterprising subjects are focused not only on financial aspects, as their potentials for their development are increasingly

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dependent on flexible factors such as readiness for implementation, capability of learning, innovation of the workforce and making best use of the information-based society (Gallo, Mihalčová, 2015).

The proposed innovative methodology of research based on benchmarking uses the two following parameters: financial performance represented by selected financial indicators, successfulness represented by selected prediction models.

The created model of evaluating the performance of enterprises uses the following parameters:

Financial performance: the period of accounts receivable turnover, the period of accounts payable turnover, the period of inventory turnover, the degree of recapitalization, total liabilities, profitability of one´s own capital, profitability of sales, total liquidity, current liquidity.

These indicators make up the selected indicators of a financial analysis namely in the area of activity profitability, capital structure and liquidity. The proposed methodology which was used to examine the performance of hotel and other accommodation facilities from the point of view of financial performance worked out on the point evaluation and the following indictors – Table 1.

Table 1 Evaluation of financial performance on the selected indictors of a financial analysis

O.N.	Indicator	Criterion	Parameter	Number of points (max 8)
1	Period of accounts Receivable turnover	<80 to > 120	0 - 120	8 - 0
2	Period of accounts payable turnover	<100 to >145	0 - 145	8 - 0
3	Turnover of total assets	<0,2 to >1,41	0,1 - 06	0 - 8
4	Degree of recapitalization	<0,2 to 1	0,0 – 0,5	0 - 8
5	Total liabilities	<40% to >55%	0,00% - 55%	8 - 0
6	Current liabilities	<50% to 62%	0% - 70%	8 - 0
7	Profitability of one's own capital	<4% to >10%	-20,00% - 10%	0 - 8
8	Profitability of sales	<0,5% to >5%	-20,00% - 5%	0 - 8
9	Total liquidity	<1,4 to >2,0	0,0 – 2,0	0 - 8
10	Current liquidity	<0,4 to >1,0	0,0 – 1,0	0 - 8

Resource: own processing

Successfulness: Quick test (the share of one's own capital, the period of paying debts from cash flow, the share of cash flow from revenues, the profitability of total assets), Solvency Index, Z-score, Tafler' s Index.

The evaluation criteria with the values of parameters and points for finding out the successfulness are given in Table 2.

Table 2 Evaluation of the successfulness of enterprises based on selected methods and indicators of successfulness

O. n.	Indicator	Criterion	Parameter	Number of points (max 8)	Evaluation
	Quick test	**Share of one's own capital**			
		0%	0,00% to 31%	0 – 5	Endangered to very good
2	**Quick test**	**Period of paying debts**			
		<3 to >30	-10 - 12	5 – 0	very good - endangered
3	**Quick test**	**Share of cash flow from revenues**			
		0% to 10%	-10% - 11%	0	Endangered – very good

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4	Quick test	Profitability of total assets			
		0% to 15% -20% - 16%	0 – 5		Endangered – excelent
5	Quick test	Quick test – overall evaluation			
		0 to >24 0 - 25	0 – 20		company's non-prosperity probable – excellent result
6	Solvency Index	Evaluation of solvency			
		<-2 to >3 -5 - 3	0 – 20		extremely bad solvency - very good solvency
7	Z-SCORE	Z- score – PLC company			
		<1,81 to >3 0,00 – 2,99	0 – 20		financial situation is bad, - financial situation is excellent
8	Z-score	Z-score – other companies			
		<1,2 – to 2,9 -1,19 – 2,9	0 – 20		financial situation is bad, - financial situation is excellent
9	Tafler's Index	Evaluation according to Tafler's Index			
		<0,2 to >0,3 0 – 0,3	0 – 20		high probability of bankruptcy - there is no probability of bankruptcy

Source: own processing

To make the evaluation, the tables with criteria were chosen where each indicator could gain maximum 8 points in the area of financial indicators and 20 points for the indicators of prediction, 5 points within the indicator of a quick test for each partial indicator, 20 points totally. The table of points created in this way was subsequently quantified into the degree of rating in following classification:

Table 3 Table of points

Evaluation in points	Evaluation	Rating score
less than 20	Unsatisfactory	E
up to 30	Poor below-average	D
up to 40	Average	C
up to 50	Substandard	B
up to 60	Monitor	A
up to 65	Excellent	A+
up to 72	Above average	A++
more than 78	Excellent	A+++

Source: own processing

Evaluation of the performance of a selected segment of research in hotel industry according to SK-NACE 55100-Hotels and similar Accommodation Facilities

164 companies out of the total number 776 made up the input research database. Each company does business in hotel industry in Slovakia. The data were taken out straight from the database of the last known financial statements of Business Register of the Slovak Republic. For the requirements of the research only the companies with more than 10 employees and the income over 10 000 € yearly were taken into consideration. It is obvious from Figure 1 that in group A there are 31 excellent companies operating in Slovakia (A – A+++), which makes 19%. In the non-satisfactory group (FX, E) there are 82 companies which makes 50%. The others 51 companies make up an average (B, C, D). It is evident from the research that a half of the companies operating in the area of hotel and accommodation services are not successful and belong to the group of unsatisfactory companies. The situation is very bad especially from the point of view of financial management.

Figure 1 Tourist industry SK-NACE 5510- Hotels and similar accommodation facilities (the total number of companies and their division in percentage in rating groups)
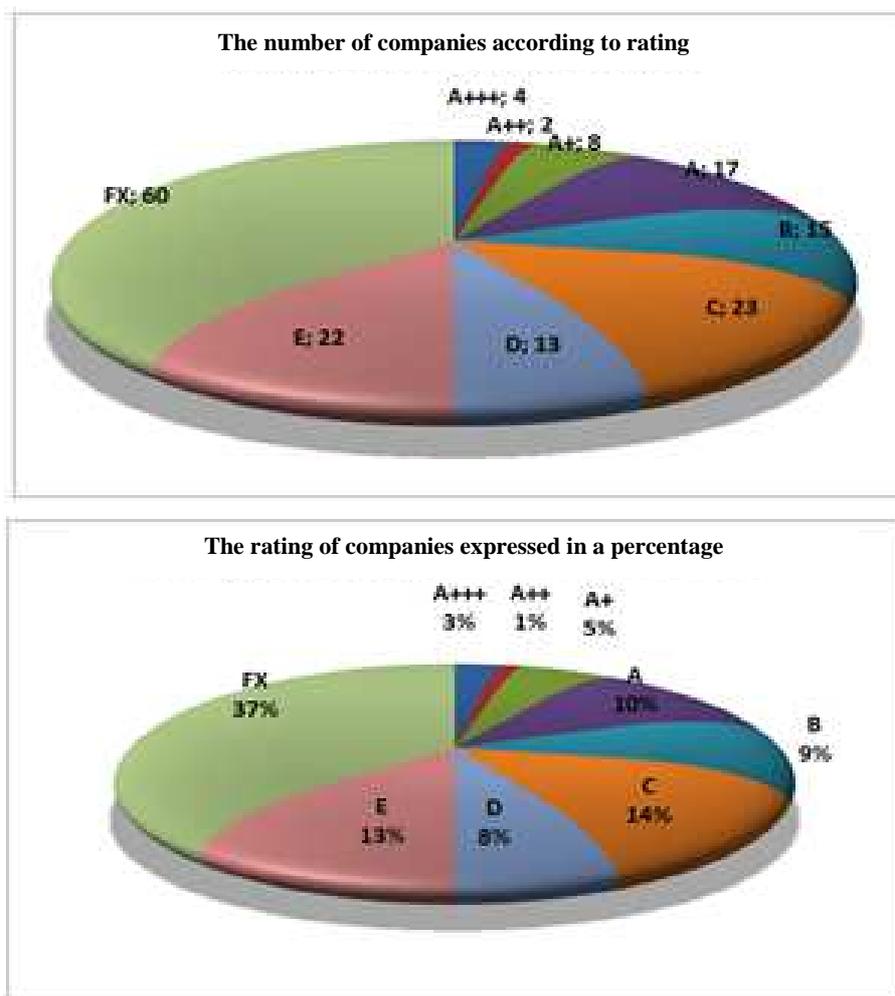

Source: own processing

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An overview of successfulness of companies in hotel industry and other accommodation facilities

We went on the research and analysed the placement of companies according to regions and the rating A – A+++ (Figure 2).

Figure 2 Placement of companies in regions and their successfulness - rating A – A+++
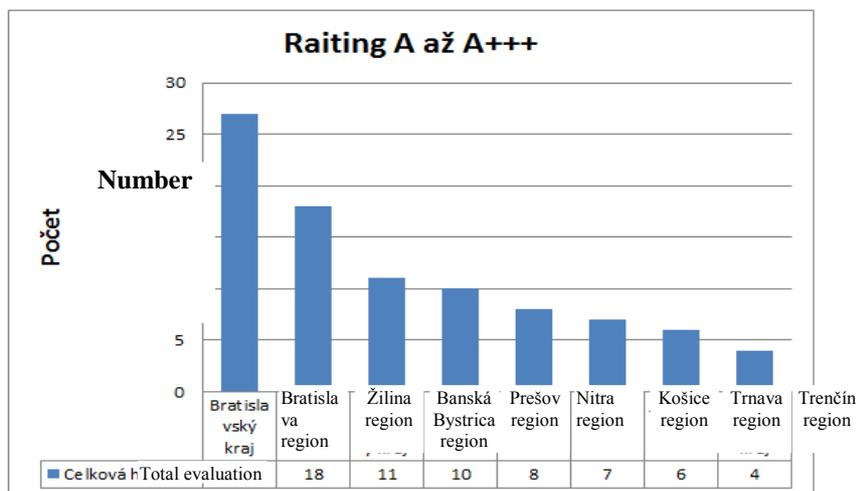
Source: own processing

The figure shows that most of successful companies are in Bratislava region. It is followed by Žilina region. The worst situation is in Trenčín and Trnava region that have very few successful companies. If we have a look at average companies – rating B, C and D, the results are as follows – Figure 3. The research confirmed again that most of successful companies in this group are in Bratislava region. It is followed by Žilina region. The worth situation is in Trenčín region.

If we take a look at unsuccessful companies – rating E and FX the results according to regions are the following – Figure 4.

Figure 4 Placement of companies in regions and their successfulness – rating E, FX
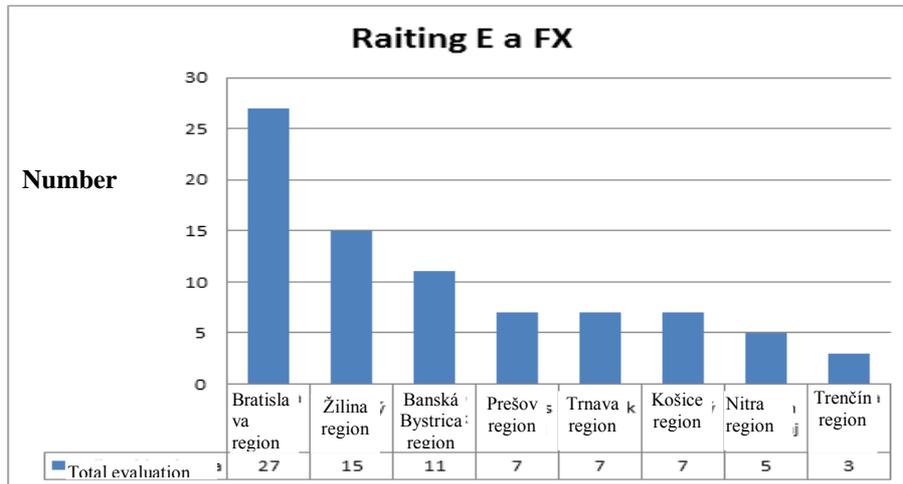
Source: own processing

An amazing thing is that most of unsuccessful companies are in Bratislava and Žilina regions. Evaluation of rating according to regions is as follows – Figure 5. If the results of the research are processed in the form of a table, we can take a look at Table 4.

Figure 5 Distribution of companies according to rating and regions (number)

	Bratislava region	Žilina region	B.Bystrica region	Prešov region	Nitra region	Trnava region	Košice region	Trenčín region
FX	18	13	8	6	3	5	5	2
E	9	2	3	1	2	2	2	1
D	2	3	3		2	2	1	
C	4	6	2	5	2	2	1	1
B	5	3		1	3	1	1	1
A až A+++	9	5	3	4	5	1	2	2
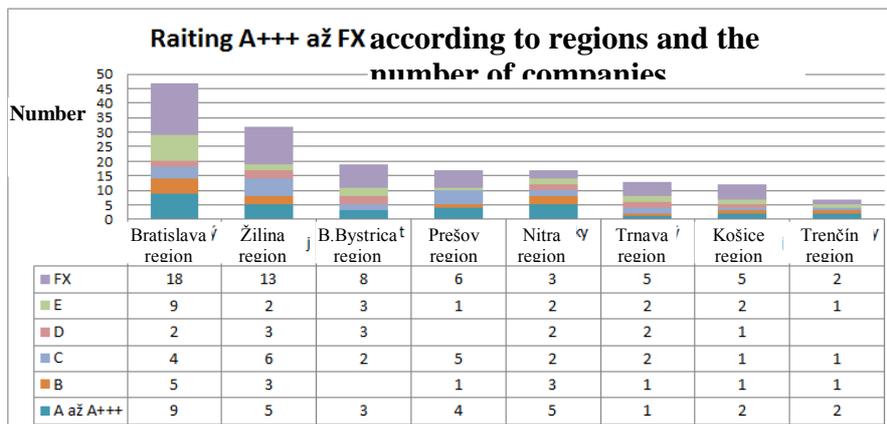
Source: own processing

Table 4 Distribution of companies expressed in percentage according to regions

Region	A až A+++	B	C	D	E	FX
Bratislava region	29%	33%	17%	15%	41%	30%
Žilina region	16%	20%	26%	23%	9%	22%
Banská Bystrica region	10%	0%	9%	23%	14%	13%
Prešov region	13%	7%	22%	0%	5%	10%
Nitra region	16%	20%	9%	15%	9%	5%
Trnava region	3%	7%	9%	15%	9%	8%
Košice region	6%	7%	4%	8%	9%	8%
Trenčín region	6%	7%	4%	0%	5%	3%
Total number	100%	100%	100%	100%	100%	100%

Source: own processing

If we look at the number of companies from the point of view of rating and regions, we can see that the highest number of successful and also unsuccessful companies are in Bratislava region (A – A+++ and FX). If we add the group E, this proportion changes. If this evaluation is processed in the form of a table on the bases of proportion: (A – A+++/ (E and FX), it is possible to follow the successfulness of doing business in individual regions. The picture of successfulness of doing business changes – Table 5.

Table 5 Proportion of successful and unsuccessful companies

Kraj	A až A+++	E a FX	A / (E+FX)
Trnava region	1	7	0,14
Banská Bystrica region	3	11	0,27
Košice region	2	7	0,29
Bratislava region	9	27	0,33
Žilina region	5	15	0,33
Prešov region	4	7	0,57
Trenčín region	2	3	0,67
Nitra region	5	5	1,00
Total	**31**	**82**	**0,38**

Source: own processing

The coefficient A/ (E+FX) shows the worst proportion and a high number of unsuccessful companies compared to the total number of businesses operating in a region. The coefficient is the worth in Trnava region followed by Banská Bystrica, Košice and Bratislava region. From this point of view Nitra and Trenčín regions are the best ones but these regions have very few companies within the interval of rating - 113 companies out of the total number of 164 examined companies. So on average level (rating B, C and D) there are 51 companies.

It can be stated that successfulness of companies operating in the hotel industry in Slovakia is very low. To revive tourism and the hotel industry in Slovakia, all the companies that do business in this field have to have as the first thing a perfect system of management which can be formed on the principles of benchmarking comparing themselves with the best Slovak and foreign companies. This system of management must also include the strategies of using tourist potential in Slovakia. A lot of companies in Slovakia have no any professional controlling or a modern system of strategic management. The companies doing business in this field do not make progress and presume that only a growing number of tourists will enable better achievements. That is not entirely true because making good progress, improving the results in the companies operating in the hotel industry need properly functioning processes, strategic plans, visions and a good controlling system for the needs of management. These are the main principles which most of the companies are lacking.

Conclusion

The proposed methodology of calculating the benchmarking indicators and the rate of companies help monitor the results of companies better and set the goals to the future. It makes fundamentals of evaluation and calculation of the performance of companies and, on a global scale, it is also possible to use it for the evaluation of individual sectors of industry. Its usage supports the development of management by the form of providing up to date results from the area of benchmarking which can be used by companies in strategic management.

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Gastronomy and Tourism as a Tool of Regional Development - the Case of Ústí nad Labem Region

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Abstract

The aim of the paper is to introduce and evaluate the gastronomic tourism as a viable development factor on the regional level in the Czech Republic. Czech regions combine some prerequisites for gastronomic tourism development with a long lasting tradition of preparation food culture.

According to the objective of the paper, Ústí nad Labem Region´s food tourism was chosen for the evaluation from both demand and supply side. Ústí nad Labem Region belongs to the less visited areas in the Czech Republic although the region offers suitable conditions for tourism development. Based on the results of the analysis it can be assumed that food tourism can subsequently increase the overall visitation of Ústi nad Labem Region.

Methods used for completing the paper included literature review, content analysis of documents, in-depth interviews, and Delphi method.

Key words

Gastronomy, Tourism, Food Tourism, Ústí nad Labem Region

Introduction

Gastronomy has become a necessary part of the tourist experience. Currently, food tourism has grown considerably becoming one of the most dynamic and creative forms of tourism. Destinations, tourism businesses, and visitors have recognized the importance of gastronomy to diversify tourism and stimulate local, regional and national economic development.

Food tourism is a local phenomenon that has a clearly positive impact on the economy of any region. It affects employment and local heritage, as most tourists seek to get to know not only the local food but also to know it si derived and produced, making it an ever increasing expression of cultural tourism. The development of food tourism also contributes to improving the general perception of the destination. Regional gastronomy as a tourism resource is an essential element in rural tourism performance and can be used as a tool for the development of tourism in the area. At the regional level there is a range of advantages to developing food-related tourists offers:

- High-profile of some foods and cuisine attract tourist and can provide other regional business opportunities.
- A positive image of the region gained through association with quality products.
- Food tourism can help differentiate a region's position in the tourism marketplace if connected with local food.
- Food tourism is an attraction in its right that can contribute to extending the range of reasons for visiting a destination.
- Food tourism may help extend the length of stay and increase visitor expenditure on locals products.

The regional distribution of tourism flows in the Czech Republic is problematic. The most visited area is Prague, followed by the South Moravian, and South Bohemian Regions. Although the Ústí nad Labem Region has the potential for tourism development, it is not currently enough used. About 430 thousand tourists have visited the Region annually. The national park Bohemian Switzerland belongs to the most visited tourism area in the Region. The Ústí nad Labem Region is noted for relatively high unemployment and low socio-economic status compared with other Czech Republic regions. Tourism and in particular food tourism can be a means for the better economic development of the Region. The future growth of the food tourism can be supported by the existing conditions for it (attractive location, agriculture land, production of hops and vegetables, growing grapes, rural areas, etc.).

Food Tourism

Travel motivated by food is referred to food tourism, culinary tourism, cuisine tourism, gourmet tourism, gustatory tourism, wine and food tourism, beer tourism, food and beverage tourism, rural tourism, cuisine travel, urban tourism, gastronomic tourism and taste tourism. The most frequent term is gastronomic tourism, culinary tourism and food tourism (Hamarneh & Kiráľová, 2016).

Tourism and local food have the potential for collaboration in a symbiotic relationship (Hjalanger & Richards, 2002). Food is usually seen as a symbol of local and regional distinctiveness, and when tourists choose local food and beverage, they also taste "ingredients" of the visited area´s local character (Bessière, 1998). In many tourism regions, local gastronomy is seen as a significant component of the local heritage; regional food culture has been described as a competitive advantage of the region that can improve the quality of tourists´ experience and add to it a local uniqueness (Yi-Chin et al., 2011).

Du Rand, Heath and Alberts (2003) outline ways in which local food may directly or indirectly contribute to local sustainable development – (1) enhancing destination attractiveness, (2) empowerment through local job creation and entrepreneurship, (3) regional brand identification, (4) authentic presentation of the local culture, (5) stimulation of agricultural activity, and (6) generation residents´ pride in the region.

According to Hall and Sharples (2003) food tourism is an experiential trip to a gastronomic region for recreational or entertainment purposes and includes visits to primary or secondary producers of food, gastronomic festivals, food fairs, events, farmers´markets, cooking shows and demonstrations, tasting of quality food products or any tourism activity related to food.

Increasingly popular forms of food tourism experiences are cooking schools where tourists can gain knowledge of the authentic regional food and drinks (Hall & Mitchell, 2005).

According to Petrini (2001), food tourism offers opportunities for development even to weak and depressed regions through a new agricultural model. It can be stated that food tourism also supports small and local food producers and possibly establishes their position in the market, as opposed to international and industrial food producers.

According to Misiura (2006), food has been acknowledged as number one component of the regional culture which travelers consume, secondly as a component of tourist marketing, thirdly as a promising part of the regional rural and economic growth, fourthly as a local coefficient which is influenced by the consumption habits and affectations of the tourists.

Hall et al. (2003) stated that it is important to promote regional attributes of the food, wine, and tourism products. Moreover, having the name of the destination included in the product name, the destination itself turns into a brand and contains the value for the brand and destination (Hall, 2004).

Hall & Sharples (2003) argued that local gastronomy brings value for the tourism industry in two ways – by the support provided by the sales of artisan food products to visitors and protection and cultivation of the landscapes. Tourism can also stimulate agricultural services such as landscaping, tours on farms and processing sites, as well as farm holidays (Telfer & Wall, 1996).

Methodology

According to the objective of the paper, the research question was formulated as "Can the interest in food tourism increase the overall visitation of the Ústí nad Labem Region?"

The methods used include literature review, content analysis of documents, in-depth interviews, and Delphi method.

The in-depth interview was conducted in the Ústí nad Labem Region where residents older than 18 years who had experienced local food and beverage were identified through a criteria-based snowball sampling technique. Given the qualitative nature of the information gathered and the size of the sample, the survey responses were not amenable to statistical analysis.

The Delphi method is a qualitative method combining the knowledge and opinions of experts/stakeholders to give an informed consensus on a complex issue (Veal, 1992; Weber, Ladkin, 2003). The Delphi method has been modified to the needs of the paper. The pilot round was conducted in a selected group of experts/stakeholders; a questionnaire was tested regarding its intelligibility and clarity, to eliminate the formation of errors resulting from the structural defects. The reason for this modification was the regional significance of the research. The specific selection criteria for the purposeful sampling as the duration of the restaurant or related business operation minimum one year, and holding a manager role were determinate. The entire sample was selected by snowball sampling method.

Results and Discussion

The Ústí nad Labem Region has an attractive location in the northwest of the Czech Republic along its northern border with Germany. The region´s area is 5 335 km²; more than 50 % of it is agricultural land, 30 % forests, and water areas make up 2 % of the territory (CSO, 2015).

Geographically the Region is very heterogeneous, with considerable variations in natural conditions, economic structure, a density of settlement and environmental conditions. Historically, the economic importance of the Region is based on its raw materials, especially large deposits of brown coal.

The number of inhabitants is 823 972, the population density (154 inhabitants/km^2) is higher than the national average (134 per km^2).

The industrial activity from the past had and still has an unfavorable impact on the quality of the environment. In 2014, the average gross monthly wage in the Region reached 23 072 CZK, which is by 2 614 CZK less than the national average and the Region ranks tenth among all the regions in the Czech Republic. The decrease of coal mining, restructuralization of enterprises, slowdown of productions and agriculture caused that the Region has in the long-term the highest share of unemployment in the national comparison.

Due to its rich history of settlement, the Ústí nad Labem Region boasts of a vast number of historic buildings and monuments; of the national park Bohemian Switzerland is located in the northwest of the region.

Ústí nad Labem Region belongs to the less visited parts of the Czech Republic. In 2014, the Ústí nad Labem Region was visited by the 401 882 guests, most of whom were residents (65,6 %). The accommodation capacity of the region consists of 450 collective accommodation establishments. The Ústí nad Labem Region has 3 110 food and beverages facilities.

Events related to food/beverages in the Ústí nad Labem Region are presented in Figure 1. Food festivals, traditional markets, and farmers´ markets which offer a delicious assortment of food, beverages and quality organic products, are growing in popularity. For domestic and foreign visitors, these places are an ideal opportunity to get familiarized with honest and genuine Czech cuisine. These events operate in different parts of the Czech Republic, including the Ústí nad Labem Region.

For small and medium farmers, producers and growers predominantly from the region, there is frequently an almost insuperable problem of getting their products to the formal distribution network of the major retail chains. The method of finding customers while avoiding hypermarkets are supermarkets and private bio-stores. The demand for them is rising because Czech and also foreign consumers are starting to realize how significant it is to have a choice of quality local food, without unnecessary preservatives, substitutes, harmful E's and other dangerous chemicals. These shops can be seen in almost every big city in the Czech Republic, including the Ústí nad Labem Region.

Figure 1. Events related to food/beverages in the Ústí nad Labem region
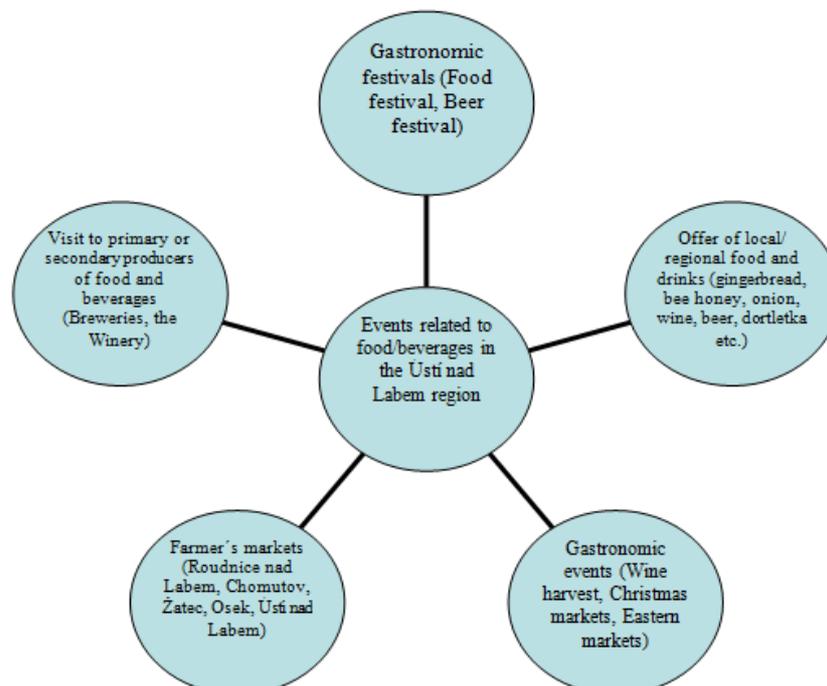
Source: Authors

To assess the impact of food tourism on regional development in the selected region opinions of sixty-three respondents were collected. One hundred respondents were contacted by telephone or e-mail; only sixty-three agreed to be interviewed.

The interviews took place at the interviewees´ workplaces. Gillham (2000, p. 8) points out that "there is a common assumption that people will talk more freely in their environment." The interviews took place over a period of three months from February to April 2016.

Based on interviews the following trends were identified:

- Local drinks are very often integral part of the demand of visitors.
- The most of the respondents visit exceptionally restaurants with the special menu, such as Easter menu, venison feast, Saint Martin´s feast or Christmas menu.
- Only a few of interviewees participate in activities, such as tasting menu, tasting beverages, cooking courses, baking courses for visits linked with traditional Czech cuisine.
- More than 90 % of respondents attend the Christmas markets. More and more popular are also food festivals, Easter markets, pilgrimages and beer festivals.
- About 50 % of respondents are interested in open kitchen spaces, participation on food festivals, authentic traditional food offer and offer of food and wine connection,
- The most of the interviewees (more than 50 %) are positively affected by the offer the regional products - they will come again to the restaurant alone or with the friends/family, they are prepared to pay more, and also they will spread the good repute of the company.

Age and educational background were found to be the important factor, influencing consumption of local food and beverages. For current visitors interest in local cuisine seems to grow with age. Those aged 50 or older have the highest level of interest in local cuisine

For the Delphi method, forty SME entrepreneurs were addressed, but only fourteen of them were willing to cooperate.

The most of the stakeholders have evaluated that local drinks (such as wine, beer, cider of herbal tea) are very often integral part of their offer. More than 50 % of entrepreneurs confirmed that they usually prepare special menus for various occasions, for example, Saint Martin´s feast or Christmas. Visiting restaurants because of such a menu was reported popular also by respondents. Only a few of entrepreneurs claimed activities as tasting menu or tasting beverages linked with traditional Czech cuisine. The similar results were recorded in connection with their participation in the events related to food and beverages. The most of the entrepreneurs confirmed that they apply only some of the current gastronomic trends in their businesses. They primarily offer mobile application, wifi connection, and state sustainable operation of their businesses. Only 21 % of them operate open kitchen spaces; open kitchens are reported popular by the respondents. The most of the entrepreneurs also confirmed that the introduction of regional food and local drinks have the significant impact on their revenue growth, on the increase of guests traffic, on the improving of their business´ image and on enhancing the average spending of guests.

Conclusion

The Ústí nad Labem Region is noted for relatively high unemployment and low socio-economic status compared with other Czech Republic regions. Tourism including food tourism has potential to increase the number of jobs and to bring income to the region.

The Ústí nad Labem Region has very good conditions for the future development of food tourism. It has an attractive location, rural areas, local farms and wineries, production of hops and vegetables, growing grapes, organizing events related to food and drinks.

Based on the results of the pilot research, it can be stated that local drinks and regional food are very often integral part of the request of visitors and are also part of the offer of SMEs operating in gastronomy sector.

Considering saying the opportunities for future research are in expanding the number of interviewees from all Czech regions with focus on both, domestic and foreign visitors.

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Diversification of Tourism Offer in Prague as a Tool for Sustainable Development

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Abstract

Prague is the most visited destination in the Czech Republic. The World Heritage Area of Prague covers only 1,34% of the whole area of the city, but the density of visitors is very high. Three of the most visited sites in Prague are located in this area. Sustainable development and diversification of tourism offer involving the River Vltava Riversides are from this aspect one of the ways how to relieve the heavily visited protected city center from visitors. The paper aims to propose opportunities for the diversification of the Prague tourism offer involving Vltava Riverside to enlarge the possibilities for leisure and relax for both tourists and residents. Different tourism indicators were calculated to detect the current state of the intensity of visitors flow in the city center. To determine the destinations´ attractiveness potential, interviews, Community Engaged Mapping, Asset Mapping, and Community Transect Walk has been conducted.

Key words

Prague, Vltava River, sustainable development, urban tourism, waterfront tourism, riverside, tourism offer, diversification

Introduction

Tourism is an important aspect of the life of people around the world and a means of achieving community development (Sharpley & Tefler 2002). It has a positive impact on economic growth and employment in destinations, helps to raise local awareness of the value of natural and cultural sites. Visitor fees provide financial resources for restoration and protection of destination´s heritage. Tourism can promote cultural values by supporting local handicrafts, cuisine, traditions or by offering alternative economic activities. It strengthens and stimulates a feeling of pride on the culture and crafts, and strengthens local community by creating job opportunities.

On the other side, tourism also brings challenges to the destination and so the destination´s management should apply policies for minimizing its negative impacts. Tourism requests the right balance between economic benefit and undesirable impacts.

Destinations with World Heritage sites are under an international obligation to maintain or restore the site's original values. The management´s responsibility, in this case, is to define a sustainable tourism development strategy. At the same time, the destination should ensure that a part of tourism revenue remains in the community as a means of support for the local protection, conservation, and restoration.

There are many types of research focusing on the impacts of tourism in the destinations. Beeton (2006) and Richards and Hall (2000) states that for many local communities is tourism a tool for stimulating changes in the social, cultural, environmental and economic area.

Destinations´ residents, depending on their relationship to tourism, rather perceive tourism as a "blessing" and others see it rather as a "blight" (Smith 2001). In most cases, tourism as a "blessing" is perceived by people who can in some way benefit from tourism. As a "blight" is tourism usually considered when it has negative impacts on the environment. Sharma (2004) states that in destinations where residents have more positive attitudes towards tourism, tourism development will be more successful. In destinations where residents benefit from tourism development they will perceive tourism more positively and will support tourism planning and development in a community (Chon 2000).

It is hard to identify urban areas as tourism destinations as these areas are not exclusively used by visitors only but also by residents and people working there (Page 1995; Law 1996).

Without a doubt, urban tourism can generate income and employment in the urban area. Schofield (2001) states that governments often receive a higher revenue from tourism in urban areas than from any other type of tourism destination.

Sustainable Tourism Development

Tourism can have beneficial effects on the environment and contribute to environmental protection and conservation. It can raise awareness of environmental values and serve as a tool to finance protection of natural areas and increase their economic importance (UNEP 2004). To decrease or better to avoid the tourism´s negative impacts, destinations apply a sustainable development approach based on globally applicable principles of sustainability.

The United Nations World Tourism Organization (UNWTO) defines sustainable tourism as "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" (UNEP & UNWTO 2005, pp. 11-12).

Sustainable tourism development must meet three core objectives (UNEP & UNWTO, 2005):

- develop long-term economic operations, providing socio-economic benefits for all stakeholders;
- optimal use of natural resources;
- respect the socio-cultural authenticity of host communities.

Tourism has the "ability" to devalue its equity business activities. It happens in connection with the absence of regulation of tourism development (concerning its random development).

Urban Tourism

Urban areas are usually places with a dense population, a major transport hub and a gateway for further travel in the region, commercial, financial and industrial centers. They offer a variety of recreational, and cultural experiences (Ashworth & Tunbridge, 1990; Page, 1995). People have always been attracted to urban areas for different reasons (e.g. visiting friends and relatives, transit, business, culture). As tourism became an important part of cities´ economy, they are investing in the development of tourism offer.

Law (2002) characterizes urban tourism very simply as tourism in urban areas. According to the European Commission, „urban tourism is complex, difficult to pin down and define, and depends on many factors such as the size of the town, its history and heritage, its morphology and its environment, its location, its image" (EC 2000, p. 21).

Schofield (2001) states that urban tourism can generate employment and income for a government that is often higher than the income from other type of destinations.

Based on some authors (Ashworth & Tunbridge 1990; Jansen-Verbeke 1986; Shaw & Williams 2002) the following motives enhance urban tourism: (1) Visiting friends and relatives; (2) Business; (3) Conference and exhibition; (4) Education; (5) Culture and heritage; (6) Religion and pilgrimage; (7) Leisure shopping. These motives can be further extended with as following: (1) Sport; (2) Food and drinks; (3) Specific topics (myths); (4) Dark tourism; (5) Cruise. The presented motives point out the comprehensiveness of the urban tourism and the complementarity of the different cities tourism offer e. g. Capital cities as Prague (Law, 1996; Page 1995). Smith, Macleod and Hart Robertson (2010) note that urban tourism is one of the most complex forms of tourism to manage.

Warren and Taylor (2003) describe cities´ attractivity as dining out and shopping facilities, performances, events and nightlife together with wide range of accommodation capacities (often in a different design or thematic ones).

Page (1995) states that many European cities improved their centers by creating pedestrian zones, establishing parks and cycling routes, by investing in modern shopping centers, and developing the city's marketing around a specific theme. Jansen-Verbeke (1986) includes that it is also necessary to improve the cities accessibility, create parking facilities and supporting tourism infrastructure (e. g. tourist information offices, signposts, and guides).

Thinking about visitors´ satisfaction cities cannot ignore the local community, the city-region residents and the people working within the city (Page & Hall 2002) as they also use the infrastructure and share these services and spaces with tourists (Pearce, 2001). As Warren and Taylor (2003) point out, there is a correlation between the ability of the city to meet the needs of its citizens and its ability to attract visitors. If residents are not attracted to their city, why should be the visitors (Warren & Taylor, 2003)?

Waterfront Tourism

The mix of tourists and residents in the urban area creates mixed-use spaces as the urban waterfront (riverside, lakeside or seaside waterfront).

According to Jansen-Verbeke (1986), waterfronts are part of the urban tourism product and can play a major role in attracting visitors to a city. They can also be a place of residence, work or recreation for residents. Based on their research, Breen and Rigby (1996) distinguish six types of waterfronts: commercial waterfronts, cultural, educational and environmental waterfronts, historical waterfronts, recreational waterfronts, residential waterfronts and working waterfronts.

Griffin et al. (2008) state that having a waterfront location make cities interesting for tourists. Jansen-Verbeke and Lievois (1999) add that using waterfronts in tourism requires from cities developing parking places, open-space facilities, sports areas, ensuring water quality and accessibility of these areas. Destination managements should at the same time keep in mind that waterfronts are natural resources and sources for biodiversity.

Cities around the world realized that waterfronts open a new possibility for attracting tourists and therefore they are redeveloping and conserving their waterfronts, creating new leisure, recreational, and tourism spaces (Craig-Smith 1995; Dodson & Killian 1998; Law 1996). Warren and Taylor (2003) point out the importance of historic structures within waterfront areas for tourism. Waitt and McGuirk (1997) highlights the significance of cultural tourism as a means for revitalizing waterfront areas.

Some authors (Griffin & Hayllar 2006; Krolikowski & Brown 2008) add that tourists visit waterfronts often not for specific attractions but the feel and ambiance of these areas hence for their "*genius loci.*"

Methodology

The analysis and data presented in this paper are based on primary and secondary research. For detection of the current state of the intensity of visitors flow in the city center, indicators as Tourist density, Defert's tourist function index, Number of beds/km², Tourist penetration rate, Tourism intensity, and Tourist intensity rate were calculated. To determine the riverside tourism potential, Community Engaged Mapping, Asset Mapping (Dorfman 1998; Moore 2011), and Community Transect Walk (Carter 2005; WB 2005) were conducted. For Asset Mapping the 2GIS application, a detailed and current information system Prague with a city map, was used.

Qualitative research, using an inductive method, was also applied to this study as it is suitable for use with a small sample. The pilot phase of the research included face-to-face interviews in a one-to-one setting with thirty residents. The specific selection criteria for the purposeful sampling as residency in Prague longer than one year and involvement in the tourism industry were determinate. The entire sample was selected by snowball sampling method.

Given the qualitative nature of the information gathered and the size of the sample, the pilot survey responses were not amenable to statistical analysis.

Results and Discussion

According to the research of the agency CzechTourism (2016), Prague as a tourist destination is a stronger brand than the brand of the Czech Republic and has a stronger image than the country's total. In 2015, 6 605 776 visitors arrived in Prague, and that was by 8.2 percent more than a year ago (table1).

Table 1. Number of visitors, overnights and average length of stay in Prague

Year	Indicator	Total	Residents	Non-residents, total (foreigners)
2012	Number of guests	5 726 454	806 997	4 919 457
	Number of overnights	14 443 143	1 506 098	12 937 045
	Average lenght of stay	2,5	1,9	2,6
2013	Number of guests	5 899 630	851 674	5 047 956
	Number of overnights	14 654 282	1 597 351	13 056 931
	Average lenght of stay	2,5	1,9	2,6
2014	Number of guests	6 096 015	780 961	5 315 054
	Number of overnights	14 750 287	1 368 554	13 381 733
	Average lenght of stay	2,4	1,8	2,5
2015	Number of guests	6 605 776	890 941	5 714 835
	Number of overnights	15 917 265	1 576 176	14 341 089
	Average lenght of stay	2,4	1,8	2,5

Source: PCT (2016)

For the performance of the state administration, Prague is divided into 22 administrative districts, and 57 autonomous municipal districts with elected bodies. These districts are significantly different. There are districts with the distinct character of the city center, districts with predominantly residential character, districts with the prevailing industrial character, housing estate districts, and districts with suburban character. Many of these districts are originated by plugging the surrounding villages to the city. They differ in the degree of urbanization, population density, quality of technical infrastructure and socio-economic living conditions.

Prague´s historical center belongs since 1992 to the UNESCO World Heritage Sites (picture 1).

Picture 1. Prague World Heritage Site

Source: http://www.archeopraha.cz/mapa-vyznamnych-archeologickych-ploch-v-prazske-pamatkove-rezervaci
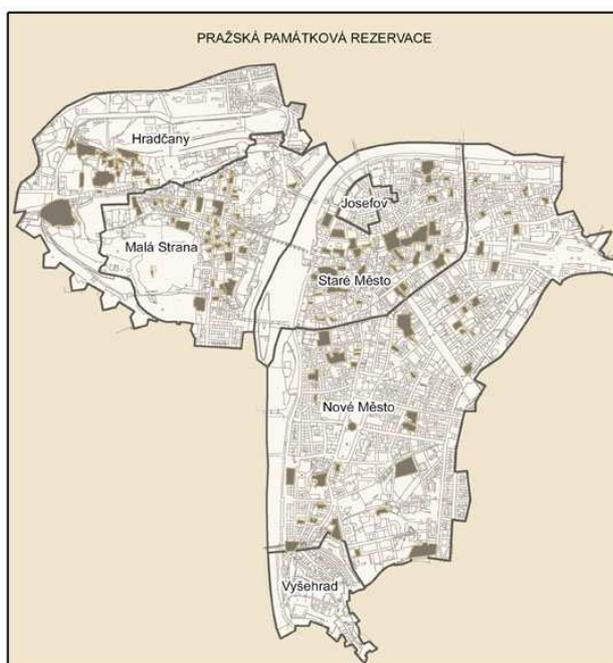
There are 1,330 protected objects in this area (including 28 national cultural monuments), 1,322 protected buildings, a large number of small architectural objects, technical monuments and historic gardens and parks. The most visited monument in 2015 was the Prague Castle (7 421 000 visitors), followed by Zoological Garden (1 318 382 visitors), the Old Town Hall (716 440 visitors) and the Jewish Museum (629 126 visitors). Table 2 shows the value of indicators for Prague and the protected area.

Table 2. Indicators

Indicator	Prague City	Prague World Heritage Site
Area	496 km²	8,66 km²
Inhabitants	1,247 million	52 000
Population density	2 534/km²	7500/km²
Tourist density	87,57/km²	5015,61/km²
Defert's tourist function index	7,24	67,29
Number of beds/km²	183,57	4040,88
Tourist penetration rate	83,25	1015,61
Tourism intensity	12,66	113,47
Tourist intesity rate	525	12703,41

Source: Authors´ processing based on data from Prague City Tourism (PCT, 2016)

The indicators in Table 2 clearly show that the city center is heavily impacted by tourism. To keep Prague tourism sustainable the tourism offer must be diversified. Prague tries to help to the busy historical heart of the city but without success - visitors must have had a reason to leave the center. The river is the blue corridor of the city that can increase the quality of life not only for the residents but also that of the tourists.

One of the possibilities where the tourist flow can be redirected is the Vltava River riverside. Vltava is the longest river in the Czech Republic (433 km); its length in Prague is about 31 km.

For Czechs the Vltava is much more than just a "river" – it has a national and symbolic significance. Prague and the whole history of the city and the entire nation are closely connected with the Vltava River.

The Riverside is a place for sport, free and leisure time activities, water sports, wellness, and cultural activities but it is currently used in tourism only partially.

The results of the Community Engaged Mapping, Asset Mapping, and Community Transect Walk, as well as the results of the interviews, shows that the Vltava Riverside already disposes of assets that support further development of tourism and leisure activities (picture 3, 4). These assets include unique tangible and intangible natural, cultural and technical heritage, sports facilities and events including outdoor activities. These assets should be utilized and incorporated into the Prague´s tourism product and promoted in the tourism market.

There are ten islands in the river; the Slovanský Island and the Střelecký Islands are the biggest ones. In 1865, regular steam navigation started on the Vltava River. The river flows through the most valuable historical part of the city (one km long), and visitors can take advantage of nine places, where they can board a shorter or longer cruise.

The post-modern visitors led destinations to a profound transformation of traditional tourism products, with a focus on emotions. The ability to insert stories into everything that visitors can perceive and use is natural. As Bateson (1972) notes, people think and talk in stories.

There are several books published on the river, people and monuments are connected to it, documentary films were made, music was composed, and stories are told of the generations of water sports lovers and residents on the riverside. The most of these stories are based on reality, but some of them are mystification. In tourism are both important as they can attract tourists to the destination; sometimes the mysteries, as they enhance emotions and imaginations, are even more attractive to tourists.

Picture 3. Community Asset Mapping
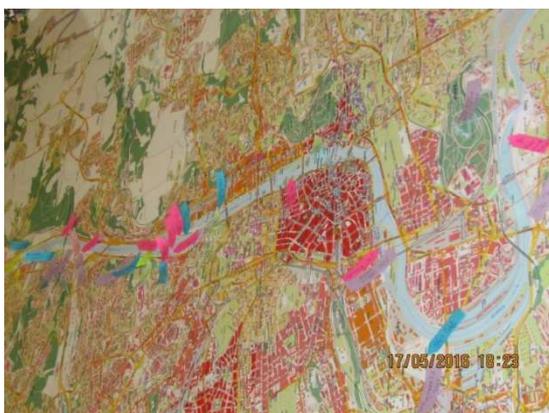
Source: Authors

Picture 4. Community Asset Mapping

Source: Authors

The review of the asset base suggests that Prague Riverside has some real strengths as well as some gaps, and the city faces some challenges and opportunities. The key points can be summarized in the form of a SWOT analysis (Table 3 and 4). The Importance shows how important strength or a weakness is at the Riverside. A score given to each factor indicate whether it is a major (3) or minor (1) strength for the Riverside. The Score is a result of importance multiplied by rating. It allows prioritizing the strengths and weaknesses. The Riverside should rely on its most significant strengths and try to convert or defend its weakest parts.

Table 3. Strengths and weaknesses of Prague Riverside

Strengths	Importance	Rating	Score
Amazing views	0,21	3	0,63
Public transport	0,13	3	0,39
Clean water	0,13	2	0,26
UNESCO heritage	0,12	2	0,24
Diversity of riverside area	0,07	3	0,21
Stable water level	0,07	3	0,21
Cultural sites	0,1	1	0,1
Water sports	0,1	1	0,1
Technical sites	0,07	1	0,07
Weaknesses	**Importance**	**Rating**	**Score**
Lack of supporting services	0,3	3	0,9
Heavy traffic	0,19	2	0,38
Uneven use of the area for tourism	0,07	3	0,21
Aging infrastructure	0,1	2	0,2
Inappropriate structure of hospitality services	0,1	2	0,2
Lack of public events	0,04	3	0,12
Unstable quality of services	0,06	2	0,12
Lack of parking spaces	0,1	1	0,1
Cleanliness of the area	0,04	2	0,08
Total	1	-	-

Source: Authors

The Importance of opportunities and threats shows to what extent the external factor might impact the tourism development in the Riverside area. The Probability of occurrence is showing how likely the opportunity or threat will have any impact on tourism development in the Riverside area. Importance multiplied by Probability gives a Score by which the Riverside will be able to prioritize opportunities and threats. Attention must be paid to the factors having the highest score, and the factors that will not likely affect tourism development in the Riverside area should be ignored.

Table 4. Opportunities and Threats of Prague Riverside

Opportunities	Importance	Probability	Score
Public sport culture development	0,15	3	0,45
Involvement of Prague municipalities	0,2	2	0,4
Improvement of quality of services	0,2	2	0,4
Cooperation of entrepreneurs in tourism	0,1	3	0,3
Introduction of new sports	0,1	3	0,3
Preparation of the development concept	0,05	3	0,15
Promotion of the riverside area	0,04	3	0,12
Investment to riverside tourism	0,09	1	0,09
Application of discounts card system	0,07	1	0,07
Threats	**Importance**	**Probability**	**Score**
No development plan	0,2	3	0,6
No cooperation between Prague municipalities	0,1	3	0,3
Weak tourism management	0,08	3	0,24
No sustainable tourism development	0,08	3	0,24
Riverside tourism will not be a part of the product offer	0,08	2	0,16
Lack of promotion of the riverside tourism	0,08	2	0,16
Lack of investments to the riverside tourism	0,07	2	0,14
Investment in other tourism destination	0,01	3	0,03
Total	1	-	-

Source: Authors

Conclusion

Based on the results of the analysis provided, it can be stated that Prague World Heritage area is heavily visited by tourists and the tourist flow can have the significant impact not only on heritage site itself but also on the quality of life of residents and tourists.

The assets mapping results indicate that the Vltava Riverside area is rich in tangible, and intangible assets that could be utilized in tourism and tourism plays a major role in the future development of Vltava Riverside. Amazing views, high level of public transport and cleanliness of the water are the most important strengths of the Riverside. On the other hand, lack of supporting services, heavy traffic and uneven use of the area for tourism are the weaknesses with the highest importance. The biggest opportunity for the Riverside tourism development can be seen in public sports culture development, the involvement of Prague municipalities and improvement of the quality of services. Attention must be paid to the creation of development plan, cooperation between Prague municipalities, improvement of tourism management and sustainable tourism development.

Involving tourism entrepreneurs, residents and Prague municipalities in the development of Prague Riverside Tourism is in this case crucial as it can help to increase the acceptance of the development process and investments regarding this area. Redirection of part of the tourist flow to the riverside area cannot be successful without the collaboration of all stakeholders.

Considering saying the opportunities for future research is in expanding the number of interviewees and widens the interviews to the visitors. There is also a possibility to calculate the indicators for time series data.

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Technical Efficiency of Selected Hotels in Košice

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Abstract

We carried out data envelopment analysis on the dataset consisting of four accommodation facilities in Košice city. As input variables, we use the number of rooms, the number of beds and number of personnel. As output variables, we used the number of tourists, the number of evening parties and revenues. We distinguished short term efficiency (yearly data) and long term efficiency (5 years data). Our findings suggest that two out of five hotels are efficient, whilst the remaining two have serious deficiencies in terms of output efficiency. Moreover, our analysis suggests that the efficiency (of the considered hotels does not change over time.

Key words
Hotel, Data Envelopment Analysis, Efficiency

Introduction

Efficiency is maybe not sufficient, but a definitely necessary condition for success. Various approaches to measure efficiency exist. Some of them have a simple form of ratio indicators; some have a more sophisticated form. One of the possible ways to measure efficiency is Data Envelopment Analysis. The basic idea of Data Envelopment Analysis consists of enveloping positions of the monitored entities with a line called efficiency frontier. All entities not present at this line are considered as inefficient. This method works under the condition that at least two entities must be compared and at least one of them is always effective. The efficient one lies at the efficiency frontier. Others may be inefficient and inefficiency is then measured as the distance from the efficiency frontier. DEA is widely used to assess the technical efficiency of services providing enterprises (Cooper et al., 2007). DEA includes several types of models, the most used models are:

- DEA BCC (Banker et al., 1984) - assumes that the studied units, also called DMU - Decision Making Units (DMU), have variable returns to scale. Also efficiency frontier has a convex or concave shape.

- DEA CCR (Charnes et al., 1978) - DMUs monitored in accordance with this model have constant returns to scale. All efficient DMUs therefore lie on a straight line.

- Additive DEA model - previous models can be further divided into input and output models. Input models change just inputs and outputs are unchanged, in order to achieve efficiency, output models work vice versa. The additive model combines the input and output models and therefore calculates how to change specific inputs and outputs simultaneously.

In this paper, we examine technical efficiency of selected hotels in Košice city. We are curious whether the efficiency of hotels fluctuates in time, or not. As input variables, we are using a number of rooms, number of beds and number of personnel in given hotels. As output variables, we are using a number of tourists, the number of evening parties and revenues.

Analysis

Four hotels entered our analysis. All of these hotels are well established hotels in Košice and are situated in the urban area of Košice city. Three of these hotels are four-star hotels and one is a three-star hotel. For the purposes of confidentiality, we will label the mentioned hotels as follows: Hotel A (a four-star hotel), Hotel B (a four-star hotel), Hotel C (a four-star hotel) and Hotel D (a three-star hotel). The overview of hotels´ parameters is in Table 1.

We ran two analysis. The first one is oriented on the short time efficiency, thus takes into account data from 2015. The second one takes into account the long term efficiency and therefore takes into account a five-year period (from 2011 to 2015).

Table 1: Overview of hotels´ parameters

Parameter	Hotel A****	Hotel B****	Hotel C****	Hotel D***
Number of rooms	29	166	23	35
Number of beds	66	290	41	56
Number of employees	38	55	23	25
Number of tourists in 2015	5 800	4 000	1 650	6 600
Number of parties in 2015	120	320	75	860
Revenues in 2015	890 000	792 000	220 000	364 000
Number of tourists (2011-2015)	30 000	23 000	7 940	34 000
Number of parties (2011-2015)	1100	1 650	375	3 450
Revenues (2011-2015)	4 500 000	3 960 000	1 250 000	1 820 800

Source: Own elaboration

Short Term Efficiency

In Table 2, the results of the short term analysis of efficiency are presented in the final row. We consider an output DEA model with constant returns to scale.

Table 2: DEA model – short term efficiency

	Parameter	Hotel A****	Hotel B****	Hotel C****	Hotel D***
INPUTS	Number of rooms	29	166	23	35
	Number of beds	66	290	41	56
	Number of employees	38	55	23	25
OUTPUTS	Number of tourists in 2015	5 800	4 000	1 650	6 600
	Number of parties in 2015	120	320	75	860
	Revenues in 2015	890 000	792 000	220 000	364 000
	DEA	1	0,660047	0,437471	1

Source: Own elaboration

The analysis shows, that Hotel A and Hotel D are efficient, whilst Hotel B and Hotel C should improve their efficiency. Hotel B should improve its outputs by 34 % and Hotel C by 56.26 %. Both of the

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inefficient hotels can also reduce inputs. According to theory, in a short term period, only labor can be changed, thus these two hotels can lower the number of employees.

Long Term Efficiency

The results for a long time analysis are presented in Table 3. The Eyeballing Table 3 tells us that in a long time period, Hotel A and Hotel D are efficient again, whereas Hotel B and Hotel C are ineffective. Hotel B should raise its outputs by 35.23% and Hotel C should increase its outputs by 53.14 %. Again, both of the inefficient hotels can also reduce their inputs. In the long term period, all production factors can be changed, thus the inefficient hotels can reorganize their production process to achieve better efficiency scores.

Table 3: DEA model – long term efficiency

	Parameter	Hotel A****	Hotel B****	Hotel C****	Hotel D***
INPUTS	Number of rooms	29	166	23	35
	Number of beds	66	290	41	56
	Number of employees	38	55	23	25
OUTPUTS	Number of tourists (2011-2015)	30 000	23 000	7 940	34 000
	Number of parties (2011-2015)	1100	1 650	375	3 450
	Revenues (2011-2015)	4 500 000	3 960 000	1 250 000	1 820 800
	DEA	1	0,647716	0,468608	1

Source: Own elaboration

Summary

In this brief paper, we look at the technical efficiency of four well established hotels in Košice city. Using Data Envelopment Analysis we showed that one half of the hotels achieves efficiency, while the second one does not. Moreover, the short term efficiency results are in a line with the long term efficiency results. We assume that technical efficiency is not a dimension that is volatile and changes frequently.

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E-marketing Activities of Tourist Information Centres in Slovakia

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Abstract

Marketing and its activities are inevitable almost in all spheres of current social life and it is no difference even in tourism sphere. It´s importance is significant but it is important also to count with relatively high financing. The main aim of the article is to find out and point to financing of chosen establishment in tourism sphere and marketing activities provides by them. To realise the survey and for the purpose of this article as the main survey method questionnaire method was chosen. It was focused to financing of information centres as well as utilising of chosen marketing activities by those tourist information centres.

Key words

Marketing in tourism. E-marketing tools. Tourist Information Centre.

Introduction

Marketing as a specific area has a decisive importance for the tourism sector including. Its original as well as particular new tools bring significant benefits to the service providers in this exceptional and interdisciplinary sphere. Needs and wishes of customers are associated with the economy market in which marketing is the essence of achieving business goals. The application of marketing and following customer satisfaction depends on the success of the organization (enterprise) at the market (Gúčik et al. 2011; Štefko, Krajňák, 2013). According to Borovský et al. (2008, p.104) "marketing allows to identify and develop customer needs and requirements. The role of marketing is to offer products to the right customers at the right time at the right price through administrative intermediaries and using adequate publicity ". Even the most suitable offer it must not locate the right addressee if the distribution of the product has not been properly elected and if the product on tourism failed to apply best sales promotion (Novacká, 2010). This was the cause of creation of a number of marketing tools that entice their final consumers in the modern internet times, in this case tourists (Matušíková, Gburová, 2014).

Information play important role in tourism sphere. While the tourists are more experienced and they search for more information not only during their stay but also before travelling, review started to be significant decision making tool. According to Přikrylová and Jahodová (2010) it is a new generation of Internet services, and social networking sites where users not only use the internet, but they are also actively involved in its creation. In this place users discuss, belong to a community, share photos and videos, comment, rate and share information with each other immediately and substantially free. As expressed Leboff (2011),"We try to influence the opinions of others and ourselves let themselves influence their mindset" (Matušíková, Gburová,2015).

Marketing activities of tourism establishments

Almost every tourism object should use of the possibilities of marketing and marketing mix to increase their competitiveness and to be successful. High proportion of various equipment and services in the current market more or less forced to traditional and modern elements of the marketing mix fought for capacity utilization and maintain market position (Matušíková, 2011). In terms of service providers costs are also crucial that they are able to invest to marketing activities, because it is relatively expensive matter. Here we encounter the question of financing individual enterprises.

In Slovakia, the most of tourism businesses are independent and therefore their funding depends on the performances that are able to realize, the capacity that they can provide and particularly the occupancy rate, which they are able to achieve. According to the author Gúčik et al. the "marketing of tourism can be defined as a set of processes aiming to creating and providing value to selected target groups of customers and to maintain relations with them at local, regional, national and international level in such a way that one of them had the benefit of an organization (enterprise) and destination" (Gučík et al. 2011, p. 17).

Addressing the widest range assumes greater success, which is manifested by increased traffic and the use of tourism services of all kinds. Not only has an individual benefited from it, but usually larger groups of primary or secondary services providers of tourism. The tertiary sector in marketing, so the marketing of services, therefore marketing communication is also essential where tourism may rank. In this case it is the communication between subject and object of tourism. From the demand side, representing individual customers, it is first necessary to learn about the products. In terms of representing companies offer, the most important attribute of purchase is a feedback from the market, so the reaction of customers to the company, to know how to communicate with them. Therefore, in the age of modern communication technologies, the term "promotion" covers the term "communication"(Přikrylová a Jahodová 2010). "The basic philosophy of marketing communication of tourism establishment is to communicate with the market, know their needs and offer the most effective way to meet the needs and wishes of customers. It helps in constant expansion on the market, raising and strengthening the competitive position to ensure its own existence "(Raši 2003, p. 100).

Operation of tourist information centres in the country

Information is more than important especially in tourism sphere. This was the reason why new types of tourism service establishments were founded, in concrete tourist information centres. In modern world it is easy to find information on the internet but getting information directly in the destination always helps.

Tourist Information Centre (TIC) is a special-purpose device that ensures the collection, updating and free provision of information in the field of tourism. Its mission is to create a comprehensive and always current tourism offer in its operation. The information can be provided in several ways. Among those it can be included information via e-mail, Internet, telephone provision of information, through the press, organizing press conferences, or personal contact with customers (Orieška, 2010).

Providing information about the region is provided free of charge and there is necessity of collection, processing and constant updating. The information is processed and stored in databases of Tourist information centres (Palatková 2011; Gučík 2010). Other activities of tourist information centres may include sale of souvenirs and those of a role by reminding stay in the region, handing out promotional materials of the city, the share of the production of these materials, promotion of the region, reservation of services associated with transport and accommodation services in the area, translation services, currency exchange services and assistance in the organization of sporting and cultural events in the region (Gučík 2010, Vystoupil, Šauer, 2007).

The official designation of the Tourist Information Centers in Slovakia is not authorized by any mandatory standards or otherwise specified. Typically, therefore, uses the lowercase letter "i" in the blue or green field. Members of the Association of Information Centers of Slovakia (AICES) using single sign TIK which they themselves approved in the context of internal statutes. Is it white small "i" in the green circular field and underneath the inscription AICES. This designation is certain that the quality of services provided by AICES guarantees and is trademarked. Tourist information centers are the objects of tourism sphere that can be financed by public funding, private funding, or a combination of public and private sector. One possible combination method of funding is the creation of regional tourism organizations.

AICES (Association of Information Centres of Slovakia) is a civic association, which currently covers more than 50 tourist information centres that meet basic minimum service standards. Individual tourist information centres together have about 140 permanent employees and 150 external ones.

The role of the association is to protect not only the interests of individual members, but also to represent them in the promotion of important strategic legislative documents in the field of tourism. AICES guides its members methodologically and in the development of product tourist information centers in various destinations in Slovak Republic. It manages and coordinates consulting services and joint publicity at home and abroad destinations. AICES effort in the coming period is to support the implementation of standards and certification of tourist information centers under the national program of service quality.

The main aim of the association is to: welcome tourists in Slovakia and offer through tourist information centres the highlights of the country and its individual regional offer. It is also an effort to convey the information to help tourists to decide which area to visit and also where to stay, what services to use and how to spend free time (www.aices.sk).

Main aim and methodology

The main aim of the article was to find out and point to the chosen marketing activities with orientation to e-activities of Slovak tourist information centres in 8 Slovak regions in chosen towns in tourism area.

To achieve this goal several goals sub were set. These included:
- Processing issue of tourism marketing on theoretical basis
- Establish a list of Tourist information centers in Slovak territory
- Select survey methods
- Conduct a survey on the basis of questionnaire
- Identify and evaluate used marketing tools
- Interpret the most common marketing activities of tourist information centers.

For conducting the research of marketing activities of tourist information centers in Slovak self-governing regions as main research method questionnaire survey method was chosen. Based on the closed and scalability questions it investigated the use of marketing activities in chosen Slovak towns that are treated as worth tourism destination with proper tourism potential. The interest was to find out marketing activities with focus to the electronic ones that are used to run the establishments (tourism information centers) successfully and that are used to expand the awareness and satisfaction of tourism participants who seek for their services. The questionnaire was conducted in 2016 which represent the continuation of previous survey focused to financing of tourist information centers. The survey sample consisted of tourism information centers (municipal information centers, tourist information centers), having its activities in Slovakia. Survey sample consisted of 27 tourist information centers. Share up to individual self-governing regions is presented in the part of survey results.

Survey results

Table 1: Number of respondents (TIC) up to self-governing regions in Slovakia

Self-governing region	Number
Bratislava region	2
Trnava region	4
Trenčín region	2
Nitra region	1
Banská Bystrica region	5
Žilina region	7
Prešov region	4
Košice region	2
Total	27

Source: own processing up to survey 2016

The highest number of tourist information centres was recorded in Žilina self-governing region. The second largest number was in Banská Bystrica Banská Bystrica region and the third in Trnava self-governing region together with Prešov self-governing region. The lowest one was on the contrary in Nitra self-governing region.

Majority of tourist information centres are the ones with low number of employees which is understandable given the importance of tourism and visitor numbers. Slovakia is still considered as transit country and not as the final destination. Active foreign tourism is mostly represented by inhabitants or tourist from bordering countries especially Poland and Czech Republic. Most of the Tourist information centres participating on the survey have less than 5 employees. Results can be seen in Table 2.

Table 2: Number of employees of tourist information centres

Number of employees	Number of respondents	Share
Less than 5 employees	23	85,2%
5-10 employees	4	14,8%

Source: own processing up to survey 2016

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The results of the question focused to the year of foundation of the Tourist information centres can be seen in Table 3. The aim was to find out how many of them have longer history and how many are new ones. The results show that the majority of them were founded before millennium year 2000. Even though new ones still originate that shows the foundation of the new ones after 2010 because new destinations develop and recent law refers to the destination cooperation.

Table 3: Year of foundation of tourist information centres

Foundation year	Number of respondents	Share in %
Until 2000	16	59,3%
2000-2004	4	14,8%
2004-2009	4	14,8%
From 2010	3	11,1%

Source: own processing up to survey 2016

From the survey results can be seen (Table 3), that most tourist information centers that participated in the survey is publicly funded. 3 information centers out of 27 are financed by the private sector and two information centers are funded by a combination thereof.

Table 4: Tourist information centres financing

Tourist information centres financing	Number
Public funding	22
Funding from private sector sources	3
Combination of public and private funding sources	2

Source: own processing up to survey 2016

The other possibilities of marketing tool were not chosen so that was the reason why they are not even mentioned in the Table 4. While employees on different positions of tourist information centres answered to the questionnaire, there appeared in 11% at the example of press advertisement the aswer don´t know. Generally it is possible to conclude that majority of tourist information centres promote their activities and destination through printed materials. It is the easiest way and maybe one of the cheapest ones how to provide information to the group of potential clients, in this case tourism participants.

Table 5: Current utilizing of traditional marketing tools

Marketing activity	Often	Usually	?	Rarely	Never
Advertisement in the press	52%	33%	11%	4%	0%
Advertisement in TV / radio	89%	11%	0%	0%	0%
Printed materials	94%	6%	0%	0%	0%

Source: own processing up to survey 2016

Table 6: Current utilizing of e-marketing tools

E-marketing activity	Often	Usually	?	Rarely	Never
Web pages	100%	0%	0%	0%	0%
Direct mailing	0%	7%	0%	2%	91%
Social networks	12%	0%	0%	4%	84%
SEO marketing	0%	0%	0%	2%	98%

Source: own processing up to survey 2016

As can be seen in Table 5 web pages play the most important role for tourist information centres. There they can proide information to wider scale of potential tourism participants and generally internet belongs to cheaper marketing tools. Especially young generation technically skilled can profit from such a ind of information. Basically we can say that web pages of tourist information centres inform about events and sights which are worth to be seen and visited. Problem can appear with informing older clientele through this tool which is valid also for the other mentioned one in the Table 5. Direct mailing is not much utilized. Here is the necessity to have the database of contats where the information can be sent. Usually this database is obtained during the different events and later on when any other is in the plan, e-mails to previous participants can be sent. Social networks are still place where they can operate in the future. Only the big centres or destination have contact on social networks so for the others there is still place to improve. Seo tool is almost not used.

Table 7: Perception of e-marketing activities importance in tourist information centres

Answer possibility	Number of answers	Share in %
Very important	18	66,7%
Important	7	25,9%
Don´t know (I´m not sure)	2	7,4%
Not so important	0	0%
Non	0	0%

Source: own processing up to survey 2016

Marketing focus was recorded in the question of which results are in Table 6. Here was the aim to find out how important the Tourist Information centres treat marketing and its activities. Majority of Tourist information centres treat marketing tools as very important. 66,7% of respondents agreed with this statement. The other. group of 25,9% think that marketing activities for such a kind of establishment are important and 7,4% of them chose the answer don´t know so there are not sure about their importance and utilization. The other two possibilities that were: marketing is not so important and it´s not important at all were not chosen by any respondent.

Summary
The results of the survey realized at the example of tourist information centres in Slovakia focused to financing and especially marketing activities show, that marketing represents important tool. It helps to attract potential clients (tourism participant) to visit certain destinations and inform them about their possibilities. Until present as resulted from the survey tourist information centres were already pressed to use some of the marketing tools and for the future there is a huge necessity to continue and focus them especially to the electronic ones that seem to be more sucessfull and easier to operate and provide.

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The Relationship between the Tourism Sector and Local Economic Development (LED): The Case of the Vaal Triangle Region, South Africa

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Abstract

The aim of the study was to determine the relationship between tourism and Local Economic Development (LED). Tourism encourages economic growth by generating income and employment through business opportunities in both developed and developing regions. Tourism is considered an economic sector in itself, which could assist in diversification and revitalisation of local economic regions. The geographical focus area of the research is the Vaal Triangle region located in southern Gauteng, South Africa. The study was conducted using a panel regression analysis. Secondary data were used from the Global Insight data base. Data obtained were further interpreted and analysed and findings indicated that a positive relationship exists between the regional Gross Domestic Product (RGDP) and tourism development. The tourism sector and LED experience different challenges; however, if they work in a coordinated manner, this could contribute significantly to economic growth and development in any region.

Key words
Local Economic Development, strategic management, tourism, South Africa, Vaal Triangle region

Introduction

The tourism sector is extensively recognised as one of the drivers of economic development of local regions, due to its rapid potential to support growth in an economy on a national and local level (Stoddart, 2008). Athanasopoulou (2013) states that tourism is an essential driver of social and local economic development (LED), in terms of encouraging economic growth by generating income and employment. According to Meyer and Meyer (2014) most developing countries and regions have managed to improve their economies through development of the tourism sector. Tourism is a competitive, specialised and fast developing commercial sector (Ashley, De Brine, Lehr & Wilde, 2007). Since tourism is labour-intensive, while requiring relatively low skills and generates income rapidly, many people tend to benefit from this industry. This article has the purpose of analysing the relationship between tourism and LED.

Literature review

Tourism is an industry that entails people visiting and travelling for a certain period of time, for different reasons, such as business trips, relaxation, visiting family and friends, medical assistance, religious reasons and seeking information (ILO, 2013). As Mathieson and Wall (1987) define it, "tourism is the temporary movement of people to destinations outside their normal places, their activities undertaken during their stay in those destinations, and the facilities created to cater to their needs".

Local Economic Development (LED) is a course of action by which the government, business and non-governmental sector partners work cooperatively to produce enhanced conditions for economic growth and job creation in a specific region (World Bank, 2011). The intention of LED is to improve the economic performance of local areas and the quality of life for all (Meyer, 2014). According to Hayakawa and Rivero (2009), tourism can have a positive impact on LED by the introduction of poverty alleviation actions in destination communities.

Patterson (2008) observes that LED is an ongoing process driven by local actors from different societal sectors, which implies collaboration and co-responsibility between the private and public sector for the economic development of a location. In most developing countries, LED is not yet well implemented, which in many cases is reflected by the limited funds allocated to it (Patterson, 2008). LED strategies can assist in stimulating development in terms of quality employment (Rodríguez-Pose & Tijmstra, 2005). A positive relationship between tourism and LED is important and should be a key strategy for the development of any local economy. Most studies focus on the relationships between tourism and economic growth and policies that can be implemented by the government to achieve this. A greater emphasis must be placed on improving the local environment, for local tourism development to occur in such a manner as to eventually increase the quality of life of people in local areas. According to Butler,

Hall and Jerkings (1998) it is difficult to plan sustainable tourist development that balances the economic, social and environmental needs and expectations of visitors and local residents. As Pedrana (2013) comments, tourism has diverse intentions and can also be complementary to other local economic activities.

The sustainability of tourism development depends on the ability of community leaders and tourism professionals to make the best use of its benefits and diminish its cost (Kreag, 2001). According to Mogajane (2005) the positive impacts of tourism remain larger than the negative effects. Kreag (2001) makes it clear that one goal of developing the tourism industry in a community is maximising selected positive impacts while minimising the potential negative impacts. According to Ntonzima and Binza (2011), for a tourism-led LED strategy to achieve success in local areas, the following are recommended: improved infrastructure, such as access routes, an effective transport system, an adequate health system, a well-developed accommodation component and a range of shopping facilities. Accordingly, there are several positive impacts of tourism, such as infrastructure development (Seetanah et al., 2011), preservation of attraction sites, employment creation, service advancement and upliftment of local areas.

Tourism creates employment because many activities are involved in travel. For Msibi (2010) tourism may intervene by providing better opportunities, empowerment and security for the poor, while Meyer and Meyer (2014) point out that tourism plays a vital role in the employment creation process, particularly in developing countries. According to Keyser (2002) entrepreneurs are aware that there is the potential to make money out of large numbers of people attending and visiting various tourism facilities and that tourism can increase the disposable income of people in local areas. Samimi and Sadeghi (2011) make the point that tourism creates employment opportunities, stimulates the growth of the tourism industry and triggers overall economic growth. Goods and services used by tourists are mostly labour intensive, leading to the creation of many jobs that are primarily low skilled (Adamou & Clerides, 2007).

Similarly Kreag (2001) notes that tourist expectations can advance services, such as local shops, restaurants and other commercial operators. Tourism products need to be unique to attract attention from tourists. According to Keyser (2002) most tourism products offer experiences that cannot be duplicated and thus attract customers utilising relatively limited promotion while on the other hand businesses have to use innovative activities to prove how unique their products are (Meyer & Meyer, 2014). Innovation is important because there are many similar products and considerable competition in the tourism industry. For instance, innovation includes product novelty through the introduction of fresh products and processes and the enhancement of exiting products (Meyer & Meyer, 2014).

Keyser (2002) maintains that most tourism products are first produced, sold and then consumed at the same place. This indicates that the first impression of tourism products is vital. Product orientated tourism emphasises the product and services of tourism supply based on physical, cultural and historical attributes (Coltman, 1989). Production of higher quality products for tourists will also benefit people in that area because they will also experience products of improved quality. The impacts of tourism on LED or vice versa demonstrate that there are economic, environmental and social impacts stemming from their relationship.

As indicated in the discussion so far, tourism development may lead to upliftment of local areas. Visitors' interest and pleasure in the community is a source of local pride; experiencing this interest makes local residents more appreciative of their local resources that are often taken for granted (Kreag, 2001). Tourism activities, such as events and festivals, have a tendency to make living in a place more appealing and exhilarating. According to Kyungmi (2002) tourism increases the standard of living of the local residents who welcome tourists and furthermore, it assists the local communities and country to earn foreign exchange. There are several debates over whether tourism can assist in the preservation of local cultures. Kyungmi (2002) reports that tourists seem to respect local traditions and cultures, and residents seem to believe that tourism is a vehicle for the preservation and enhancement of local culture. Contrastingly, some groups view tourism as being responsible for the depletion of the diversity of non-western cultures. The argument exists that the inflow of tourists into a local area brings different values and cultures to the community and influences behaviours (Kreag, 2001). On the other hand, it is also possible that interactions between people in local areas and tourists can positively influence creative expressions by providing new opportunities.

It has been pointed out that there are also certain negative impacts of tourism involving tourists that result in various forms of pollution (Msibi, 2010). It is therefore important for the government to intervene and put in place regulations that will restrict people from polluting. Msibi (2010) further argues that overcrowding by tourists may reduce the level of the tourism experience. This condition will not only

affect the tourists but also the local people. Tourists may cause ecological disruption, which if not controlled, might lead to over-use of resources by tourists, leading to ecological harm in that environment.

Methodology

The study area

The geographical focus area was the Vaal Triangle region, located approximately 60km south of Johannesburg, South Africa. Two municipalities comprise the Vaal Triangle: Emfuleni Local Municipality and Metsimaholo Local Municipality. The region's strategic location, just south of the Johannesburg Metropolitan area and along the Vaal River, provides it with many opportunities for tourism and other forms of economic development. Table 1 offers a summary of the main economic data relating to the study area.

Table 1: Summary of main statistics in region

Indicator	Emfuleni Local Municipal area	Metsimaholo Local Municipal area
Annual growth in total tourism trips from 2001 to 2014	6.3%	9.5%
Total tourism trips in 2014	480 625	182 384
Annual growth in domestic tourism trips from 2001 to 2014	3.8%	9.4%
Annual growth in international tourism trips from 2001 to 2014	18.0%	10.7%
Total tourism spending in 2014 (x R1 000 000) (growth from 2001 to 2014 per annum in brackets)	2635 (22.3%)	855 (25.7%)
Tourism spending as % of RGDP IN 2014	7.7%	2.2%
HDI change from 2001 to 2014	0.61 to 0.66	0.59 to 0.65
RGDP in 2014 (x R 1 000 000)(growth from 2001 to 2014 per annum in brackets)	R 49 388 (2.4%)	R 29 680 (4.1%)

Source: Global Insight, (2015).

Research design and data collection

The research design followed a quantitative approach. The quantitative part of this study comprises secondary data from Global Insight 2015. The data included in the study is dated from 2001 to 2014. The variables are: tourism spending, Regional Gross Domestic Product (GRDP) representing LED and HDI (representing economic development), from both the Emfuleni and the Metsimaholo Local Municipal area. The data were analysed using Eviews software.

Model specification

The link between tourism and LED is analysed by applying a panel data regression. The dependent variable is tourism spending, with RGDP and HDI as the independent variables. The panel regression model is as follows:

$$y_{it} = \beta_0 + \beta_1 x_{1it} + \beta_2 x_{2it} \ldots \ldots \ldots + \beta_n x_{nit} + \varepsilon$$

- y_{it} represents the dependent variable, which is tourism spending.
- β_0, β_1 and β_2 are the coefficients, where β_0 is the Y-intercept, β_1 is the first regression coefficient and β_2 is the second regression coefficient.
- x_1 and x_2 represents the independent variables, which are RGDP and HDI and ε is the error term.

The econometric analysis process followed included an assessment of raw data from Global Insight, unit root analysis to test for stationary of variables, correlation with t and p values and lastly, a regression with support via a Granger Causality test.

Analysis and results

Table 2 presents a summary of the descriptive statistics. The three variables have been included to explain the relationship between tourism (tourism spending), RGDP (as LED) and economic development listed as HDI. A total of 28 observations are included in the analysis. Over the time period, the tourism sector contributed on average just 1.9% to RGDP. In 2014, this contribution was 2.1%. HDI has ranged between 0.58 to a maximum of 0.66, with an average of 0.61.

Table 2: Summary of descriptive statistics

	Tourism spending (x R1 000 000)	RGDP (at constant prices x R1000 000)	HDI
Mean	584.5	31497.4	0.609
Median	561.5	30171.5	0.6
Maximum	1113.0	49388.0	0.66
Minimum	99.0	13985.0	0.58
Std. Dev.	363.1	11586.7	0.024
Skewness	0.079	0.077	0.591
Kurtosis	1.433	1.771	2.203
Jarque-Bera	2.891	1.790	2.372
Probability	0.235	0.408	0.305

Table 3 provides a summary of the unit root testing. All variables were converted to growth rates and subjected to unit root testing and all three variables are stationary at level I(0). This result allows for the application of a panel regression model to determine the impact of RGDP and HDI on tourism spending within the study area.

Table 3: Unit root testing

Variables	Unit root level	t value	P value	Note
Tourism spending	Level I(0)	-1.81	0.04	Variable is stationary
RGDP	Level I(0)	-1.69	0.05	Variable is stationary
HDI	Level I(0)	-2.54	0.005	Variable is stationary

Table 4 presents a summary of the results of the correlation analysis. RGDP has a positive relationship with tourism spending with a significant p-value of 0.004. The relationship between tourism spending and HDI is negative, but not significant, while the relationship between RGDP and HDI is positive, but not significant with a p-value of 0.611.

Table 4: Correlation analysis

Variables	Correlation	t-Statistic	Probability
RGDP / Tourism spending	0.521	3.120	0.004*
HDI / Tourism spending	-0.048	-0.248	0.805
HDI / RGDP	0.100	0.514	0.611

*significant at 0.01

Table 5 indicates the results of the pooled panel regression. This implies that all 28 observations from the two municipalities are treated as a combined/pooled regression analysis. Tourism spending is the dependent variable in the model while RGDP and HDI are the independent variables. The adjusted R-squared value in the regression is equal to 0.5466. In other words, the two independent variables explain 54.6% of the determinants of the dependent variable. The p=values of the combined independent variables are equal to 0.0058, indicating the combined variables are significant predictors of tourism spending. The equation of the model is listed as:

$$\text{Tourism spending} = 6.83c + 0.42*RGDP - 0.57*HDI$$

RGDP, as an independent variable, is a significant predictor of tourism spending (dependent variable) with a p=value of 0.0058 and with a positive relationship. This implies that a 1% increase in RGDP will most probably result in an increase of 0.42% in tourism spending. The other independent variable, HDI (depicting a value for economic development), has a non-significant and negative relationship with tourism spending. The above results are supported by a Granger Causality test where a significant bi-directional causality has been confirmed between tourism spending and RGDP.

Table 5: Pooled panel regression

Variables	Coefficient	Std. Error	t-Statistic	Probability
C	6.8318	1.0733	6.364	0.0010*
RGDP	0.4191	0.1383	3.029	0.0058*
HDI	-0.5708	0.6295	-0.906	0.3736
R-squared	0.5970	Mean dependent variable		8.4159
Adjusted R-squared	0.5466	S.D. dependent variable		6.2152
S.E. of regression	4.1846	Akaike info criterion		5.8322
Sum squared residual	420.2723	Schwarz criterion		6.0226
Log likelihood	-77.6520	Hannan-Quinn criterion		5.8904
F-statistic	11.8533	Durbin-Watson statistic		1.8224
Prob(F-statistic)	0.0058*			

*significant at 0.01
Dependent Variable: Tourism spending
Method: Panel Least Squares
Sample: 2001 2014
Periods included: 14
Cross-sections included: 2
Total panel (balanced) observations: 28

Discussion

Evidence that a positive relationship exists between tourism and economic growth (Athanasopoulou, 2013) was found in the literature review. The results of this research analysis support previous research in that a statistically significant relationship has been established in the study region. The fact that no significant relationship exists between tourism spending and HDI and RGDP and HDI indicates the phenomenon of "jobless" growth or GDP without creation of additional jobs. Tourism, unlike other traditional sectors, such as mining and manufacturing, can develop by attracting lower skilled jobs and has the ability to adapt to rapid changes (Meyer & Meyer, 2014). The industry is highly labour intensive and for every room in the tourism industry, 1.15 jobs are created (OAS, 2010). Tourism development also has the potential to assist with the diversification of an economy.

In the study region, tourism contributes approximately 2% to the local RGDP, which is a relatively low percentage when compared to global norms of at least 10% (UNWTO, 2015). The region is still dominated by traditional manufacturing economic activities, which contribute close to 20% of RGDP. These industries have contracted in terms of output and labour over the last decade, so that tourism is perceived as the sector to fill the gap in the economy. As mentioned previously, the tourism sector possesses substantial potential to assist in the growth of the local economy. The growth in tourism on a global scale was 4.7% in 2013 (UNWTO, 2014). Evidence from the results indicates that tourism spending in the study region has been rising above the global rates. This is due to the sector growing from a low base, while the weakening exchange rates also make South Africa and the study region more attractive as a destination.

The locality of the region on the periphery of the Province of Gauteng, which is one of the most highly developed concentration of economic activities in Africa, allows for future tourism growth in terms of domestic and international tourists. Major attractions such as the Vaal River and the Vredefort Dome are also international drawcards. The main stumbling blocks in the development of the local tourism sector are infrastructure capacity, high levels of pollution, poor municipal management and limited marketing of the region.

Recommendations and Conclusion

The tourism sector offers many benefits for local economies. Such benefits include assistance with diversified growth, foreign investment, infrastructure development and job creation. The sector also allows low skilled people to participate in the economy while the industry poses low barrier levels for small business development.

The role and impact of tourism should be maximised by means of focused and integrated local policies and LED strategies. Tourism development strategies could include training, access to funding, marketing

of the region and actions to remove stumbling blocks, such as pollution, environmental management and reduction of unnecessary regulations, which retard growth in the sector.

The initial hypothesis of the research was that tourism development could lead to economic growth and diversification. This study confirmed the relationship between tourism spending and LED. Tourism could be marketed and developed solely within a well-managed region with a quality environment.

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A Systemic Approach to Implementation of Management Audit

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Abstract

The purpose of this paper is to familiarize one with the main issues of management audit, define its contents, determine and characterize its purpose, goal and benefits for an enterprise being audited. The main objective is to compile a basic structure of a model of systemic approach to implementation of management audit. The proposed model is an outcome of a research conducted in the Czech Republic, which involved both producing and non-producing small and medium-sized enterprises, with the particular data having been obtained on the basis of an electronic questionnaire. The paper is divided into two parts, where the first part summarizes some general information on a management audit as such and the second part describes the development of compiling the model as well as the proposal for its basic structure. When implementing the management audit across individual producing and non-producing enterprises, this structure may be uniformly used or possibly modified according to their specific needs and requirements.

Key words

Management audit, objective of management audit, contents of management audit, purpose of management audit

Introduction

It is very important for enterprises nowadays to be stable, prosperous and competitive. However, in order to meet these requirements, enterprises must consistently conduct not only various analyses of their surroundings, whether internal or external, marketing competitor analysis or monitor the current political situation, etc., but, in particular, they must also carry out audits. At present, enterprises are offered a wide range of types of audit services, including the frequently used account, financial, marketing, personnel and quality audits, audit of contracts and above all, audit of enterprise as a whole, i.e. the management audit.

1. Characteristics of Management Audit

Many people are still believed to see audit merely as a verification of accuracy and soundness of accounting (performed by an auditor), which is obviously an incomplete view. Nowadays, the term audit may take a number of meanings. According to Ricchiute (2005), it is possible to define audit as a systematic process of objectively obtaining and evaluating evidence regarding assertions about economic activities and events in a given enterprise and its surroundings in order to ascertain the degree of correspondence between the assertions and established criteria and communicate the results to interested users.

This general characteristic applies to all forms of audits, which are currently provided to enterprises, with the management audit characteristics being based on this definition as well. Some Czech authors, e.g. Truneček (2004), Kafka (2009), as well as certain foreign experts, e.g. Pronovost (2000), Pickett and Spencer (2011), all use the same definition of management audit, stating that: management audit is an independent, objective, assuring and consulting activity aimed at improving enterprise management and also helping the enterprise to achieve its objectives by introducing a systematic and methodical approach to evaluate and improve the effectiveness of management and support processes.

Consequently, the main effort and goal of any enterprise should be a permanent improvement of its management system, which especially means recognition of the management system's current state, its strengths and weaknesses, proposal for its improvement(s) and introduction of a new system, all essentially being the management audit's main contents.

The Contents of Management Audit

According to Russell (2007) and Kafka (2009), a management audit helps an enterprise to achieve its objectives by bringing about a systematic and disciplined approach to evaluate and improve the enterprise management´s efficiency. As an opportunity to look into the enterprise´s current situation, the management audit is the best choice, as it explores the enterprise as a whole, i.e. it analyses not only the key processes, e.g. production, research and development, service, marketing and sales, but also the support processes, e.g. financial management, logistics, information systems, personnel management, etc. It may even be said that the management audit represents a specific type of aid management.

Purpose of Management Audit

According to some Czech authors, e.g. Dvořáček (2003), Truneček (2004), and foreign authors, Russell (2007), Pickett and Spencer (2011), the management audit's main purpose is to assist members of enterprise management to achieve effective results when performing their functions. Taking this into consideration, the management audit's essential tasks include:

- performing a continuous analysis of a given enterprise and its management and subsequently proposing appropriate recommendations and measures to improve its operations;
- checking the compliance of enterprise strategy with the tactical and operational management;
- evaluating and ensuring that all of the enterprise resources, both material and human, have been adequately exploited;
- paying special attention to the development trends, new methods and management systems and contributing to creating an environment open to changes;
- verifying the reliability and suitability of a particular information system used within the enterprise;
- monitoring and reviewing the controls carried out across all core areas of the enterprise and in all its structures and systems.

Objective of Management Audit

According to Truneček (2004), the management audit´s sole objective is to identify and assess the current state of enterprise management system. This resides in discovering and characterizing the problem areas within the whole enterprise that "hamper" its effective management. The current concept of internal management audit, however, comprises not only a detection of malfunctions and irregularities, but also a need to recommend appropriate measures and recommendations to improve the current state, arising from the actual enterprise and its objectives. The critical analysis as well verification of the real state may therefore be understood as a management audit in the strict sense, whereas certain proposals to eliminate the identified deficiencies and improve the current situation may be viewed as a management audit in the broad sense.

A similar view has also been expressed by Pronovost (2000), who claims the management audit´s aim is to help managers in their attempt to effectively manage their enterprise and thus to meet its objectives. To be able to do so, the management audit provides them with services, such as an analysis and evaluation of the current management, recommendations and suggestions for its improvement and a selection of appropriate measures.

Benefits for Enterprises

According to Dvořáček (2003), a management audit helps enterprises to increase the quality of management system. On the grounds of the management audit's implementation and evaluation, concrete problem areas (preventing these enterprises from their effective management) are identified and removed. Eventually, the management audit processing may help enterprises, for example: to increase their competitiveness, to understand their internal processes better and gradually eliminate some management barriers.

Objectives and Methodology

The paper´s objective is to present a basic structure of a model of systemic approach to implementation of management audit. The proposed model is an outcome of a research conducted in the Czech Republic, which involved both producing and non-producing small and medium-sized enterprises, with the particular data having been obtained on the basis of an electronic questionnaire. The individual enterprises were selected randomly with regards to meeting specific requirements of their inclusion into the categories

of small and medium-sized enterprises, the former including entities with 11 - 50 employees and € 2 - 10 million worth of annual turnover, whilst the latter including entities with 51 - 250 employees and €51 - 250 million worth of annual turnover. In order to be more informative, the questionnaire was anonymous and contained 31 closed questions.

Application Part

Development of the model´s basic structure was conducted in four phases. The 1st phase emerged from determining a working procedure for the management audit´s execution and implementation. According to the fixed-choice questionnaire survey and its output, a diagram of the basic structure of the management audit implementation was compiled.

Diagram no. 1: Basic Structure of Management Audit Implementation
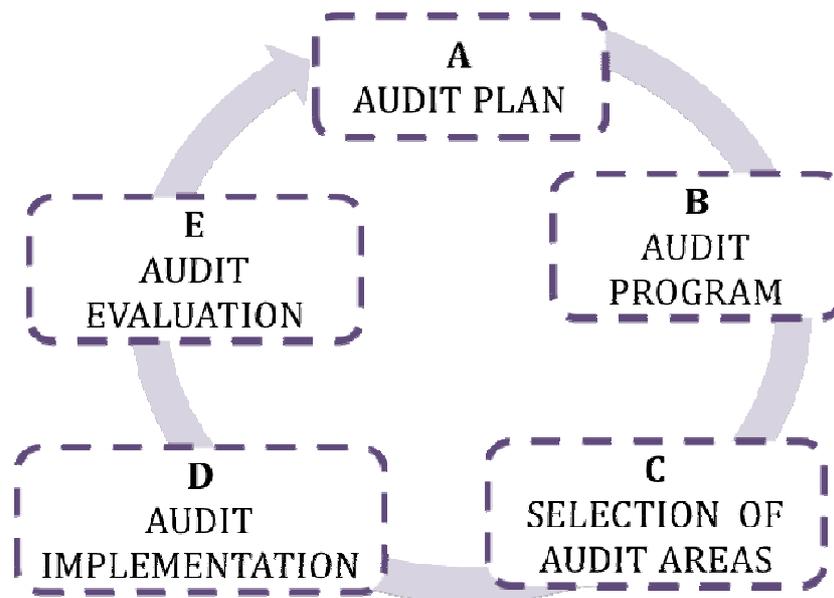
Source: Authors´ compilation

The above diagram shows what stages of the management audit implementation every operative should use when executing this type of audit. The first step is planning an audit - this should include at least the following aspects: of time, staffing, financial demands, forms of securing and implementation techniques and evaluation of the audit. The second stage involves determining a correct audit program - this sets out the audit´s objective, its substantive contents and conditions for its performing. The third stage resides in selecting particular areas or processes to be audited. Here, through an authorized operative and according to its needs, each enterprise chooses which areas or processes are to be analysed and subsequently records the reasons for the decision. The fourth stage is the actual audit implementation, or an analysis as well as verification of the audited areas or processes in the enterprise. The fifth (the last) stage is the performed audit´s outcome evaluation, when the results found, recommendations and a schedule of measures to eliminate shortcomings are forwarded to interested parties. Also, all of the presented results must be complemented with relevant evidence, which clearly support the findings, mostly in the form of audit report.

The 2nd phase necessarily involved identifying and determining the specific elements that are integral to the management audit´s effective implementation.

Diagram no. 2: Elements of Management Audit System
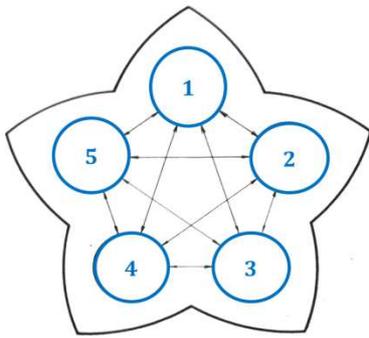
Elements of Management Audit System:
1. Audit objective
2. Subject of audit - auditor
3. Audit object – enterprise and its management system
4. Know - how
5. Methods, techniques and means of processing, audit implementation and evaluation

Source: Authors´ compilation

Diagram no. 2 outlines individual elements that must be clearly stated so that both the management audit´s implementation and processing are as efficient as possible. Firstly, it is always very important to set a specific objective of the management audit, then to determine a subject, or an authorized person (or persons) performing the audit, and also to exactly specify and define the powers which the person(s) will be authorized with. Furthermore, deciding on a particular object of the audit is clearly essential as well – this may be either the enterprise as a whole, its part or possibly its division. Moreover, the know-how element here is a specialized and professional profile of the auditor, who exploits it during the management audit implementation. Finally, it is necessary to determine the methods, techniques and means on whose basis the management audit shall be processed, implemented and evaluated.

In the 3rd phase, diagrams no. 1 and no. 2 were both combined into a single diagram, i.e. diagram no. 3, which portrays a complex audit structure.

Diagram no. 3: Complex Structure of Management Audit System
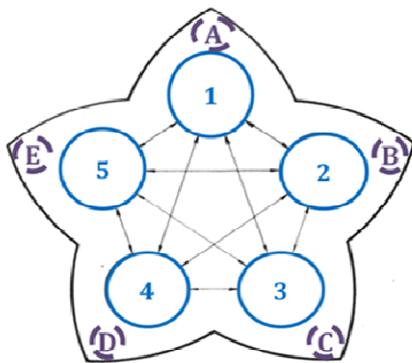
Elements of Management Audit System:
1. Audit objective
2. Subject of audit – auditor
3. Audit object – enterprise and its management system
4. Know–how
5. Methods, techniques and means of processing, audit implementation and evaluation

Activities in Management Audit System:
A.   Audit plan
B.   Audit program
C.   Selection of audit areas
D.   Audit implementation
E.   Audit evaluation

Source: Authors´ compilation

In the 4th phase, a more detailed scheme of the model´s basic structure was compiled. The structure is based on the analysis and determination of the current state of enterprise management system (see ≈ B) as well as determination of the desired state of enterprise management system (see ≈ A). Provided that these two states are not equal, the enterprise is not effectively managed and it is therefore necessary to find out the causes.

The causes are discovered through the audit management processing, which is expressed here by Complex Audit Structure. After performing the management audit, the front office receives a final evaluation, which includes the results found, recommendations and a schedule of measures to eliminate shortcomings.

Then, at its sole discretion and allowing for a set of measures, the front office selects the most effective one and implements it into practice. In the event that the desired objective has not been achieved, the enterprise is to go two steps back to Proposals and Measures, where it selects a different measure and

again implements it into practice. The enterprise proceeds in this manner until the actual (current) state of management system equals to the desired state.

Diagram no. 4: Basic Structure of Model of Systemic Approach to Implementation of Management Audit
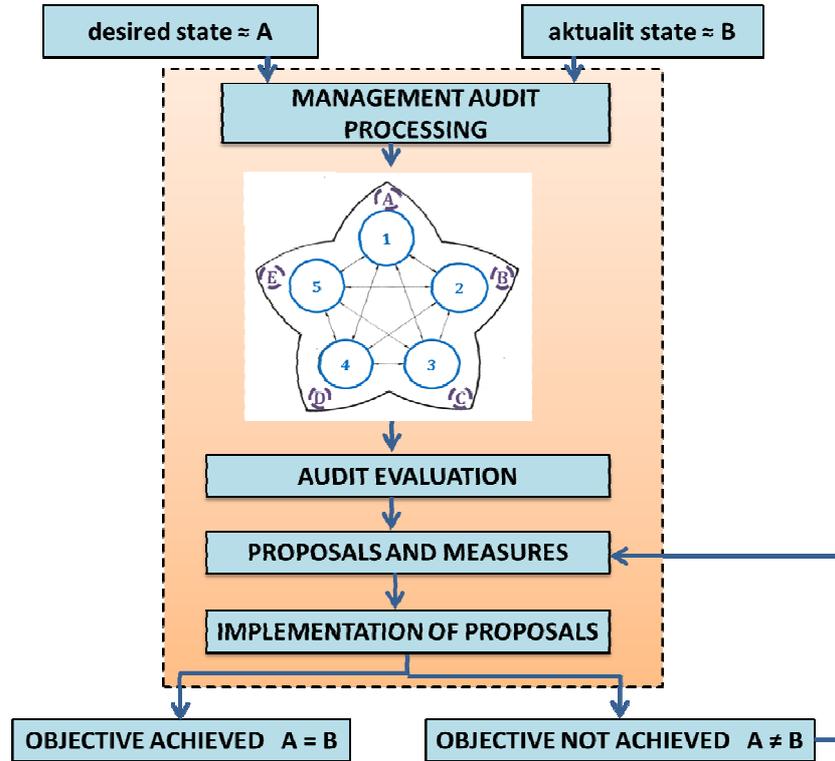
Source: Authors´ compilation

Additionally, to provide an example of management level evaluation, an Entrepreneur Index (EI) (www.indexpodnikatela.sk) may be used in this context. More specifically, a selected sample of enterprises from the automotive industry is used here to illustrate a certain rate of management success according to the number of enterprises and the evaluation, which is based on the EI – see Table no. 1, where particular types of enterprise are divided into rating groups, ranging from A +++ to FX, on the basis of points obtained (Gallo 2012).

(Notes: A+++ = excellent; A++ = more substantial; A+ = substantial; A = very good; B = above average; C = average; D = below average; E = poor; FX = unsatisfactory; PLC = Public Limited Company; LLC = Limited Liability Company; LP = Limited Partnership; Co-op = Co-operative).

Table no. 1 Success Rate of Selected Enterprises in the Automotive Industry (as of 2014)

Entrepreneur Index	PLC	LLC	LP	Co-op	Total	%
A+++		8	1		9	7%
A++		6			6	5%
A+		10			10	8%
A	2	24		1	27	21%
B		18		1	19	15%
C	2	12	1		15	12%
D		2			2	2%
E	2	16			18	14%
FX	3	20			23	18%
Total	**9**	**116**	**2**	**2**	**129**	**100%**

Source: www.indexpodnikatela.sk

The above table shows the number of enterprises located in the relevant rating groups. In the event that a particular enterprise has a management audit carried out, this should help the enterprise to improve its performance and thereby shift the success rate higher. Therefore, the management audit as such can be considered as one of the most important audits with regards to enterprises, ensuring their quality management and increasing their overall success. Here, the Entrepreneur Index can be used as one of the instruments for measuring the quality and success (Gallo, 2016)

Conclusion

The authors clarified the management audit´s contents, its purpose, benefits and the main objective. The pivotal part of the paper was dedicated to the development of the basic structure of a model of systemic approach to implementation of management audit. This model was compiled on the grounds of data obtained from a specific research into the problems of management audit performed in the Czech Republic. The model´s development was carried out in four phases, where the first one involved drawing up a basic structure of management audit implementation, further followed by determining the main elements in the management audit system. Based on the subsequent combination of diagrammed models, a complex structure of the management audit system was constructed, which was then incorporated into the model´s basic structure. Various enterprises may utilize this model as a guidance for their system procedure when performing the management audit. Due to an ongoing research, the model´s basic structure will be further adapted to the ultimate full-featured model of systemic approach to implementation of management audit.

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An Application of the Conflict Theory
on Intercultural Conflict Management in Tourism

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Abstract

The work is based on the application of structuralist theory of conflicts, which indicates the causes and dimensions of the conflicts regarding the presence of tourists and tourism in receptive areas, as well as ways to overcome them. In this sense, we examine the following types of conflict in international tourism: inter-cultural misunderstandings and disagreements, social and class conflicts, conflicts between tourists and hosts, conflicts arising from the demonstration effect, conflicts based on prejudices and stereotypes, internal conflicts and mutual misunderstandings between local population regarding tourism and tourists, conflicts arising from a clash of civilizations. Bearing in mind that in tourism there are numerous potential intertwined conflicts, it is necessary to create and implement a strategy to prevent or manage intercultural conflicts. In conclusion, it is pointed out that tourism in the modern world is not yet a strong enough factor that may overcome inter-cultural conflicts, both those arising from the socio-political environment and those generated by tourism itself, so in that sense it is necessary to conceive the long-term and overall planning of tourism.

Key words

Theory of conflict, a clash of civilizations, conflict management in tourism

Introduction

Tourism, in the context of the functionalist-positivist theory, is viewed as a phenomenon that has positive effects on the receptive and emitting societies, i.e. contributes to their mutual rapprochement on the social and cultural levels. In contrast, the conflict theory, as the other main direction in the context of structuralism, has a critical attitude towards this vision of society and tourism. It rejects the functionalist concept of consensus and cohesion, and highlights divisions and conflicts in the society (by religious, class, racial, ethnic, ideological, gender, and other differences). Power, inequality and struggle, different interests, the relationship of dominant and subordinate groups, etc. are in the center of the analysis. Analogously, in international tourism, certain social groups enter into mutual conflicts due to various inherent values, as well as conflicting interests and attitudes related to tourism and tourists. With that in mind, the subject of the analysis in this paper will be some of the most important forms of conflicts within receptive societies regarding international tourism.

Incomprehension and misunderstandings on the international level

Overcoming the misunderstandings between certain nations is a high humanistic ideal that is often attributed to tourism in various declarations, speeches, and solemn moments. This view assumes that people who travel to other countries as tourists will be able to better get to know those countries and the people, that they will become acquainted with them, understand them better, and possibly grow to love them. The same is expected from a local person during an encounter with tourists. Unfortunately, in practice, all is not going in the way conceived by naive idealists. Tourists massively go to various countries, visit well-known places, bathe on beaches, but come into contact with the local population superficially and only little, and become poorly acquainted with the culture of the country, and with the spirit of its time and region. Often, tensions, misunderstandings, and even conflicts between tourists and hosts occur due to a great cultural distance, economic, racial, national, and other differences. Prejudices and negative attitudes are also frequent, thus tourism can contribute to an even greater lack of understanding and deepening the gap between certain nations. This means that tourism itself is not a very powerful tool that can affect world peace and understanding. To do so, it is necessary to previously resolve numerous international conflicts caused by economic, political, ideological, religious, ethnic, and other causes. Finally, tourism itself can be a source of misunderstandings and conflicts between tourists and hosts due to numerous mutual economic and socio-cultural differences. This is certainly not a good basis for mutual understanding and peace among nations.When it comes to the removal of social and class differences between tourists and hosts, there are even less possibilities. Tourists are usually economically

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far superior, with a radically different lifestyle, which makes it impossible, even apparently, to delete these differences.

Misunderstandings and conflicts between tourists and hosts

Misunderstandings between tourists and hosts are even greater if economic, cultural, linguistic, ethnic, and other differences are greater. Misunderstandings can have different degrees, from concealing the problem, through misapprehension and mutual ignoring, to mutual contempt, unspoken but sensed hostility and verbal aggression, and sometimes, in extreme cases, even to physical confrontations. The probability of a conflict between tourists and hosts increases with the number of mass tourists, on the one hand, and the degree of economic, cultural, and other differences, on the other hand. If the language is different, it appears as the first barrier that has to be overcome, however, different cognitive styles appear as another insurmountable obstacle in intercultural communication.

With that in mind, Farrell (1979,132), for example, as a cause of conflicts, emphasizes that tourists from the West, due to their way of thinking, are not able to accept and respect the way of life of the inhabitants of the Pacific Islands. Tourists and tourism managers are characterized by, according to their own belief, super-logical thinking, in accordance with the rules of economy and planning. They are mostly verbal, linear, logical, and causal in their way of thinking. In contrast, residents of the Pacific Islands have a very different cognitive style, they are more intuitive and non-verbal in information processing. This creates conflict conditions. Education can make a group more receptive or more open than the other, but it cannot completely overcome the obstacles posed by the different levels of consciousness. In this regard, some base contact can be made, but the other, higher and better contact is never made. When satisfactory communication cannot be achieved, there is frustration on both sides. If the limits of tolerance of the local population (the carrying capacity, thresholds of tolerance) are exceeded, and if, in addition to that, the cultural distance is greater and other differences are more expressed, extreme hostile and destructive reactions towards tourists (breaking cars, stoning buses, criminal offenses, frauds, etc.) can happen especially in developing countries.

Research confirms that, in the process of acculturation, sometimes part of the population of a receptive society rejects the new, imported cultural patterns and values, which also deepens the awareness of cultural differences. This rejection can lead to a renewal of the cult of traditional values and strengthening of the national identity, pride, and irrational defiance. Intolerance reactions happen to tourists, especially in countries where racial, religious, cultural, and material differences between guests and hosts are large. In extreme cases, it can lead to certain pathologies, such as, for example, the loss of traditional morality with rejection of the new one, drug use, increase in prostitution, delinquency, crime, profiteering, etc., all of which fall into the category of social deformations that follow a sudden and large-scale development of tourism in developing countries.

Conflicts arising from the demonstration effect

The demonstration effect represents changes in attitudes, values or behavior that occur primarily as a result of observing the behavior of tourists. Long-term observation of tourists, their behavior and items they possess can lead gradually, especially among the youth, to the desire for acceptance and imitation of their superior lifestyle. Tourists here, consciously or unconsciously, appear as demonstrators of a particular consumer, hedonistic way of life, which differs from everyday life that they lead at home. In the eyes of the hosts, as observers, tourists, however, are evaluated only on the basis of their consumer and leisure behavior during the vacation, and their overall lifestyle is wrongly equated with the behavior that is visible to them on the spot, given that the true state is not available to them. Since,in their eyes, the lifestyle of wealthy and idle tourists, who only think of fun and enjoyment,is much easier and more enjoyable, it inevitably leads to the complex of inferiority, envy, frustration, and the desire to live like tourists. In this context, some individuals tend to use a shortcut to compensate for their inferior position by trying, in various ways, to exploit and abuse the apparent wealth of tourists.

The demonstration effect can have positive or negative consequences, and most frequently both. Positive effects can occur if the newly created needs encourage constructive efforts to gradually rise the standard of living by honest work in order to reduce the gap between developed countries, from which tourists come most frequently, and the less developed, to which they go. Favorable economic effects, new jobs, better spatial planning, new infrastructure, and increased general and personal standards, prevent the emigration of young people, all of which have positive effects. However, negative effects can occur at the same time. The demonstration effect is the most common culprit that threatens the authenticity of the

national culture and the identity of local communities. Tourism has emerged as an exporter of the Western way of life in developing countries, sowing the values of the metropolis and the decadence that is problematic even in the countries where it was created.

Conflicts based on prejudice and stereotypes

In the sociological literature, stereotypes are defined as generalized notions of individual nations. Most descriptions of ethnic stereotypes include general characteristics. Stereotypes and prejudices have a major impact on the reactions and behavior of people in general, but also have a strong influence on the choice of tourist destinations, on the notions of specific countries and peoples, as well as on intercultural and interpersonal communication.

In some countries and regions, tourism itself may be the cause and the detonator of conflicts based on different religious, racial, or ethnic origin of tourists and hosts, as indicated by examples from practice. Prejudices and stereotypes that are relevant for tourism i.e. that have an impact on the notions of specific countries and the choice of destinations, can be: prejudices against certain *nations* (positive or negative stereotypes and attitudes, *races* (open or covert racism) *religions* (intolerance of certain religions to atheists and vice versa, intolerance of one religion to another) and *ideologies and socio-political systems* (capitalism, socialism).

Finally, the question of whether and how the tourist travel affects the changing of attitudes and breaking prejudice, when it comes to races, nations, religions, ideologies, and socio-political systems, is raised. Bearing in mind the nature of modern mass tourism (short stays, speed, superficial contacts, etc.), as well as the selectivity of perception and memory of tourists under the influence of previous mental representations, attitudes, interests, and needs, it can rather be said that modern tourism and most tourists, tends to confirm the previously acquired attitudes and prejudices than to change them.

The research carried out by Pearce (1982) confirms this assumption. Namely, upon return home, tourists usually confirm their previous attitudes towards and prejudices against other peoples and countries. Travelers to Greece, for example, deepened their prejudices, so that, after completion of their travel, they found the Greeks even less polite, less religious, and poorer than expected, while the Moroccans were rated as tenser, more avaricious, more self-interested, poorer, more conservative, more talkative, and more musical in relation to the expectations. Therefore, rather than destroying misperceptions and prejudices that exist between people from different countries, tourism maintains and confirms them, and often creates new ones. Most tourists return with stereotypical notions with which they went on the trip, given that, on the trip, they selectively perceive only those stimuli that confirm such notions.

In this context, the extensive research on the stereotypes about foreigners that has been carried out in Croatia (Jelinčić, Gulišija, Bekić, 2010, 62-70) is indicative. At the national level, the results have shown a high degree of stereotyping of the Italians and the Germans. Certain categories are related to positive and negative stereotypes: as much as 52% of the respondents believe that the Italians are talkative, and 55% believe that the Germans are hard-working. The stereotypes about the Czechs (stingy), the English (cold), and the Russians (drunkards) were not deeply rooted in the majority. The foreign nations that were the subject of this research most commonly visit the Croatian tourist market (Slovenians, Germans, Italians, Czechs, Hungarians). At the national level, the degree of tolerance towards these nations is not bad, except for the Slovenians. Thus, the most positive attitudes were towards the Germans (total 58%), the English (56%), and the Italians (42%). A majority ofthe respondents at the national level had a neutral attitude towards the Czechs (51%), the Hungarians (43%), with an inclination towards a positive perception. The negative perception of the Czechs in the coastal counties has been explained by the attitudes towards the Czechs as poor tourist consumers, and the media articles that discussed this topic. The Hungarians have also been perceived as poor travel consumers, thus, by analogy with the Czechs, such result was expected in the coastal counties. At the national level, the Slovenians were poorly assessed (43%), which was impacted, according to the researchers, by a tense political situation between Croatia and Slovenia in 2009, when the research was carried out, and the media presentations of the Slovenians affected the results of this research. The authors have drawn a conclusion that more frequent meetings with members of a certain nation result ina higher level of negative perception.

Misunderstandings and conflicts of the local population regarding tourism and tourists

Conflicts also arise within the local population, regarding tourism and the presence of tourists. Namely, depending on whether they benefit or are damaged by tourism, people differentiate and divide into

different interest groups. These groups engage in mutual conflicts, each defending their economic and social interests. Tourism, in this case, appears as a generator of internal conflicts, creating social tensions.

This means that the population of receptive regions or places does not constitute a homogenous group with identical interests. It follows that the attitude towards tourism cannot be identical, i.e. that there are considerable differences in the reactions of certain social groups, as well as conflicts between them when it comes to tourism development. In connection with this issue, Arillaga (1980) gives a very interesting and suggestive classification of advocates of tourism rejection, as well as their underlying motives and arguments: *The unawareones* are intolerant, either because of jealousy, inferiority, or egoism. *The politicized ones* see in tourism yet another side of imperialism and colonialism. *The economist "snob"* refuses to recognize the contribution of tourism to the balance of payments, and sees only the hours lost in traffic jams and production losses. *The ecologist*sees in tourism a means of destroying the natural environment. *The moralist* is shocked by the behavior of tourists, nudism, dissipation. *The potential tourist* hates the crowd because they destroy the cities that he/she visits.

In this context, the research done in Florida, which has aimed to classify the population into homogenous groups according to their responses and attitudes towards tourism can serve as an illustrative example. The authors have identified the following groups, as well as their share in the total sample examined (Davis, Allen, Consenza 1988, 4): *Haters* constitute 16% of the sample. *Lovers* constitute 20% of the sample. *Cautious romantics* represent 21% of the sample. *In-Betweeners* constitute 18% of the sample. *Love`Em for a Reason*, this group is the largest, and constitutes 26% of the sample. This research has indicated that different segments of the local population in the function of their attitude, interests, and opinions towards tourism can clearly be identified. These segments represent different psychographic classification of the local population. The identified segments indicate different attitudes of hosts to tourists and tourism.

Given the above, it is clear that the authors who, in an arbitrary and a biased way, tend to generalize the attitudes of the receptive population to tourism as mainly negative (Krippendorf,1986) or positive (such authors are now very rare) are wrong. The reality is, as in other cases, much more complex and it is difficult to present it with simplified models. In fact, there is nowhere absolute agreement and unity of the local population in regard to their attitude to tourism. Always, some are for, some are against, and the rest is somewhere in between. The percentage of supporters of different groups in the function of the attitude to tourism is different and varies immensely at different destinations, depending on the factors mentioned: tolerance (economic and cultural distance, the carrying capacity of the area, the benefits of tourism, information, etc.). Therefore, the local population is very rarely a homogeneous community that has a unique attitude; it is, by nature, heterogeneous on various grounds, thus it sees tourism in different ways.

Despite these obstacles, tourism is one of the possible means to demolish prejudices and change attitudes, since it brings into direct contact representatives of different races, nations, religions, and ideologies. In order to exploit the potential offered by tourism in this regard, is not enough to change the organization of tourist trips, but prior broad and deep changes within the emitting and receptive societies are necessary. Only in this case can tourism become a tool for the demolition of prejudice. However, it would be wrong to go to the other extreme and say that tourism is not able to independently affect a change in attitudes. It is able to do so, but the question is to what extent, under what conditions, and in how many tourists.

Conflicts arising from the clash of civilizations

In the modern world, conflicts in tourism and regarding tourism are becoming more externally generated and amplified under the influence of the so-called "Clash of Civilizations" and a very unstable geopolitical situation. The global *Clash of Civilizations*, which Hanntington discusses, predicts the mutual war of three civilizations: the Western, the Islamic, and the Chinese. Today, this clash is the most visible between West and the Islam. The mutual alienation of the West and Islam is encouraged by the fact that the former are going rapidly to the future, (the relativization of traditional values, an increase in permissiveness and tolerance, a disapproval of all authorities, the liberalization of sexuality and radical hedonism), while the majority of Islamic countries remained entrenched in traditional values, so they act as if they were standing in time or even retuning further to the past (the absolutization of tradition, the confirmation of some supreme religious authority, intolerance towards other and different, tightening general and sexual repression, and the imposition of the antihedonistic, religious concept of existence) which deepens the gap. Today, this clash of two civilisations is manifested in different forms, including

terrorism and regional wars that spill across the borders of several islamic countries which have direct or indirect effects on tourism trends in some regions and the world:

Global terrorist attacks are usually well planned and organizedsimultaneous attacks on multiple targets selected in the centers of Western megalopolises (New York, London, Paris), where a large number of tourists gathers. Their goal is to hit the "hard targets" that have a high symbolic importance for the target country (the Twin Towers in New York, the Pentagon in Washington), to hit the core metropolis filled with people (Paris attacks), and to claim as many victims as possible, which will be reportedby the media worldwide. In all these cases, tourists can be "useful" collateral damage on the spot, however, these attacks indirectly affect the globalization of fear of travel for most people, especially the fear of travel to cities and destinations in which a terrorist attack has occurred or in which a terrorist attack can be expected to occur. Global terrorism is also a threat to the flow of traffic, especially air traffic, due to the possibility of setting bombs at any airport or any aircraft in the world, which also contributes to the generalization of fear of travel and causes a decline in tourist traffic.

Local terrorist attacks on "soft targets" can be organized by groups of terrorists or can be an independent act of the so-called "lone wolves." This type of attack is often focused on Western tourists in Islamic countries, mostly on the so-called "soft targets" such as hotels, beaches, tourist attractions, museums, shopping centers, night clubs, and the like. In these cases, the number of victims is relatively smaller, but only western tourists are selectively chosen. In addition to media effects, such attacks have a direct impact on the drastic decrease or complete cessation of the influx of tourists, which results in a decline in tourism, the loss of foreign exchange inflows into the attacked country, the economic crisis, and rising unemployment (especially youth unemployment), which inevitably leads to their radicalization. In this way, terrorists, with one, relatively small attack, achieve multiple negative effects on the political and economic (tourism) level. Local attacks can be orchestrated and organized within some multi-ethnic countries and cities, in which small groups and individuals are attacking easy targets, passers-by, ethnic shops, and foreign tourists.

Regional wars. Armed conflicts and war activities lead to a drastic decline in or immediate termination of tourist flows, and after the war, much time and effort is necessary for the confidence of tourists to a specific destination to be regained and for them to return to it. There are numerous examples throughout history that suggest that war and tourism are "fire and water" and that theycannot be connected to each other; where there is war, there is no tourism, and vice versa (Iran, Iraq, Syria, Yemen, Lebanon, Ukraine, Somalia, Afghanistan, Cambodia, Vietnam, Bosnia, Kuwait, etc.). With this in mind, it seems absurd and illogical to correlate active war zones with the concept of tourism and leisure. For most people, this connection acts as a combination of the incompatible, that is, as a morally unacceptable activity whose aim is to satisfy the morbid curiosity and banalize the human tragedy that war brings. However, occasional reports about the adventures of war tourists usually indicate voyeuristic activities in the search for excitement. The key question in this context is the motive that drives a certain number of people to go to war zones as tourists. Identification of motifs and demystification of these activities may contribute to shedding light on the moral aspects of this type of tourism. In this context, the following categories that relate to "war tourists" are the most frequently mentioned in literature: wars as fundamental cultural symbols and "time markers," the desire for adventure with elements of high risk and danger, cognition of the cruelty and tragedy of war, morbid curiosity, observation and voyeurism, desire for different visual aesthetics of ugliness – war as a spectacle (destroyed buildings, dead bodies of people and animals, destroyed cars and military technology, fire, smoke and the stench of burning…) and storytelling. The commercialization of these scenes and their conversion into a commercial spectacle are, for most critics, immoral activities that contribute to the trivialization of those places and disrespect towardsthe victims.

Conflict management in tourism

The rising number, intensity and dessemination of international conflicts in the contemporary world (economic crisis and sanctions, civil and regional wars, international and domestic terrorism, etc.) present very difficult challenges to the global tourist industry and related conflict managemet disciplines. Intercultural conflict management is focused on applying the theory and empirical research to understand causes of conflict and select an appropriate conflict solutions through the use of a wide range of tools, strategies and techniques.

Intercultural miscommunication, according to Ting-Toomey (1999), often underscore intercultural conflict. Individuals coming from two contrastive cultural communities bring with them different value assumptions, expectations, verbal and nonverbal habits, and interaction scripts that influence the conflict process. Intercultural conflict is defined as the perceived or actual incompatibility of values, norms, processes, or goals between a minimum of two cultural parties over content, identity, relational, and procedural issues. However not all intercultural conflicts are based on miscommunication or lack of understanding. Some intercultural conflicts are based on deep-seated hatred, and centuries-old antagonism often arising from long-standing historical grievances. The major characteristics of intercultural conflict in tourism, based on Ting Toomey (1999) concept are the following: (1) conflict between tourists and hosts involves intercultural perceptions filtered through the lenses of mutual ethnocentrism and stereotypes; (2) conflict involves interaction between tourists and hostes - conflict is sustained and managed via different verbal and nonverbal behaviors of both sides; (3) conflict involves interdependence -for a conflict to arise, the behavior of tourists must have consequences for the hosts, and vice versa; (4) conflict involves both self-interest and mutual-interest goals of tourists and hosts, both parties needing something from each other in order to complete the entire picture; (5) conflict involves the protection of intergroup images - in an intercultural or intergroup conflict situation, conflict parties have to worry about protecting their own interests.

Terrorism threatens all of humanity. When it comes to tourism, everyone is a target: transport systems (land, water, and air transport), hotel and catering facilities, as well as various tourist events (festivals, carnivals, sporting events, etc.). Terrorist attacks at tourist destinations lead to: a large number of innocent victims, where human lives are not important, but the number of killed that brings publicity; massive publicity to inform the public of the political objectives and the fight that takes place reflects the strength of a certain terrorist group; large and long-term economic damages destroy the image of tourism, destroy not only the attacked destinations, but also the entire countries, and the strategy of returning to the tourist market is long and requires a carefully drafted plan (Stetić, Simčević, Nicić, 2009).

Given the above, the bases for the development of tourism are not only cultural and natural resources, but above all safety. In order to achieve this, we need to talk about the tourism safety strategy and creating safe tourist destinations. In order for a tourist destination to be safe, a safety management system has to be conceived and implemented. In this context, risk management is a logical and systematic method, which includes determining the content, identification, analysis, evaluation, review, control and risk, and which is consistent with the activities, functions or processes, so as to allow the destination to minimize losses and maximize business opportunities. The establishment of risk management at tourist destinations requires much work, knowledge, and patience. In this sense, it is necessary to prevent possible terrorist attacks by international and local terrorists, to protect tourists from xenophobic and hostile behavior (either by the local people or by other tourists) and to preserve the positive image of the destination in the domain of safety.

Summary

In the context of the mentioned structuralist theories, it stems that today international tourism is burdened with potential conflicts at various levels and that they cannot be ignored nor neglected, but their causes and naturehave to be identified clearly, which is a starting point for the process of overcoming conflicts. Only when conflicts are resolved, it is possible, in accordance with the functionalist theory, to move towards the gradual realization of high humanist aspirations that positivism sets before tourism. In order to achieve all or most of the positive effects of tourism, and to simultaneously minimize the possible negative effects, which have been discussed, it is necessary to prevent their uncontrolled development and access to integrated tourism planning, which, in addition to social and economic aspects, should include safety concerns of all participantsin tourism. In this context, it is necessary to identify potential conflicts and safety risks, prevent them timely, and if they occur, have a thoroughly elaborated strategy and instruments for overcoming intercultural conflicts and for management of risk situations.

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6. Environmental Management

Environmental Impacts on the Economy of the EU

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Abstract

For centuries and even millennia, people have been settling near rivers in order to till fertile soils, profit from flat terrain, have easy access to the water needed to sustain life, and use the river for transport. In days gone by, dwellings were typically constructed on higher land, while lower ground was used for farming. Riparian peoples benefited from the floods which have enriched the soil (irrigation and nutrient supply) and helped agriculture. In short, people lived in harmony with floods (Kundzewicz, 2004)[8].The frequency and consequences of extreme flood events have increased rapidly worldwide in recent decades (e.g. Bouwer et al. 2007; Kron 2009 in Zevenbergen, 2013) [5].The key drivers for these increases are the world's population growth and the increase in socioeconomic activities in flood-prone areas and significant climate change, which occurred in almost all countries of the world.

Key words
Floods are becoming, significant determining, efficiency, process management

Introduction

For centuries and even millennia, people have been settling near rivers in order to till fertile soils, profit from flat terrain, have easy access to the water needed to sustain life, and use the river for transport. In days gone by, dwellings were typically constructed on higher land, while lower ground was used for farming. Riparian peoples benefited from the floods which have enriched the soil (irrigation and nutrient supply) and helped agriculture. In short, people lived in harmony with floods (Kundzewicz, 2004) [8].

The frequency and consequences of extreme flood events have increased rapidly worldwide in recent decades (e.g. Bouwer et al. 2007; Kron 2009 in Zevenbergen, 2013) [5].

The key drivers for these increases are the world's population growth and the increase in socioeconomic activities in flood-prone areas and significant climate change, which occurred in almost all countries of the world.

Causes of Floods

The cause of floods are most frequently extremely heavy rains or sudden melting snow combined with significantly reduced ability, even inability of an area to retain rainwater (due to damage to the country – e.g. dried swamps or drained of agricultural land).

Flood risk may have increased due to a range of changes in the use of land, which induce changes of hydrological systems. Deforestation, urbanization, and reduction of wetlands cause a decrease in accumulation of water in the basin and increase the runoff. Urbanization has a negative impact on the risk of flooding by increasing impervious surfaces (roofs, roads, sidewalks, parking lots, etc.) (Kundzewicz, 2004) [8].. Extensive asphalted or concrete surfaces contribute to the rapid runoff of rainwater and the drying the soil under these built-up areas, including reduction of groundwater reserves and climate change in cities. These factors cause changes in drainage conditions and increase the risk of local flooding. According to EEA (2001) [3]on average every 10 years a loss of 2% of agricultural land in Europe occurs.

The dried soil without anti-erosion measures (e.g. fields with an area of tens of hectares without any vegetation) behaves as an impermeable film. In such an affected land a flood wave can easily arise, which rises up to 3 or 4 meters within a few tens of minutes respectively hours, even at a creek which the water level of is typically 20 or 30 cm.

The countries face a wide variety of flood problems and have differing capacities to deal with these problems. Some countries are situated in temperate and monsoon-like climates, or have mountainous or flat floodplain-like features. Bangladesh has extensive floods every year, covering up to 30–60% of the country, whereas the Netherlands experienced real devastating floods for the last time in 1926 (rivers) and 1953 (storm surge).

Several sources of floods were identified: *(a)* floods that occur regularly in relation to yearly monsoon rainfall (Bangladesh, China, Vietnam), or *(b)* as sudden flash floods after torrential rains in mountainous areas (Argentina, Bangladesh, China, Croatia, Flanders, Indonesia, Japan, USA, UK, Vietnam). In addition, floods may occur *(c)* as rare events due to unusual combinations of rainfall and soil conditions (prolonged rainfall in combination with frozen or saturated soils, poor drainage or drainage congestion due to high river or sea levels, e.g. during typhoons or hurricanes (Croatia, Japan, USA) or floods may occur *(d)* due to embankment failure, e.g. due to poor maintenance (Croatia), inadequate construction or poor design (failures can occur everywhere) or riverbank erosion (Bangladesh).

Flood damage is most pronounced in urban areas, where high densities of people, assets and vulnerable infrastructure occur (Buenos Aires, Dhaka, Jakarta, Japanese cities, Croatian and Chinese floodplains). Extremely dangerous are low-lying polders behind embanked rivers, where flood levels may be 5–10 meters above ground level. This situation occurs in the river deltas of the Netherlands, China, Japan, USA and Bangladesh (Van Alphen, Lodder, 2006) [22].

Flood Consequences

Impacts of floods due to high density of population, large impervious areas, clogging of drainage systems, high economic values of properties and infrastructures and various other effects can be: physical, economic, social and environmental (Tingsanchali, 2012) [21]. Random nature of flooding (frequency of occurrence, progress and culmination flow) is also reflected in the variability of flood damages, which are proportional to the damaging effects of floods, the extent of the flooded area and the degree of economic exploitation

In general, we can divide the flood losses:
- losses on human life;
- ecological losses;
- economical losses.

The consequences of all natural disasters are always twofold. Primarily produced damage caused by the action of natural forces themselves. Direct flood damage covers all varieties of harm which relate to the immediate physical contact of flood water on humans, property and the environment. This includes, for example, damage to buildings, economic goods and dykes, loss of standing crops and livestock in agriculture, loss flood damage, vulnerability and risk perception of human life, immediate health impacts, and contamination of ecological systems. Indirect or consequential effects comprise damage, which occurs as a further consequence of the flood and the disruptions of economic and social activities for example interruptions of energy supplies, interruption of communication links, water logging buildings, contamination of drinking water sources, environmental accidents and more. This damage can affect areas quite a bit larger than those actually inundated. One prominent example is the loss of economic production due to destroyed facilities, lack of energy and telecommunication supplies, and the interruption of supplies of intermediary goods. Other examples are the loss of time and profits due to traffic disruptions, disturbance of markets after floods (e.g. higher prices for food or decreased prices for real estate near floodplains), reduced productivity with the consequence of decreased competitiveness of selected economic sectors or regions and the disadvantages connected with reduced market and public services (Smith/Ward 1998, Green et al.1994 in Messner, Meyer, 2005) [19]. Primary and secondary effects of large-scale flood disasters are a particularly serious source of risk to the society in terms of impact on it, the property and the land.

Flood losses can be distinguished as (Hanák et al., 2009) [6]:
- direct calculable losses (caused by immediate contact with water – property losses, contamination, …);
- direct non-calculable losses (caused by immediate contact with water - victims, losses on historical buildings, destruction of biotopes, subjective losses on property, …);
- indirect calculable losses (profit loss, purchasing power decrease, decrease of real property prices, evacuation costs, …);
- indirect non-calculable losses (social life failure – education, increased rate of sickness).

Financial consequences of floods, which can be directly quantified, include flood damages by themselves and the cost of rescue and security works (Table 1).

Table 1: Overview of expenditure for the implementation of flood safety and rescue works and flood damage in the period 2002 - 2013 in Slovakia:

Year	Flood security works	Flood rescue works	Flood works (together)	Flood damages	Flood damages and works (together)
2002	1 664 177,12	1 927 072,96	3 591 250,08	50 644 393,55	54 235 643,63
2003	139 314,88	188 773,82	328 088,70	1 457 412,20	1 785 500,90
2004	3 416 915,62	1 235 842,79	4 652 758,41	34 913 496,65	39 566 255,06
2005	2 674 135,30	2 236 241,12	4 910 376,42	24 045 973,58	28 956 350,00
2006	6 424 815,77	6 053 508,60	12 478 324,37	79 602 237,27	92 080 561,64
2007	212 374,69	319 358,69	531 733,38	3 638 949,74	4 170 683,12
2008	2 514 937,00	3 586 769,00	6 101 706,00	39 754 597,00	45 856 303,00
2009	1 591 301,00	1 301 334,00	2 892 635,00	8 436 354,10	11 328 989,10
2010	28 041 650,00	25 751 090,00	53 792 740,00	480 851 663,3	534 644 403,34
2011	12 573 473,82	2 001 204,36	14 574 678,18	20 017 256,53	34 591 934,71
do 8/2012	460 623,91	369 427,02	830 050,93	2 435 268,39	3 265 319,32
9/2012 - 6/2013	4 518 834,57	2 648 270,81	7 167 105,38	12 782 551,26	19 949 656,64
07/2013 – 12/2013	231 642,20	81 634,11	313 276,31	678 046,16	991 322,47
Ø 2002 – 2013	5 372 016,32	3 975 043,94	9 347 060,26	63 271 516,65	72 618 576,91

Source: Prepared on the basis of data from "the Report on the progress of the flood" (www.minzp.sk)

Increase in economic losses due to natural disasters is closely associated with the increasing value of assets exposed to risk. During the 20th century in all economically developed countries a continuous increase in the value of tangible and intangible assets which are the subject of threats to natural processes occurs. The value of endangered assets and volume of total insured property is growing faster than the intensity of natural threats (Messner, Meyer, 2005) [12].

The total damage potential, which represents the maximum possible damage incurred as a result of the process, is influenced by the structure, value and deployment of assets in floodplains. The actual amount of flood damage of a specific flood event depends on the vulnerability of the affected socio-economic and ecological systems, i.e. on their potential to be harmed by a hazardous event (Cutter 1996, Mitchell 1989 in Messner, Meyer, 2005) [12]. The vulnerability of socio-economic structures is reflected into a growing dependence on sophisticated technology and communications systems. In the event of their collapse the dependence of all management systems for electricity supply for computing, information and communication systems, telecommunication networks and transportation causes greater chaos and harm than in the less advanced systems. In crisis situations the ability to deliver the right information at the right place at the right time and in the correct form plays a decisive role for the functioning of the rescue system. Timely and correct information and communication functionality have proved to be one of the major problems which marred the solution of flood situation in extreme floods for example in August 2002 in the Czech Republic, despite the experience of the floods in the year 1997 in Moravia (Langhammer, 2007B) [11].

Growth flood damage is influenced by various factors such as:
- The way the space is built;
- The way floods behave (culmination flow, shape and volume of flooding, duration of flooding ...);
- Bed capacity, condition and ability to withstand more water;
- Timely awareness of flood risks (weather, warning system);
- Preparedness and level of flood protection.

In addition to economic and social damage, floods may have severe environmental consequences (COM, 2004) [7] as for example when waste water treatment plants are inundated or when factories holding large quantities of toxic chemicals are also affected. Floods may also destroy wetland areas and reduce biodiversity. There is also a growing awareness of the significance of river flooding on human health, both physical and psychological. Substantial health implications can occur for example when floodwaters carry pollutants, or are mixed with contaminated water from drains and agricultural land. There will be mental health consequences as well: in addition to the considerable stress of extensive damage, the threat of repeated floods, sometimes coupled with possible withdrawal of insurance cover can make properties impossible to sell.

Facts - flood damage

Since the early 20th century to the present day, there is a significant increase to the extent of damage caused by natural disasters. Only for the period since World War II the total average amount of damage per decade increased almost tenfold (Munich Re 2005[14] in Langhammer, 2007A) [10]. The most characteristic feature for the current disasters is the growing extent of the damage made in a single event while at the same time a greater population and greater expanse of territory are affected (Axco 2005, Munich Re 2005[13] in Langhammer, 2007A) [10]. While in the 1980s annually 147 million inhabitants have been affected by natural disasters, it was already 211 million inhabitants in the 1990s (UNEP 2005 in Langhammer, 2007A) [10]. Social and economic impacts of natural disasters vary considerably. There is a continuously decreasing total number of victims of natural disasters, while direct and induced economic losses are growing rapidly (UNEP 2005 in Langhammer, 2007A) [10].

According to data from Swiss Re an event is considered a disaster where there are at least 20 victims, 2 000 people homeless and over 335 million USD insurance claims (Čamrová, Jílková, 2006) [1]. Floods are the most common natural disasters and represent 40% of all natural disasters between the years 1985-2009 (Cunado and Ferreira, 2011 in Soukopová, Furová, 2012) [20].

During the last few decades, however, increased attention has been paid to the consequences of floods and measures that could be developed to reduce the effects of a flood. This has been triggered by the observation that economic and insured losses due to "extreme" floods have drastically increased during the last two decades (Munich RE, 2005) [13] even though flood protection investments have also increased.

The main explanation for this trend can be found in socioeconomic development and spatial planning policies, as it appears that wealth and exposure have increased in flood-prone areas (Munich RE, 2005 [13]; EEA et al., 2008) [4]. Even in areas where the overall population growth is slowing down (for example, along the Rhine river), population growth in cities along rivers tends to be increasing (LDS NRW, 2008 in De Moel et al., 2009) [2]. Flood-prone areas remain attractive for socioeconomic activities and it is therefore likely that the damage potential (that is the amount of assets in flood-prone areas) will continue to increase in the future.

Using data compiled according to the Red Cross for the period 1971-1995 we find that the floods have killed annually on average more than 12,700 people worldwide, affected 60 million others and caused 3,2 million people to became homeless (Kundzewicz, 2004) [8]. Since 1990, there have been over 30 floods, in each of which either the material losses exceeded one billion USD, or the number of fatalities was greater than 1000, or both. The highest material flood losses, of the order of 30 billion USD, were recorded in China in the summer of 1998, while a storm surge in Bangladesh in April 1991 caused the highest number of fatalities (about 140 000). Flood damage in Europe in the period 1991-1995 reached the level of 99 billion EUR (EEA, 2001) [3].

Countries such as Bangladesh and China have suffered at least 2,5 million victims in the last 100 years in major floods. In Europe, the loss of life has been a matter of thousands in the past century. In the last decade, in terms of casualties, major riverine flooding has occurred in Vietnam in 1997 (3000), Bangladesh in 1998 (1100) and China in 1998 (1320). In economic terms, major floods of the past decade were along the Mississippi (1993, 21 billion USD), Jang – c' (1998, 30 billion USD) and in Central Europe (2002, about 20

billion USD). In terms of loss of GNP, the most devastating floods occur in developing countries: the 1998 and 2004 floods in Bangladesh caused damage of 2,8 and 2,2 billion USD, i.e. about 7% of their GNP. In China flood damage accounts for 1–3% of its GNP every year, whereas in Japan it accounts for about 0.1%. The wealth of a country determines the amount of funds that can be spent on flood protection and can be expressed through the annual income per capita. In the countries concerned, this varies from less than 2000 USD in Bangladesh to about 40000 USD in the USA (Van Alphen, Lodder, 2006) [22].

Although most dramatic extreme floods occur outside Europe (especially in South Asia), Europe is not immune. There have been several flood events with material damage in excess of 1 billion EUR and the growing flood damage has intensified concern among European nations. After the flood-rich decade of the 1990s, with many disastrous flood events in Europe, the 21st century has already witnessed several destructive floods. Among the destructive floods in Europe in the 1990s were flooding in the basins of the River Rhine and its tributaries (1993, 1995), in the Mediterranean region (1994) and in Central Europe (1997). The flood on the Rhine in December 1993 caused inundation of parts of the cities of Koblenz, Bonn and Cologne and then in January and February 1995 another large flood hit Germany, northern France and The Netherlands. Dramatic floods devastated large areas in the Czech Republic, Poland and the Oder basin in Germany in July 1997. Major floods occurred in the UK, Italy, France and Switzerland in the year 2000. The absolute record of annual flood loss in Europe was observed in August 2002, when the material damage exceeded 20 billion EUR in nominal value (Table 2). This flood damaged the historical cities of Prague and Dresden. Major large floods also occurred in Europe in 2005, 2007 and 2010 (Kundzewicz, Pińskwar and Brakenridge, 2013) [9]. After a heavy rainfall there has also been a dramatic increase in the levels of European rivers in 2013, as for example in Germany and the Czech Republic which also brought casualties and the declaration of the highest level of flood activity.

Table 2: Floods in Europe with significant consequences

Year	Month	Area	Number of victims	Economic losses (mil. EUR)
1999	May	Germany (Bavaria), Switzerland, Liechtenstein and Austria	5	805 (370 Germ. + 435 Switz.)
	June	Romania	19	
	November	France	33	570
2000	April	Romania, Hungary, Serbia, Ukraine	9	400 (Rom.)
	Oct.-Novem.	England and Wales	10	1400
	October	Italy, French, Swiss and Italian Alps	29	11700
2001	June	Romania	7	220
	July	Poland	25	810
2002	August	Germany, Czech Republic, Austria	47	20900 (13700 Germ. + 3500 Czech Rep. + 3700 Austria)
	September	France	23	1500
	Nov.-Dec.	Italy		440
2003	January	Italy		150
	February	Greece		650
	August	Italy	3	510
	December	France	7	1600
2004	August	England		700
2005	April-May	Romania and Serbia		565
	May - August	Bulgaria	24	335
	July - August	Romania	85	1200

				2810 (190 Germ. + 620 Austria + 2000 Switz.)
	August	Switzerland, Austria, Germany	11	
2006	March	Greece		410
	March - May	Hungary, Slovakia, Serbia, Czech Republic, Austria and Germany	12	800 (590 Hungary + 210 Czech Rep.)
	June	Romania	44	
	Oct.-Novem.	Turkey	47	265
2007	May	Spain		310
	June	England		270
	June	Northern England and Wales	6	1900
	July	England	7	1900
	August	Switzerland		290
	September	Slovenia		245
2008	July	Romania	5	440
	December	Italy	3	290
2009	June	Czech Republic and Poland	14	450 (200 Czech Rep. + 250 Poland)
	September	Turkey	31	100
	October	Italy	35	
	November	England and southern Scotland		230

Source: EEA. 2010

The direct economic losses from the major events between 1999 and 2009 were about 55 billion EUR. The most destructive events in terms of economic losses were: the floods in the Elbe basin in 2002 that produced losses of over 20 billion EUR; floods in Italy, France and the Swiss Alps in 2000 causing around 12 billion EUR and a series of flood events in the United Kingdom during summer 2007 accumulating in losses of more than 4 billion EUR Several areas were affected several times in a relatively short period of time. This is the case of England (Worcestershire and Gloucestershire) where two major events were reported in 2007. Also north-east Romania and Bulgaria experienced repeated flooding. Two particularly large floods hit both countries within just a few weeks of each other during the summer of 2005 (EEA, 2010) [5].

Graph 1: Numbers of victims

Graph 2: Economic losses

Number of victims
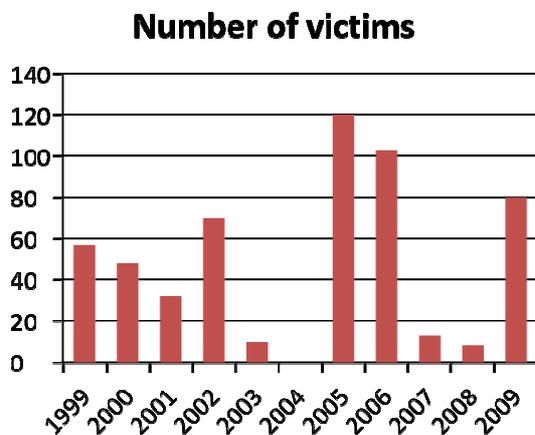
Economic losses (mil. EUR)
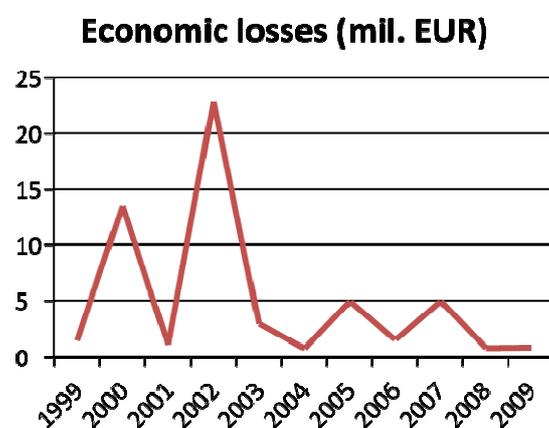
Source: Prepared on the basis of data EEA.2010

The countries registering the highest economic losses were Germany (14,26 billion EUR), Italy (13,1 billion EUR), United Kingdom (6,4 billion EUR), Austria (4,32 billion EUR), Czech Republic (3,91 billion EUR), France (3,67 billion EUR), Romania (over 2,82 billion EUR) and Switzerland (over 2,72 billion EUR).

Flooding, along with wind related storms, is the most important natural hazard in Europe in terms of economic loss (CRED 2009 in EEA, 2010) [5]. In central Europe, floods have been recently recognized as a major hazard, in particular after the 1997 Odra/Oder flood, the 2001 Vistula flood, and the most destructive 2002 flood on the Elbe, the Danube, and their tributaries. It is estimated that the material flood damage recorded across the continent of Europe in 2002 was higher than in any single previous year. According to Munich Re (2003), the floods in August of 2002 alone caused damage at a level exceeding 15 billion EUR (9,2 billion EUR in Germany, after 3 billion EUR each in Austria and in the Czech Republic). Further, during severe storms and floods on 8-9 September 2002, 23 people were killed in southern France (Rhone valley), while the total losses went up to 1,2 billion USD. Destructive flood events occurred in many other parts of the world in 2002. In July and August, floods and landslides in northeastern and eastern India, Nepal and Bangladesh killed 1200 people. A flood in central and western China in June caused 3,1 billion USD losses and killed 500 people, while another in central and southern China, caused 1,7 billion USD damage and killed 250 people (EEA, 2010) [5].

Floods in 2013, which affected parts of Europe, Asia, Canada and Australia have caused about 47% of total global losses and 45% of insured losses (Munich Re, 2013) [14]. The most deadly disaster of the 460 recorded "natural hazard events" worldwide in 2013 was the series of flash floods in June in northern India and Nepal, which killed more than 1,000 people after extremely heavy monsoon rains. By far the costliest natural disaster were river floods that hit the southern and eastern Germany and neighboring countries in May and June 2013 and caused damage worth more than 16 billion USD (mostly in Germany). In some places the rainfall was up to 400 liters per square meter within a period of a few days, which led to rapid increase in river systems of the Danube and Elbe (Munich Re, 2013) [14].

In 2013 Slovakia faced a record-high level of the Danube. Flood wave came from Germany and then from Austria. According to estimates it was historically the third largest flood in Bratislava (in terms of maximum flow), more water has not passed the river bed in the last 113 years. The water level peaked in the Capital at up to 1034 cm at a maximum flow rate of 10 641 m3 / s. The Danube basin faced a hundred-year water level and Slovakia passed this test. Without the flood protection (the project was worth 32,5 million EUR, of which Slovakia co-financed about 4,8 million EUR) the water level would reach, in theory, a level of 1,25 m at the Courthouse ("Justičný palác"), 2,5 m at the well-known shopping center on Vajnorska street and even 4 m at the Ružinovská polyclinic. Reported damage to public and private property, that is, for example, municipalities, autonomous regions, local offices or individuals after the flood on the Danube in 2002 reached 5,079 million EUR. Damages in 2013 represented less than 2% of this amount or vice versa, damages in Bratislava in 2013 were about 98% lower than in 2002 (MŽP SR, 2013) [16].

Summary - Conclusion

Floods in the past brought humanity many positive effects as floods in the Nile, which helped ensure the livelihood of the population in ancient Egypt. Only when the floods began to threaten the lives, health and property of the population and economic activities of society, they became a serious problem for the mankind. Not the nature can be held responsible for the fact that the floods are harmful to society, but the people because they take natural space from water and put themselves in her way (MŽP SR, 2010) [15]. On the other hand, building of settlements in the watercourses was necessary because rivers provided enough water to cater for the necessities of life and the most fertile land due to floods is in riverside floodplains. Society is becoming more aware that floods can be controlled to a limited extent, and that absolute safety against floods is a myth.

The flood as a natural hazard has effect on the stability of society. If more people are to dwell in vulnerable areas and more and more businesses settle down in these areas the more intensive effect a flood event will have upon society (Seifert, 2012) [18]. It will be necessary to evacuate more buildings, provide emergency accommodation for more people, more workers will not be able to make money, because they will have to rescue and look after their property. More and more companies will have to suddenly cease production, services will no longer be provided, unexpected shortfalls in tax receipts shall bring the municipal budgets out of balance and public services will no longer be funded. The infrastructure to repair after a flood event will also be more extensive.

One single event may produce both benefits and losses to different parts of the riverine ecosystem. These impacts are extremely difficult to quantify or monetize e.g. by quantifying ecosystem services before and after an event or accounting for the number of fish killed or trees damaged. Regular annual floods provide water resources for domestic supply, irrigation or industrial use. Some of the most important benefits of floods are linked to the maintenance of biological diversity in the flood plain ecology (Smith and Ward, 1998) [19]. Furthermore, many rivers carry minerals and nutrients which support agricultural production on the flood plains. Another aspect that makes it difficult to quantify the ecological consequences of floods is that some of the benefits from floods tend to become evident months or years after the event, or are often not apparent at all (e.g. recharging of groundwater stocks). This suggests that any immediate ecological accounting is prone to error (NRC, 1999) [17]. Flooding in river ecosystems should be regarded as a natural process and not as a disturbance.

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Soil Reaction and Alkaline Deposition of Soil in Emission Field Jelšava-Lubeník (Slovakia)

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Abstract

Soil reaction, vegetation and alkaline deposition of soil in emission field of a magnesium factory Jelšava-Lubeník (Slovakia) were investigated. Soil reaction (pH/KCl) in the soils were in the range of 8.2-8.8. Subsequently, the laboratory tested the effect of a natural substance HUMAC Enviro on treatment soil reaction of soils alkalized. The result from this study demonstrated that the soils in the region of Jelšava-Lubeník (Slovakia) are strongly alkaline. Investigated ecosystems had impaired stability and it was recorded overall low variability of species. Permanent grasslands were represented by competitively strong species Elytrigia repens and Phragmites australis which form even monocultures. Application of natural substance HUMAC Enviro based on humic acids seems to be important in addressing current environmental problems related to treatment of soils alkalized.

Introduction

The result of economic activities of anthropogenic activities occurs in relation with nature to acidification, alkalization and metallization elements of the environment (Hronec et al. 2010). Soil reaction substantially affects the characteristics of the soil and is one of the most important parameters of soil fertility. It is involved in many soil-forming processes and affects the solubility of many substances, accessibility of nutrients, biochemical reactions, soil structure and thereby all characteristics of the soil. External and internal factors, mainly chemistry and texture of the rocks, are crucial in the soil response. To the external agents of acidification are rated atmospheric (precipitation, which is able to penetrate into the soil), biological (plant residues and secretions roots) and anthropic (acidic atmospheric deposition). Another significant factor in reducing soil acidity is the application of fertilizers. Soil alkalinity is conditioned by the presence of alkaline salts which are easily hydrolysed and allow formation of alkaline. The fundamental reason of soils alkalinity is exchangeable sodium and content of Na_2CO_3 or $NaHCO_3$ in soil solution and worsens some soil processes like soil acidity. Strong alkaline reaction of pH/KCl > 7.7 is inflicted by air alkaline pollutants from magnesium factory currently located in the Jelšava and Lubeník. Magnesite air pollutants are a mixture of MgO and $MgCO_3$ due to which soil reaction can move above pH 8 (Fazekašová et al. 2014, Hronec et al. 2010).

The work examines the impact of alkaline deposition on soil and vegetation in the immission field of magnesium factory Jelšava and Lubeník, as well as the possibility of using natural stimulator HUMAC Enviro to revitalize soils alkalized problem areas.

Material and methods

Jelšava and Lubeník lie in the south central part of the Slovak Ore Mountains, in the valley Muran, in the district called Jelsava podolie. Jelsava podolie geomorphologically belongs to Revúca Highlands (Mazur, Lukniš 1980). Geologically the area belongs to the Central Western Carpathians. The area is built mainly by rocks of Paleozoic and Mesozoic. Paleozoic rocks are found in a wide belt between Jelšava and Lubeník and consist of phyllites, sandstones, shales, limestones and conglomerates. The soil type of

Cambisol was evolved on this bedrock, it is lightly skeletal, mostly medium depth (60-120 cm), the steeper slopes are prone to erosion. The original reaction soil pH of about 5 was due to contamination of magnesite dust changed to a pH of about 7.2 to 8.5. Second largest group of rock consists of limestone, dolomite and slate limestone which we assign to the Mesozoic rocks. The developed soils are mostly shallow (15-20 cm), loam to loamy clay, predominantly strongly skeletal, classified as Rendzinas. The third group consists of rocks of upper Pliocene sediments, they are the clays, sands and gravels with overlays quaternary clays, in which were developed Luvisols. Fluvisols and their various subtypes are developed in the alluvium of the river Muran (Hronec et al. 2010, Čaboun, Priwitzer 2004).

The Jelšava and Lubeník belong to in warm climate region with 50 and more summer days (summer day has daily maximum air temperature 25° C). Climate is warm, moderately humid with cold winter. Average temperature in January is -3°C until -5°C and in July 14.5°C until 16.5°C. Annual precipitation is 600-800 mm (Lapin et al. 2002).

Seven research sites in the country agrarian of the problem area Jelšava and Lubeník were monitored - 1 (Lub 9), 2 (Lub 10), 3 (Jel 11), 4 (Jel 11), 5 (Jel 12), 6 (Jel 13), 7 (Jel 14). Soil samples were sampled on permanent research sites, which are used as permanent grassland and are in immission field of a magnesium factory Jelšava-Lubeník (Slovakia), from A horizons the depth of 0.05 m to 0.15 m (Figure 1). We studied and evaluated soil reaction in 1N solution KCl (Fiala et al. 1999). As sorbent was used 100% natural substance HUMAC Enviro made from net source oxihumolite (brown coal) in concentrations of 1% and 2%. The active substance is humic acid, which have a high absorption capacity of binding to each different toxic substances. Humic acid content in the dry matter of preparation involved was 62%.

Figure 1 Location of investigated areas in Jelšava and Lubeník (Slovakia)

Flora diversity was evaluated according to the Braun – Blanquet´s (1964) seven member scale (5 - cover of 75 - 100%; 4 - cover of 50 - 75%; 3 - cover of 25 - 50%; 2 - cover of 5 - 25%; 1 - cover less than 5%; + - negligible cover; r - occasionally), which describe the frequency and cover of species population. Semi-quantitative analysis of present taxa was performed on an area of 16 m^2.

Terminology was used in accordance with Marhold and Hindák (1998). The determination of species diversity was evaluated by Shannon index (1948),

$$H´ = -\sum_{i=1}^{S} \frac{x_i}{N} \log_2 \frac{x_i}{N} \ ,$$

where, S = number of species, N = sample size, n_i = frequency of occurence.

Shannon index is very sensitive to the different characteristics of plant communities. The localities were included to the ten categories, depending the diversity index (1 extremely low (H' < 0.5); 2 very low (0.5 < H' <1); 3. moderately low (1 < H' < 1.7); 4 low (1.7 < H' < 2.5); 5 low to moderate (2.5 < H' < 3.3); 6 medium (3.3 < H' < 4); 7 moderately high (4 < H' < 5); 8 high (5 < H' < 7); 9 very high (7 < H' < 10); 10 extremely high (H' < 10).

Results and discussion

The area Jelšava - Lubeník with specific alkaline pollutants, is one of the most devastated regions of Slovakia and with the alarming degree of environmental damage. The discovery of deposits of magnesite and its processing around Lubeník dates from 1897. Processing of magnesite raw materials began in the current Slovak Magnesite Works (SMZ) Jelšava in 1923 and Lubeník as early as 1903. Since then, both plants went through constant technological and volume-production alterations. Production of clink accompanies the enormous emissions of dust particles MgO into the air and the leakage of gaseous compounds, mainly SO_2 and NOx. The chemical compounds of MgO (75 %), CaO (2.3 %), Fe_2O_3 (6.9 %), SiO_2 (0.6 %), MnO (0.4 %), Al_2O_3 (0.3 %) were detected in the particles of toxic elements. The heavy metals are in the dust particles, in particular Cd, Pb, Zn, Mn, Cr. MgO emission of dust was rising with the volume of production; it was 44 t/yr in 1923, 4898 t/yr in the 1980. Since 1990 there has been a reduction in production, the technological discipline was improved, the volume of solid emissions decreased by about 1/3. Even so, the pollution fallout remains enormous and devastating (Baluchová et al. 2011, Hronec et al. 2010).

Major component of environmental pollution in Jelšava - Lubeník is magnesite powder belonging to aerosol particles, which is crucial for the deposition process of gravitational sedimentation. Most of the free magnesium oxide is in the finest dust fraction. These particles are highly active and are capable of chemical reaction with substances in the soil on the surface of plants and plant tissues. Considering the low wind speed, dust particles disposed in a relatively small area (Čaboun, Priwitzer 2004, Hančulák 2000). Flue dust particle strongly influenced the dynamic properties of soils, especially pH. The continuous magnesite crust covers part of the soil; vegetation cover is considerably eliminated and reduces landscaping and environmental aesthetic function (Figure 2). The research showed that the investigated sites are strongly alkaline (pH 7.7 to 8.8). Application of natural substances based on humic acids HUMAC Enviro in 1% to 2% concentration, we found adjustment of soil reaction to a value 6.8 to 7.1 (neutral to alkaline) in soil type Cambisols (localities 1 to 3). Higher soil reaction (8.6 to 8.8) was in the samples coming from Fluvisols (localities 4 to 7), the application of HUMAC Enviro reduced soil reaction to a value of 8.2 to 8.5 (Table 1).

Figure 2 Soil covered with continuous magnesite crust and damaged by accelerated soil reaction in investigated areas in Jelšava and Lubeník (Slovakia)

Table 1 Characteristics of pedological and soil reaction of investigated areas in Jelšava and Lubeník (Slovakia)

Location name	GPS	Soil type	pH/KCl	pH/KCl with Humac Enviro 1%	pH/KCl with Humac Enviro 2%
1 (Lub 9)	N 48°39'27,8" E 20°10'15,7"	Eutric Cambisols Loamy	8.2 strongly alkaline	7.7 alkaline	7.1 neutral
2 (Lub 10)	N 48°39'26,0" E 20°10'12,4"	Eutric Cambisols Loamy	8.2 strongly alkaline	7.7 alkaline	7.5 alkaline

3 (Jel 4)	N 48°38'38,9" E 20°12'55,5"	Eutric Cambisols Loamy	7.7 strongly alkaline	7.1 neutral	6.8 neutral
4 (Jel 11)	N 48°38'27,2" E 20°13'17,1"	Eutric Fluvisols Loamy	8.7 strongly alkaline	8.4 strongly alkaline	8.3 strongly alkaline
5 (Jel 12)	N 48°38'22,9" E 20°13'24,1"	Eutric Fluvisols Loamy	8.7 strongly alkaline	8.5 strongly alkaline	8.2 strongly alkaline
6 (Jel 13)	N 48°38'19,9" E 20°13'32,5"	Eutric Fluvisols Loamy	8.8 strongly alkaline	8.6 strongly alkaline	8.5 strongly alkaline
7 (Jel 14)	N 48°38'18,8" E 20°13'33,9"	Eutric Fluvisols Loamy	8.6 strongly alkaline	8.3 strongly alkaline	7.9 strongly alkaline

Studied ecosystems had disturbed stability and there was a total destruction and disposal of natural and forest ecosystems in the contested zone. There was recorded overall low variability of the species in the studied area in line with the findings of Čaboun and Priwitzer (2004). Permanent grasslands were represented by competitively strong species *Elytrigia repens* and *Phragmites australis*, which generate up to monoculture (localities Jelšava 11, 12, 13, 14). There were registered medicinal plant species *Elytrigia repens*, *Archangelica officinalis* and *Acetosa pratensis* on the studied area (localities Jelšava 4 and Lubeník 10). Based on the results of Shanonn index, we can conclude that diversity in investigated sites is extremely low (H' < 0.5) – localities 4 to 7 and very low (0.5 < H' <1) – localities 1 to 3 (Table 2).

Table 2 Phytocenological date of plant communities in Jelšava and Lubeník (Slovakia)

Location name	Covering (%)	Number of species	Species	Shannon H	Equitability J
1 (Lub 9)	100%	2	*Phragmites australis* 5 (Poaceae), *Elytrigia repens* 5 (Poaceae) Near *Pinus nigra* (Pinaceae)	0.7	1
2 (Lub 10)	100%	4	*Carduus crispus* 5 (Asteraceae), *Cirsium rivulare* 1 (*Asteraceae*), *Acetosa pratensis* 1 (Polygonaceae), *Archangelica officinalis* 1(*Apiaceae*) Near *Betula pendula* (Betulaceae), *Solidago canadensis* 1 (*Asteraceae*), Silene vulgaris 1 (*Caryophyllaceae*)	0.5	0.4
3 (Jel 4)	100%	6	*Ranunculus acris* 4 (*Ranunculaceae*), *Taraxacum officinale* 1 (*Cichoriaceae*), *Alopecurus pratensis* 4 (*Poaceae*), *Lychnis flos-cuculi* 1 (*Caryophyllaceae*), *Cirsium rivulare* 1 (*Asteraceae*), *Acetosa pratensis* 1 (*Polygonaceae*)	1.0	0.6
4 (Jel 11)	100%	1	*Phragmites australis* 5 (Poaceae)	0.0	0.0
5 (Jel 12)	100%	1	*Elytrigia repens* 5 (Poaceae)	0.0	0.0
6 (Jel 13)	100%	1	*Phragmites australis* 5 (Poaceae)	0.0	0.0
7 (Jel 14)	100%	1	*Elytrigia repens* 5 (Poaceae)	0.0	0.0

Summary

Soil reaction substantially affects the characteristics of the soil and is one of the most important parameters of soil fertility. Soil alkalinity is conditioned by the presence of alkaline salts, which are easily hydrolysed and allow formation of alkaline. A strong alkaline reaction is caused by emissions from

alkaline magnesium factory currently localized in Jelšava and Lubeník (Slovakia). In conclusion we can say that a spray particle of free magnesium oxide (MgO) has strongly influenced the reaction of the soil and vegetation cover. Investigated ecosystems had impaired stability and there was recorded overall low variability of species. Permanent grasslands were represented by competitively strong species *Elytrigia repens* and *Phragmites australis* which form even monocultures. Application of natural substance HUMAC Enviro based on humic acids seems to be important in addressing current environmental problems related to treatment of soils alkalized.

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Evaluation of the Potential of Biomass Production for Energy Production

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Abstract

Biomass is one of the renewable energy source.The current aim of the European Union is to increase share of energy from renewable sources (energy arises from alternative sources should represent min. 20 percent of final energy consumption in 2020).The main aim of this article is to evaluate the potential of biomass production for energy production in selected region.

Key words
Soil, biomass, energy production

Introduction

The aim of the paper was to identify possibilities of using alternative inputs (biomass) into biogas in terms of PD Kapušany in the context of their economic, environmental and energy efficiency. The main scope of the assessed company is the agricultural production (crop and livestock). One of the priorities of the company is to increase the use of alternative energy sources. For this purpose, it operates bio-co-generation unit with an annual output of 1,300 MW (electricity and heating), utilizing for their own needs and also provides for external customers. The company uses part of their own crop production as input to the biogas plant, which is located on the company property.

Results and Discussion

Company uses corn as the primary raw material in the biogas station. By its cultivation and burning the following problems were identified:

- Low yields, due to the fact that the crops do not change sufficiently on the fields.
- Corn, due to long-term growing (as monoculture), influences soil and leads to nutrient depletion and the deterioration of soil fertility.
- On the fields, the harvest is every year widely destructed by wild boars.

Based on the above issues we were looking for ways to eliminate such incurred costs and how to providing input into biogas more efficiently (while respecting the existing possibilities for company).

To meet this objective, it was necessary to carry out evaluation of the land on which plant production is grown. Assessment and determination of the optimal structure of crops is limited by soil characteristics and properties that were evaluated. In determining the appropriate crops structure, we focused on the assessment of soil conditions and production possibilities in Kapušany area, in which, besides others, the farm carries out its crop production. We evaluated:

- typological and production characteristics of soils,
- depth,
- quality,
- soil separates,
- soil type,
- stoniness
- and the slope of land.

Based on the results of evaluation of typological and production soils categories (Map no.1), it was found out, that the assessed area is mostly covered by category O6 - less productive arable land (almost 42%); OT2 categories - less productive fields and grassland (over 11%) and category O5 - medium productive arable land (almost 11%). In this area, the highest quality soils (O1 and O2) are completely missing.

Map no. 1: Evaluation of the typological and production categories of soils in the Kapušany area
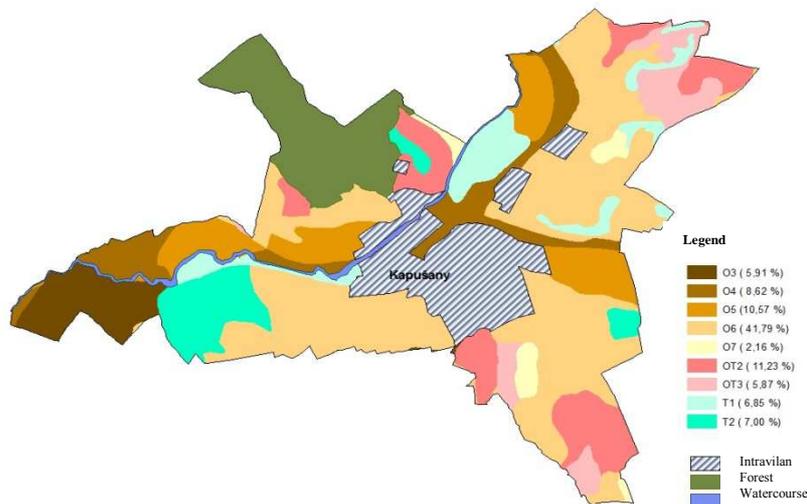
Source: VUPOP, 2016

Next evaluated category was the soil depth (Map no.2). The results of the assessment show that in this area there are mostly deep soils, which make up almost 78% of the total assessed acreage. On this basis, as appropriate crop for growing seems to be, in this case, corn, as it has increased moisture requirements (especially during construction of the root system), which is bulky and often deep.

Map no. 2: Evaluation of the soil depth in the Kapušany area
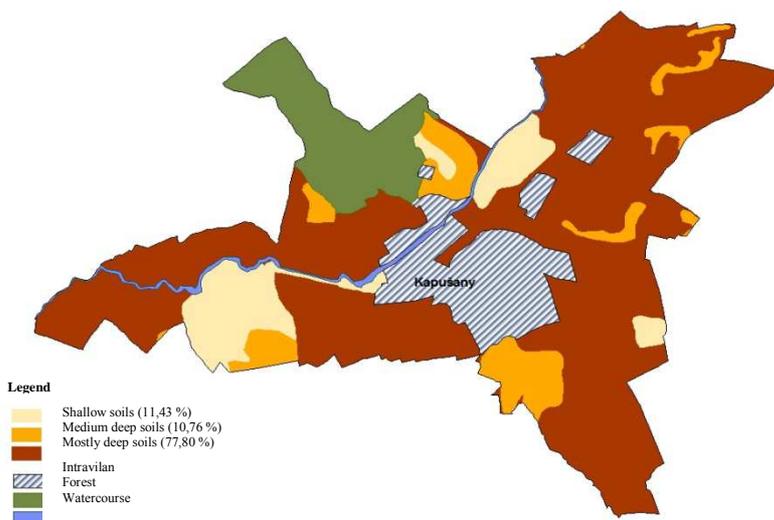
Source: VUPOP, 2016

Further evaluated criterion for the selection of suitable crop, was the quality of soils. Soil quality represents their productive capacity – fertility (Map. no. 3). According to the Act no. 220/2004 Z.z. all agricultural land are according to BPEJ classified into 9 groups of soil quality (VÚPOP).

Completed evaluation of soils that company uses has revealed that 67% of land is classified in category 6 and 20% to Category 7. Due to the fact that the highest quality soils belong to the first group and the soils of poorest quality into group 9, it can be stated that company does not own significantly high quality land resources, which matches the quality of soils in the Prešov region.

Map no. 3: Evaluation of the soil productive capacity in the Kapušany area
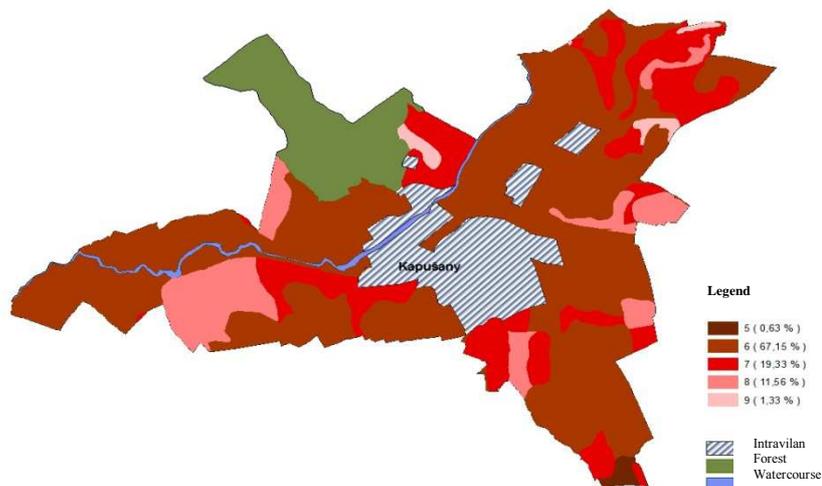
 Source: VUPOP, 2016

The next assessed criterion was the soil separates (Map. no. 4).

Map no. 4: Evaluation of the soil separate in the Kapušany area
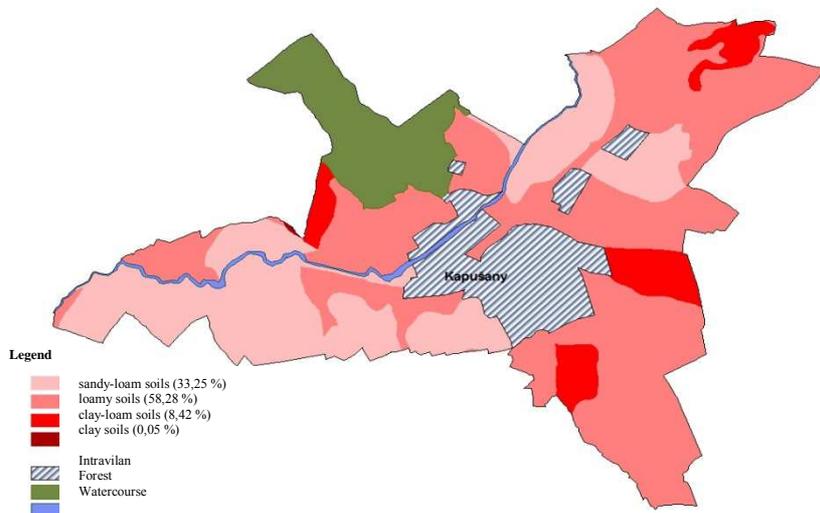
 Source: VUPOP, 2016

In the study area, in the largest part, clay soils occur, which represent more than 58% of the total area and subsequently there are sandy-loamy soils - a total area of more than 33% of the total land area. They are a light soils, which have their own characteristics. For example, for growing of maize these soil fractions seem to be appropriate - but with a condition of adequate fertilization; oilseed rape but also wheat and oats, do not like this soil fraction and therefore it can be assumed that their production in the area will not be effective.

As next, the area was evaluated in terms of representation of soil types (Map no. 5). The map output illustrates that in this area is represented mainly by of pseudogley - less fertile soil type (almost 47% of the total assessed area); continued by fluvisols (above 21%); cambisols (over 19%) and in smaller range by mollic fluvisols (around 5%).

Map no. 5: Evaluation of the soil types in the Kapušany area
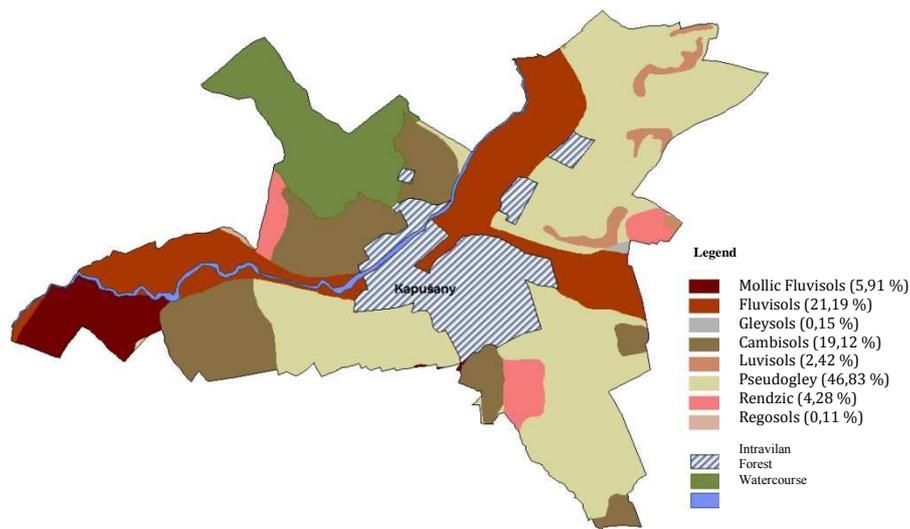
Source: VUPOP, 2016

Another evaluated criterion limiting grown crops was the slope of lands (Map no. 6). Out of the evaluations it shows that the majority of land is located on the gentle slopes 3-7 ° (42.5%); nearly 28% of the land is located on the plane 0-3° and almost 27% of the land has an average value of the slope 7-12°. For example, the cultivation of oilseed rape appears to be only suitable for planes (see map outputs). In terms of slope, rye appears more appropriate for growing.

Map no. 6: Evaluation of the slope of lands in the Kapušany area
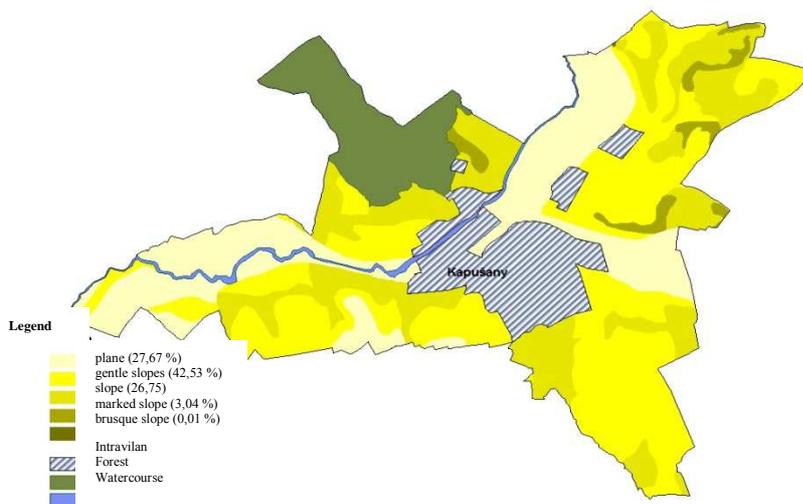
Source: VUPOP, 2016

Another evaluation criterion was stoniness of the land (Map no. 7). The results of the evaluation are as follows: in this area there are almost 70% of soils without stones and more than 13% of the land consists of weakly stony soils. On the other hand, more than 11% are heavily stony soils. Here we can say that because most soils are without rokcs - this category does not negatively limit the selection of crops.

Map no. 7: Evaluation of the stoniness of lands in the Kapušany area

Legend

of soils without stones (69,72 %)
weakly stony soils (13,83 %)
medium stony soils (5,02 %)
heavily stony soils (11,43 %)

Intravilan
Forest
Watercourse
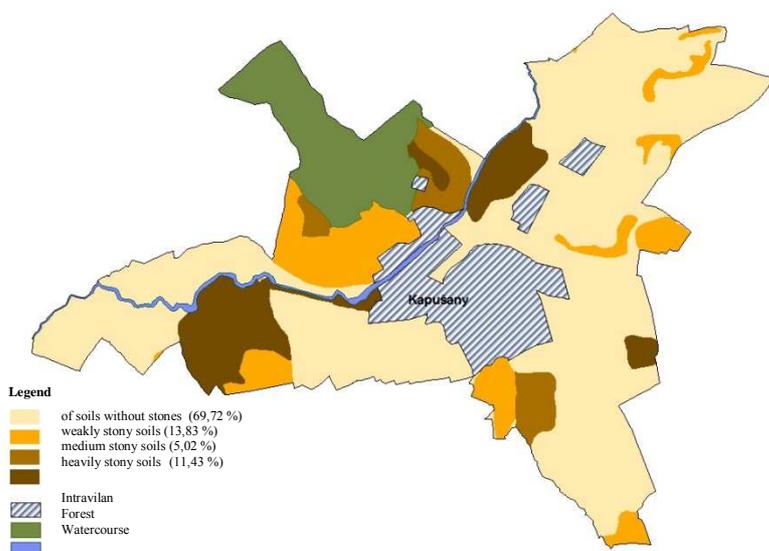
Source: VUPOP, 2016

Conclusion

According to Pekárová (http://old.agroporadenstvo.sk/rv/energrastliny/menej_pp.htm), in generally natural and financial benefit is achieved at the highest quality soils. From this view implies also the concern that our best quality land will be used primarily for the cultivation of crops for energy purposes. With regard to energy crops, the selection must be approached individually, which means to favor unpretentious crops. Knowledge of demands of individual crops on the environment as well as knowledge of potential of particular environment is a prerequisite for the efficient use of land resources. In terms of localization the energy crops have great potential in the farming of less productive land, i.e. secondary agricultural lands that are set aside for alternative agricultural use, for example the production of bioenergy. Allocation on secondary soils also does not undermine the production of basic agricultural commodities grown on primary soils.

Maize, which the company still grow as energy crops has many disadvantages - high inputs, crop variations, the risk of soil erosion and limited area of cultivation (Jamriška, P). From traditional crops are considered suitable for this area also other cereals (triticale, rye), including straw, while energy efficiency of straw is higher than the burning of entire plants.

Although current trends in the use of phytomass for energy use make towards the use of cereals, the search for other alternative and economically efficient sources is conducted.

As an example of other crops grown for energy purposes can be mentioned rapeseed (Brassica napus), sunflower (Helianthus annuus), but also grasses - Festuca arundinacea Schreb., Arrhenatherum elatius, Phragmites australis etc..

The paper evaluates the possibilities of growing crops for energy purposes in a given area, in terms of the available capacity. Further research is necessary to conduct in order to consider the use of other, alternative crop in the area.

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Private Sector Participation in Financing Projects in the Field of Waste Water in Villages with Less than 2,000 Population Equivalent

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Abstract

The article discusses the possibilities of financing infrastructure projects especially in the field of water management through public - private partnerships. It summarizes the advantages and disadvantages of this form of financing, it characterizes and compares the different forms of PPP projects and also provides examples of completed projects in Slovakia and abroad.

Key words
PPP projects, financing, infrastructure, water management

Introduction

Construction and operation of the infrastructure has traditionally been mainly provided by the public sector, whereas the space for private investors in this area has been limited so far. Recently, however, the situation in several European Union member states has changed significantly and the benefits of the private sector are increasingly being used in the construction and operation of infrastructure. The public-private partnership (PPP) offers new possibilities in the public interest, taking advantage of private sources of funding, while increasing the efficiency of the public administration (Ministry of Finance, 2005).

PPP projects in general terms represent a tool for increasing the efficiency of the public sector. The reasons for their implementation can be divided into several groups:

- Acceleration of infrastructure development – they channel private sector capital into large-scale infrastructure projects where a high multiplier effect is expected;
- Faster implementation – by comparing the rate of implementation of large projects within the private and public sectors it can be assumed that the transfer of all phases of the implementation of large projects (design, development, construction, etc.) into the private sector has a positive impact on the speed of implementation;
- Reduction of operating costs – a private entity motivated by a profit will probably create more pressure on cost reduction than a public entity that would consequently lead into a reduction on the expenditure side;
- Better risk management – fair risk sharing between both public and private sector, including enabling powers to influence the key factors will lead to a better management and thus contribute to better results of the project;
- Improvement of the public services quality – international experience has shown that customers consider the quality of services provided under the PPP projects much better than in the case of public sector services;
- Accumulation of sufficient income – a private entity is eligible to collect fees from the public in case of certain PPP projects, therefore it can raise funds to finance the project, thus reduces the financial pressure put on public budgets;
- Improvement of the public sector management quality - a close relationship between the private and public sectors and frequent contacts can have a positive effect in the form of knowledge transfer and "best practice" from the private to public management.

However, the fulfillment of these positive impacts of PPP projects is dependent on the existing institutional environment and the specific form of the project, especially its contractual treatment (Augustine, Daubner, Ižová, 2010).

The main features of public - private partnerships (PPP)

Currently, the European Union has no official definition of PPP, but according to the proposal of the European Commission's Green Paper on PPP this public - private partnership is defined as a form of

cooperation between the public and private sectors to finance construction, reconstruction, operation and maintenance of infrastructure and provision of services using this infrastructure. PPP are long-term projects of public-private sector incurred in order to use resources and capabilities of the private sector in providing public infrastructure or the provision of other public services. This cooperation, which also includes complex legal and financial arrangements, was constructed in several areas of public administration (Green Paper, 2004).

However, in recent years there has been the creation of many concepts in relation to alternative organizational models. Each project can be described through a given performance. By a combination of these procedures basic models of public - private partnerships can be described (Augustine, Foller, 2006).

Each project is largely individual, so it is very difficult to make an unambiguous categorization. The partnership in public and private sector can benefit from a wide range of contracts starting with a large participation of the public sector to those in which the public sector has only a small presence. This wide range of contract options is summarized in Table 1.

Table 1. Forms of PPP projects

Types of projects	Description
DBB Design – bid – build	Its character is close to a classic public procurement. A sponsor specifies fairly general assignment under which the private entity will offer a solution. If the sponsor is satisfied, the required infrastructure is built and it is owned by the client from the outset.
OM Operation and maintenance	It is a very close form of outsourcing. All assets remain in hands of a sponsor. A contractor provides operation and maintenance. Payments for services consist usually of two components - fixed and motivational.
BOT Build – operate – transfer	There is a combination of several phases of the project cycle. Preparation, implementation and maintenance are left to the private contractor. For the duration of the project, the assets are located on the side of the private contractor. After completion of the project, when repayment ends, it passes back to the client.
DBFO Design – build – finance – operate	More complex than the BOT. The supplier is also responsible for the design solutions. This is the type that is very similar to the classic concession.
BOO Build – own – operate	Very close to privatization. The private partner has assets in his possession, and is responsible for their funding, building, managing and maintaining. The sponsor's role is limited to have a regulating duties, sponsor plays the role of the regulator.
CONCESSION	It is similar in nature to the BOT model, with the difference that in the concession a contractor from the private sector covers its costs and benefits either directly from user fees or a combination of user fees and subsidies from the public funds.
OUTSOURCING	It represents an agreement between a public agency and private sector suppliers to provide one or more services. A public organization pays a private contractor in accordance with the contract concluded. Contracts for outsourcing performance are characterized by the transfer of existing resources and a certain level of operational risk for a contracting party from the private sector. These kinds of agreements are to be regarded as a form of PPP in cases where they are entered into for a period of at least five years.
FRANCHISING	It's a format similar to outsourcing except that a public body gives a contractor from the private sector fixed-term contract in order to provide services where a contractor has a monopoly in a given territory. Contractor of services covers its costs and profits from the contractually agreed fees to be paid directly by service users.

Source: Betts, 2006, Vlach, 2008

Among the areas for the implementation of projects with the participation of the private partner, which are used in the European Union, we can include the following:

- Transport - road infrastructure (roads, highways, bridges), urban and interurban public transport (bus, rail link to the airport), parking (integrated system of parking, park and ride, municipal parking lot and garage), airport, bus, railway and other traffic stations, bus stops, illuminated signs;
- Environment - water supply (production and distribution of drinking water, sewage treatment plants, sewage), waste management (treatment and disposal), thermal management (heat production and supply), energy efficiency projects (energy price contracting - agreement with energy service providers on measures to increase energy efficiency), energy (wind projects, biogas plants);
- Education - building schools (nurseries, kindergartens, primary, middle and high schools), accommodation for students and pupils (boarding), supporting infrastructure of schools (school canteens, thermal management schools);
- Social services - social service facilities (retirement homes, social and sheltered housing, children's homes);
- Health facilities (hospitals, nursing homes, hospital for the chronically ill, laboratories), medical and non-medical parts (laundry, dining room, thermal management), ambulance;
- Administration and management - building of public administration bodies (municipal office, tax office);
- Justice and home affairs - buildings and premises (prisons, judicial areas, police stations, fire stations);
- Technical services - public lighting, repair and maintenance of roads, refuse collection and disposal, maintenance of public green;
- Urban construction and regional development - use of brownfield, science and technology parks, social housing, congress centers;
- Defense - military sites and buildings (restoration of military sites, barracks), simulators, training grounds, technology and telecommunications, military aircraft, fleet vehicles;
- Sport - a multifunctional sports facilities, sports halls, swimming pools, playgrounds, bike trails;
- Culture - cultural facilities, libraries, museums;
- Information technology - e-Government, e-Health (computerization of Health), informatization of education (teaching system), computerization of defense (secure data transfer), copy documents (passports, driving licenses) and the like (Green Paper, 2004).

PPP models in Slovakia

In Slovakia, the PPP models are expected to play an important role in addressing the infrastructure needs of the country. The main forms of PPP, which are probably best suitable for usage in environmental projects in Slovakia, are:

- *Design and building (DB)* - the design and construction of new environmental equipment;
- *Design, building and operation (DBO), building, ownership, operation and transfer (BOOT) and concession* - the design, construction and operation of new environmental equipment and plant;
- *Operation and maintenance (OM)* - the operation and maintenance of existing facilities;
- *Franchising or outsourcing* - to provide environmental services. (Betts, 2006)

It should be noted that in Slovakia PPP projects diverged primarily in the transport sector. Currently, there are tenders for the construction and operation of three different sections of the D1 motorway and R1 expressway, also known as three PPP packages.

The first PPP project also appears in the rail sector. The private partner should provide revitalization of four railway stations (Bratislava - Nové Mesto, Prievidza, Trenčín and Žilina) and in return receives a right to use the long-term commercial space in the revitalized station (PPP Association, 2016).

Picture 1. Road transport financed through PPP

Source: http://ppp-projekty.webnode.sk/ppp-na-slovensku/, 2016

According to the methodological document of the Ministry of Environment the preferred format of PPP projects are similar in the water and waste management – with regards to the size and scope of the project (including service), the ability to make payments from users and extent of the risk transfer. In the area of water management, the lack of basic information about the extent, composition and performance of existing networks are likely to significantly increase the risk for the building, conversion and maintenance of networks for water supply and sewerage networks. Therefore, it is probably best to keep the risk on the public sector. For this reason, it will be possible to implement projects such as "Design and construction" with the determination of performance goals. The supply of drinking water and wastewater treatment plants are likely to be managed by contracts of DBO and BOOT types. This area could be also treated by a concession for which there is an opportunity to introduce payment from users.

Projects in the waste management sector are most likely suitable for all forms of PPP apart from "Design and building" in which it is feasible to move a considerable degree of risk onto the private sector. In addition, under concession, it is possible to ask the private sector to finance the project, collect fees from users (in line with the "polluter pays") and at the same time together with it accept the risk associated with the waste (Betts, 2006).

Experience abroad

In general, the initiative within PPP projects overseas started with the preparatory phase, which included legislative changes to facilitate the implementation of PPP projects, the formation of an advisory board in the public sector and the creation of specialized working groups in key fields and line ministries. In Italy, for example, they adopted a new legislation that enabled the creation of PPP. In the Netherlands, Finland, Ireland and the UK, they set up specialized PPP teams on a number of important ministries.

The usage of PPP models in transport is not new. On the other hand, in the environmental and other areas, their adoption began only recently. Reasons for gradual implementation are different, but generally we can define some of the obstacles preventing faster implementation:

- structural obstacles,
- legislative barriers,
- political obstacles (Betts, 2006 EU Commission, 2008).

As stated above, the PPP models in the transport area have a sound basis in the world. They are mainly used in Australia, Belgium, Canada, Finland, France, the Netherlands, Iceland, Ireland, Italy, Portugal and Spain within this sector. In the area of waste management in Europe (namely Belgium, France, Germany, Ireland and UK) there are projects in which the private sector takes over responsibility for the building and operation of new facilities for waste and its disposal. In the international water sector, PPP models have existed for several years. In France, for example, private concession to build and operate facilities for water supply and sanitation work have existed for the last 40 years and led to the emergence and development of large and diversified private companies in this area.

Foreign experience with PPP concept cannot yet be comprehensively evaluated. The reason is that most of the projects are still in the first phase of its implementation. When looking into the European Union states, there are, of course, many successful operating projects such as those in transport infrastructure, on the other hand, there are as well as "absolute flops," such as the M1 / M15 in Hungary, completed in 1995, financed and operated by a private consortium. Already the first year of operation showed that the traffic is less than expected and the operator became insolvent in 1998. In July 1999, the obligations of the operator's activity were transferred onto the State. Another failed case is linked to the collapse of a company Metronet that operated in PPP mode while working on a section of subway in London, where the main causes of its failure was referred to the lack of coordination between the central government and London City Hall.

A comprehensive evaluation of the results of PPP in the UK, which was introduced in office of the first and deputy first minister (2005), moreover, showed that not all sectors were suitable for this method. While projects in transport infrastructure proved to be relatively successful with an average reduction in costs of 20%, in the case of health sector it was only 2% (Vlach, 2008, Kovács, 2011).

PPP projects are also typical for the water management, where structure similar to PPP was applied in the industry even before it became a public-private partnership project widely accepted as an appropriate instrument for the development of various public services or public infrastructure. Due to the limited financial resources also the Government in Austria increased demand for various models of outsourcing. This applies particularly in cases where it is certain that there is a traffic optimization and to the optimization of the economic and financial situation of the municipality, town or conglomerate of these entities.

One of the many examples of successful PPP project is wastewater treatment in the village Aspach in the Upper Austrian Innviertel region. It was necessary to raise the standard operation of sewerage and waste water treatment plants, the only provider in the community was overloaded and some tasks could not have been performed alone for security reasons anyway. Another factor was that the village had to upgrade the wastewater treatment plant for about 800 population equivalent and for this step the village was looking for an independent partner with the appropriate expertise. Further demands on the municipal council in solving professional tasks should have been mitigated and financial structure of the village should have been optimized. After intensive discussions, the municipality decided to achieve these goals through a combination of operation model and model of sale and lease back. Sewerage worth of 4.3 million euro was sold to WDL Infrastruktur GmbH, from which it has been for a period of 18.5 years rented back. In parallel, the WDL Wasserdienstleistungs GmbH (part of Energie AG Wasser) took over operation and management of sewerage and wastewater treatment plants. The duration of model sale and lease back has been adjusted to the lifespan of existing equipment. At the end of the term of this model, sewerage should either reenter into the proprietorship of the municipality or the validity of the leasing model would be extended. At the same time outsourcing operations management has been proven as an appropriate form. Since 2005 it has been possible to reduce the measured operating costs by 25% even with better performance in cleaning, optimizing customer service and facilitating the work for the administration of the village. The example clearly shows that the PPP model represents the real saving of operating costs, infrastructure investments and is good at financing infrastructure development projects at the local level.

Another example of a successful PPP project is the modernization of water supply in the Upper Austrian village of Weyer. The problem of obsolete water supply network is the issue that will have to be approached in the following years by many municipalities. The basic water facilities in the village Weyer were established in 1904, thus resulting in a high number of water pipe failures, network damage and great loss of water. After discussion, the municipality decided to enter the project in the form of rent model (leasing) and offer it to the private partners. A company WDL GmbH (part of Energie AG Wasser) was entrusted by tender, project assignment, a building permit and project financing in the amount of 4.5 million euro. Infrastructure was subsequently leased to the continued use of the resort, for a period of 25 years. The cooperation between the municipality and the investor prior to the construction phase as well as during it played a very important role. The community was involved in the planning and supervision of construction, as well as in the contract awards. Due to this reasons the municipality provided complete control during the whole process. The entire water supply was completed on schedule and in compliance with the budget. It is now functioning nearly seven years without any troubles (PPP Association, 2016).

Conclusion

Since 2002, PPP projects have started to get attention in Slovakia. In 2004, the Ministry of Transport started to prepare the first PPP project for the construction of road infrastructure. At the Ministry of Finance was established the department for partnership projects in 2006, which is in charge of PPP projects. This department provides consultation to the public sector and issues of methodology to assist in the preparation of PPP projects. In 2007, PPP Association was established in Slovakia - interest association of the private sector acting as a partner to the public sector in PPP issues. Important role in PPP projects is played by Ministry of Finance, in particular in view of the risks to the general government budget. Ministry of Finance must monitor PPP projects because of their impact on the budget deficit and the level of government debt. It is therefore necessary that each project must be approved by the Ministry of Finance and its influence on the government debt must be evaluated, by which ex ante information of the impact of the project on the general government budget is gained. Ministry of Finance monitors each PPP project until the end of the concession.

The objective of PPP projects not only in water management is to bring capital, expertise and technology of the private sector in order to improve the implementation of public services while efficiently and responsibly managing financial aspects of this projects. In terms of financial aspects, PPP projects bring two significant moments:

1. Savings through higher operational efficiency and
2. The possibility to plan the municipality budget in the longer run.

Considerable contribution consists in outsourcing operations to a private investor, freeing up the capacity of municipal authorities to address the needs of populations in the areas of education, health or social affairs.

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Management of Protected Areas –
The Challenge for Environmental Protection in the 21st Century

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Abstract

Nature conservation constitutes a significant part of public policies and must be integrated into sector policies. It is required to bring strategies, conceptions, plans and projects of state institutions into the consonance with state environmental policy and press for full respect of interests in nature and country conservation by all the subjects operated on the territory of the Slovak Republic.

Key words

Management, nature conservation, biodiversity, integrated management

Introduction

The aim of the conception of nature and country conservation is to achieve, that society understands, accepts and endorses the nature and country conservation and participates in its development as a means of maintaining or achievement of high-quality natural environment as a significant part of environment, which is basis for provision of sustainable society existence, with respect for economic, social and cultural interests of the Slovak Republic citizens. It accepts the conservation of conditions and life forms as own moral and ethical obligation. These days is indicated the need for sequential incorporation of conservation areas into the lives of citizens of regions. In many countries it happens by regional planning (Germany) or by integrated development plans (France). In the sense of principle of sustainable development it could be done particularly in regions with higher unemployment rate by combination of economic interests (regional economic development), social interests (new job opportunities) and ecological interests. It could be done by the conservation of natural or at least close to nature ecosystems, alternatively renewal of impaired biotopes.

Management of conservation areas (Protected areas management)

International Union for Conservation of Nature (hereinafter only "IUCN") introduced management categories of the conservation areas already 20 years ago and they represent global frame (accepted even by Convention on Biological Diversity and other conventions) for categorization of various types of conservation areas management. Last time they were audited in publication of broad sphere of experts under the leadership of N. Dudley from The World Commission on Protected Areas IUCN (DUDLEY ed. 2008), complemented in 2013. World Conservation Strategy defined one of the general definitions and also the aims of nature conservation, which collectively developed IUCN (International Union for Conservation of Nature), UNEP (United Nations Environment Programme) and WWF (World Wildlife Fund) (it was accepted in 1978 and approved two years later). According to it is the nature conservation "the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintain its potential to meet the needs and aspirations of future generations" (IUCN, UNEP & WWF 1980).

According to this strategy there were three main aims for the rescue of the biosphere:
1) to maintain essential ecological processes and life-support systems (the recycling of nutrients, the cleansing of water), on which human survival depend.
2) to preserve genetic diversity of flora and fauna, on which functioning of ecological processes and systems depend, as well as their use (e.g. the breeding programmes in agriculture, technical innovation, etc.)
3) to ensure the sustainable utilization of biological species and ecosystems (notably in fishing, hunting, forest farming, agriculture), on which prosperity of economic sectors depend

Theoretical foundations

Protected areas management represents the system of implements secured the conservation and the sustainable development of territorial ecosystems, which should reflect the current status of knowledge on the general-theoretical level, methodological, as well as on the level of cognition of contexts, status and dynamics of development of concrete conservation areas, biotopes and threatened species of plants and animals which are the subject of protection. Each species and biotope has own specifics and requires different caring manner. Crucial knowledge thus remains the identification of species/ biotopes in the locality. Simply said, so as we could take care correctly of protected areas, first of all we need to know what species/ biotopes can be found here, their quality and quantity. Only on the basis of these findings we are able to design an appropriate management for the territory more precisely (Cernecký, 2012). Naturally, we want to leave some parts of our nature without the human intervention and do not intervene into the natural processes and everything leaves for self-development. But also the non-intervention areas require a certain management and direction via controlling of territory, marking of area, monitoring and via science activities, so it is possible to state, that each territory requires a kind of maintenance, whether it is a non-intervention area or an area which requires a certain kind of active human intervention. The preservation of sustainable development principles in the protected areas of nature and region is of great importance for integrated approaches. In an effort for development and territory protection is required to respect the principles of sustainable development and to ensure the interconnection of environmental, social, cultural and economic aspects (Voloscuk, 2005). Significant aspect of nature conservation management is the permanent monitoring of crucial components connected with biodiversity, as water level in ponds, number of specimens of rare and threatened species, density of herbs, shrubs, woody plants, and data about the time of appearing of animals in reserves and their leaving of reserves. Monitoring enables administrators to determine not merely the state of reserve health, but also indicates which management procedures function and which not. With correct knowledge can administrators adapt the management, in order to increase the probability of success in the maintenance of protected areas. Management of protected areas should strive for rescue and preservation of crucial sources, on which the subject of conservation is directly dependent. Effective maintenance of protected areas can be done only on the basis of the use of knowledge gained by various explorative programs. Foundations for gaining of information about particular functional components of biosphere are inventory researches. The inventory researches are usually performed on particular groups of organisms by experts and their result are outside of found species inventories, also an evaluation of their populations and determination of biological indicators. The biological indicators are species especially sensitive to changes of crucial environment elements, and on the basis of an actual state of their populations we can conclude the state and development of the whole ecosystem or its functional parts. Important conclusion of inventory researches are also proposals for management in the concrete observed protected areas.

Concept for natural conservation

Protected areas are not separated units, but they are ecologically, economically, politically and culturally interconnected with own surroundings. From this reason must be planning and protected areas management composed into the regional plans and besides it, be in compliance with the planning at the local level. By application of classification system must be nuclear territory different from the buffer zone of the protected areas, and for each must be stated a correct category. The aim of the new conception for nature and country conservation is to achieve, that society understands, accepts and endorses nature and country conservation and participates in its development as a means of maintaining or achievement of high quality of natural environment as a significant part of environment, which is basis for provision of sustainable society existence, with respect for economic, social and cultural interests of the Slovak Republic citizens. It accepts the conservation of conditions and life forms as one's moral and ethical obligation.

Nature and country conservation priorities for the next 10 years

1) Nature and country conservation creates conditions for ensuring of advantageous status of species, biotopes, functioning of natural processes, preservation of phenomena and elements of inanimate nature and characteristic country attributes, which resulted from cooperation of human and nature.
2) Nature conservation in Slovakia is part of Europe-wide and global efforts for conservation and sustainable use of biodiversity and country and for fulfilling of international obligations and national interests for conservation of biodiversity and country revitalization.
3) Nature and country conservation encourages maintenance of country and preservation of cultural heritage.

4) Nature and country conservation contributes to maintaining of quality of country which followed from its historical heritage, natural arrangement and from human activity, to achieve finishing quality of country, to improve the quality of lives of inhabitants, to the support of sustainable forms of regional development, and so it is a significant factor which influence health protection, health support and health development.

5) Nature and country conservation is a part of synergistically working strategies on the protection of environmental components, on sustainable life and to moderation of natural hazards, global climate change and an adaptation on climate change.

Natura 2000

From the point of view of Slovak the nature conservation it is possible to summarize today, that Natura 2000 is fundamental qualitative and also quantitative movement in its history. Chosen concept unequivocally lays much more systematic foundations to the long-term nature conservation including the manner of possible conflict solving with other interests (e.g. investment). Even though the fulfilment of legislation is difficult not only from the point of content, but also from the point of sources (financial security, human resources), the potential effect is disproportionately better than from the point of invested sources. The principle of areas conservation of the system Natura 2000 is the protection of their nature values. Take into consideration are taken scientific, economic, social and cultural requirements, and also regional and local determinateness. It is important to remark, that in the territories are not excluded economic activities, as long as they do not endanger favourable state of biotopes and species. In many cases are even human activities inevitable for ensuring nature conservation.

Summary

It is not possible to realize the nature conservation only in separately protected areas; it is not possible to rely on conservation strategies of free-living animals and herbs and biotopes in nature reserves, it is required to leave the country to free human use. Due to the fact, that nature unlike the human is not familiar with administrative boarders, many migrating animal species cannot be kept in reserve boarders. It can come to the decrease of vitality of population of species inside the protected area, but if there will be the biotopes outside the protected area depreciated, or even if animals will be persecuted there, they can disappear as from the protected area (where, e.g. in small-scale protected territory can be livelihoods gradually exhausted), so as from the surrounding unprotected country. This can lead to unbalancing of the whole ecosystem.

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7. Informatics & Management

The Comparison of Perception of Threats in the Use of Mobile Devices from View of Slovak and French Managers

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Abstract

The paper deals with a comparison of the differences in the perception of threats of mobile devices among French and Slovak managers and the related awareness of the risks to which these managerial devices and their contents are exposed. It also presents the development of these threats from the beginning of the use of smartphones. The analysis of the attitudes of managers is based on the opinions of 200 respondents. It summarizes the differences in the perception of security and risks unnoticed by final users of mobile devices. In the conclusion of the paper the authors propose some solutions for futher education of users in order to avoid the mentioned threat.

Key words
Mobile device, Threat, Attacker, Malware, BYOD

Introduction

Nowadays, managers have access to their business sources also during the business trips from whatever place they might be. They can work with their e-mails and databases on their smartphones. The promotion of advantages brought by these technologies is quite vast. On the other hand, threats which might appear with the mass use of smartphones are not mentioned very often. One of the most significant risk factors is the user, that is, managers and their employees. Both types of users are used to working under pressure and they perceive the problems of the security of these information technologies as a part of an IT Department.

They use their computers and smartphones in the same way as they drive their cars, a daily routine which requires only the abilities learnt long ago. However, in order to provide the security of computer systems it is important to know what the employees think about the security and if they follow the recommended rules for safe access to business sources. These problematic issues have been covered very rarely. Still, they present the first and the most significant step towards the security of business information. It might be said that it is as important as locking the door of an office.

Development of Threats to Mobile Devices

The source of mobile threats is nowadays in the most cases malware. Malware is a common term for all mobile software threats which are used especially for attacking mobile device system, controlling its functions and bypassing security controls. In the present time the most risky ability of malware for managers appears to be stealing and massing information, but in the future we can expect new abilities of attacking mobile devices. We are unable to estimate the possibilities of hackers, and it will be important to find out using regular checks of our accounts if a mobile device did operations we commanded and those operations only. It is dangerous for users not to know current possibilities of these harmful programs.

„Your Android smartphone may look innocent. But when compromised by malware, it can illegally watch and impersonate you, participate in dangerous botnet activities, capture your personal data, and even steal your money." (Sophos 2014, p.9).

The history of mobile devices malware started in June 2004 when the first mention appeared of the mobile malware called Cabir. The first malware was not considered a threat because the meaning of its existence was to highlight its author. On the other hand, at the present time mobile malwares try to be visible as little as possible while being able to do serious damage by tracking devices, stealing money

from bank accounts or rendering the whole system totally unusable. We identify the following phases of this development:

Propagation period

In the early age this phenomenon didn't mean any significant threat. At that time it was all about highlighting oneself and programmers´ competition skills which lead to first mobile malware.

Cabir - this malware was not as dangerous as contemporary sophisticated combined forms of malware, but it was undoubtedly the foundation of modern mobile threats.

"This worm was created as "proof-of-concept" with no real threat but can deplete the phone battery quickly due to aggressive scan for other vulnerable Bluetooth devices" (Xiao, Li, Chen, 2011, p.322).

Economical influence period

In 2006 an era begins where attackers start to realize that it is possible to generate profit through mobile malware. Automatically a huge number of malwares was created which tried to steal money from its victims. Therefore not only managers´ important contacts but also their finances became potential targets. In the period of economic influence the most important role was played by RedBrowser, which represented the next step forward for mobile malware. The most substantial difference was the fact that RedBrowser was focused on a profit creating mechanism and worked with paid SMS messages. An infection happened right after installation of the application. Thanks to this software one was able to observe first indications of usage of social engineering which tried to influence manager´s behavior.

"When a user accepted invitation internet usage, program sent SMS on prepared list of premium-rate telephone numbers and received fee for the service roughly 5,00$ (USD). This process repeated until user refused the request. Users were lead to believe, that internet connection was achieved through these repeating SMS" (Zelkowitz 2011, p.217).

Industrialization period

In 2009 a period begins which can be called the industrial period of mobile malware. Individuals or small groups of attackers perform their large-scale or even global operations. During this industrialization many new threats occur, which can be an easy source of money for these groups. In this period a risk of financial threats rises for managers. New attacks are focused mainly on mobile banking.

Background research and Goals of the Survey

France, a country with a long tradition of using IT since the implementation of Minitel, presents a relevant area for analysing the attitudes of managers towards the security of information technologies and smartphones. In spite of cultural differences and different approaches, for example, to electronic payment, the analysis of the opinions of French managers can become an interesting impulse for the estimation of the development of IT users.

The goal of the survey was to analyse the perception of threats to mobile devices used by managers and to identify the risks which determine the attitudes and behaviour of users of these devices, mainly smartphones.

For comparing these attitudes, the following goals have been stated:

- Identification of differences in the perception of risks which emerge when working with company data on mobile devices. Identification of the attitudes to BYOD, approval of a restriction of particular smartphone types.
- Examination of attitudes to implementing antivirus softwares on mobile devices.
- Comparison of the attitudes of Slovak and French managers to the importance of implementation of software for tracking stolen or lost smartphones, including software for their blocking and deleting their contents from the distance. Verification of the differences in the attitudes to the implementation of this software between a group of managers who have already lost their mobile devices and a group of respondents who do not report such an incident.

Methods and Survey Sample

The basic method of the survey was an anonymous questionnaire distributed in an electronic form. The questionnaire was written in two versions, French and Slovak, and was distributed between August 2015 to July 2016. Regarding personal character of surveyed attitudes, the questionnaire was

sent mainly to friends and people who would recommend it to their colleagues. The criterion of choice was their willingness to fill in the questionnaire. The questionnaire contained 21 questions. Beside the indentification of respondents' sex, age and work area, the questionery was also fucused on the use of devices with the Internet access. From the view of BYOD issue, we were interested whether managers use their private, business or both mobile phones. When measuring the responses, the following scale was used: 1-Strongly disagree, 2-Disagree, 3-Neither disagree nor agree, 4-Agree, 5-Strongly agree. The sample comprises 200 respondents, 99 French and 101 Slovak with the representation of men and women being similar. French respondents presented 60,6 % men (60) and 39,4 % women (39), Slovak respondents presented 61, 4 % men (62) and 38,6 % women (39). These figures are illustrated in Graph 1.

Graph 1. Respondents´ age
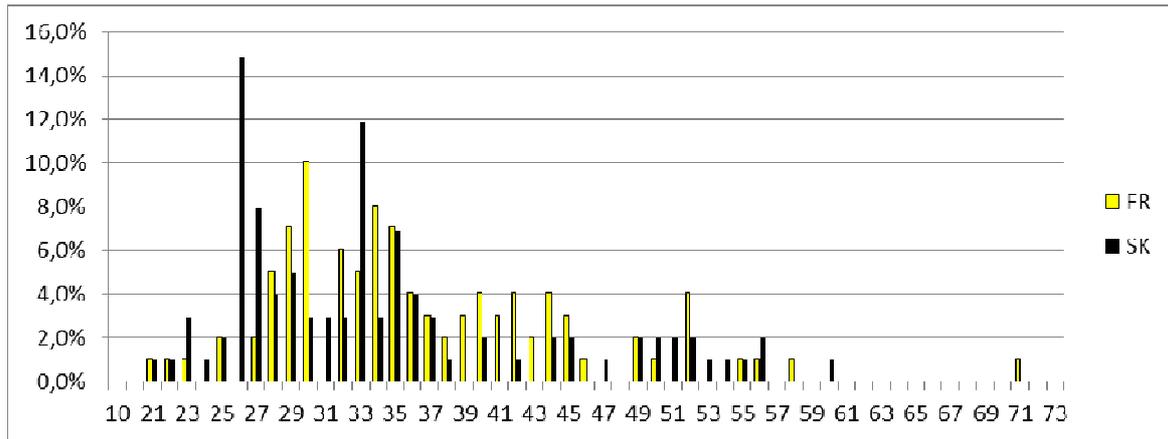
Results of the survey

While maintaining IT security in a company two basic approaches are taken. A stricter approach involves selecting several types of phones from a single manufacturer; for an easier control of danger and easier management of devices only these devices are allowed to be used for business purposes. A more liberal approach is based on the slogan „bring your own device" (BYOD). Here an IT department must manage devices from more manufacturers and the application of software for remote blocking of a stolen device is more difficult. The attitudes of managers to the risks arising from using private smartphones within BYOD approach and the assessment of threat are presented in Graph 2 and Graph 3. (Answers 1-Strongly disagree, 5 Strongly agree).

Question 7. How much do you agree with the assumption that using mobile devices to work with company data can be a risk of data loss for company?

Graph 2. Question 7
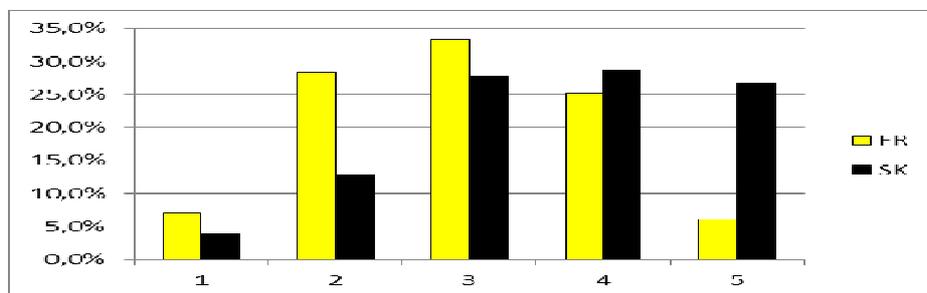
Question 8. How much do you agree when, for security reasons, an employer restricts particular smartphone types to be used for accessing company data.

Graph 3. Question 8
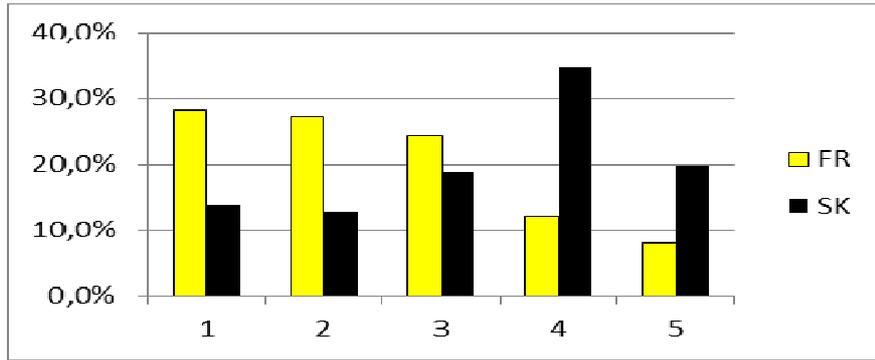
To confirm the differences we tested the statistical hypothesis:

$H1_0$: No statistically significant differences exist between the group of Slovak managers and the group of French managers in their answers to Question 8.

$H1_A$: There are statistically significant differences between the group of Slovak managers and the group of French managers in their answers to Question 8.

Table 1. Mann-Whitney U test Question 8 - group by FR-SK

	Rank Sum (Group 1)	Rank Sum (Group 2)	U	Z	p-value
Question8	8065,50	12034,50	3115,500	-4,60235	0,000004

Z (adjusted)	p-value	Valid N (Group 1)	Valid N (Group 2)
-4,70436	0,000003	99	101

We reject the null hypothesis $p<0,05$. The alternative hypothesis is valid. The differences are statistically highly significant. The willingness of managers to use only an approved type of smartphone in these countries differs.

Attitudes to the deployment of antivirus software in mobile devices will be illustrated in questions 10 and 11. We examined the extent to which managers find it important to deploy antivirus software in mobile devices. In Question 11 we detected whether they have an antivirus program installed in their smartphones. In this case, differences in the attitudes of managers from both countries were also confirmed.

Graph 4. Question 10. Is it important to have an antivirus application in a mobile device?
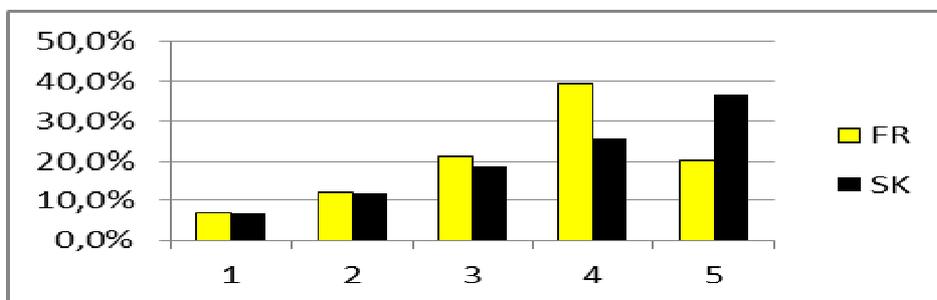
Graph 5. BOX-PLOT group by FR-SK
Question 10. Evaluation of the degree of importance of antivirus application in a mobile device.

Boxplot by Group
Question10

1-FR 2-SK
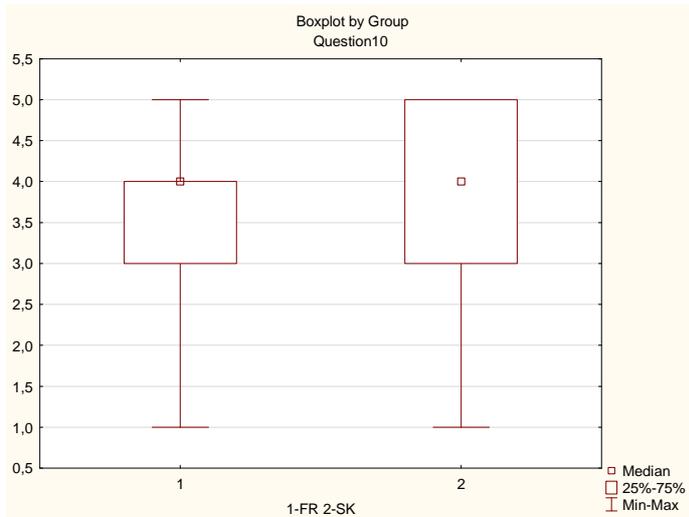
Antivirus program on smartphones appears to be important to over a half of respondents in both countries – responses 4 (agree) and 5 (strongly agree). Similar results were found also in the question of whether they have an antivirus program installed in their devices.

Table 2. Question 11. Do you have an antivirus program installed in your device?

	FR	SK
Yes	39,4%	50,5%
No	39,4%	40,6%
I don't know...	21,2%	8,9%

As a final goal we compared the attitudes of Slovak and French managers to the deployment of software for tracking stolen and lost smartphones, including software for their blocking and deletion of their content at a distance. In testing the hypothesis H2 we divided respondents into 2 groups according to their nationality. Next, we verified hypothesis H3 and attitudes of managers divided according to whether they had their smartphones lost or stolen. We expected a different result and a confirmation of our findings from previous research.

$H2_0$: There are no statistically significant differences between the group of Slovak managers and the group of French managers in their answers to question 13.
$H2_A$: There are statistically significant differences between the group of Slovak managers and the group of French managers in their answers to question No 13.

Table 3. Mann-Whitney U test Question 13 - group by FR-SK

	Rank Sum (Group 1)	Rank Sum (Group 2)	U	Z	p-value
Question13	9646,500	10453,50	4696,500	-0,739162	0,459809

Z (adjusted)	p-value	Valid N (Group 1)	Valid N (Group 2)
-0,769667	0,441498	99	101

Null hypothesis p<0,05 is valid. No statistically significant differences between Slovak and French managers in their responses to question 13 were confirmed.

For further testing we used a division of respondents into 2 groups according to their answers to the question whether they have already lost or been stolen their phone. This comparison has brought about

different results. The group of respondents who have not yet been stolen their smartphone consists of 139 managers (FR – 59,6% , SK – 79,2%). The second group consists of 61 managers who have already lost their smartphone and better understand the risks involved (FR – 40,4% , SK – 20,8%).

$H3_0$: There are no statistically significant differences in responses to question 13 between the group of managers who have lost their mobile devices and the group of managers who have not.

$H3_A$: There are statistically significant differences in responses to question 13 between the group of managers who have lost their mobile devices and the group of managers who have not.

Table 4. Mann-Whitney U test Question 13 - group by lost YES-NO

	Rank Sum (Group 1)	Rank Sum (Group 2)	U	Z	p-value
Question13	13137,50	6962,500	3407,500	-2,20639	0,027357

Z (adjusted)	p-value	Valid N (Group 1)	Valid N (Group 2)
-2,29745	0,021594	139	61

We reject the null hypothesis p<0,05. The alternative hypothesis is true - the differences are statistically significant.

Our experience and observation from years-long surveys are confirmed. If there is no problem, IT technology is used routinely and various safety measures are usually neglected. When comparing the opinions of respondents who have already experienced problems with a stolen phone and potential leakage of login passwords we can see diametrically opposed positions.

Summary

As a recommendation we suggest a rapid retraining of staff and key managers, a summary of the experience of other companies and a description of cases of penetration into the information systems of a company. We believe that only these measures can ensure uninterrupted service enabling blocking of access using smartphone which was stolen, for example, on Friday. In the case of the notification of its loss on Monday it may be too late for action.

Only a small number of users are aware of the fact that a safe solution is a device that completely encrypts its contents on the disk and also encrypts the entire communication, including data transmission. Currently such devices are absent on the market of technologies for civilian use. We expect that in the near future tablets will appear which will enable encrypting of their entire contents for a price accessible for corporate deployment. The news has already leaked that companies Samsung and Blackberry have started cooperation on a similar product.

Despite the overall progress it will always be necessary to familiarize users with security incidents in an attractive way and to learn from individual cases. A part of such threats can no longer be captured by antivirus programs. Thus not only new approaches will be needed but also certain caution on the part of their users as well as their continuing familiarization with the risks and weaknesses of the information technologies used.

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The Role of Citizens in "Smart Cities"

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Abstract

The "smart city" is an umbrella for cities that use information technology to improve services and provide better quality of life for its citizens. Citizen participation is often highlighted as an important part of the smart city concept. Participation can be political – influencing political decision making, but also non-political where citizens participate to help the city solve its problems. Most current literature focus on political participation, and the non-political participation is often neglected. This paper makes the argument that both kinds of participation are important.

Key words

Smart cities, Digital cities, Electronic participation, Transparency

Introduction

"Smart city" has been coined as a term to describe urban development based on improvement of quality of life, better services, reduced environmental footprint and sustainability. Technology is an important part of the "smart city" concept. Most definitions rely on the use of information and communication technology (ICT) (Dameri and Cocchia, 2013). ICT allows the city to manage vital functions and create added value. Use of technology relies on data collection from various sources, and "big data" plays an important role to achieve "smart city" objectives. Such data is coming from a variety of sources (Marr, 2015): Sensors (including real-time video, "human sensors", social media and open data sets.

Smart cities projects address many applications areas within areas like communication, culture, energy, environment/climate, health, tourism, and transport. "Smart cities" are closely related to "smart buildings" and "smart devices" but neither cities, buildings nor devices are smart in themselves. The whole concept relies on the smartness of the city administration, politicians and the citizens to utilize technology in "smart" ways.

Definitions often include administrative aspects like good governance and city management, where citizen participation plays an important role. One popular definition is:

"Projects of smart cities have an impact on the quality of life of citizens and aim to foster more informed, educated, and participatory citizens. Additionally, smart cities initiatives allow members of the city to participate in the governance and management of the city and become active users". (Chourabi et al., 2012). Giffinger et.al. (2007) named participation one of five core pillars of "smart cities".

This paper focuses on citizen participation in the context of the smart city. While most authors just define participation as taking part in political decision making, this paper elaborates upon the concept of interaction and participation in general. We also want to emphasize the role of citizens as experts and volunteers. Experts share their competence, volunteers share their time, but they share to help their city become better and smarter.

The Role of Citizens

The first, and most important question, is the purpose of citizen participation. Most authors regard participation as an important manifestation of democracy. Through participation citizens are able to influence how their city is managed, developed and maintained. In most cases, authors advocate a more direct form of democracy as an ideal, where citizens actively influence the decisions being made.

Direct democracy (Held, 2006) implies that citizens have the power to make political decisions by themselves. In an indirect democracy, political decisions are made by elected representatives. The citizens may decide not to re-elect representatives if they are dissatisfied with their performance.

Direct Democracy

Binding (local) referendums is probably closest to the ideal of direct democracy. The citizens vote on specific issues, and the result cannot be disputed by elected representatives. But binding referendums are seldom used, both for legal and political reasons. Switzerland is the most well-known example where local (binding) referendums are used.

Participatory budgeting has become widespread, where citizens vote on the use of a part of the total budget for a city (Sintomer, Röcke and Herzberg, 2016). More and more cities are implementing various forms of participatory budgeting. In this case, the allocation of funds is a direct consequence of the participation. Participatory budgeting is a powerful mechanism to make participation work. The incentive to participate is high, since the citizens will see direct results from taking part in the decision making.

Indirect Democracy

Other authors see participation as an enhancement of indirect democracy. Indirect democracy is the common model in western democracies (Pitkin, 1967). The citizens vote for parties or representatives to act on behalf of themselves until the next election. To give citizens more influence on agenda setting, different tools have been implemented i.e. petitions, consultative referendums and consultations.

In their book „Stealth Democracy", Hibbing and Theiss-Morse (2002) argues that citizens are satisfied with how indirect democracy works. Citizens should not be bothered with problems they have elected politicians to solve.

"The last thing people want is to be involved in more decision making: They do not want to make political decisions themselves; they do not want to provide much input to those who are assigned to make these decisions; and they would rather not know all the details of the decision-making process."

Hibbing and Theiss-Morse build on empirical data from U.S.A. Their research may explain the limited success of many e-participation projects and trials.

But participation is more than exercising political influence. Citizens can also help the city solve their problems and improve their services by offering help. Many citizens possess knowledge that the city may not have, and may share their expertise. Citizens may also share their time. This will be elaborated upon later.

The Prerequisites of Electronic Participation

Berntzen and Karamagioli (2010) developed a model (see figure 1) to show the prerequisites for taking part in the digital society. First, a suitable infrastructure must be in place. This can be wired or wireless. The infrastructure is necessary to establish the connection between the citizen and the participatory platforms. The citizen also needs access to technology, either through his/her own device (personal computer, tablet or smartphone) or through public accessible devices, e.g., information kiosks or computers in a library. Some citizens have impairments, so it is also a need for accessibility features to let all people take advantage of their devices. Also, education and training is necessary to be able to use technology in an efficient and meaningful way. Legal mechanisms are needed to protect such things as privacy, freedom of expression etc. It is also necessary to have some technical mechanisms to make sure users are authenticated when required, but also to stay anonymous in other contexts. In the end, all these layers are necessary to achieve trust in, and adoption of the solution.

Figure 1. Prerequisites of electronic participation
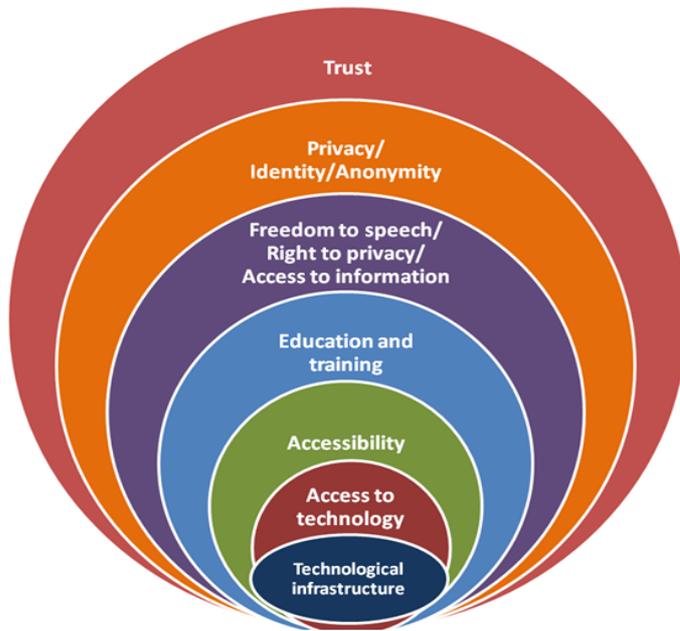
Political participation

OECD (2001) developed a model (see figure 2) that focuses on the level of interaction between the government and their citizens. Adapted (by the authors) to smart cities this model spans three different levels:

- Information only. This is one-way communication with no feedback from the citizens. The purpose is to keep citizens informed about political and managerial issues.
- Consultation. A two-way communication where the citizens are asked for input on specific issues. The city decides on the issues to be discussed, and collects and processes the feedback from the citizens.
- Participation. Citizens enter a partnership with the city, and take an active role in the political decision making. Citizens can raise issues they want to discuss, and the city listens for their inputs.

The OECD model discusses interaction in general, with no specific emphasis on digital interaction. However, digital interaction may improve the interaction between the city and the government. We will later discuss some tools that facilitates such interaction.

Figure 2. Different levels of interaction
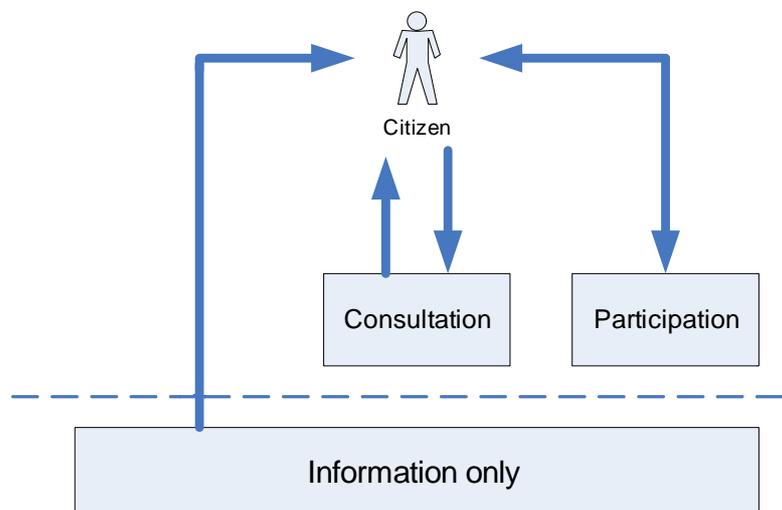
Source: OECD 2001

In order to take active part in political decision making, citizens need to be well informed about the recent history, current state, and future plans of the municipality or city. Therefore, the smart city must make necessary efforts to publish updated and relevant information. Transparency is foremost a legal issue. Most democratic countries have laws or other legal mechanisms in place to secure citizens access to public documents and records (Lidberg, 2009). A smart city will typically use information technology to improve the transparency and accessibility of such information. Transparency is not only about documents and records, but also meetings, processes, benchmarking, decision makers and disclosure of information (Berntzen et.al. 2009):

- Document transparency is about access to documents used as background for decision making. Norwegian municipalities are obliged to provide access to such documents. Municipalities are required to keep records of incoming and outgoing mail (including e-mail), and these records are public documents as long as they do not include information protected by privacy regulations. Documents and mail records can be made available on the municipal/city web server for reading and downloading.
- Meeting transparency is about access to meetings where decisions are made. The agenda with location and time needs to be publicly announced. This can be done through e-mail newsletters and municipal/city web sites. According to Norwegian law, meetings of political bodies are open to the public. Meetings can be webcasted to give more citizens the possibility to follow the proceedings. The minutes of political meetings are public, and may also be published online.
- Process transparency is about the process itself. It is important that citizens understand the political decision making processes and the different steps taken to reach a decision. Information technology may be of great help to visualize decision making processes. Flowcharts and timelines may be useful tools to show the steps and progress of such processes.
- Benchmarking transparency is the possibility to compare the municipality or city with other municipalities or cities to check the current performance. Norwegian municipalities are annually required to submit a large amount of statistical information to KOSTRA, a database maintained by Statistics Norway. The database offers a user interface that makes it easy to benchmark cities and municipalities by selecting relevant indicators. The database also allows creating tables showing how indicators have changed over time. The Norwegian Association of Local and Regional Authorities (KS) has established their own benchmarking web site, BedreKommune.no, to facilitate benchmarking on some additional indicators not covered by the KOSTRA database.
- Decision maker transparency is important for trust. Information on ownership or other interests should be disclosed to the public. In Norway this is done through a register maintained by the Norwegian Association of Local and Regional Authorities (KS). The register is accessible through a web page.
- Disclosure transparency is the right to ask questions about what is not in the documents or proceedings. Citizens should be able to ask for information regarding the running of the city. Some municipalities and cities have established a mechanism where citizens can ask the mayor questions, where the mayor answers the questions in the following local council meeting. In other municipalities and cities, the mayor is available in some public place, e.g., the library at regular intervals to answer questions from citizens. ICT can provide an efficient channel for asking such questions.

Tools of participation

Interaction can happen with or without the use of information technology. In many countries, town-meetings were used to inform citizens and get feedback on policy issues. Some countries have long traditions for using local referendums. Our definition of smart cities implies the use of information technology to improve services and better quality of life. It is therefore natural to start with a discussion of the possibilities of using technology for political participation. Some common tools used by Norwegian municipalities and cities are listed in Table 1.

Table 1. Tools for participation

OECD type	Tool	Features
Information	e-mail newsletter	Citizens can subscribe to an electronic newsletter to receive information on upcoming meetings, meeting agendas and other information regarding city politics.
Information	Online mail records	Norwegian municipalities are required to keep record of incoming/outgoing mail (Berntzen et.al., 2009). Citizens can examine the mail records for items of interest. Online access makes it easier for citizens to find such items.
Information	Online document repository	All Norwegian municipalities have their own web sites providing information on municipal services and organization. Most municipalities also provide access to all documents used for political decision making (document repository) including meeting agendas and minutes from the meetings. Online access makes it easier for citizens to access all relevant documents related to the decision making process (Berntzen et.al., 2009).
Information	Webcasts	Citizens may follow the proceedings of the meetings of political bodies. The proceedings may be recorded and made available for future viewing (Berntzen et.al., 2009). Webcasting of local council meetings is also a popular service (Berntzen, 2013). Currently more than 100 municipalities and county municipalities provide webcasting as a service.
Consultation	Consultations	Consultations are top-down. The city is asking its citizens for input on specific issues (OECD, 2001). Consultations can be seen as a structured way of getting feedback on policy issues. Electronic consultations are easy to implement, citizens can be asked to respond via e-mail, but some municipalities have used modified discussion forum platforms to facilitate sharing and dialog. Citizens should receive feedback on their input, if not, interest of participating will decrease. Several municipalities and cities provide consultations on political matters. Citizens are allowed to comment on specific policy proposals and plans. One specific service "Digital Planning Dialog" (Berntzen and Trollvik, 2007) let citizens examine both maps and documents related to spatial planning, and also make comments to the plans.
Consultation	Polling	Polling is also a form of consultation where citizens are asked about specific issues. Online polling applications (Goidel, 2009) normally uses scales or checkboxes to collect opinions from the citizens.
Consultation	Blogs	The city may also use a blog to ask for input on political matters. A blog is a collection of entries containing text/photos/videos with the latest entry shown first. The blog normally allows readers (citizens) to comment.
Participation	Discussion forum	A discussion forum is a platform that typically allows its users to start threads on some topic (Berntzen, 2004). Other users may add their comments. A number of Norwegian municipalities established discussion forums to facilitate dialog. Unfortunately, they have been closed down, one after another. Users have attacked municipal employees, or made race or sexually discriminating comments.
Participation	Citizen initiative (petitions)	Citizen initiative is an opportunity for citizens to be influence local policies between elections. Citizen initiative was introduced in the Norwegian legislation in 2003. Citizens may propose a new policy or a policy change, and collect support from other citizens. If the initiative manages to collect signatures from 2% of the citizens (or 300 signatures), the local council is obliged to discuss the initiative (Berntzen and Winsvold, 2005). The national government has established a platform "minsak.no" to facilitate both submission of proposals and collection of signatures on the Internet. The platform has so far 685 registered initiatives

Participation	Social network platforms (e.g., Facebook)	Many municipalities are using social media platforms for information, mobilization and dialog. Facebook is most widely used with currently 184 municipalities having their own page. The pages are mostly used for information, but some municipalities encourage questions and provide answers. A few is asking questions to facilitate dialog. Some municipalities are using Twitter and Instagram. The need for users need to authenticate themselves, disciplines the discussions. A tool showing the use of Facebook by municipalities was made by two of our students. The tool shows total number of entries, comments, reactions and shares for each municipality, and can be accessed on http://socialmediadata.citizencentric.net.
Participation	Participatory budgeting	Participatory budgeting has become widespread, where the citizens vote on the use of (a portion) of the total budget for a city. In this case, the results are a consequence of the participation (Sintomer, Röcke and Herzberg, 2016). Participatory budgeting is a powerful mechanism to make participation work. The incentive to participate is high, since the citizens will see direct results from taking part in the decision making

Non-political participation

The following examples show how citizen can help their city and fellow citizens through non-political participation. The examples focus on digital participation, since the smart city concept relies on use of technology to make better services and improved quality of life for its citizens.

FixMyStreet

FixMyStreet (King and Brown, 2007) is an application that allows citizens to report on issues and problems through their computer or smart phone. The application is location based, it uses the address or GPS coordinates as a tag to show the exact location of the issue or problem. Typical problems are holes in the road, broken light bulbs in street lighting, abandoned vehicles, broken water pipes etc.

FixMyStreet mobilizes citizens to alert the city administration when something needs to be fixed. The application also provides feedback on status. It is possible to see how fast (or slow) the city is responding to reported problems. FixMyStreet is widely used in United Kingdom, but the software itself is open source, and has been adopted by cities all over the world. In Norway, the application has been translated into „FiksGataMi".

In this case the citizens are acting as "human sensors". They observe something is wrong and report it.

TrafPoint

TrafPoint is a smartphone app and digital ecosystem developed by a consortium of private and public partners in Southeast Norway, to monitor and improve public transport (Johannessen and Berntzen, 2016). Using a combination of beacons, Bluetooth and motion-detection algorithms, Trafpoint monitors each bus stop in the city, collecting data about use, peak times etc. The data can be used by planners to optimize public transport routes.

Management and Monitoring of Bicycle Routes

A master student at the Norwegian University of Science and Technology (NTNU) developed an Android app for The Norwegian Public Roads Administration to manage and monitor bicycle routes (Khodambashi et.al., 2016). City planners make assumptions about cyclists´ behaviour based on insufficient data. The app provides more accurate information on which routes to improve based on feedback from cyclists. The app also provides information about such things as speed and relative frequency of use of bike lanes. Field testing was done in Trondheim, Norway, and at the end of the trial period more than 50 people had downloaded and installed the app, and uploaded more than 100 trips. The collected data is visualized in a web-based interface, and provides city planners with valuable information for planning purposes.

Sauberes Wiesbaden

Sauberes Wiesbaden (Clean Wiesbaden) is a collaborative project between Wiesbaden's waste disposal services (ELW), Wiesbaden Council and the RheinMain University of Applied Sciences (Böhm et.al., 2015). The project aims to promote the participation of the citizens to quickly and easily report illegally dumped garbage in the area of Wiesbaden, Germany. An Android smartphone app was developed to make reporting easy. The app uses the location data from the mobile phone to give exact position of the disposed garbage.

The mobile application was officially launched in the Google Play Store on October 9th, 2015. During the first month there were more than 1,000 downloads. In this period 469 events were reported. From those, 13% were rejected due to duplicates, poor quality pictures, or because the report was located on a private or restricted area; while 87% were successfully processed. When comparing the app with other methods like calls or emails, the overall number of reports generated with the app has increased by 134% (Böhm et.al., 2015).

Green Watch Project

Another example is the Green Watch project (Ratti and Townsend, 2011). The project distributed 200 smart devices to citizens of Paris. The devices sensed ozone and noise levels as the citizens lived their normal lives, and the results where shared through a mapping engine.

The project showed how a grassroots-sensing network could reduce monitoring costs dramatically, and at the same time engage citizens in environmental monitoring and regulation.

Täsä

In Turku, Finland, the city created a mobile app aimed at urban development (Ertiö, 2016). Citizens can download the app to report issues or present ideas for development. The app allows users to pin an issue to the map, take photos and upload text. It is also possible to discuss the proposals made by others. A first trial found that this engaged hundreds of citizens who used to app both to report on problems and present new ideas.

The Digital Inn

The Digital Inn is a database for historical records like parish records (Berntzen, 2007). Such records are of course very important for historians and those interested in genealogy. The problem is that such records are hand written and needs to be transcribed into digital form. The Norwegian Archive Administration realized that transcribing such records would be a costly and time-consuming job, so it decided to provide the necessary infrastructure and mobilize citizens to transcribe parts of this enormous material. The Digital Inn has been a success. Currently 296 people and organizations have established „rooms" where they share their transcriptions. Through a search engine, it is possible do searches in this material. While this is not helping the city in its daily activities, it is an important part of preserving our cultural heritage. It also shows how (local) administrations can mobilize citizens by providing the appropriate infrastructure.

Safety-net

Safety-net is a self-help network (Berntzen, 2011). The initial idea was to provide self-help to next-in-kins of patients suffering strokes or dementia. The platform is run by a consortium of municipalities located in Vestfold county, Norway, and have later been extended to support parents of children with psychological problems, and relatives of drug abusers. The whole idea is to learn from other citizens experiencing the same situation. The platform includes video communication between network members, and access to a knowledge database with information written by medical professionals. The network is run by coordinators employed by the municipalities, and these coordinators also arrange off-line events.

Discussion and Conclusion

This paper focuses on the role of citizens in the smart city (or smart municipality). To be "smart" is not about size, but about how the city or municipality facilitates dialog, interaction and collaboration with its citizens. The key message is that most research on e-participation has focused on political involvement, and not on community involvement. Information technology makes it easier to do both. We have shown different tools that can be used to facilitate citizen influence on political decision making, and we have

discussed some specific cases where the citizens help their city, not from a political standing point, but as experts or volunteers. The whole idea of smart cities requires both participation on political issues, but also help from experts and volunteers to succeed.

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Modelling and Management of Choosen Crossroad

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Abstract

This contribution deals with the implementation of algorithms of management for dynamical control and management of a choosen crossroad. The management algorithm operates with amount of vehicles coming into the crossroad while the amout of vehicles is obtained from sensors. The management algorithm also takes into account whether a tramway is in the crossroad. The contribution also deals with the design and implementation of simulation model realized in Matlab/Simulink.

Key words
Traffic management, automatic control, intelligent crossroad, modeling

Introduction

Socio-economic development and growth of living standard have a significant impact on the traffic, which results in an increase of the number of vehicles on the roads. Of course this phenomenon has several negative consequences where one of them is big number of columns of vehicles that are generated mainly on the morning and afternoon. The columns of vehicles are formed mainly at the crossroads and therefore one of the ways how to solve this problem is to increase the throughput of the crossroads. An expansion of the crossroads has usually some limits and therefore the building of flexible and intelligent traffic systems with using of new information and communication technologies seems to be the perspective possibility for solution of the traffic problems in larger towns in Slovakia. The crossroads with intelligent control or also dynamically controlled crossroads are able to evaluate the arised traffic situation and then to control traffic lights by defined algorithms or they are able to direct the traffic such a way that permeability of the controlled traffic node is maximized. The control centers that already exist in large european cities are able to monitor the vehicles arriving to these cities. Based on the collected data and its subsequent processing by using certain algorithms it can be possible to control automatically or manually the traffic situation in the city. The costs for setting up such intelligent traffic systems are relatively high but the result is in the more smooth passage of the vehicles, the increase of the road safety, the increase of the the throughput of the traffic node and the protection of the environment by reducing air pollutants.

The intelligent crossroads

The traffic is on the present one of the biggest problems because the number of vehicles has continually increased but road infrastructure can not grow at the same rate and its growth has some limits. Therefore one of the ways how to solve this problem is application of more efficient management (control) of the traffic where one method of this is use of the intelligent crossroads. IBM came with the idea of the intelligent crossroads already some years ago. The intelligent crossroads are able to monitor the traffic situation and for example they are able to evaluate arised traffic situation on the basis of the data from the GPS and the digital maps (Kohl 2013).

For example the control systems of the intelligent crossroads (or intelligent transport systems respectively) are able to switch the traffic lights to the red if some vehicle comes into the crossroad at a higher speed than is allowed. The sensor of the vehicle speed can be located on the traffic lights or at a suitable location near the crossroad. Another interesting functionality of these systems is that for example in the evening they are able to switch the traffic lights to the green in such case when some vehicle is incoming from any direction and no other vehicles are in the crossroad. The aim of such evening

management is that the driver does not need to wait until the green light will be switched on at the traffic lights (Bánovec 2007).

One of the most enhanced types of the intelligent crossroads is the crossroad where the sensor (electrical coil) is installed into the roadway a few meters before the border of the crossroad and the control system of the crossroad by this sensor identifies number of the vehicles, then evaluates traffic situation at the crossroad and following the appropriate algorithm controls the traffic lights. For example if the sensor did not register any vehicle then the control system skips the green light for this direction (Bánovec 2007, Drahovský 2005).

Situation in the town Košice

The town Košice is currently the second largest city in Slovakia and its road infrastructure represents an important and complex traffic node with lots of crossroads controlled by traffic lights. Following the analysis that we performed by the information and data from accessible resources and following the results of communication with the responsible institutions, we can say that the number of crossroads that can considered as intelligent is negligible to the total number of the crossroads with traffic lights. However there are more simple control systems, for example for preference of the tramways where are applied so called "login sensors" placed on the overhead contact line. The principle is that the tramway logins to the crossroad by the login sensor a few meters before the crossroad. The control system detects this login and then finishes the actual phase and sets the traffic lights so that the tramway could pass the crossroad without longer waiting or if it is possible to pass the crossroad immediately (Vrábeľ 2014).

Description of the real state at the choosen crossroad

In regard to the facts presented above we decided to choose one crossroad with the traffic lights in the town Košice and to create the simulation model of this crossroad by available software tool, consequently to design the algorithm of intelligent control of this crossroad and finally to verify designed control by created simulation model. Because it was necessary to monitor real-time traffic on the selected crossroad we chose the crossroad between the Letná Street and the B. Němcovej Street (this street ends at the crossroads and continues further as the Zimná Street). The crossroad is located near the main building of the Technical University of Košice and it is relatively frequented especially in the morning and in the afternoon. The tramways pass the crossroad only by one street (B. Němcovej and the Zimná Streets) but tramway rails are installed for each direction independently.

A different control algorithm as at the present was implemented to the control system of the crossroad still at the end of 2013 year. The signal plan was changed following requirement of the traffic police. The main reason was the separation of overlapping green lights from both directions of the Letná Street when the opposing vehicles turning left had to give right of way themselves. The vehicles had to wait in the crossroad for safe and free crossing.This crossroad was the last and only one crossroad controlled by such form in the town Košice. The new control algorithm has been in test mode since January 2014 (Vrábeľ 2014).

The shape of the crossroad is shown on Figure 1. We can see that the vehicles come from four directions: amphitheatre, the Zimná Street, the Letná Street and the Botanic Garden. The tramways come only from two directions: from the Botanic Garden and the Zimná Street. The capital letters that are shown in the picture represent crossing of the pedestrians via the crossroad and the numbers represent crossing of the vehicles. The pedestrians crossing the crossroad as follows: from the Botanic Garden to the Zimná Street (A), from the passenger isle to the amphitheatre (B), from the Technical University to the passenger isle (C), from the Letná Street to the Technical University (D) and from the amphitheatre to the Letná Street (E). The vehicles stepwise pass from the Zimná Street together with the vehicles turning right from the amphitheatre. After their crossing the vehicles pass from the amphitheatre and the vehicles turning right from the Botanic Garden. After their crossing the tramways pass. The tramways always have free signal even if there are not any tramways in the crossroad. After crossing of the tramways the crossroad continues by standard step. The vehicles coming from the Botanic Garden get free signal. The vehicles from the Letná Street pass the crossroad as the last.

Figure 1: The shape of the crossroad
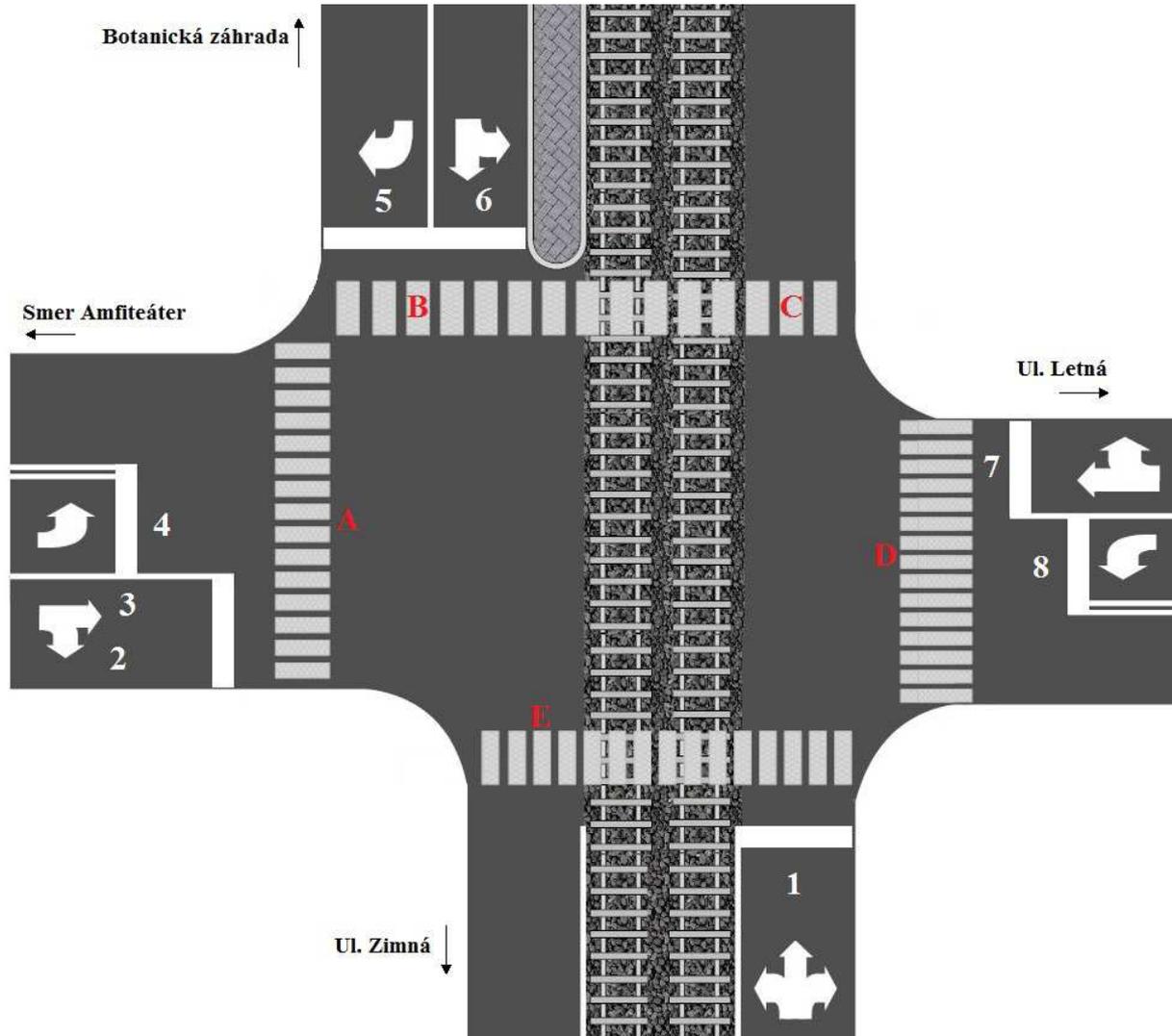
Source: own processing

The duration of the green lights for particular driving directions is fixed. The complete loop (the vehicles come in sequence from all four directions) takes about 114 seconds. The current state is described on the date February 20, 2014.

Description and analysis of the simulation model of the crossroad

As mentioned above our aim was to create the simulation model of introduced crossroad and consequently to design the control algorithm which will determine the lengths of the intervals of the green signals for particular directions according to number of incoming vehicles to the crossroad. The simulation model of the crossroad was created in simulation language MATLAB by using of the Stateflow Toolbox that can model the state machines and flow diagrams within Simulink. The Stateflow Toolbox represents an appropriate tool for modeling of dynamic systems that develop over the time and have a finite number of the states and defined events can rise in the time (Foltin 2008).

The control system determines the length of the interval of the green lights according to the number of the vehicles in the crossroad by a defined scale. For example if 5 vehicles are in the crossroad then the length of the interval of the green light will be 11 seconds, if the sensor detects 13 vehicles in a given direction then the control system will switch on the green light for 29 seconds. The length of the interval of the green light for a given direction was calculated as the average of particular times of crossing of the vehicles via the crossroad. The times of the crossings of the vehicles via the crossroad was determined empirically at two crossroads in the town Spišská Nová Ves and at one in the town Košice. We counted the vehicles that passed the border of the crossroad (Muchová 2014).

Simulation model for the workday

We can consider the crossroad from cybernetic point of view as a system with specific inputs and outputs. The inputs to the crossroad are represented by the numbers of vehicles incoming to the crossroad from particular directions that are sensed by sensors installed into the roadway or by cameras placed on the traffic lights. The control system detects the intensity of the traffic following the information from the sensors and then the control system determines the length of the time of the green light in particular traffic line.

The standard MATLAB and Simulink functions was used for generation of the random numbers that represent the number of the vehicles detected by the sensors, for genetation of the presence of the tramways in the crossroad and the direction from which the tramway is coming. After setting the time of the simulation and the running of the simulation it is switched on the red light on the traffic lights. The simulation begins by the first parallel substate when the vehicles from the Zimná Street passing the crossroad. The control system of the crossroad receives information whether the tramway is logged or is not logged because it is not considered with the tramway in the each loop of the crossroad. Following situations can occur:

- the tramway is not logged to the crossroad;
- the tramway comes from the Botanic Garden;
- the tramway comes from the Zimná Street.

If the tramway is not logged to the crossroad then the simulation continues to the next state where the control algorithm receives information about the number of the vehicles in the crossroad. Following situations can occur:

- the sensor does not detect the vehicles in the crossroad;
- the vehicles in the crossroad wait for the crossing.

If the control algorithm registers the vehicles in the crossroad then the traffic lights switch to the orange color and after two seconds the lights turn to the green color. The length of the interval of the green light depends on the number of the vehicles in the crossroad. When the vehicles pass the crossroad then the traffic lights in a given direction turn to the orange color for three seconds and then switch to the red color. If the sensor did not detect any vehicle in the crossroad then the red light remains for the given driving direction. The control algorithm skips this direction.

The control algorithm always checks if the tramway is logged to the crossroad before switches the traffic lights for the next direction. If the tramway comes from the Zimná Street then the control system of the crossroad gives free signal to the tramway. When the time required for the crossing of the tramway expires then the simulation continues with standard step – it detects the number of the vehicles in the crossroad.

Completely different situation occurs if the control algorithm obtains the login information from the tramway from the Botanic Garden. Because the tramway comes to the tramway stop it is necessary to ensure that passengers will have enough time to get off and get on. When the sensor detects that the tramway is in the crossroad the control algorithm lets to pass the vehicles in given direction and afterwards gives the free signal for the tramway. In the case that the control system did not detect any vehicles in given direction and passengers need to get off and get on the algorithm gives the free signal for the next direction. The control algorithm remembers that the tramway is in the crossroad. Therefore after the vehicles pass the crossroad in given direction the tramway gets the free signal.

The form of signals for crossing of the pedestrian from the amphitheatre to the Letná Street is shown on Figure 2. We can see that the traffic light for the pedestrian crossing switches from the red to the green color approximately in 55th second. The red light for pedestrians turns on again in 84th second. In 147th second the traffic light switches to the green color and and pedestrians have 18 seconds to pass the crossroad until 165th second when the red light turns on. The time period for crossing of the pedestrians depends on the number of the vehicles detected by the sensor. The length of the interval of the green light for the vehicles and also the length of the green light for pedestrians who pass the crossroad at the same time as vehicles in the same direction also depend on this number of the vehicles.

Figure 2: The form of the signals for crossing of the pedestrians

Source: own processing

The form of light signals for simulation of the crossroad control for the third direction where the vehicles come from the Botanic Garden is shown on Figure 3. When the amplitude of the signal gets the value of 1 it means that the traffic light shines the given color. If the traffic light does not shine then the amplitude of the signal is equal to zero. The figure shows that in the 55th second the green light turns on for the third direction and for example that in the 168th second the orange light turns off and the red light turns on.

Figure 3: The form of the signals for the third direction – the vehicles incoming from the Botanic Garden
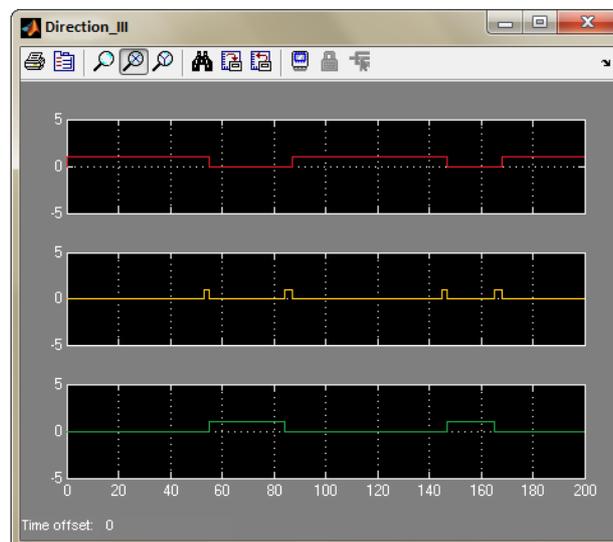
Source: own processing

Simulation model for the weekend

Because during the weekends and the holidays considerably fewer vehicles pass the crossroad the control algorithm for these days was designed. The length of the interval of the green light depends again on the number of the vehicles incoming to the crossroad and the tramways also login by the login sensor. A significant difference compared to the working day is that the tramway which log on to the crossroad in first direction, passes the crossroad in the fourth direction. If the tramway is logged in the second direction, passes the crossroad in the first direction. If the tramway is logged in the third direction, passes the crossroad in the second direction, and finally if the tramway is logged in the fourth direction, passes the crossroad in the third direction. Common features of all four directions are these: when the tramway is passing via the crossroad then the pedestrians passing from the Botanic Garden to

the Zimná Street, from the passenger isle to the amfitheatre and from the Letná Street to the Technical University have also the green light.

After start the simulation the red lights turn on at all traffic lights for the vehicles and the green lights at all traffic lights for the pedestrians. If the sensor detects the vehicle incoming to the crossroad from any direction then the control system switches the traffic lights to green whereas in other directions the red colors remain at the traffic lights. The green lights for the pedestrians remain only in directions that do not cross driving directions that have the green lights.

Analysis and comparison of actual state of the crossroad with designed simulation model

For greater clarity, improved readability and for the purposes of the analysis the results of the simulations are displayed in graphical and tabular form with a choice of time and day. Table 1 shows the number of vehicles that passed the crossroad in the real and simulation model.

Table 1. Number of vehicles – monday morning

Real model		Simulation modelr	
1 loop	25	0,75	21
2 loops	60	1,25	61
3 loops	100	2,25	102
4 loops	130	4	127
5 loops	145	4,5	148

Source: own processing

Following the analysis of the simulation results we can say that for example during the first loop (one loop means the crossing of the vehicles from all directions) passed the crossroad 25 vehicles in the real model. In simulation model exactly 21 vehicles passed from only three directions. It means that the control algorithm in simulation model let turned on the green light longer at the one from the traffic lights. The real model was better during the four loops because more vehicles passed the crossroad than in the simulation model. During the five loops 145 vehicles passed the crossroad in the real model while in the simulation model 148 vehicles passed the crossroad during the four loops and two directions.

The results are displayed on Graph 1. The obtained results show that the control algorithm in the simulation model was able to respond more flexible on rised traffic situation.

Graph 1. Number of vehicles in simulation and real model – monday morning
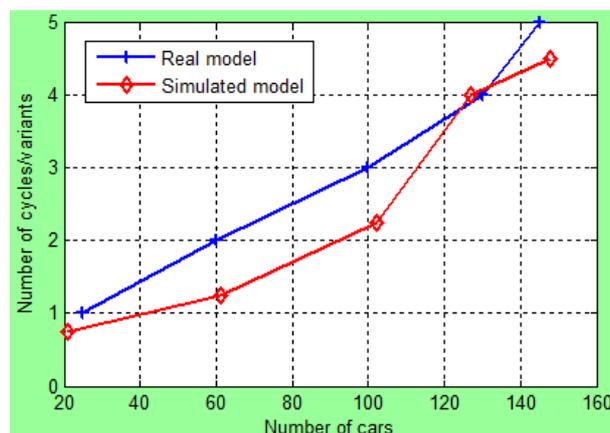
Source: own processing

The next step was the comparison of the real and the simulation model for the traffic at the crossroad during a normal working day at noon – specifically on monday at noon. Table 2 shows the number of the vehicles that passed the crossroad on monday at noon.

Table 2. Number of vehicles – monday noon

Real model		Simulation modelr	
1 loop	25	1	25
2 loops	56	2,25	57
3 loops	84	2,5	90
4 loops	115	3,25	120
5 loops	142	4,75	141

Source: own processing

In the first loop the same number of vehicles passed the crossroad in the simulation model and the real model. An interesting situation occurs in the second loop. 56 vehicles passed the crossroad in the real model and 57 vehicles passed the crossroad in the simulation model during the two loops. Moreover in the simulation model the vehicles from one more direction passed the crossroad. It follows that if the control algorithm of the crossroad does not detect any vehicles in given direction it skips this direction and gives free signal for other direction. The situation was reversed in the third and the fourth loop because larger number of the vehicles was in the crossroad and therefore the control algorithm let turned on the green light longer for one of the driving directions. The traffic density in the real model was 142 vehicles in 9 minutes and 30 seconds and in the simulation model it was 141 vehicles. The results are shown in Graph 2.

Graph 2. Number of vehicles in simulation and real model – monday noon
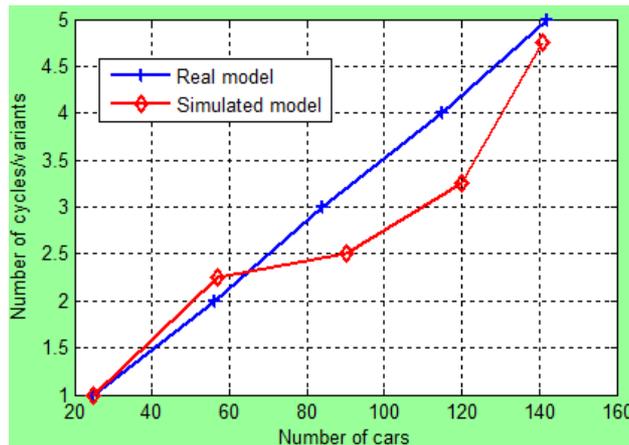
Source: own processing

The traffic situation at the crossroad on the weekend is described as the last. Table 3 shows the number of the vehicles on the weekend at noon. During weekends and holidays the simulation runs as follows: the traffic lights turn on the red lights for all directions for the vehicles and turn on the green lights for the pedestrians. The obtained results shows that the control algorithm in the simulation model was able to respond more flexible to the traffic situation.

Table 3. Number of vehicles – weekend noon

Real model		Simulation modelr	
1 loop	16	1,5	17
2 loops	34	3,25	37
3 loops	55	6,75	57
4 loops	70	8	69
5 loops	91	9,75	93

Source: own processing

Following the measuring of the number of the vehicles in a real-time traffic and following the results of the simulations we can say that the simulation model seems to be better on the weekend. The results are shown on Graph 3.

Capacity of the crossroad with traffic lights represents the number of the vehicles that pass the crossroad per hour. In the simulation model it was 1001 vehicles while in the real crossroad 980 vehicles passed. Comparing these values we can say that designed control algorithm in simulation model is better in control traffic at crossroad with dynamic changes of the number of the vehicles that pass the crossroad than the control algorithm which is implemented in the control system of the real crossroad on the present.

Graph 3. Number of vehicles in simulation and real model – weekend noon
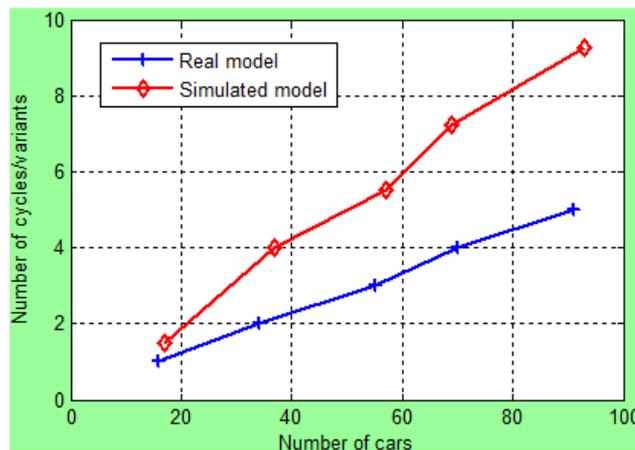
Source: own processing

Summary

The benefit of the designed control algorithm of the crossroad with traffic lights is especially dynamic change of the length of the interval of the green light for each direction depending on the number of the vehicles passing the crossroad. The control algorithm is also able to respond flexibly on the presence of the tramway in the crossroad. The control system of the crossroad in which is implemented the algorithm mentioned above is able to respond to the traffic situation with greater flexibility. Key elements for the function of the algorithm are reliable sensors that detect the number of the vehicles incoming to the crossroad from different directions. Considerable contribution is also the realization of the simulation model in simulation language MATLAB which can be used to verify the designed control algorithms and then compare with the results obtained by the real situation at the crossroad. It is obvious that to achieve as much continuous traffic flow as possible it would be necessary to implement a network of such intelligent crossroads that will be able for example to monitor the number of the vehicles incoming to the city.

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Implementation of Outcomes of MRO Systems for Operative Flight Planning

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Abstract

The goal of this article is to interconnect a MRO system with an airline information system in order to increase the efficiency of information flow between these two objects. The article contains MRO-system provided data that are useful for a flight planning, information usability model and for requirements of the MRO system and an airline operation system interface.

Introduction

The average lifespan of a typical airliner is usually around thirty years and that's why each company tries hard to keep the planes in such conditions that it can practically last that long. That requires very strict maintenance programs.

With new technologies and the more increasing complexity of aviation systems a new tendency came on the scene that provides the maintenance, repairs and also overhauls by means of the MRO (Maintenance, Repair & Overhaul) systems.

The MRO systems play a significant role in maintaining the airline fleet meaning the MRO term covers all activities and tasks regarding airplane's safety and airworthiness. The current state of an airplane affects the operative flight planning and other related tasks.

The air operator and MRO organization relationship

The air operator and MRO organization relationship is very tight due to necessary information flow. In order to have this flow efficient for both parties and to make it happen in real time it is convenient to interconnect the MRO system with the system of an airline company.

The data from MRO systems can be also used in flight planning. Based on the data it can be determined in regard to maintenance how long it will take, when is the airplane going to be ready for operation and when it can operate under MEL conditions.

Figure 1. The Air Operator and MRO Organization Relationship
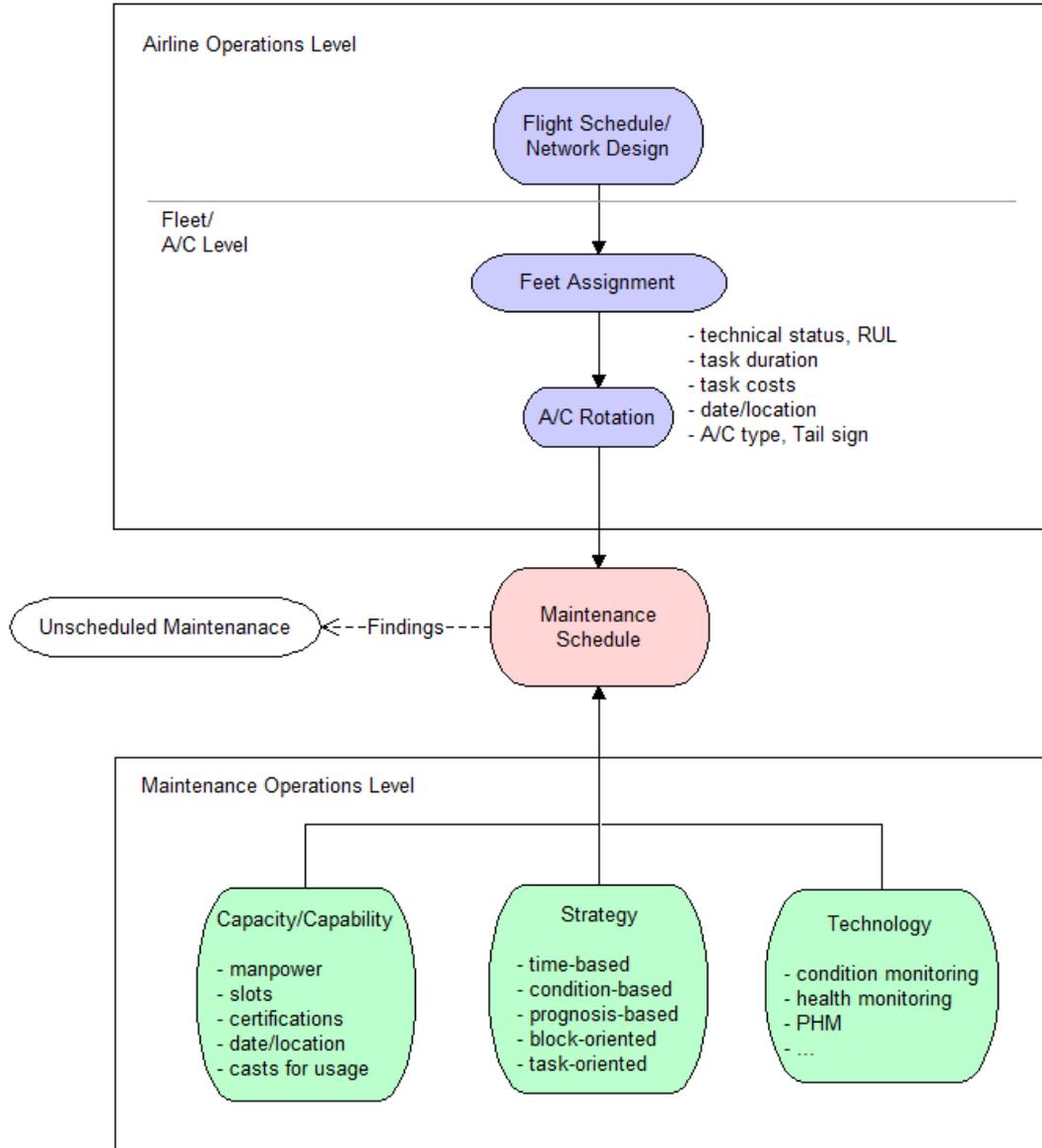
Source: authors

The above picture visually describes the relationship of the air operator and maintenance (MRO).

**Integration of the MRO system into the system of the air operator**
Conventionally the data are provided by the ground staff that forwards the data to the dispatch department through radio, telephone or email communication and then it is entered into the air operator's information system. Since new operating systems were introduced in 2008 the ground personnel has been able to enter the data to the information system via website interface and thus the flight status in flight operating system would be always up to date. [1]

Interconnecting MRO systems and flight operating systems would definitely make the work of both parties easier and more effective.

In order to run the airline efficiently it is important to have the best possible interconnection of the maintenance system (MRO) and dispatch department in regard to the information flow. When the interconnection is established, the desired quality will automatically follow.

Figure 2. Flight Execution Chart
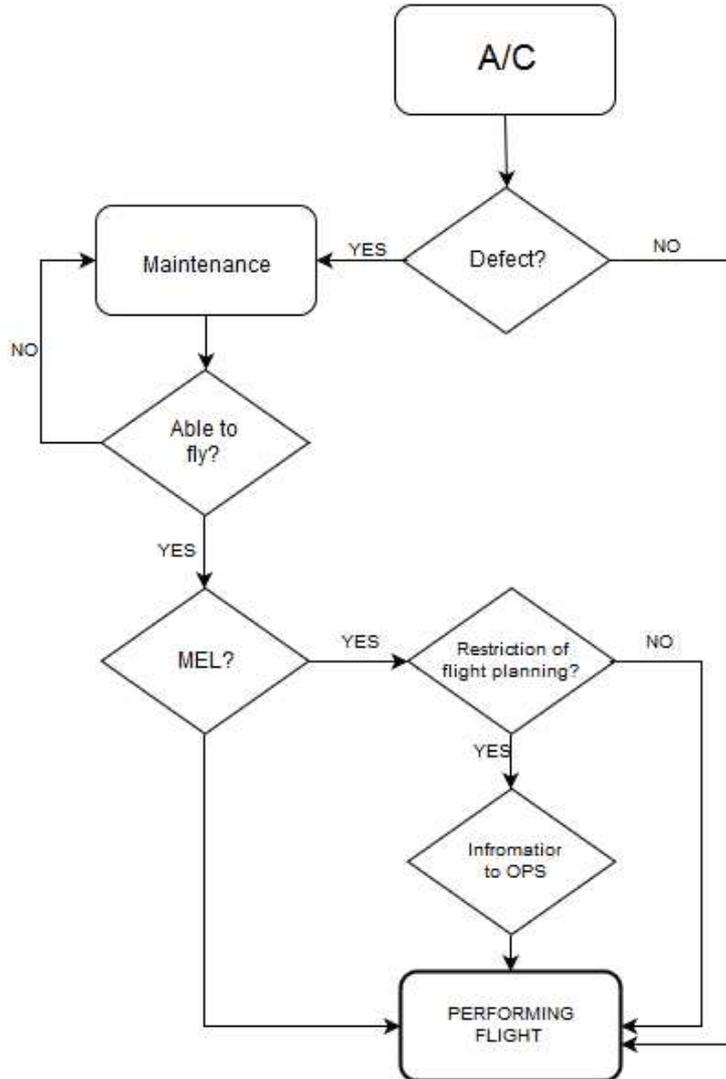
Source: authors

A. *Integration from the MRO Organization Standpoint*

In case of linking the MRO systems with flight operating systems the MRO organizations would have a precise current information about the specific airplane - flight hours, flight cycles, its condition, which would make it easier and more precise to determine the regular maintenance check.

One of the advantage of the MRO organization is a better planning optimization and components & material consumption prognosis based on the overview of the current flight hours/cycles number. In such a way it is possible to order the needed components and materials, thus to significantly shorten the repair time.

B. *Integration from the Air Operator's Standpoint*

The dispatch department of the air operator would automatically receive information about an unscheduled regular maintenance check from the MRO organization with advance and they would also have a current overview of when the airplane will be unavailable and for how long. Or the airline's dispatch department would plan the maintenance on a date most suitable for them - when the airplane is not in use.

A bit more difficult situation is when the airplane is out of operation without prior plans or can be in operation, but under certain restrictions according to the MEL. In case of the MEL restrictions it is more difficult for the dispatch department in regard to different limits and restrictions of the airplane (e.g.: flight level limit, night flight restrictions, visual flight, flight over large water bodies restrictions, ETOPS flight restrictions, restrictions in case of icing, etc.). [2]

In case of linking the MRO system with the air operator's system the dispatch department would immediately receive an information about the current airplane's conditions and could integrate this information into the flight planning and execution strategy.

Figure 3. MEL Determination Process chart
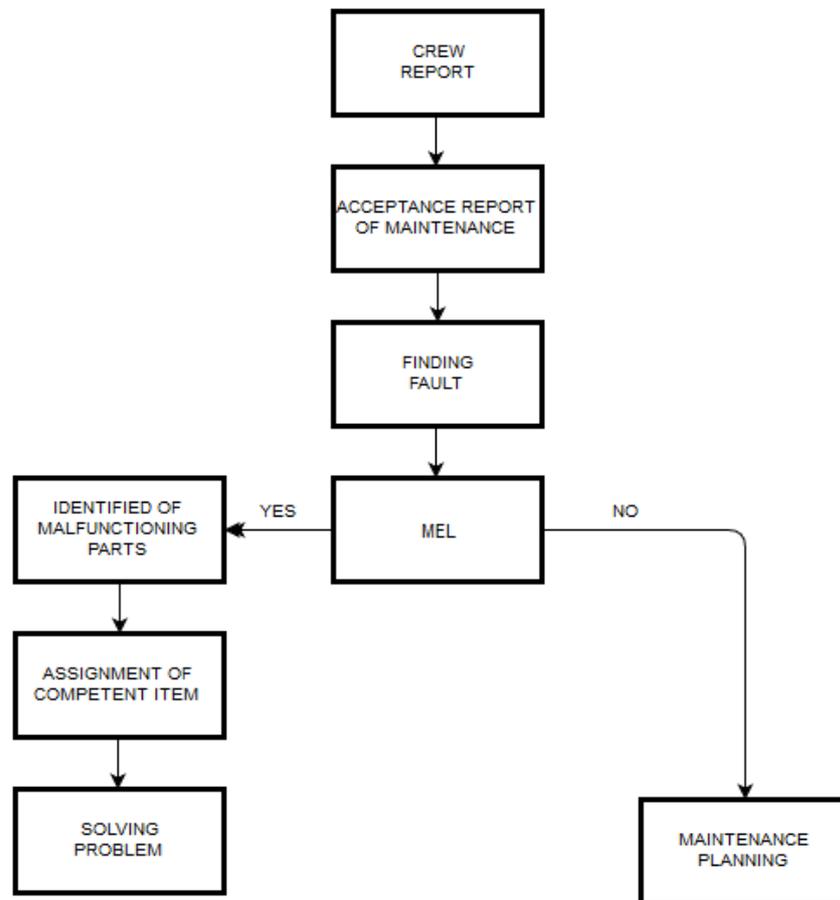
Source: authors

The above figure describes the determination process of an inoperative item or airplane system. The maintenance staff needs to find out the reason of the fault and the scale as soon as possible. Based on this information and the MMEL it is assessed whether the airplane is airworthy with some restrictions under the MEL or is not airworthy at all and the repair is scheduled right away. If the airplane is airworthy with the MEL item it is necessary to find the specific parts or systems that are faulty, to assign an individual the MEL item and to find the way to correct the fault. [3]

MRO and flight operating system interface

An integral part of the MRO system and airline's operating system interface is the airplane by itself that via ACARS system sends information about the current airplane condition during flights and forwards it to the ground offices (air operator).

When connecting the systems in a way: airplane - air operator - MRO organization, the information flow between the parties needs to be seamless.

Information transfer can be done in the ways following:

A. *Airplane – operation department of the airline*

In case of a communication between the airplane and ground this information transfer takes place:

Airplane to operation department:

- Automatic position report
- Information from aircraft log and technical log
- Automatic in-flight report of possible failure

Operation department to the airplane:
- Information about flight re-planning (NOTAMs, weather)

B. *Operation department – MRO organization*

In case of a communication between operation department of the air operator and MRO this information transfer takes place:

Air operator to MRO organization:
- Airplane condition (flight hours and flight cycles)
- Updated plan of flights of each airplane
- Confirmation of scheduled/unscheduled maintenance or MEL

MRO organization to air operator:
- Scheduled maintenance date and its duration
- Information about unscheduled maintenance
- Information about current airplane's condition in maintenance
- Information about MEL
- Pre-flight report

C. *Airplane – MRO organization*

There can also be a communication between the airplane and MRO organization in following manner:

Airplane to MRO organization:
- Airplane's current condition (flight hours and flight cycles)
- Exact landing time
- In-flight failure notification

MRO organization to airplane:
- Need to update the database

The interconnection of these three systems and providing an exact-information transfer in real time ensures effective operation of all mentioned parties. The air operator will have a good overview of current aircraft's movement, the MRO organization about the flight hours and cycles and in case of a failure the MRO organization finds out immediately because of the satellite information transfer from the airplane and the repair and maintenance can be scheduled even before the airplane lands. That will significantly reduce the repair duration and thus cutting the out-of-operation time, which is very favorable also for an air operator. [4]

Figure 4. Airplane - dispatch - MRO communication chart
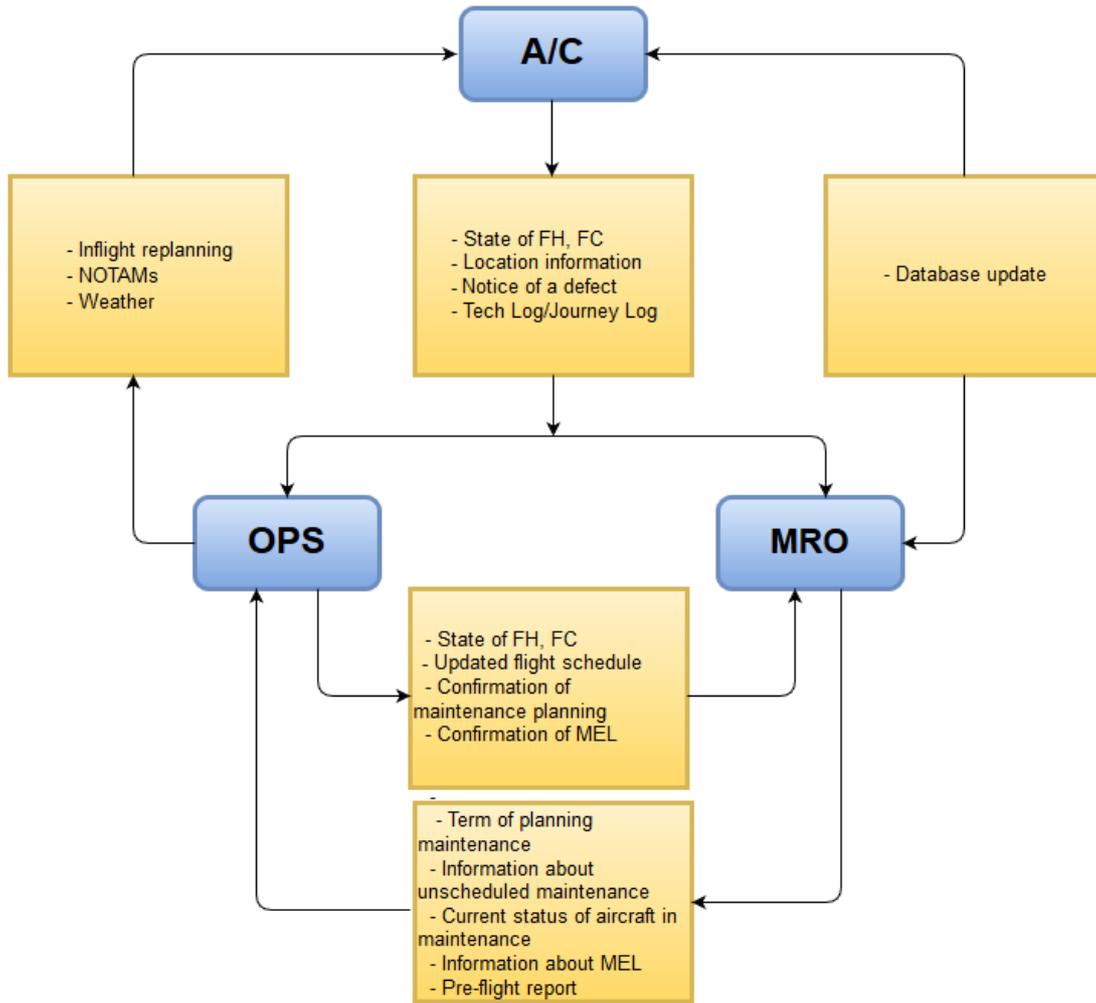
Source: authors

Software

In order to make the information sharing in real time available it is necessary to have the MRO organization software interconnected with airline operating system. That could be done in two different ways - either by having its own flight operating software provided by the MRO organization or by interconnection of the MRO system with flight operating system of different company. [5]

If the services portfolio grew bigger in terms of designing its own flight operating system by a software provider (e.g.: AMOS, Ramco, etc.) there would certainly be an interest of the air operators. This pursuit though is costly because of the research and development of another branch of already a very sophisticated and complex system.

Another option is to link two already existing software which would require less financial means the need to design a whole new software would fall away and also the personnel training would be easy. [6]

Defining the Requirements

The requirements for the interconnection of the MRO system and air operator's system fall into two basic categories:

    A.   System requirements
    B.   Operation requirements

In terms of the system requirements the focus is primarily on system's performance and reliability.

Operation requirements category consists of:
    a) Clarity of provided information
    b) Information accuracy
    c) Information credibility
    d) Information availability
    e) Information explicitness
    f) Information accuracy in real time

These mentioned points serve to explicitly define the particular problem and send it to the receiver in real time.

Summary

Thanks to a growing number of airplanes and to growing of companies the MRO systems have now and in the future a great potential also because of still greater and greater requirements on the maintenance.

In order to have the cooperation between MRO organizations and air operators the most effective and inexpensive, it is necessary to provide a good quality information transfer between both parties in real time.

Information thus shared between these two become faster and in turn make faster the maintenance. It also reduces room for mistakes. Another great advantage of the interconnecting the MRO systems and flight operation systems is the information for planning department in case of failure that can be found in the MMEL and the airplane can be used if certain requirements are met.

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8. Legal, Ethical, Cultural, Psychological & Other Aspects of Management

Links between Expectations of Advertising and the Factors of Subjective Perception of Advertising in the Context of Gender

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Abstract

In the context of advertising effects, various attributes are studied an analyzed. Two factors of these attributes come to the forefront - expectations of advertising and perception of advertising. From the viewpoint of these factors it is inevitable to accentuate their subjective nature. Both in the context of expectations and the context of perception of advertising every person creates their subjective image of these advertisement attributes. The report presents the results of an analysis of the links between the selected attributes of expectation of advertising and the factors of subjective perception of advertising. This general analysis was supported by specification of expectations of advertising and perception of advertising in the context of gender.

Key words
Advertising, perception of advertising, expectations of advertising, gender

Introduction

Advertising can be seen as a way of using the various existing forms of communication to achieve the desired effect. It is a use of the potential and available forms of communication to reach the widest possible range of consumers (Burton, Jirák, 2008). The essence of success in creating ads is, according to Lelková, Gburová (2014) measuring its communication effects which aims to determine whether advertising successfully delivers the advertising messages to the target customers.

Barker (2006) argues that advertising has become an integral part of the culture and its effects are re-transmitted to shape the culture itself. It extends to all subsystems of the social and cultural space and is echoed even in those parts of the social structure which are seemingly unrelated to it. According to Bartošek, Daňková (2010), when creating ads, a specific language is used and so are editorial codes that prescribe the language to be spoken.

Advertising can be also seen as one of the most common ways of influencing in any sphere of communication. To fulfill its objectives, it uses imagery which may be perceived as an ability of the text to evoke sensory, visual ideas, even as a text property achieved by means of semantic transposition in order to gain sensory-imaginative, but also emotional-cognitive perception (Lelková, Lorincová, 2015).

Several studies (e.g. Renzetti, Curran, Maier, 2012; Gail, Humez et al, 2003; Goffman, 1979; Lindner, 2004) suggest that ads are often intertwined by gender stereotypes. Stereotypical roles in advertising often reinforce the gender-stereotypical attitudes of the society. McKay, Covel (according to Lindner, 2004) through research found that gender stereotypes in advertising strengthen and reproduce the prevailing myths about gender differences.

Subjective creation of the image of advertising relates to several areas of knowledge that are represented by constructs of cognitive schemas, irrational beliefs, contra-fact thinking, the Dunning-Kruger effect, which arises from an erroneous self-esteem and others (Beck, et al., 2007; David, Lynn, Ellis, 2010; Mandel et al, 2005, Istenik, 2011; and others).

In connection to the subjective perception of advertising it is necessary to emphasize the role of emotions that can significantly affect individual creation of the mental advertising image. Abrams, Keren (1997) state that emotions, particularly in terms of intensity and duration, strongly influence the subjective mental image of reality.

Another important factor associated with the image of advertising can be specified in terms of expectations of advertising. According to Newell and Simon (1972), creation of this image sometimes deviates from the criteria of objective rationality, is tinged with emotion and uses various schemes.

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Expectations of advertising as well as creating the advertising image are based on a stimulus, which must be recorded and processed by the sense organs. That is followed by the stage of information processing, its classification in the correct category, i.e. cognitive perception by attention, memory, imagination, thinking, decision-making and speech (Vysekalová, Mikes, 2007).

Musical and visual processing, humor, fear, the element of surprise, erotica and others may act as peripheral ways and signs, thus affecting the buying behavior of individuals. The above-mentioned factors of perception of advertising are complemented by expectation that the ad will be engaging, truthful, funny, easy to understand, but also credible, informative and intelligent.

Research

The main objective of the research was to determine whether there is a statistically significant correlation between the expectations and perception of advertising. Subsequently, attention was paid to specification of differences between men and women in terms of assessment of expectations of advertising and advertising perception factors.

Hypothesis 1: There is a statistically significant correlation between the expectations and perception of advertising.

Hypothesis 2: There is a statistically significant difference in expectations of advertising in terms of gender.

Hypothesis 3: There is a statistically significant difference in perception of advertising in terms of gender.

The research sample consisted of 107 respondents aged from 18 to 83 years (mean age: 31 years, standard deviation: 15.944), out of which 48 were men (44.9%) and 59 were women (55.1%).

Research methodology

The research was conducted by means of two original scales. The first scale (EoA), which contained 11 items (Cronbach's Alpha – 0.918) was aimed at expectations of advertising (true, funny, understandable, credible, memorable, informative, unobtrusive, intelligent, genuine, visually stunning, artistic). The second scale focused on the subjective perception of advertising (SPoA). It contained five items (Cronbach's alpha – 0.891) (a good slogan, good music, good visuals, good humor, the element of surprise).

Respondents had a choice of answers on a 6-point scale, ranging from "definitely not" to "definitely yes" according to their own consideration. The obtained data were evaluated by means of the statistical software SPSS 20 with the use of the following statistical analyses: Student's t-test, Pearson's correlation.

Research results

In Hypothesis 1 an assumption was formulated that there is a statistically significant correlation between the expectations of what an advertisement must contain for its recipients to become interested and the subjective perception of advertising. The correlation was tested by the Pearson's correlation analysis and the results are shown in Table 1.

Table 1 shows that the examined indicators of expectations of advertising statistically significantly correlate with perception of advertising. A high correlation coefficient (above 0.5) was recorded between expectations of strongly visual advertising and its perception of good visual and musical processing, and also humor and the element of surprise as well as between informative expectations and good music. On this basis it can be assumed that producers of ads should focus precisely on these aspects of advertising. Highly significant were also expectations of funny advertisement and perception of the element of surprise, then expectations of understandable advertising and perception of a good slogan or the element of surprise, and expectations of originality and perception of good visualization, or the element of surprise. In the context of these statistically significant correlations, accentuated are the links between the visually stunning expectations and good visual and musical processing, with the element of surprise as well as humor.

Table 1: Correlations between expectations and perception of advertising

perception expectations	good slogan	good music	good visuals	humor	element of surprise
true	.337**	.403**	.223*	.082	.233*
funny	.455**	.418**	.307**	.438**	**.570****
understandable	**.529****	.466**	.442**	.377**	**.523****
credible	.370**	.493**	.380**	.254**	.329**
memorable	.476**	.490**	.419**	.346**	.422**
informative	.467**	**.582****	**.519****	.267**	.310**
unobtrusive	.381**	.305**	.389**	.326**	.422**
intelligent	.457**	.393**	.433**	.338**	.438**
genuine	.437**	.484**	**.546****	.368**	**.517****
visually stunning	.484**	**.552****	**.582****	**.522****	**.564****
artistic	.377**	.399**	.414**	.295**	.265**

* p < 0.05; ** p < 0.01

Only in one case no statistically significant correlation was observed, namely expectations of truthfulness of advertising and humor (0.082). Humor and truth in the presented results are not related to each other which, of course, could be discussed further.

Based on these results, Hypothesis 1 can be considered to be supported as there were found statistically significant correlations between almost all the studied aspects of expectations of advertising and subjective perception of the selected attributes of advertising.

In Hypothesis 2 an assumption was formulated that there is a statistically significant difference in expectations of advertising in terms of gender. Examined gender differences in expectations of advertising were evaluated by means of the statistical software SPSS 20, using Student's t-test for two independent samples. The detected differences are presented in Table 2.

Table 2: Statistically significant differences in expectations of advertising in terms of gender

Expectations of advertising	Gender	Mean	Standard deviation	Test criterion	Significance
memorable	male	3.73	1.512	-2.1	**0.038**
	female	**4.27**	1.157		
informative	male	4.10	1.387	-1.818	**0.042**
	female	**4.53**	1.006		
intelligent	male	3.71	1.237	-1.894	**0.041**
	female	**4.19**	1.371		
genuine	male	4.40	1.364	-2.222	**0.028**
	female	**4.95**	1.209		
visually stunning	male	4.02	1.263	-2.586	**0.011**
	female	**4.63**	1.158		

Table 2 shows the statistically significant differences in expectations of advertising in terms of gender. The average values of the responses of women in the examined attributes of expectations of advertising (memorable, informative, intelligent, genuine, visually stunning) are closer to the answers mostly yes. These values are higher in contrast to men whose answers have lower average values and on the used response scale are between yes and no. It means that in the examined attributes, women expect more of advertising than men.

Based on these results, Hypothesis 2 may be regarded as supported, whereas recorded were significant differences in the selected attributes of expectations of advertising between men and women.

Hypothesis 3 contained an assumption that there is a statistically significant difference in the perception of advertising in terms of gender. Examined gender differences in the perception of advertising were evaluated by the statistical software SPSS 20, using Student's t-test for two independent samples. The differences are shown in Table 3.

Table 3 presents the statistically significant differences in the perception of advertising in terms of gender. The average values of the responses of women in the selected factors of perception of advertising (music, visuals, humor) are closer to the answers mostly yes. Unlike men, whose average values of answers on the measurement scale used have reached the level yes, these values are higher. Therefore, in perception of advertising, women prefer (and is more relevant to them) the musical and visual processing and humor more than men.

Table 3: Statistically significant differences in perception of advertising in terms of gender

Perception of advertising	Gender	Mean	Standard deviation	Test criterion	Significance
has good music	male	4.27	1.317	-2.763	**0.007**
	female	**4.88**	0.966		
has good visuals	male	4.25	1.591	-1.94	**0.045**
	female	**4.78**	1.233		
humor	male	4.04	1.557	-3.009	**0.003**
	female	**4.81**	1.09		

Hypothesis 3, on the basis of these results, may be considered to be supported, whereas there were found significant differences in the perception of advertising in the selected factors between men and women.

Summary and conclusion

Advertising is a paid form of communication between manufacturers and customers. People encounter it on a daily basis, are affected by it whether they want it or not – advertising is part of their lives. The main objective of the research was to determine whether there is a statistically significant correlation between expectations and perception of advertising. Attention was paid to specification of the differences between men and women in the assessment of the factors of expectations of advertising and perception of advertising.

The research showed a large number of statistically significant correlations between the expectations of advertising and the subjective perception of advertising. If an ad does not meet the expectations of individuals, it ceases to be of interest to them and loses its supporters. The above-mentioned findings are relevant for the preparation of promotional strategies (Engel et al., 1987), as well as specific advertising messages. Their effectiveness is significantly related to the processing of advertising messages based on knowledge of advertising expectations of the target group for which the ad is intended.

Based on the results of this research it can be concluded that women perceive advertising more intensively and also expect more of it than men. This may be due to the personality of women. It is well known that women are gentler and more sensitive than men. They put more emotion to all they do. Hence, they experience ads with a greater proportion of emotions than men.

The current advertising market is overflowing with ideas and a good idea for the ad is an invaluable asset for any company. Ads on TV are often aimed at women. Even the products intended for men are often presented in a way that attracts women to buy them. Of all consumers it is women who make

decisions on most purchases. In advertising one often sees a happy family, order, nice warm colors. That is what aims at the female sensibility. Interesting is also that income does not play a primary role for women (Zeman, 1994).

In the context of the links between gender and advertising it is necessary to draw attention to the age of the recipients of advertising and other complex factors related to the expectations and perception of advertising (Litavcová et al., 2015). In this context Šeďová (2007) states that advertising has a more significant impact on younger individuals primarily within the attributes of cognitive and social skills (Osvaldová, Halada, 2007).

The identified and specified differences between men and women in terms of expectations of advertising and perception of advertising correspond with the findings by Vysekalová and Mikeš (2010) who state that for a successful advertisement it is important to know the personality of its recipient and thus the gender specifics from the perspective of appropriate targeting of the ad at a certain group of people which it plans to reach effectively. Therefore, the psychological knowledge as well as psychology as such become increasingly important parts of marketing and advertising strategies.

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The Principles of Trading Psychology: From Average to Above-Average

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Abstract

This article informs about the basic principles of trading psychology and its differences from the psychology of trading. The text contains instructions on how to work with information on trading psychology in practice and for whom is this part of psychology intended. The aim of this paper is to move trading psychology from the usually emphasized discipline, control of emotions and the specific business planning towards the broader context of achieving peak performance.

Key words

Trading psychology, psychology of trading, performance, business

Introduction

Successful efforts to master markets lead us down the paths of self-mastery. Market participants have traditionally defined self-mastery as discipline - controlling the emotions that all too often distort information processing and trigger impulsive behavior.To be sure, discipline is required for any great undertaking, whether it is pursuing an Olympic medal, a business startup, or a medical breakthrough. But discipline, while necessary for success, is never sufficient. Discipline does not substitute for skill, talent, and insight. Strict, disciplined adherence to mediocre plans can only lock in mediocre results.

Steenbarger (2015) argues that he had the opportunity to work with thousands of traders worldwide. Based on this experience he worked towards the finding that control of trade significantly prevails over the control of emotions and impulsivity. Permanent and regular success requires work on the positive elements such as creativity, productivity, adaptation to change and well-being. The good news is that recent research in psychology and affiliated areas of knowledge has sufficient understanding of these constructs that enhance human performance at a high level. The bad news is that in managing the "world" of money, most individuals are so congested and immersed in daily challenges to keep pace with new products and market movements that they have only minimal opportunity for their review and analysis by means of the above-mentioned constructs. What are the implications? As a consequence, it can be registered that individuals tend to work hard, but unwisely. Instead of optimizing learning, critical thinking and productivity they only organize their daily routines due to the sufficient evaluation of their performance. Such an inappropriate tendency to substitute quantity for quality is guaranteed by the fact that an individual faces a huge difference between the real and the ideal self: between who he/she is and who he/she might be. Trading psychology is trying to bridge this gap by breaking down a commercial success into four basic processes. According to Steenbarger (2015), to achieve success, the trader needs to control only four things. He/she must know how to dynamically adapt to changing market conditions. He/she must know how to identify and build on his/her distinctive trading strengths. He/she must know how to cultivate creative processes and generate fresh market perspectives and develop best practices that help him/her sustain productivity and effectiveness in his/her work routines. Trading psychology is about the well-established practices and the ingredients for business success. In trading psychology it is important that the goal is not to change a person. It is just to help make consistent use of means which is available to a "market human" to achieve success. That is what distinguishes trading psychology from the psychology of trading. According to Szarková (2000), psychology of trading has many common approaches, methods and techniques with marketing psychology; it focuses on the psychology of the sales act, where it comes to a contact of the trader and the customer. As reported by Kačáni et al. (2004), it is more about the consumer service orientation, own business activities and exploration of the needs of the consumer. In this context, Kita (2002) mentions the promotion of trade by attracting new and old customers. In accordance with Kitka (ibid), the psychology of trade influences by various factors through various types of trade support, no exception being the purchasing behavior of consumers. The aim of this paper is to move trading psychology from the usually emphasized discipline, control of emotions and the specific business planning towards the broader context of achieving peak performance. The most

important is to push traders towards metaprocesses: massive routine to change their routines and adaptation of trading to constantly changing market conditions. Trading psychology is not about finding some "accelerator" in the financial market: every entrepreneur knows that competitive advantage is a commodity which is extremely perishable. Those who maintain successfulness are continuously changing in terms of finding new sources of this competitive advantage. This is inevitably preceeded by reviewing and challenging the most fundamental own and internalised assumptions, presumptions and practices of each trader. To create success, a good trader is inevitable, but to re-create the business, the best one is needed.

What is most valuable in the exercise in any field is that no one can perfectly handle anything. There is always room for improvement, for example, in dance or golf, among chess players, brewmasters, carpenters or relly teams that can continuously improve their craft. Precisely for this reason, similar performance activities represent a perfect testing time for the human psyche, moving the individual closer and closer to the ability called self-control. Back to business. Exactly the same thing works in trading, where the rules of the game are constantly evolving. What other area still requires so many beliefs, risk and, simultaneously, great flexibility and foresight? To adapt to the changes, we accept the change and become the change. In no case it may lead to fixation on an individual best practice; necessary are the best practices that continuously push the experience to higher levels.

Steenbarger (2015) identified about a dozen of the best traders, cooperated with them confidentially for more than ten years in the framework of coaching and found out on what basis they got so far in their businesses. At first glance, they were quite different. Some were traders in the IT business, others were managers of securities transactions in currency and fixed income. A few of them were highly quantitative and others earned money based on recognition by their sole discretion. Some were extroverts, others were introverts, some were too emotional and passionate in wins and losses, some were relatively quiet and quite prim. When analyzing their achievements, author only found huge differences. When analyzing the way these people achieved success, Steenbarger (2015) discovered certain common processes underlying the success of their decisions and actions. One of the processes was adaptability. The best traders were adaptable and flexible. They were characterized by the high sensitivity of the market environment and changed their trading so that it copied the changes in this environment. They often quickly avoided exposure to the risks just by this sensitivity of the matter when the shares in the market confirm or not their expectations. Even better and wider adaptation was implicated in a changing market regime. They achieved this through active learning of new skills, expanding their market space and recasting their analyses. What made them successful was not only that they had a commercial advantage.

It was rather because they found ways to continually hone and expand this advantage. Another common process found by Steenberger (2015) was the creativity that can deliver excellent, balanced risk-return by a relatively unrelated manner. Everywhere where there have been reported successful business firms were also creative traders who analyze the market uniquely, seek original ways to create ideas and express their views on the new movements which, because of the risk, maximize the profits. Steenberger (2015) states that he still has not met with an extremely successful businessman who would not be particularly original in their approach to the market and market conduct. The same is true for those traders who are called "factories of ideas" and those who develop robust routines to detect opportunities right where others see nothing. The most significant process in this context appears to be productivity. Steenberger (2015) in this case came to the same conclusions as Dean Keith Simontons. They found out that the top traders produce better ideas because they produce a lot. Knowing that their strength is processing information and generating ideas (without having any special thoughts), they are willing to push away the less promising businesses and persist in those most exemplary ones. This productivity is easily visible in everyday life. Important personalities simply achieve more than their colleagues. They organize their time and set their priorities within their activities so that they are also effective (to achieve much per unit of time) and efficient (to do the right things). How much time can we lose by a typically mercantile mindless staring at the screen, chatting with people who offer little insight and reading texts with low priority to information, which is also poor in e-mails and messages? Successful traders are always hard-working and not showmen. These traders work intensively with the data and are very active in the use of well-established information network. First of all, they realize that the highest quality of inputs will bring first-class outputs. The last common process was self-management. Successful athletes are aware that the excellent performance can be achieved only by having physical condition at a high level. For traders, this condition is represented by cognition as well as emotion. Successful traders work as hard on themselves as on their trade. They develop routines to maintain their ideal condition for making

business decisions, often by optimizing their lives outside the trade. If an individual wants to have above-average success in business, he/she must also have above-average demands on his/her subordinates. He/she must have equal demans also on himself/herself. No group leader can afford to have higher demands on others than on himself/herself. If he/she wants people to work hard, to educate themselves, to develop fresh ideas, he/she must do so himself/herself. In the context of a working group or a team, it is necessary to think about the fact that the road to high performance can never be walked by an individual alone. Life is a team sport and success crucially depends on the nearest surroundings and the rights of our teammates.

Summary

In summary, the difference between trading psychology and the psychology of trading is substantial. The psychology of trading focuses rather on working with the final client and analyzes the techniques and methods of sales. Trading psychology is more a matter of coaching and helps to consistently use all available means to achieve success. Any measure of discipline and self-control can never relevantly replace experience, talent and insight into the issue. Dangerous is that the strict, disciplined adherence to the achievement of a standard plan only locks the results to the average level.

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Presentation as One of the Essential Managerial Skills in the Context of Key Lifelong Learning Competences

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Abstract

The paper focuses on presentation skills as an integral part of managerial competences. Students of economic disciplines should be taught also communication strategies, which can help them in their future jobs. Students of the Faculty of Management at the University of Prešov are obliged to learn the specifics of the genre of spoken presentation as a part of English for Specific Purposes courses. The aim of our paper is to analyse different aspects of the students' presentations on professional topics. Discourse analysis and action research as important methods of current applied linguistics and interdisciplinary research were used. We found out that the most problematic areas included stylistic and pragmalinguistic aspects of formal organization of the presentations.

Key words

Managerial skills, Presentation, English for Specific Purposes, Economic Disciplines, Discourse Analysis.

Introduction

Labour market is a crucial part not only of economy but also of people´s lives. At present, education is considered an important factor in preparation for future jobs. Current students applying for university studies have to consider also other aspects, rather than just personal preferences. Nowadays, in the age of globalization, education becomes universal and more focused on practice. It means that employees have to be more specialized as to their skills.

In our paper, we look at presentation skills of future managers in the context of lifelong learning competences. Presenting professional ideas is an important part of managers' personal skills. Students of the first year at the master´s level of studies at the Faculty of Management of the University of Prešov are prepared for their professional life also in terms of foreign language communication skills. As a part of their evaluation of Business English courses, the students are required to give presentations on professional topics. They are evaluated by their teachers based on four observed aspects of their presentation performance. We carried out an action research and discourse analysis of the genre of presentation and found out that students were still having problems with presenting professional topics, even when trained how to do it.

Lifelong Learning Competences

As Marcelli (2009) points out, communication is always connected with specific community. Latin *communicare*, the origin of the word communication, is close to words meaning community. In this context, Marcelli (2009) points out that, seemingly trivial, but in fact an important aspect of communication is that it is shared. It is an act of making things come together. Globalization, mass media, and Internet have caused that there are new challenges for individuals to be able to adapt to new working and living conditions. In this context, Benková (2010) talks about the importance of key competences as they are defined by the European Parliament. The European Union (2011) itself integrated the concept of key competences into its legislation. In it, the European Union (2011) states that these competences acquire "the shape of knowledge, skills and attitudes appropriate to each context are fundamental for each individual in a knowledge-based society." The most important aspect of the definition in the context of our article is that these competences "provide added value for the labour market, social cohesion and active citizenship by offering flexibility and adaptability, satisfaction and motivation." The European Union (2011) proposed a tool of reference for its member countries "to ensure that these key competences are fully integrated into their strategies and infrastructures, particularly in the context of lifelong learning." We can then conclude that these competences are crucial elements of people´s professional development.

Fridrichova Klimova and Semradova (2011) claim that students who want to be successful in their future jobs, must acquire various communication competences including socio-cultural skills. In the age of globalization, communication in foreign languages is a part of everyday life, which is especially true about international business communication. That is why current university curricula should mirror these needs and universities should offer their students – in our case possible future managers – such courses that would enable them to be successful in the labour market (Frydrychova Klimova & Poulova 2011).

Methodology and Discussion

At present, genre analysis offers multiple approaches to text or discourse analysis. It is one of "most important and influential concepts" in foreign language learning (Hyland, 2004, p. 5). In this context, Johns (2002, p. 3) stresses that genre analysis brought about "a major paradigm shift in literacy research and teaching". Dančišinová (2012) also agrees and adds that genre analysis has an important role in pedagogical process and this potential should be further analysed. On the other side, she admits that the heterogeneousness of this approach to discourse analysis is a source of discontent. For the purpose of our paper, we chose to combine discourse and genre analysis with the methods of observation and action research.

Burns (2010, p. 12–13) proposes the method of action research as a tool of improving the teaching techniques and the view of students, classroom and teachers themselves. It is aimed at the identification of problematic areas in the classroom and at intervention to solve them. In this context, Edge (2001, p. 5) defines action research as oriented towards the means, ends, theory, institution, society and a teacher. It means that it is based on real life experience in the classroom. It is connected with the practice and predominantly depends on the professionalism of teachers and interaction with students.

Giving presentations in front of the whole class can be stressful. Nevertheless, it is a perfect way how to experience stage fright in simulated conditions. Students of the Faculty of Management at the University of Prešov enrol in the courses of English for Specific Purposes (ESP). In the case of the students at the master´s level, it is focused on Business English. Therefore, the topics of their presentations are context based, i.e. they deal with advertising, finances, etc. Students of these courses are trained to give presentations. At the beginning of the course, they are lectured, shown videos and given space for questions concerning presentations on professional topics.

No doubt, English is lingua franca of academy today. It is the same for students of economic disciplines. Therefore, they predominantly choose to attend ESP classes. At the Faculty of Management, the course is evaluated throughout the semester having some conditions to get credits. One of the conditions is to give a presentation on a specific topic. The genre of such a presentation can be defined as including the following aspects: it should be approximately thirty minutes long, it cannot be read, it should have the structure of introduction, main body and conclusion. Pronunciation is also an important aspect. Last but not least, a presentation should involve the audience as there should be a space for discussion. To sum it up, following aspects are evaluated:
- speaking, not reading,
- being a good presentation manager,
- interactive approach,
- language correctness.

These aspects were evaluated by respective teachers based on professional knowledge and experience. Students could be given maximum of twenty points. To pass the task, they had to acquire at least ten points. The topics were following:
- Dealing with changes (describe a development of a selected company).
- Managing meetings (tips for successful business meetings).
- Presentation of a successful company and its structure.
- Advertising media and methods (in general).
- Advertising on TV.
- Advertising in newspapers and on the Internet.
- Successful advertising campaign (give a real-life example).
- Talking money (financial terms, describing trends, etc.).
- Cultural differences.
- Culture shock.

In our study of the students´ practices, we observed 122 presentations on given topics in sixteen groups during the summer term of 2016. Lists of topics were the same for each group and we selected those presentations which were presented in cooperation of two students. Students could acquire twenty points based on the previously mentioned evaluated aspects. The course was taught by two teachers. At the beginning of the summer term, the students were lectured what to take into account when preparing for the presentations. They all had experience with presenting form the previous semester, when they were told what was right or wrong with their presentations. The average number of points per student was 15.8, which is 79% of the full number of points. That equals C (2) in evaluation scale. The most problematic areas, which cost students the points were: reading, not speaking, incorrect pronunciation and no interaction with the audience. These areas have to be paid attention to in order to improve practical skills of the students, giving them a significant advantage in labour market. In order to do that, new courses are needed. To acquire the necessary presentation skills, students should be offered courses on presentation skills in professional setting. As Antolikova et al. (2015) point out, students of non-philological study programs have to be given larger space for professional communication in foreign languages linked to practice with the focus on presentation skills. Motivation is also an important factor as students should be willing to acquire language competences not only to pass exams but they should understand the importance of communication skills for their future jobs.

Conclusion

In the paper, we dealt with language competences of future managers. We focused on presentation skills as it is very important factor giving job seekers a significant advantage in the labour market. After carrying out the action research and genre analysis, we found out that the most problematic areas were pragmalinguistic, i.e. students read their presentations instead of really presenting them, their interaction with the audience was not satisfactory, etc. We propose that the attention is paid to motivation of students to develop the presentation skills. Understanding of the importance of communication in foreign languages is also an important factor which can lead to better performance.

Summary

The paper focuses on presentation skills as an integral part of managerial competences in the context of lifelong learning competences. At present, education is considered an important part of preparation for future jobs. Presenting professional ideas is an important part of manager´s personal development. In the paper, the most problematic areas of the management students of the University of Prešov were identified and proposals for their elimination were made.

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Possibilities of Prediction of Cognitive Distortions in Managerial Work – PCD18 Methodology

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Abstract

In relation to conceptualization and operationalization of the issue of cognitive distortions there are discussions about various sets of issues. One of these sets is linked to identification and specification of the predictors of cognitive distortions. The report presents the results of an analysis of the extracted factor structure of the PCD18 methodology (Prediction of Cognitive Distortions) which represents the dispositional concept of defining and studying cognitive distortions. The results of the research which was conducted on a sample of 685 respondents (185 men and 500 women) enable extraction of a factor structure of the PCD18 factors, as well as characterization of the basic psychometric parameters of this methodology. The report also includes the complete version of the PCD18 methodology.

Key words
Cognitive distortions, PCD18 methodology

Introduction

Thinking of managers when trying to solve problems does not always correspond to the criteria of objective rationality, it often even does not come close to them, is tinged with emotion and uses different schemas (Samuels, Stich, Faucher, 2004). Limits of cognitive abilities, which manifest themselves mainly in solving problems, are, according to Newel and Simon (1972), the source of occurrence of cognitive distortions in thinking and decision-making. Cognitive distortions within the cognitive space are represented by simplified, generalized mental representations and schemas. Although cognitive schemas can lead to distortion of information and, ultimately, to cognitive distortions, they are an important instrument of perception, understanding, learning, reasoning and decision-making. It is important to be aware of the effect of these simplification schemas and their potential impact on cognition and decision-making in the form of cognitive distortions. The likelihood of occurrence of cognitive distortions is subject to differences between normative thinking in the intentions of logic, mathematics, and statistics and descriptive thinking considered in the context of emotions, schemas and the like. Actual thought process may therefore deviate to varying degrees from the norms of rationality (Samuels, Stich, Faucher, 2004). These variations can be caused by cognitive factors, such as the above-mentioned schemas or emotional factors (Balaz, 2006). In this context one might even consider the impact of situational attributes, for example, the complexity or novelty of the problem to be solved.

Cognitive distortions

Conceptualization and operationalization of cognitive distortions relate to the theoretical definition and verification of the procedures and tools of detection and measurement of cognitive distortions. These are two fundamental issues without addressing and resolving of which one cannot productively consider any constructs in any field of knowledge and therefore cannot meaningfully consider the concept of cognitive distortions.

A theoretical and methodological basis of definition of the concept of cognitive distortions is an assumption that the psyche of the individual, i.e. also manager, is not a passive mirror that only reflects external influences and responds to them. Mental picture of external reality is recognized based on the interaction between external stimuli and pre-existing mental structures, which were examined from different perspectives and in different contexts – schemas, personal constructs, irrational beliefs, contrafact thinking, risk, burnout syndrome, Dunning-Kruger effect and others (Beck, 1979, 2007; Kelly, 1955; Ellis, 1962; David, Lynn, Ellis, 2010; Allais, 1953; Mandel et al., 2005; Istenik, 2011, and others).

Beck (1967) characterized cognitive schemas as freely associated main thought contents, automatic thoughts, and mental images. They serve to interpret oneself and the outside world. They are relatively stable ways of organizing thinking and evaluating events. Schemas represent the set of fundamental, often untold, subconscious beliefs about who I am, what is the world around me, and what I can expect from it.

The issue of cognitive distortions must therefore be specified within these areas of knowledge. An essential factor in this regard is the fact that people are not aware of their cognitive distortions (Brugger, 1994). A cognitive distortion is a fallacy in which a person registers the actual situation without knowing it (Zibrínová, Birknerová, 2012).

It is important to distinguish the cognitive distortions on the unintentional basis from a dishonest argumentation that is carried out deliberately (Ruisel, 2012), as well as other forms of distorted perception, such as cultural or organizational distortion (Zibrínová et al., 2014; Zibrínová, Birknerová, 2015). For these reasons, it is difficult to detect cognitive distortions (Ruisel, 2012) and specify their predictors.

Emotions, as already mentioned, are another important factor that affects the occurrence of cognitive distortions. They may be included in the neuropsychological approach to analyzing the relationship between emotions and cognitive functions (Höschl, 2002). Emotions affect memory, attention and decision-making (Adolphs, Tran, Damasio, 2001).

In accordance with Forgas (2001), emotions and cognition are not separated, individual abilities. The relationship of emotions and cognitive processes is reciprocal. On the basis of the cognitive process, emotional reactions may be developed or suppressed. At the same time the impact of mood facilitates recollection of the emotionally colored material. The informative quality of emotions is also important. Negative emotions guide the body to be more concerned about its environment, they produce a more externally oriented way of thinking which perceives the demands of the outside world and gives them precedence over internal thoughts (Bless, 2000). On the other hand, positive emotions lead to the release and relaxation (Zibrínová et al., 2014).

One of the important concepts of examination of cognitive distortions is focusing attention to the taxonomy and typology of cognitive distortions. Typical cognitive distortions are, according to Beck (1979), the following:

1. *Unsubstantiated conclusions (arbitrary deductions)* – the person arrives to a certain opinion on the basis of an insufficient amount of information; it is a conclusion-drawing by making „a leap".
2. *Distorted selection of facts (selective abstractions)* – the person notices only what verifies their conclusion and ignores the facts which prove the opposite.
3. *Over-generalization* – the person draws a far-reaching conclusion from a particular situation.
4. *Exaggeration and downplaying* – a tendency to attach an excessive importance to certain actions and understate others.
5. *Touchiness (personalization)* – a tendency to relate to oneself random events and take responsibility for something which a person cannot really influence.
6. *Black-and-white thinking (dichotomous thinking)* – thinking in absolute categories "all or nothing".
7. *Thought-reading* – judgements about what others think on the basis of some completely vague signals.
8. *Negative prophecies* – hasty catastrophic conclusions when the worst consequences are expected in advance.
9. *Disqualification of the positive* – neutral or positive phenomena are changed into negative ones.
10. *Argumentation through emotions (catathymic thinking)* – tendencies to adjust the assessment of the surrounding events to one's own emotional state regardless of the reality.
11. *Marking* – assessment in which a complex phenomenon is simplified into one, often negative attribute

This theoretical and methodological concept formulated by Beck (1979) was applied in depressive disorders, but is also confirmed by the results of the presented research and has wider application, for example in the context of issues of personality of managers and human resources in general.

Research

The presented research included participation of 685 respondents. Of this number, 185 respondents (27%) were men and 500 (73%) were women. The sample consisted of 1.6% of top managers, 3.8%

of middle managers, 8% of line managers, 18.4% efficient workers and 54.5% of management students. The average age of respondents was 23.3 years (standard deviation was 5.088 years). Their minimum age was 18 years, the maximum age was 53 years. Data from respondents were obtained by means of a questionnaire and then processed and analyzed using statistical methods. Through the questionnaire, data on basic socio-demographic characteristics of respondents and on assessment of the occurrence of cognitive distortions were collected. Assessing the occurrence of cognitive distortions was carried out by means of a new original methodology PCD18 (Prediction of Cognitive Distortions – 18 items).

PCD18 methodology

The PCD18 methodology contains 18 self-evaluation items to which the respondents react by means of the 6-point scale representing the level of agreement (0 = definitely no, 1 = no, 2 = rather no than yes, 3 = rather yes than no, 4 = yes, 5 = definitely yes). PCD18 was designed on the basis of Beck's (1967, 1979, 2007) theory of cognitive schemas and cognitive distortions, using the experience gained by utilizing the PCD methodology (Prediction of Cognitive Distortions), which contains 16 items (Frankovský, Birknerová, Zbihlejová, 2015). This methodology enables prediction of cognitive distortions based on two predictors: Distorted selection of facts (Cronbach's alpha – 0.728) and Over-generalization (Cronbach's alpha – 0.703). Basic information about this methodology was published by Frankovský et al. (2015, 2016). PCD18 was designed and verified in order to create a more particular and more specific characterization of the attributes of occurrence of cognitive distortions.

Research results

The main objective of the presented research was to verify the methodology enabling detection of the attributes of occurrence of cognitive distortions. Based on the test results of Kaiser-Meyer-Olkin Measure of Sampling Adequacy – 0.766 and Bartlett's Test of Sphericity – 1956.715 (significance – 0.000) were by a factor analysis (Principal Component Analysis with Varimax rotation) extracted four factors labeled as:

- **Negative prophecies:** People who score higher in this factor tend to expect the worst; they see the negative consequences, await disasters without real reasons, and do not think positively.
- **Thought-reading:** People who score higher in this factor believe that they know what other people think; based on that they can arrive at conclusions, try to read the thoughts of others, rely more on penetration into the minds of others than to what they say or do.
- **Unsubstantiated conclusions:** People who score higher in this factor can also decide on the basis of a single piece of information or fact; they do not need much information to make a decision and evaluate the phenomena based on a single event.
- **Argumentation through emotions:** People who score higher in this factor consider emotions as part of the decision-making, which they deem crucial to make the decision; sometimes they make decisions based exclusively on emotions.

Graph 1: Illustration of the factors by means of a Scree plot
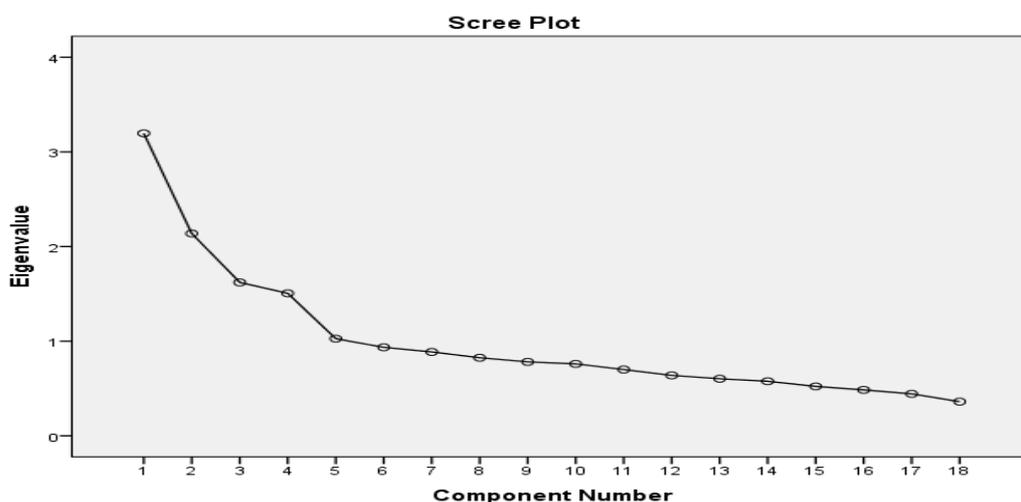
Table 1: Factor structure of the PCD18 methodology

Items	Factors			
	Negative prophecies	**Thought-reading**	**Unsubstantiated conclusions**	**Argumentation through emotions**
PCD1			.572	
PCD2				.472
PCD3		.554		
PCD4			.714	
PCD5		.460		
PCD6			-.545	
PCD7	.831			
PCD8				.746
PCD9	.819			
PCD10		.755		
PCD11	.747			
PCD12		.655		
PCD13			.638	
PCD14		.607		
PCD15	.772			
PCD16				.686
PCD17				.540
PCD18			.549	
Eigenvalue	2.732	2.138	1.976	1.614
% of total variance	15.18	11.88	10.98	8.97

Legend:
PCD1: One piece of information is enough for me to make a decision.
PCD2: It is impossible to exclude emotions from decision-making.
PCD3: I do not have a problem to accept a conclusion based on penetrating the thinking of others.
PCD4: When faced with a wide variety of facts, I make a decision based on a single fact.
PCD5: Even on the basis of indistinct manifestations I know what others think.
PCD6: All information about a problem is significant.
PCD7: I always expect the worst.
PCD8: My feelings are decisive in assessing a situation.
PCD9: I see negative impacts in everything.
PCD10: When making a decision, I try to read the thoughts of others.
PCD11: I tend to expect disasters without actual reasons.
PCD12: Penetrating the thoughts of others is more important in decision-making than knowing the objective facts.
PCD13: I evaluate situations on the basis of a single event.
PCD14: When making a decision, I tend to stick more to knowing the thoughts of others than to what they say and do.
PCD15: I have troubles to think positively.
PCD16: Sometimes I decide only on the basis of feelings.
PCD17: I notice mainly those facts which support my decisions.
PCD18: When assessing something, I pay attention just to one fact of a complex phenomenon.

The extracted factors explain 47.01% of variance. The percentage of explained variance by factors extracted is acceptable; it was possible to clearly specify the content of these factors.

The internal consistency of the separate factors, as an indicator of reliability of each factor of the methodology, was measured by calculating Cronbach's alpha coefficient (Table 2).

Table 2: Cronbach's alpha values for the defined factors of PCD18

Cronbach's alpha	**Negative prophecies**	**Thought-reading**	**Unsubstantiated conclusions**	**Argumentation through emotions**
	.872	.756	.723	.689

The values of the Cronbach's alpha coefficient indicate that the internal consistency of items saturating the specified factors is in the range of acceptability.

The proposed structure of the defined factors of the PCD18 methodology is supported by the value of the calculated inter-correlation coefficients between the individual factors (Table 3). The extracted PCD18 factors correlate with each other. These correlations, although statistically significant, take low values. This means that these factors are not identified by the same attributes of occurrence of cognitive distortions. On the contrary, it suggests that they describe different though related areas of occurrence of cognitive distortions (Table 3).

Table 3: Inter-correlation coefficient values between the factors of PCD18

	Thought-reading	Unsubstantiated conclusions	Argumentation through emotions
Negative prophecies	.089*	.253**	.080*
Thought-reading		.140**	.123**
Unsubstantiated conclusions			.105**

Legend: * statistical significance at the 0.05 significance level
                 ** statistical significance at the 0.01 significance level

The detected positive correlation between the factors of the PCD18 methodology supports the fact that if a person scores higher in one attribute, he/she also scores higher in the other attributes specifying the occurrence of cognitive distortions.

The comparison of assessments of individual factors of evaluation of occurrence of cognitive distortions pointed out the existence of statistically significant differences in the responses of respondents in assessing these attributes (Table 4 and Table 5). The results of this analysis indicate that the highest level of agreement was found in assessment of the factor Argumentation through emotions.

Table 4: Assessment of the factors of occurrence of cognitive distortions (Friedman's test)

Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distributions of Negatívne_veštby, Čítanie_myšlienok, Nepodložené_závery and Argumentácia_emóciami are the same.	Related-Samples Friedman's Two-Way Analysis of Variance by Ranks	,000	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is ,05.

Table 5: Assessment of the factors of occurrence of cognitive distortions (average values)

	Negative prophecies	**Thought-reading**	**Unsubstantiated conclusions**	**Argumentation through emotions**
Average value	1.55	2.48	1.49	2.94
Standard deviation	.979	.689	.622	.707

Figure 1: Assessment of the factors of occurrence of cognitive distortions (average values)
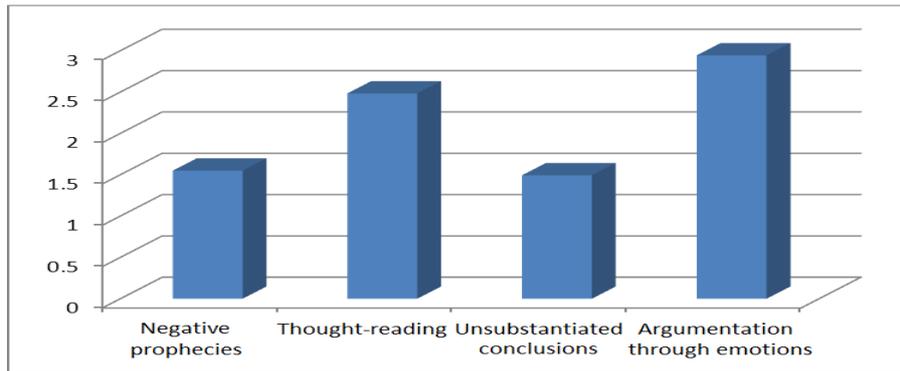
Discussion and conclusion

Cognitive distortions have been, are and will be part of every person's life. They influence the thinking and decision-making on a continuum from normality to mental disorders. The presence of cognitive distortions in people's minds is indisputable (Rachlinski, 2000). Managerial work is associated with rational thinking, evaluation of facts and avoidance of errors, therefore the occurrence of cognitive distortions in the manager's work is considered to be a risk to the organization (Kondáš, Kordáčová, 2000).

Cognitive tendencies to error-making are often associated with the process of strategic decision-making, where managers can commit errors. They are focused on limited objectives, their attention is paid to limited alternatives, they are insensitive to the likelihood of the outcome and affected by the illusion of controllability, while all these distortions are related to heuristic tendencies. Managers who make mistakes in decision-making, are known to rely on a number of critical incorrect rules or heuristics to facilitate complex decision-making situations, rather than to analyze the situation in depth. The negative consequences of adoption and use of subjective heuristics lead to cognitive distortions, which cause that managers fail to make an optimal, suitable decision. This creates a situation where the decision-making of managers becomes vague, uncertain and lacking the precise structure (Das and Teng, 1999).

The presented PCD18 methodology represents one of the possibilities of prediction of cognitive distortions. Its design is based on Beck's (1979) concept of categorization of cognitive distortions. It reduces the original number of 11 categories to 4 predictors identifying the possible occurrence of cognitive distortions in managerial work. It follows the PCD16 methodology, which is represented by two attributes – Distorted selection of facts and Over-generalization (Frankovský, Birknerová, Zbihlejová, 2015, 2016).

The proposal and verification of the new PCD18 methodology enables prediction of the occurrence of cognitive distortions on a more particular level in terms of a four-factor structure, as opposed to the PCD16 methodology. At this stage of verification of PCD18, it is necessary to emphasize the need to verify the presented concept and methodology in a much broader context, particularly taking into account the process of managerial decision-making, but also, for example, the cultural context.

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Social and Emotional Intelligence of Managers in the Context of Law

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Abstract

The article is an analysis of the findings relating social intelligence of managers and emotional intelligence of managers in connection with their operation in economic space and its given naturally-legal constitutional concept of the material and legal state. The aim is to point out an outstanding social status of the manager in a market economy of the state where , in connection with anticipated giveness of social and emotional intelligence of manager , it emphasizes causal link between the given attributes and committing crime by persons holding position in management.

Key words
Manager, State, Individual, Law, Emotional intelligence

Introduction

Effective performance of managers significantly relates to the development of the entire system which involves *continuum* (continuity), beginning with a particular person, continuing across a particular organization to the development of the whole company. The work of managers is linked with the whole context of people's life. Its quality forms the base for meeting the needs of the manager himself/herself but also meeting the needs of their co-workers, subordinates, the needs of organization they work for to already mentioned meeting the needs of the whole company. Those are managers who not only manage specific processes but shape strategic visions for the future and provide development and progress of all the system of the company as well.

For an effective managerial work, it is important for managers to be equipped with social abilities, skills, and knowledge as well as developed social intelligence which is expected sociologically and psychologically as a managerial skill. Just social intelligence is perceived by the professional community as a neutral category in relation to the ethical point of view since using manipulative techniques is its part. In an interpersonal intelligence is used an ability of individuals to manipulate with other people and so is their cynical attitude. Such individual (the manager) uses their knowledge about social behaviour and their developed social skills in the way that others are not aware of having been subjected to intentional and planned influence and management.

The construct of emotional and social intelligence

In describing these, and defining the specifics of the emotional, as well as of its relative construct - that of social intelligence, the authors have encountered a number of difficulties. The origin lies in the question of whether the constructs are unambiguous and psychologically useful, and whether they are each differently defined in relation to the relative constructs, state Silvera, Martinussen, Dahl (2001).

Emotional intelligence has a close relationship to social intelligence because both constructs describe two aspects of the same phenomenon. Existing definitions of both constructs contain attributes, such as the ability of understanding and constructive expression of feelings and emotions, empathy for other individuals and creating optimistic, positively set, cooperative interpersonal relationships. Furthermore, in the literature one encounters their definition as an effective management and regulation of emotions, realistic handling of new situations, personal problem solving, as well as those that have interpersonal substance, and also internal motivation, formulating and achieving goals (Orme, Bar-On, 2002). The authors add that understanding their core represents the urgency of search for the meaning of life and life events, social interpersonal relationships, the inner equilibrium of individuals and the road of meeting the needs.

Bar-On (2005) uses the concept of emotional-social intelligence, which clearly reflects the mutual relationship of the given constructs. It describes a set of interconnected social and emotional capabilities, which indicate how to effectively describe, express, understand emotions, how to cope with everyday

difficulties, and how to get on well with other people. <u>Mayer, Salovey (1993) define emotional intelligence as the ability to control emotions, regulate one's thinking and behaviour</u>. Initially, it was apprehended as an element of social intelligence. Tredwell (2002) also specifies self-awareness in relation to emotional intelligence and social awareness in relation to social intelligence.

<u>Austin, Saklofske (2007) define emotional intelligence as a construct with interpersonal and intrapersonal ingredients, which assesses individual differences in the regulation of mood and coping with stress. Social intelligence, on the other hand, is defined by the authors as a set of interpersonal capabilities and knowledge of the social rules. In this interpretation, it interconnects with the above mentioned interpersonal components of emotional intelligence, but is not related to emotions.</u>

We can say that emotionally and socially intelligent individuals are positive, optimistic, and self-motivated, and can realistically and effectively manage personal, social and situational changes. <u>Despite the similarity of the investigated constructs, there are also certain differences.</u> Their knowledge allows the individual to better overcome barriers on the road to achieve one's goals and to gain success. We are talking about the knowledge of oneself, control of feelings, influencing the feelings of others, as well as self-assertion and personal development.

Emotional intelligence is a complex construct, which deserves a much more detailed research, not only in relation to social intelligence. In this work, we present ideas that look at the issue of emotional intelligence from the point of view of managerial work and perceive it as a personality trait.

Emotional intelligence of managers

Emotional intelligence is the way from personalization to socialization, while it reflects the continuous transition from self-control and self-knowledge through empathy to the world of others (Dargová, Čonková, 2002). According to Porvazník (2007), it is merged with perceptive, creative and somatic dispositions of individuals, their character, and temperament. Models of emotional intelligence form the core, parts of which are intrapersonal and interpersonal components (Vávrová, 2009).

In this respect, knowledge and education only are not enough, but most important is the "education of the heart" (Brockert, Braun, 1997), i.e. successful self-management and good relations with other people. The authors are inclined to the opinion that it is a life attitude, which is essential for today's communication society based largely on services.

Peters (1987) describes that managers devote most of their working time to communication with their environment (50-90%). They devote 10 per cent of their time to their superiors, 40 per cent to their subordinates, and up to 50 percent of their time to the people outside their own organization. As the author primarily states, the social roles of the leader and negotiator enable him/her to eliminate disputes and misunderstandings. These roles require from the managers skills in efficient processing of the social information and their adequate use.

The task of the manager is to deal with work assignments and problems, to convey the necessary information to the employees by appropriate communication, to lead and motivate them effectively, and last but not least, pay attention to the interpersonal relationships. To be successful in their work, managers should be able to handle themselves in their working teams, they should be socially competent and receptive. Di Kamp (2000) completes the features of the emotionally skilled manager with ethics and values, positive thinking and enthusiasm. He/she should also be a model for others, know himself/herself well, have visions and the like. Pletzer (2009) stresses that organizations that focus on the development of emotional intelligence of their managers and employees are more successful on the market than those that do not pay enough attention to this aspect. It is possible, for example, by providing access to adequate literature, organizing seminars and training courses aimed at the issue discussed, or by offering further opportunities.

According to Wilding (2010), the most important role in the managerial profession is not played by academic intelligence, but by the aspect of the above-mentioned attributes of emotional, as well as social intelligence. These help the managers to retain the negative feelings (anger, doubts about own self), to focus the attention on the positive feelings (self-assurance, adequacy). The author further states that with the growing competition, the changing demands and requirements of the labour market, it is very important to develop and use one's own emotional intelligence at work because everyone is trying to be the best and achieve the best results.

The demands of the managerial work and the extent of their responsibilities require exceptional personalities at the forefront of the organizations. Therefore, Kubíčková, Rais (2012) poses the question: How to become a strong leading personality in the company? They suggest the managers to change their

way of thinking and develop habits of leadership. Since this process is not simple, it requires their consistency and endurance. As for the innate habits, those are just enough to be further guided in the right direction.

Emotional intelligence of managers and law

<u>Objective law</u> represents a social normative system, which in the stage of its formation represents a complex process of *de lege ferenda*, representing legal, philosophical, moral, <u>sociological</u>, politological, economic, <u>psychological</u> resources, etc. into a legal regulation relating to an indefinite number of entities of the same kind of social relations, and thus as a tool of state power is able to retrospectively shape, reinforce, and control all types of social relations, which are in the interests of the originator and the holder of state power and which in the stage of formation of law formed the sources of its creation.

<u>Objective law does not take account of all forms and attributes of emotional intelligence of the individual</u>, nota bene manager, but only of those which are in the interests of the originator and holder of state power as creator of law, which means that <u>cataloguing the elements of emotional intelligence of an individual (manager) in the standards of objective law forms a point of intersection of the scientifically recognizable institutes of emotional intelligence of the individual on one hand, and the interest of the creator of law (state power) on the other.</u>

It is considered that the individual in correlation with other people in the relevant society (family, work team, community, etc.) responds to difficult life situations in intentions of his emotional intelligence in a way that is generally described in the relevant sociological and psychological theories. <u>However, if the individual by his conduct endangers or violates the interest protected by criminal law, the specific sociological categories of his reactions to difficult life situations (the ergo level of his individual emotional intelligence), defined by objective law, will be assessed as important circumstances for the individualization of his criminal responsibility.</u>

For the activities of the manager, this means that the achievement of economic results and its impact (correlation) with respect to the entities in subordination, or to other entities in the relevant economic area, is carried out in accordance with the presented sociological and psychological theories. However, if the manager, as the subject of the merits of criminal offence, fulfills the merits of any of the offences referred to in the specific part of the criminal law by his conduct, <u>the component of the emotional intelligence of his personality named by objective law</u> finds its reflection in the sub-summary of his emotional reactions in the determination of the mitigating or aggravating circumstances, or in the sub-summary of the qualified merits of criminal offence.

Even though the objective law does not recognize the legal definition of "male manager" ("female manager"), the status of the manager can be implicitly deduced for example from the provisions of the Commercial Code about the <u>executive director</u> of a trading company, the <u>member of the administration board</u>, <u>authorized agent</u>, etc. The criminal law sets terms such as "<u>a statutory body or a member of a statutory body, or any other person who is entitled to the name of a legal entity or act in the name of a legal entity</u>", or "<u>one who performs the managing activity by this legal entity</u>" or "<u>one who performs inspectional or supervisory activities by this legal entity</u>", the Labour Code works with the term <u>employer</u> who is *ex-ante* assumed to have a managing status, but a person in a managerial position may be according to the Labour Code equally an <u>employee</u>, who, on the basis of the contract of employment, is appointed to an <u>executive position (manager, director, etc.)</u>; specific legal regulations assume a managerial status of <u>the municipal mayors, the chairmen of higher territorial units, the chairmen, and leaders of political parties,</u> etc.

<u>The sociological and psychological theories, however, have their limits in relation to objective law, which originate from the thousand-year-old reasoning of legal philosophers about the fundamentals of the legal system.</u> The above mentioned limits are reflected in the monism and heteronomy of the law, without which the legal normative system would be a gapped normative system.

Criminal activities of managers

The first reference of crime in economic field was recorded in the second half of the 19th century in the speech of Edwin C. Hill, presented at the international congress on the prevention and fight against crime, which took place in London in 1872. He called the offenders in criminal activity "criminal capitalists". The sociologist Sutherland explained this argument of Edwin C. Hill by saying, that particularly the rich and powerful commit economic crimes, among whom he includes "white-collar workers", (those who are assigned to work higher, in a higher working class than the "subordinates – blue-collar workers").

According to Sutherland, white-collar crime is defined as "a crime committed by a person of respectability and high social status in the course of his occupation". The theory of reintegrative shaming by Braithwaite, applied for the crimes of white collars, takes this fact into account. If, however, it should really work, it is necessary for the society to understand the high risk of criminal activities of "white collars". During reintegration, it also needs to take into account that after the discovery of this crime, the offender greatly loses his social status and human dignity. The balance of the process of reintegrative shaming is the source of its efficiency. It requires, on one hand, zero tolerance to this crime, as well as functioning processes of shaming.

Sutherland's definition of the white collar crime consists mainly of the following criteria:
- these crimes are often committed, but they are not sanctioned (punished) and this is one of the reasons why the criminality of white collars is tolerated by the society. These kinds of criminal acts can escape prosecution and strict sentencing because such actions are not considered by the public or by the perpetrator himself as conducts in conflict with the law. On the other hand, the media do not have the influence (lobbying) of the political parties and groups
- the criminal offence is committed by a person respected and decent
- high social status, or social position, occupation – at this point Sutherland points to a wide area of criminal behaviour, which is generally overloaded and demonstrates his theory of different social cluster

The issue of corruption is also linked with the criminality of white collars. The term corruption is a wider concept than bribery or payoff. According to the Criminal law, corruption is considered as a criminal act of receiving a bribe, payoff, and indirect corruption. In connection with committing criminal offence of corruption by public agents, the term "government official" also occurs in the European legal systems. According to Van Klaveren, we can talk about corruption if a public official considers his office as a "shop" that he tries to maximize. From his definition, it follows that any conduct of a public official aimed at maximizing the profit is corrupt behaviour. The international organization Transparency International defines corruption as proceedings which unlawfully enrich the leaders of the public sector (e.g. politicians, government officials, public agents, etc.), in particular by the abuse of entrusted power. According to Braithwaite, many public agents are more in favour of corruption than of official objectivity, which should be the basic rule in the acquisition of things of general interest. There are societies where, it is considered to be a greater shame if a public official turns his back on those who helped him to power, than if he commits a criminal offence (corruption) (Strémy, 2010). On the other hand, however, let's ask the question, if there is a competitive system of filling the posts in public administration and at the same time, if there is an increasingly dynamic penetration of the negative elements of particracy to the state and public administration, is it possible to expect a turn in the social opinion on the relationship of corrupt conduct of public officials, and their legal duty to act objectively and impartially?

Final summary
By combining the above mentioned theses we can state, that if:
- social intelligence is estimated as a managerial social competence of a person in business and in a managerial position at the same time
- there is an impact of social intelligence on the activities of managers within the sense of its neutral charge in relation to morality and the law at the same time
- it is true that in the achievement of the specified economic results the need for achieving the set goal is preferred to the value of the means used to achieve the given objective (economic result)
- J. Kuchta and H. Válková's conclusion is true who consider opportunity as the common denominator of all perpetrators of economic crimes, while these perpetrators have economic influence and power,
- Sutherland's theory of different social clusters is true, considering the predominantly high social status or social position of the perpetrators of economic crimes,
- the frequent misinterpretation and misapplication of the constitutional postulate in managerial activities is true about the fact that everybody can do everything that is not forbidden by law because of the neutral charge of social intelligence of managers to morality and the law, and

because of the need of the Machiavellian achievement of the specified goal regardless of the means used

- it is true that in interpersonal intelligence the ability of managers to manipulate other people is often used, as well as their cynical attitude, while such an individual (manager) uses his knowledge of social behaviour and his well-developed social skills in such a way that the other individuals are not aware that they are exposed to a pre-thought and planned influence and management
- it can be reasonably assumed that the person of the manager is potentially more susceptible to the perpetration of economic crimes than a person outside the managerial environment.

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Neutral Charge of Social Intelligence Manager for Morality in the Context of an Interdisciplanary View of Managers Social Intelligence

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Abstract

The authors in the article present an interdisciplinary view of a status of the manager emphasizing psychological, social, legal, moral, philosophical, or sociological aspects of an institute of manager's social intelligence. They introduce the manager, on the one hand as a subject of natural rights and freedoms and on the other, from an extensive view, they understand the manager as a part of a dynamic unit which is represented by the economy of the society and state, but also the EU space.

In the presented article, the attention is paid to an aspect of manager's personality with an emphasis on perceiving social intelligence of the manager from the view of broad-spectrum, interdisciplinary prism.

Key words
Manager, State, Individual, Law, Social intelligence

Introduction

Life situations and personality aspects of the individuals indicate objectives and procedures to whose achievement they may use their social intelligence. Socially proficient individuals may under suitable conditions employ social intelligence even in demanding and strenuous situations, or when solving conflicts with a positive impact on all participants. On the other hand, social intelligence may be used in terms of fraud, cheat, or manipulation with other people. Social intelligence, in these terms, is categorized in personal traits of prosocial behaviour, and it is a field which closely relates to manipulation and other undesirable forms of behaviour, for instance Machiavellistic intelligence (the ends justify means).

Sociologists describe social intelligence of the individual (the personality) as a neutral category regarding an ethical view since the use of manipulative social techniques are its part. The individuals do not normally include among social intelligence negative elements of behaviour in social situations. In interpersonal intelligence, however, an ability to manipulate with other people as well as their cynical attitude are often used. Such individual uses their knowledge of social behaviour and their developed social skills in the way that the others are not aware of being treated in a thoughtful and planned way.

Manager as a subject of basic rights and freedoms

The manager (the individual) in managerial (economic) position is in space of practising their basic economic rights regulated by constitutional dimensions (limits), determine qualitative (but also quantitative) range of practising the determined rights and freedoms. It is mostly the constitutional definition of economy as market, ecological and socially oriented economy, constitutional definition of support and protection of economic competition from the side of the state, but mainly constitutionally defined the character of the state, in which the manager can excercise his/her basic rights or freedoms. It is common ground that the activity of manager is most often subsumed in the institutes of commercial law, which consists of legal principles, legal standards, legal (business) customs and business practices (*secundum et intra legem*), while it is considered that business practices are constantly created and updated (Cisko, 2012).

The Slovak Republic is a subject in correlation the state and the individual, thus, as a regulator in the correlation of the state and the individual, as a regulator of basic economic rights of the individual, it is the material-legal state built on the principles of iusnaturalism, therefore, on the position of legal and philosophical thoughts which connect, in the state of being created and practised, the right objective law and morality. If thus, there exist some thought lines which percieve social intelligence of the individual as neutral from moral principles, a materially-legal state does not allow neutrality of the manager 's

personality and his/her social intelligence from moral principles given to the material-legal state, within the range of heteronomy and monism of its objective law as a social normative system. The application of basic economic rights by managers is, in fact, an activity of particular individuals (managers) within the space of objective law, thus within the iusnaturastically percieved material – legal state. Definition of social intelligence, or manifestation of managers' autonomy as the institutes with neutral charge towards morality is a demostration of managers' autonomy in relation to generally recognised moral values which create a part of objective law of the state, thus, the demonstration of autonomous morality of managers (the manager).

Autonomy and anthropocentrism

Each social normative system is (inter alia) characterized by heteronomy(thus, equally legal, moral, religious, aesthetic, societal normative system). Generally, heteronomy can be defined as norms characterizing a given societal normative system to a man from outside. Autonomy grows from an innate or apriori duty of the individual, its base roots in an individual acting subject, a man themselves creates a norm while they are independent of whatever influence from outside. Psychological and sociological highlighting of manager 's autonomy, his/her "freedom" and their looking for moral reality, in the existence of manager himself/herself as a subject in relation towards morality and objective law, finds its reflection and possible reasoning in the thoughts of anthropocentric legal philosophy. Anthropocentrism examines autonomy, particularly, in the moral normative system an autonomous morality of the individual as a relation of the subject (the individual) and objective law as an object.

In the following lines and chapters, we will attempt to dispute theoretical thesis of anthropocentrism in which, the autonomy of social intelligence of the individuals (managers) defined by sociologists and psychologists towards morality may find ideological, philosophical and legal reasoning.

Anthropocentrism, iusnaturalism, iuspositivism

Anthropocentrism attempts to define itself theoretically in comparison with iusnaturalism and also iuspositivism. While iuspositivism a priori refuses link of law and morality as a whole, iusnaturalism link of law and morality presupposes.

The existence of a man is given in an objective reality and the natural rights of the individual exist because of the fact that a man exists. Iusnaturalism does not represent, by its essence, an antipole to legal positivism, but it presents a higher level of defining of this, that the existence of a man and his/her natural rights are granted regardless the level of knowledge and practising this givenesses by a man himself/herself. Between iusnaturalism and iuspositivism, there does not a priori exist dualistic or bipolar type of relation. This relation is more hierarchical. Iusnaturalism represents a higher level of knowledge and definition of objective reality regarding a man's existence and his/her natural rights and freedoms in the objective law's system. A significant, 20th century philosopher of law, Gustav Radbruch defines his definite digression from positivism and shift to iusnaturalism through the existence of statutory injustice above statutory law(Bröstl, Dobrovičová, Kanárik, 1999), what may be identified with existence of a vertically and hierarchically higher level of a man defined by law and their natural rights in an objective reality existing hierarchically above a positive law.

" Freedom " as a sum of natural rights of the individual

" Freedom ", which anthropocentrism regards to be an imanent characteristic of a man as a subject in relation to object (the law), is the only ethymological expression of the sum of natural rights and freedoms given to the individual in the way that they are defined by iusnaturalism. Non-existence of limitless " free" being of the individual is not subjected to existence of an objective law (by definition of anthropocentrism), but to the fact that, "freedom", thus, fundamental rights and freedoms of the individual are demonstrated in their external forum (forum externum), what represents an exercise of essential core of fundamental right or freedom (forum internum) (Korn, 2015). To limit "freedom" (basic rights and freedoms) emerges from the essence of "freedom" itself, since its exercise (exercise of the rights and freedoms - forum externum) collides with interests of other individuals or all the community. By exercising "freedom", in fact, one or more fundamental rights and freedoms, we can logically come to the limits of sphere of existence of "freedom" regarding other individual, i.e. the limit of other fundamental right belonging to other subject (or sphere of social interests' protection), what subsequently sets the limitation of the individual's "freedom", therefore, limitation of boundless exercise of "freedom" by the individual.

The ojective law is not, therefore, a reason but a tool to prevent the individual's limitless exercise of "freedom" in the state. The exercise of "freedom" of other individuals is then an objective reason.

Law, state, partocracy

If anthropocentrism understands the state as a subject which in the relation "state and individual " ("freedom of the individual") affects the individual ´s "freedom" in the way that it is negated, then, it is necessary to point out a phenomenon, which enters a contentual correlation within a political system existing in the state (on the side of the state), as the one constitutionally explicitly unnamed but implicitly clearly existing, called the phenomenon of partocracy.

Partocracy is a power of political parties in the state. It has been a societal and political phenomenon of a few decades and it is a reflection of societal and political development in the field of political systems of states. So, it has been a societal and historical reality and it is assumed to persist to be like this in the future and even may stabilize and its influence will deepen.

Their representatives or creation and adoption of purposive laws ad hoc on positivistic base.

Making the interests of political parties and their elites superior is becoming increasingly obvious. The cases of applying partocratic practices are that proof not only before elections, after the ones or during the process of creating coalition agreements but even in the cases where the primary role is not a struggle for power, but also there where economic interests come to the position of the dominant indicator. (Kmetóny Gazdová, 2010).

State power covered in the partocracy supported by the basic function of each political party whose role is to govern, has tendency appoint duties whose open or latent aim is to assign duties to the individual in the way so that their fulfillment has brought benefits only to a particular group in society (state), which currently(temporarily) carries out governing power, or which creates economic background of political parties and their elite. Partocracy represents the tool of economic interests, no mater what political and ideologic directing the political party presents itself, its economic background is determining, a fight of political parties in elections is a fight (bipolar, multipolar) of economic groups in the state (EU) to win sources from the state budget. The citizen passes the power not to political parties but economic clusters standing in the backgrounds of political parties which financially support them – government of economic oligarchy.

State, morality, and justice

The integrity of law with the state is a defining feature of objective law. However, the aforementioned integrity is not self-purposeful in the sense of technical nature of law as a human activity (in the way it is originally presupposed by anthrophocentrism). If morality is (heteronomous) a part of objective law and if the law is a defining feature of the state, so the morality is also a defining feature of the state, since it creates an imanent part of objective law in the sense of iusnaturalistic view on the law. The integrity of the state and objective law then does not lie in the fact that the state abuses the objective law as a tool of regulation of the individual´s "freedom" but in the presupposition that only the state (materialistic and legal), by its powerful mechanisms is able to determine effectively the space for individual "freedoms" for all the individuals in their mutual correlation. Even if it pays that the individual (individual legal subject) is a bearer of law, in objective reality there has never been and will never be employed only one subject of natural rights and freedoms but always it is the individual in correlation with a quantitatively indefinite number of individuals of the same natural and legal quality of subjective rights and freedoms.

Anthropocentrism bases its thesis on the assumption that in objective law, there is inherently expressed no idea of justice. Justice, however, is identified by iusnaturalistic law as its part anchored in the principles and rules of law and characterizes it as a philosophical category in terms of objective and historically established principle in order to assess social phenomena and human behaviour (Bröstl, Dobrovičová, Kanárik, 2007). Dworkin's iusnaturalistic legal theory constitutes that objective law is created by legal principles, legal norms, and political morality (Dworkin, 2001).

Thousand-year-old principles as *equitas naturalis preaferenda es rigori iuris* (natural justice is above harness of the law), *ex iniuria ius non oritur* (unjust acts cannot create law) or *summum ius summa iniuria* (extreme justice is extreme unjustice), which are a part of the objective iusnaturalistic perceiving of law, and they, by their content, exclude the absnce of justice in a legal normative system. A legal principle *honeste vivere, alternum non leadere, suum cuique tribuere* (the commands are these: to live honestly, to injure no one, [and] to give to each his own) bases, by its heteronomous essence of objective law, an

imperative regarding autonomy of morality and law to live in the way to <u>refrains from meddling in others'</u> <u>autonomy of morality and rights of other individual,</u> (individuals) in society. The presented principle negatively determines and acknowledge, for one thing, an autonomous space of the individual and his/her freedoms" (natural rights and freedoms) within society in <u>correlation with other individuals</u> and, for another, principally presents a social idea of justice<u> by individuals as bearers of equal naturally legal</u> <u>quality of subjective rights and freedoms</u>. All the above-mentioned legal principles have been adopted in norms of the objective law in the process of romanizing of European legal thinking (Prusák,1997). Through the presented opinions expressed by the authors of the monograph, it is possible successfully dispute the thesis of anthropocentrism regarding an absence of particular justice in the objective law.

Final summary

The position of managing individuals (managers) in the state's economics is special, based on the responsibility of managers, speciality of tasks and their meeting. Successful management of large and medium-sized companies are a subject of the state power's interest since large and medium-sized trading companies provide a significant part of employment on a long-term basis.

<u>Social intelligence is presumed a managerial social skill</u> and this assumption allows to draw conclusions, regarding this work, on the possibility of social intelligence in work of managers to take an effect in a sense of a neutral charge in relation to morality. The reason is the fact that on achieving the set economic results, the necessity to achieve the set goals is raised above the value of tools which are used to achieve this goal (economic results). From the view of solving demanding life situations by managers or from the view of defining their social intelligence as the institutes with a possible neutral charge towards ethics and morality, <u>the position of the manager towards ethics</u> is then <u>accepted</u> as <u>autonomous morality</u> <u>having anthropocentric trace,</u> with a priority task of achieving a particular set goal regardless existence of heteronomous standards of moral normative system. If, however, pays that iusnaturalistic view on the essence of the state considers morality a part of the objective law what establishes the findings that <u>anthropocentric prism of manager's autonomous morality in an attempt to achieve a particular economic</u> <u>goal is in contrast not only with standards of morality but also with the standards of a legal normative</u> <u>system, ergo with the standards of the objective law.</u>

<u>Psychological theory and sociological theory of the law search causes of possibility to eliminate</u> <u>heteronomy and monism of the objective law with a preference of autonomous (anthropocentric) attitude</u> <u>of the individual, highlighting an importance of the personality, on the level of his/her psychological</u> <u>uniqueness or on the level of his /her sociological uniqueness, as a creator of social relations (society</u> <u>creator) whereby both introduced lines of thoughts may, in a significant extend, contribute to misusing of</u> <u>the objective law. If</u> pays that social intelligence is presupposed to be a managerial social skill, the introduced psychological and sociological aspect of social intelligence may find, in psychological and sociological theory of the objective law, justification for the existence of possibility of undesired autonomy and anthropocentric view on a status of the manager towards the standards of law and morality (a neutral charge).

<u>The constitutional principle of compliance with social and ecological values in an economic system of</u> <u>the state</u> embodies and in a particular sense cultivates the effect of free market economy, determines its axiological sources having an aim of <u>exclusion and lawful sanctioning of societally extreme business</u> <u>ambitions and excesses in business relations resulting from possibility of a neutral charge of</u> <u>entrepreneur's (manager's) social intelligence towards generally accepted rules of morality (to act *contra*</u> <u>*bonos mores*) and as said, from misinterpretation and misapplication of constitutional postulate that</u> <u>everyone can perform what is not prohibited by law.</u>

Two essays *post scriptum*

1. The possibility of the existence of the autonomous attitude of the manager (to morality, ethics, law) is also associated with the social stratification of the manager in the society. Social stratification is the vertical division of the society (individuals) into horizontal layers – strata. Managers are in the social stratification of the society permanently incorporated into its top layers. Therefore, in the modern society, they are in an "aristocratic" position, which in terms of the degree of jurisdiction employs Perelman's concept of *quod licet lovi, non lice bovi*, which is only a step away from the reasoning about the autonomy of the manager to ethics, morality and the law.

2. The fact of the existence of economic globalisation in the world is indisputable. Can there, however, be an economic globalization without a moral and legal globalization, if there is an unquestionable

existence of civilizational differences in the legal and moral values of individual civilizational areas (e.g. military force)? On the basis of all this, we can express the view that the factual reality of the economic globalization is made possible due to the neutral charge of managers (economy) to law and morality, which justifies the unnecessity of taking into account the civilisational and cultural differences in morality and law in the process of economic globalization. It seems as if the economy was *ex ante* historically and systemically out of the law and morality of the society (in every civilizational area and period) – let's recall the adoption of laws to justify the economic objectives (the fascist Germany, the new economic policy of NEP in the former USSR, etc.).

In that context it raises the question: Is it possible that given the apparent impossibility of non-existence of the neutral charge in the relationship of the economy to morality as a component of objective law there would be *a priori* an other than the neutral charge of the manager to morality and the law?

This is the iusnaturalistic objective law of the material-legal state which provides answer to that question. The level of interpersonal relationships in the society is at such a level as it is allowed or permitted by the state as the regulator of all social relations. It is necessary to bear in mind that the realization of social relations of the individual in the state, or the individuals mutually, is determined by the constitutional quality of the definition and restriction of their fundamental rights and freedom and by the determination of the qualitative and quantitative dimensions of the possibility of application of the concerned rights by the state authorities. The constitutional principle, which establishes the equality of people in dignity and rights, does not have a horizontal effect according to the prevailing opinion of legal theoreticians. It is a declaration and a reminder of the correlation which affects the individual interpersonal relationships and thus the relationship of the state and the individual, or the individual in all levels of his social quality, even in the quality of the relationship of the activities of the manager to law and morality, in its widest theoretical level and its identification with individuals in daily presence. (Lajčin,Korn 2015).

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Social Evaluation and Perceived Work Performance in the Context of Professions of Managers and Executive Employees

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Abstract

The proposed paper analyzes social evaluation and working performance among managers and executive employees. The research sample consisted of 134 respondents, 50 men and 84 women, 18 managers of hotels and 116 executive employees. We used two questionnaires primarily created for the purpose of the research study. First questionnaire was focused on evaluation of manager executive employees, specifically was evaluated cognitive, conative and emotional part of social evaluation. Second questionnaire was created in the form of semantic differential, where manager reviewed own working performance. Using One Way ANOVA we found, that executive employees with different length of practice do not differ in level of cognitive, conative and emotional part of manager´s social evaluation. Using Man-Whitney U-test was not found gender differences in manager´s perception of own working performance and we did not find statistically significant differences in manager´s motivation to working performance with different length of practice.

Key words
Social Evaluation, Working Performance, Executive Employees and Managers

Introduction

Social evaluation is an activity that compares the expected performance of the same object with the performance, which was actually filed. An individual who gives a performance, suffer from desire to be objectively and fairly valued. This desire comes from basic human needs. If the manager wants to properly assess through self-evaluation, it is necessary to realize the inherent value of himself, so can come in evaluation of its features and performance. However, it is clear that self-evaluation is a tendency for people to assess their characteristics and performance finer and thus present a higher degree in a favorable light (Frankovsky Birknerová 2012). Slávik (1999) states that the evaluation of the life of the individual and society are used to achieve different objectives or to perform different functions. Character evaluation and its consequences are different depending on which function to evaluate individuals currently prevails. In addition, each of the evaluation function may have different effects depending on the circumstances on the human psyche. Therefore, should the person who assesses distinguish the different functions of assessment and depending on them to modify their evaluation process or select specific method. We think, that every individual who delivers the performance feel the need to make any evaluation, but mostly positive.

When people are asked to evaluate their own abilities, the assessments they provide tend to be self-serving. Indeed, often, the appraisals that people endorse appear to be favorable to a logically impossible degree. The contention here is that people will select those criteria that place them in the best light. In the example above, when evaluating leadership potential, an aggressive individual may define the good leader as compulsive and task oriented. A more nuturant individual might use a definition emphasizing social skills. Both motivational and cognitive mechanisms could underlie the use of self-serving trait definitions in self-evaluation (Dunning et al. 1989), The number of studies have found that performing a task in the presence of others can lead to increased autonomic activity (e.g., cardiovascular, electrodermal); however, meta-analyses have found that the effects are stronger under certain conditions, including when the evaluation potential of those present is increased (Bond & Titus, 1983; Mullen, Bryant, & Driskell, 1997).

The evaluation is according to Armstrong (2006) the process of implementing mutual understanding of what is to be achieved and the training and development of people in order to ensure that the necessary tasks are fulfilled. Evaluation is most often focused on performance that should have been filed and that he really was filed. The first aspect of performance deals with the results that have been made in terms of total production (observable and measurable results) and other results - the total employee contribution to achieving the goals of the team, department or organization. The second aspect deals with what individuals put into their work in terms of knowledge and skills (abilities) and behavior. As part of establishing clear roles and activities of workers of the job Urban (2012) states that in work assignments,

especially those of longer-term needs to be shared with employees to determine their expected results, deadlines, take over the main action which will carry out the tasks based. If the manager wants to verify that the executive employee understood the role and knows what to make not to be limited to the question whether the role is understood as if the employee said yes, about anything we are not convinced. It is therefore necessary to ask him about the whole process solutions and the role of what are the possible doubts that other options do the task. A clear explanation assigned tasks would prevent the barriers or poor communication between employees and managers (Štefko, Krajňák, 2013).

The regular evaluation of operational performance is assessing the achievement of work results of employees through pre-agreed performance criteria and objective goals (Wagner 2008). Armstrong (2006) defines performance evaluation as a process of evaluation and performance measurement realized by human. The identification of the needs and potential for development and for determining the continuous improvement of performance. Majtán et al. (2007) states that the results of performance appraisal are largely conditional on the entity that evaluation is carried out. In general, the choice of assessors makes particularly the possibility of the entity to monitor work performance, its ability to carry out the evaluation and prove it in practice use. Majtán et al. (2007) confirms Pilařova´s claim (2008) that motivating action training to staff where such training should serve as a precondition for planning and career management, within which is a targeted training of employees with regard to the future needs of the company directed simultaneously to their working principles.

Methodology

Social evaluation is related to working performance of employees in significant level. Based on theoretical findings we formulated hypotheses, where we expect existence of statistically significant differences considering to selected indicators, which are related to social evaluation and working performance of managers and executive employees.

H1: We expect the existence of statistically significant differences in level of emotional, cognitive and conative part of personality in consideration of length practice of executive employees

H2: We expect the existence of statistically significant gender differences in level of working performance between managers.

H3: We expect the existence of statistically significant differences between managers with different length of practice in level of motivation to working performance.

Research sample

The research sample consisted of 18 managers and 116 executive employees working in area of tourism. The research sample consisted of 83 women and 50 men aged between 25 and 45 years (average age was 32,325 with standard deviation 1,232). Respondents were selected to research sample through quota sampling.

Research method

For the research purpose we used two questionnaires, which measure level of social evaluation of managers, who have been interviewed executive employees and level of perceived work performance and motivation to work performance, which have been interviewed managers.

The Questionnaire focused on valuation of manager´s work performance

The Questionnaire focused on valuation of manager´s work performance measures manager´s level of perceived work performance and manager´s motivation to work performance. The questionnaire contains 15 items and for creation questionnaire focused on valuation manager´s work performance we were inspired by questionnaire from Babinčák (2008, p. 77, 79). The items were rated on 5-point Likert scale (1- completely agree, 5- completely disagree).

The Questionnaire focused on manager´s social evaluation

The Questionnaire focused on manager´s social evaluation contains 36 characteristics of managers in the form of semantic differential. The questionnaire was completed by executive employees, who were rated managers. The items were divided into three subscales, which are related to social evaluation of managers. Specifically, the questionnaire measured emotional, cognitive and conative component of manager´s social evaluation.

Research results

The research results were collected and subsequently processed in a statistical program SPSS 17 using One-Way ANOVA and U-test.

Table 1 describes manager´s social evaluation and emotional, cognitive and conative component of social evaluation. Executive employee's evaluated emotional, cognitive and conative component of manager´s social evaluation and we comparing manager´s social evaluation considering to length of practice of executive employees. Before using One-Way ANOVA have been met assumptions, which are necessary for using One Way-ANOVA.

Table 1. Comparison of emotional, cognitive and conative component of manager´s social evaluation considering to length of practice of executive employees

Social evaluation	Length of practice	N	Mean	Standard deviation	Degree of Freedom	F	p
Emotional component	Under 3 years	60	16,05	6,384	115	0,411	0,664
	From 4-9 years	41	15,05	6,160			
	Over 10 years	15	14,87	6,058			
Cognitive component	Under 3 years	60	18,33	2,465	115	2,465	0,090
	From 4-9 years	41	15,49	6,658			
	Over 10 years	15	14,73	5,688			
Conative component	Under 3 years	60	46,37	16,646	115	0,164	0,849
	From 4-9 years	41	44,40	14,641			
	Over 10 years	15	45,56	15,838			

Based on table 1 it can be concluded that they were not confirmed statistically significant differences in the level of emotional, cognitive and conative components of social evaluation of managers by executive employees considering to length of practice of executive employees. Considering researching results we do not present post-hoc Tukey test, which demonstrated no statistically significant differences between groups of executive employees considering to their length of practice. Based on the research results it has not been established hypothesis and executive employees who work in tourist facilities do not assess their managers at different levels of emotional, cognitive and conative component of social evaluation considering to their length of practice in that position.

Table 2. The statistical significance of gender differences considering to work performance of managers

	Gender	N	Mean	Standard deviation	U	p
Work performance	Men	11	8,82	2,040	32,000	0,596
	Women	7	8,43	1,718		

Table 2 shows the results of research comparing gender differences of managers in evaluating their own work performance in the implementation of managerial positions. Comparison of averages using the Mann-Whitney U-test did not confirm the existence of a statistically significant gender differences. The level of significance takes the value 0.596 and can therefore be concluded that women and men do not differ in the level of their own work performance.

Table 3. The statistical significance of differences in the level of motivation to work performance considering to manager´s length of practice

	Length of practice	N	Mean	Standard deviation	U	p
Motivation to work performance	Under 5 years	18	8,75	2,712	37,000	0,829
	Over 6 years	10	9,30	3,199		

In table 3, we examined statistical significance of differences in the level of manager´s motivation to work performance considering to their length of practice. The average value in managers with length of practice under 5 years was 8.75 and with length of practice over 6 years were 9.30. The results of Mann-Whitney U-test did not show statistically significant difference in level of motivation to work performance between managers with length of practice under 5 years and managers with length of practice over 6 years.

Discussion and Conclusion

In our research study we examined two constructs, which play important part in practice of manager´s position. Based on table 1 it can be concluded that they were not confirmed statistically significant differences in the level of emotional, cognitive and conative components of social evaluation of managers by executive employees considering to length of practice of executive employees.

At the begging of this article, we proposed that managers differ in their own evaluation of work performance and evaluation of motivation to work performance considering to their gender and length of practice. We demonstrated research results through explanation of specific construct called self-efficacy. Self-efficacy is a one from four specifics part of core self-evaluations. Generalized self-efficacy—one's estimate of one's fundamental ability to cope, perform, and be successful—was viewed as an indicator of positive core evaluations (Judge, Bono 2001). The core´ self-evaluation's construct was originally proposed as a potential explanatory variable in the dispositional source of job satisfaction. Subsequently, Judge and colleagues also have argued that the construct should been related to work motivation and, ultimately, to job performance (Judge, Erez, Bono 1998). Investigations of a link between core self-evaluations and job performance, however, are lacking (Judge, Bono 2001).

Comparison of averages using the Mann-Whitney U-test did not confirm the existence of a statistically significant gender differences. The level of significance takes the value 0.596 and can therefore be concluded that women and men do not differ in the level of their own work performance.

The results of Mann-Whitney U-test did not show statistically significant difference in level of motivation to work performance between managers with length of practice under 5 years and managers with length of practice over 6 years. Perhaps the most direct demonstration of self-serving appraisal is the "above average" effect. When asked to judge their own capacities and performances in a specific domain against those of their peers, people predominantly respond, 'Tm above average." The above average effect has been demonstrated in the realm of driving ability, ethics, health, and managerial skills (Griffin et al 2007).

Regarding to relationship between self-efficacy and performance in organizational settings, in the initial years of self-efficacy research only a few studies were conducted. They revealed that self-efficacy was related to job search, insurance sales, and research productivity of university faculty members. Even though, considering their limited number, these studies did not enhance much of the understanding of the organizational correlates of self-efficacy; they did provide an initial impetus for subsequent research examining the relationship between self-efficacy and work-related performance (Stajkovic, Luthans 1998).

Work performance was evaluated in terms of the proficiency with which an individual carried out the tasks that were specified in his or her job description. From this perspective, a "well-specified job" was one in which all of the behaviors that contributed to organizational goal attainment was captured in an individual's job description (Griffin et al 2007).

In future research it is essential to explain self-evaluation through work performance and motivation to work performance. There is an evidence based on previous research, that are connections between self-efficacy and work performance, but there is a lack of evidence about the type of relation and about the effect of self-efficacy to work performance.

Summary

The research study analyzed social evaluation and working performance among managers and executive employees. The research sample consisted of 134 respondents, 50 men and 84 women, 18 managers of hotels and 116 executive employees. We used two questionnaires primarily created for the purpose of the research study. First questionnaire was focused on evaluation of manager executive employees, specifically was evaluated cognitive, conative and emotional part of social evaluation. Second questionnaire was created in the form of semantic differential, where manager reviewed own working performance. Using One Way ANOVA we found, that executive employees with different length of practice did not differ in level of cognitive, conative and emotional part of manager´s social evaluation. Using Man-Whitney U-test was not found gender differences in manager´s perception of own work performance and we did not find statistically significant differences in manager´s motivation to work performance with different length of practice.

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Foreign Language Learning/Teaching Need with Students of Management

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Abstract
The paper deals with the managerial students urgent need and awareness for foreign language learning/teaching in terms of „foreign language for sepcific purposes". It emphasizes the position of foreign languages for spesific purposes in mangement students studies.The elements an tools needed for developing sudetns´awareness of the issue are presented in the article. The gained knowledge and skills in the area of business communication seems to be strong advantage in the global managerial environment.

Key words
The need, foreign language for specific purposes, communication skills, labour market

Introduction

Knowledge of foreign languages is now seen as something self-evident, not only in academics, but also in the professional environment and its management. Non- philological universities are no exception. Teaching/learning of professional foreign languages is at most colleges full-fledged part of university studies creating overall profile of graduates from a particular department, which takes place at different levels, with different sizes and scope.

Currently, great emphasis is placed on language competences of university students. Just linguistic competence represents the ability to communicate effectively in foreign languages and are fundamental requirements of employers which affect the ability of university leavers in the labor market.

Demands of employers on employees linguistic competences are subsequently reflected in the offer of employment (Nezvalová, 2002). Generally, however, there is insufficient language knowledge and skills of non-linguistic university graduates that is frequently met and seen in business environment.

Due to the upward trend of foreign investors becoming the part of global concern and working in an international company requires not only the ability to communicate in one world language, but it also is one of the basic conditions of recruitment.

The teaching/learning of foreign languages leads not only to facilitating human communication, but also generally includes the objective of education.

Communicative goals indicate the acquisition of a foreign language to the extent that it can serve as a tool for communicating in our case business communication. Its implementation assumes acquisition of the four major comprehensive language skills: listening, oral expression, reading comprehension and written expression (Naidu 2006). Teaching/learning objectives include acquiring facts of a foreign language and continuous development of communication skills. The educational objective on the other hand contributes the development of student's personality through appropriate content and learning management. Foreign language learning familiarizes students with different language structures, its sound forms, vocabulary, grammar, and also with its stylistic structure.

Hutchinson and Waters (1987), who are considered pioneers in the foreign language for specific purposes training, characterize such a language training as an approach to language teaching/ learning, which is governed by specific and exclusive needs of the learner. The main trends of the current professional teaching/learning of foreign languages is aimed at students and their needs, in this case based on the analysis of market needs and practices. The teacher becomes so a facilitator of student´s learning and acts as a mentor or helper for example, in the area of individual learning strategy selection , setting individual goals and developing self-assessment of the students (Nemcova 2007). It also develops the concept of autonomous learning of languages and promotes students self-learning, which is determined mainly by proper students motivation while acquiring /learning the foreign language.

Motivation and its importance in foreign language teaching

Motivation plays an important role in the successful acquisition of a foreign language. Dörnyei and Csizer (1998, p. 203) argue that "L2 motivation is one of the most important factors that determines the rate and success of L2 ... without achieving sufficient motivation, even individuals with the most remarkable ability cannot achieve long-term goals." Dörnyei (1998) also points out that the primary

motivation provides students initiate the study of languages, and later becomes a driving force to be persistent in demanding a long-term process of learning foreign languages. It is worth noting the statement by Gardner (1985), that language learning is motivation in itself and represents a dynamic process that lasts for the entire period of language learning. Moreover, Dörnyei (2001) adds that the process is cyclic, e.g. rise and fall, and the "flow" of motivation changes over time. This means that the motivation of students is different not only in the course of the semester, or a language course, but even during the seminars or during the activity itself. Therefore, it is important to remember that motivation is not permanent, and therefore we should be prepared not only for the maintenance phase, but mainly for the stage of increasing it in the process of teaching/learning foreign languages.

Self-determination theory (SDT) as a motivational theory came to the awareness of the professional public in 1985, when it was published under the title "Intrinsic motivation and self-determination of human behavior." SDT was founded by Edward L. Decima and Richard M. Ryan, who currently teach the program to self-determination theory at the University of Rochester in New York at the Department of Clinical and Social Sciences. In terms of human motivation an important aspect of SDT are differences in it. The author distinguishes controlled (external) and autonomous (internal) motivation. Controlled motivation is characterized by a sense of urgency, you need to do something at a certain pressure, which can be internal or external. The behavior occurs in the form of seduction, temptation, deception, as well as coercion, compulsion to do something, the behavior under pressure. (Deci and Ryan, 1985) thus checked behavior can have negative effects on behavior as well as being itself. Unlike controlled motivation, autonomous motivation reflects the interests, values, their own choices, decisions and behavior with which we identify themselves internally. If any action or activity we do with interest and the activity itself pleased then the motivation that comes from within, drives us to the action or activity. Existing research by the authors of SDT shows that, autonomously motivated people know better how to solve their problems, they can make better use their skills, and they are more creative. (Deci and Ryan, 1985).

Vallerand and his colleagues (1992) divided the intrinsic motivation into three types. The first type is intrinsic motivation, the primary objective is to experience stimulation, excitement ("intrinsic motivation - to experience stimulation"). This type of intrinsic motivation is the beginning of the spectrum arranged according to degree of self-management. The important outputs of activity are, for example. pleasant sensory stimuli, aesthetic experience or fun. For students, this type of motivation manifested enthusiasm in stimulating discussions or too intense positive experiences in reading literature. The second type is named as intrinsic motivation "to achieve things" ("IM - to accomplish things"), characterized by the joy of a job well done. It describes as involvement in activities for pleasure and satisfaction when attempting to achieve something or create. (Vallerand, 1992). For example, a student extends his/her work beyond the requirements in order to feel joy and satisfaction when you try to overcome yourself. (Vallerand, 1992). The third type is the most autonomous motivation, which is intended to "know" ("IM - to know"). It regards the implementation of activities, because the internal pleasure and satisfaction brings learning, improve their skills and knowledge in the field. For example, if a student reads books for pleasure, because of gathering new knowledge. (Vallerand, 1992).

Just intrinsic motivation is one of the most important factors for successful learning a foreign language. Student learning by his/her own choice, driven by an inner desire and showing independence is well placed to achieve long-term goals of language learning. As reported by Deci and Ryan (In:. Dörnyei, 1994), intrinsic motivation is the central motivator potential of educational process.

External control occurs when external motives were not adopted as theirs, the motivation of behavior is determined by how our environment reacts to the individual, his work and its results. When self - motivation regulation leads to partial internalisation of external regulation, but the individual does not perceive as their own motives, and does so under pressure and feels controlled. When identifying an individual no longer perceives the importance of behaving for himself. Identified with the regulation, he does not feel controlled and acts with greater sense of autonomy. The highest rate is found internalisation in integrated regulation. It is similar identification, but unique in this method of regulation has integrated regulation and other aspects of himself, that is personal identity. It is similar to the internal motivation, with the difference that in the case of internally motivated humans is very important to carry out the activity. When integrated regulation the value of the activity is important.

The STD scheme presents the rate of self-management ("degree of self-determination") and the subsequent allocation of motivation into internal and external. Disincentive stands aside, as it represents the absence of external or internal motivation.

Self-management in motivation could be defined as the involvement of humans´ own preferences in the selection and implementation of activities and goals. It is primarily the domain of intrinsic motivation, but there are also those external motives that may eventually gain in importance precisely because of self-management tendencies. A key aspect of SDT is the possibility of changes in extrinsic motivation (controlled) through internalisation to intrinsic motivation (autonomy). This means that over a certain integration of extrinsic motivation is transformed into a self-Classical identification of behavior. The process of self-regulation towards the intrinsic motivation is somewhat autonomous, controlled by choice. Internalization is according to the authors of the theory of active and natural process that goes through several control levels of personality, i.e. from external control through interjection and identification, to the integrated regulation.

Motivation increasing possibilities of non-philological university students

Generally, however, in the academic environment of universities we face lower levels of language competence of higher learning students, in most cases, with non-linguist focus. The students are primarily externally motivated mainly for the successful completion of a credit test in a foreign language, which is taught in one or more semesters range. Due to the extent of foreign language teaching at universities the teaching   can be in most cases considered as the basis of professional language. Mainly seminars meet students claiming that their priority is not to study a foreign language, but a specific branch of study. We believe that students of non-philological directions, unaware the need of foreign language training for their future application in practice, despite the fact that employers consistently point to a lack of non-linguist graduates with the knowledge of at least one foreign language and ability to communicate in it at the working level.

Motivating students to achieve a high degree of acquiring professional language and teach them to perceive language learning as a lifelong process of learning seems to be the difficult task of every foreign language teacher. So the teacher should be able to activate and motivate students, to arouse the imaginary inner interest in his teaching mainly based on students' needs of specific departments and actual needs of employers for graduates of non-philological fields. In foreign language teaching at non-philological universities it is necessary to let the students as much scope for professional communication in a foreign language with an emphasis on the presentation of compliance with the practical needs as it is possible, which could motivate them not "only" to complete the credit or examination of a foreign language, but above all to understand the need to speak a foreign language for the use in practice and the process of life-long learning.

For the purpose of increasing motivation among students studying a professional foreign language we can build on the needs of managerial communication skills that we use in our case, in teaching professional foreign language. It is commonly known that managers need to use their communication skills most effectively not only in their mother tongue. Every manager in an organization should lead people, communicate and motivate them in the area of his professional scope. Each of these processes would not be possible if the managers did not have the necessary communication skills. Griffin (1999) states that communication skills could be seen as an effective manager skills to transfer ideas and information effectively and receive ideas and information from others. Managers´ success mainly depends on their ability to offer the clearest necessary information. De Vito (2008) considers the following general communication skills of managers, which have been extended to the most common requirements of employers to their employees:

- *the skill to present* e.g. one-self, his/her organization, product, professional theme and subject,
- *the relational skill* helps to establish and maintain relationships, ability to work not only with colleagues or management officers, but also with suppliers, customers or business partners.
- *the skill to hold talks and interviews* enable*s* to communicate with others in order to obtain information, to present successfully, to participate effectively in various types of conversations and interviews, overcoming communication barriers.
- *the skill to communicate in a group and leadership skill* helps to be an effective member or leader of various targeted groups (information, solving problems, looking for ideas, etc.), to formulate clear objectives, formulate appropriate questions,
- *the media literacy and administrative skills represent* an opportunity to become critical users of various mass media, that are   met every day and writing ability of preparing the documents necessary for the organization.

Based on the above characteristics communication skills of a manager the teaching of specialized language at institutions of higher learning should be focused mainly on the development of managerial communication skills in the language of specialization, which could lead to the increase of students motivation to learning the language of specialization, based upon realistic professional demands that would match teaching a foreign language with its practical use already during the teaching of professional language at non-philological universities. For the reasons given therefore it is considered that the teaching of a foreign language training should focus mainly on:

- *the presentation skill* in the language of specialization, for example: himself during an interview with a potential employer, presentation of the organization, product or professional topics or issues solved - in the teaching practice we often encounter just the barrier is on the student part to present himself publicly,
- *work with authentic materials* in the language of specialization, where we are able to bring reality of a foreign language for example: a professional manual or video on the subject, etc.,
- *preparation of scientific texts* with emphasis on the use of the passive voice. A typical grammatical structure in academic writing, since it is foreign sources dominating in English-written publications offered in databases, journals, or available free on the internet representing a unique source of information for university students, from which the quotation is expected or already in coursework or final thesis,
- *work with specialized texts* in a foreign language, at which the acquisition, consolidation and strengthening of vocabulary is realized based on specialized texts, for example: identifying main ideas, presentation of the main ideas of scientific text, preparation of a summary of a scientific text, etc.,
- *ability to communicate* in the language of specialization based on the use of model situations from actual practice, for example: language negotiation, conducting business meetings, overcoming communication barriers complaints, maintaining relationships and building new contacts etc.
- *the ability of electronic communication* and its rules, where there are presented the differences between formal and informal text based scenarios such as orders, complaints, claims, etc. or communication with customers, management, suppliers or business partners).

Summary

European language policy promotes the concept of multilingualism, which makes it necessary that every man could speak at least two foreign languages in addition to their mother tongue. The knowledge of at least one foreign language at the 'operational' level (ie, for purposes of study, employment) is not in today's global world, nothing special. Even though employers consistently point to the lack of non-philological graduates, especially management colleges with knowledge of at least one foreign language and ability to communicate in it at the working level. Namely the knowledge of foreign languages is among the key competences of each and every student and significantly influences its successful application in the professional and business competition. It is important to realize, however, how language competency must be obtained and can be obtained for a specific period of teaching of foreign languages at higher learning. We do believe that by the explaining of the motivation contribution (especially intrinsic motivation) for students and their foreign language competencies and needs analysis of the target professional environment can uncover new possibilities for more efficient work with students not only during the seminars, but also for their autonomy in acquiring a professional foreign language.

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Cognitive Biases and Their Interrelations with Personality Traits during Decision-making Process of Managers and Non-managers - a Case Study

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Abstract

Article presented in poster form aims on definition, most common types and effects of cognitive and meta-cognitive biases - such as Dunning Kruger effect. Overconfidence in one´s abilities can lead into wrong judgements and affect negatively the work of a whole team. Case study unveils main ideas about how personality aspects and intellectual capacities are able to distort one´s perspective on own decisions. Lastly, article offers a checklist for managers to help them judge the situation better and to see results in advance. Overview on the problem can show possible ways to avoid costly mistakes among organizations which are shown on the example of one of world ´s biggest retail company.

Key words

Psychology in management, cognitive biases, Ron Johnson

Introduction

The American author and aphorist William Feather once wrote that being educated means: "Being able to differentiate between what you know and what you don't." As it turns out, this simple ideal is extremely hard to achieve. Although what we know is often perceptible to us, even the broad outlines of what we don't know are all too often completely invisible. To a great degree, we fail to recognize the frequency and scope of our ignorance.

Most frequent cognitive biases

Biases in how we think can be major obstacles in any decision-making process. They distort and disrupt objective contemplation of problem by introducing intuitive influences into the decision-making process that are separate from the decision itself. We are usually mentally unaware of the biases that can affect our judgment. The most common cognitive biases are confirmation, anchoring, halo effect, and overconfidence and a special form of meta-cognitive bias called the Dunning-Kruger effect.

1. **Confirmation bias**: This bias occurs when decision makers like managers seek out evidence that confirms their previously held beliefs, while discounting or diminishing the impact of evidence in support of differing conclusions.
2. **Anchoring:** is the overreliance on an initial single piece of information or experience to make subsequent judgments. Once an anchor is set, other judgments are made by adjusting away from that anchor, which can distort person´s ability to accurately interpret new - potentially relevant information.
3. **Halo effect:** This is an observer's overall impression of a person, company, brand, or product, and it influences the observer's feelings and thoughts about that entity's overall character or properties. It is the perception, for example, that if someone does well in a certain area, then they will automatically perform well at something else regardless of whether those tasks are related.
4. **Overconfidence bias:** This bias occurs when a person overestimates the reliability of their judgments. This can include the certainty one feels in her own ability, performance, level of control, or chance of success.
5. **The Dunning–Kruger effect:** is a cognitive bias in which unskilled individuals suffer from illusory superiority, mistakenly rating their ability much higher than average. This bias is attributed to a meta-cognitive inability of the unskilled to recognize their mistakes.

Actual competence may weaken self-confidence, as competent individuals may falsely assume that others have an equivalent understanding. David Dunning and Justin Kruger of Cornell University conclude, "the miscalibration of the incompetent stems from an error about the self, whereas the miscalibration of the highly competent stems from an error about others."

Dunning-Kruger effect and its implications for the workplace

The Dunning-Kruger Effect has major implications for the workplace environments. It likely translates into incompetent people demanding better pay and perks, and regarding themselves as especially worthy of elevation to management positions. They may be more effective, or at least more assertive, when it comes to self-promotion. By contrast, competent people may well be more modest about touting themselves and their accomplishments. Some may self-select out of opportunities and promotion possibilities, figuring that other more worthy candidates will apply. They may be less likely to see themselves as leaders. By now - it's generally accepted that if senior managerial personalities suffer from cognitive biases their decisions can severely undermine company performance. Yet, leaders are not the only members of organizations that exercise poor judgment: Non-leaders are irrational too. Bearing this in mind, it is imperative that strategy-setters make explicit allowance for just how cognitively fragile their employees might be – or else they risk not fully understanding why their "perfectly rational" strategies don't work.

Cognitive biases in company's top-management decision making

The aim of article is to point out the negative influence of decision making enriched with various cognitive and meta-cognitive biases. Take for example the recent case of one of biggest American retail store companies - J.C. Penney, which hired and abruptly fired its CEO, Ron Johnson, after the major changes authored by Mr. Johnson took the company from bad to much worse. Johnson's critics have explicitly accused the former Apple company superstar manager of having suffered from no less than three cognitive disorders during his tenure, including biases as: overconfidence (for failing to test his risky pricing strategy), representativeness (for trying to force the Apple retail model onto JC Penney), and anchoring (for having ignored pricing-related, cognitive biases amongst JC Penney's customers). The overall Cash Flow dropped to -863 millions which is a -14,83% of overall operating margins to J.C. Penney.

Table 1 The annual macro- data from J.C. Penney after Johnson´s 2012 strategy implementation - with comparisons to J.C. Penney´s competitor Macyˇs financial outcomes (data available for date 28.6.2013)

Company	Operating Margins	Qtrly Revenue Growth (yoy)	Qtrly Earnings Growth (yoy)	Total Debt	Total Cash	Operating Cash Flow
J.C. Penney	-14.83%	-11.90%	--	5.82B	1.54B	-863.0M
Macy's	9.65	-0.9	0.7	6.91	1.42	2.29

Source: http://www.forbes.com/sites/panosmourdoukoutas/2013/09/27/a-strategic-mistake-that-haunts-j-c-penney /#66ebb33c3a6c / yahoo.finance.com, 2013

Non-managers and their failure for the right strategy recognition

Yet, the workforce (the non-managers) that Johnson inherited at J.C. Penney seemed no less guilty of having their own mental hang-ups, including: defence-attribution bias (for failing to recognize that JC Penney was a sinking ship long before Johnson arrived), the Dunning-Kruger effect was also present here (for failing to see their roles in making that ship sink), and further status-quo bias (for refusing to acknowledge that change was needed). Moreover, in a stunning display of large-scale, bounded rationality, more than 4600 of JC Penney's head office staff used nearly 35% of the company's broadband for streaming YouTube during their office hours in 2012. To sum this case up - a significant portion of the JC Penney workforce failed to see any connection between their loafing activities and the company's poor performance.

His own cognitive biases aside, it's unlikely that any of Johnson's initiatives would have stuck at J.C. Penney without first making explicit allowance for the judgment lapses and biased mental dispositions of his new employees. For a firm already in a 6-year slide, how else could he have escaped the associations between his presence and the company's further decline? Also - could Johnson have shown how much organizational incompetence was already impeding performance?

Helping to understand and handle cognitive biases

Johnson should have directly addressed the biases at the outset, while he forged his strategy. Instead, he fell into the common trap of failing to recognize how organizational biases can derail the execution of that strategy. Perhaps, for example, he felt that firing many of the blatant culprits would solve the problem. It didn't. Instead, Johnson and new leaders like him need to go deeper into the psyches of lower-level employees. Here are four steps outlining how this might be achieved:

Assess the staff's personal goals. Let's be realistic: Having a mission statement too often means very little to low-seniority staff in many organizations. Leaders should recognize that the most common employee goals are more personal in nature: They want job security, good compensation, career progression, etc. Using anonymous surveys, well-structured retreats, and other devices to itemize these goals is an important starting point in overcoming biases that result from misalignment between corporate leaders and the people doing the work. The aim should be to gather a list of the most important goals that characterize what the staff "is thinking about."

Identify the major bias. Without exhaustively listing the most common employee biases, it suffices to say that the most important one relates to the staff's misperception of how their goals, their actions, and the company's strategy are linked. If employees believe that the company's current direction will ultimately lead to meeting their goals (when it doesn't) and that a new direction will miss their goals (when it won't), they will become resistant and inactive and other biases will flow. Hence, the leader must discern, through the examination of those surveys and retreat feedback, whether her staff has an accurate perception of reality.

Lead employees towards logically understanding the fallacies. Once major misperceptions of reality have been identified, it's vital for you as a leader to publicly demonstrate that those ways of thinking, if accepted and believed, will not lead to the accomplishment of important goals—including those of everyday employees. For example, your staff may highly value job security and defend the status quo; however, if the current strategic direction is leading the company to disaster (as in the pre-Johnson, JC Penney case), as a leader you need to demonstrate the fallacy of the status quo.

Offer an alternative strategy that will still achieve everyone's goals. Having demonstrated the fallacies, you're now positioned to win the staff over to your camp in forging, launching, and executing a better strategy. That strategy should aim to meet—in addition to the standard financial and operational performance goals—feasible goals for employees. Where goals are infeasible the leader should explicitly state the reason and logic behind what's been omitted.

As Ron Johnson learned the hard way, cognitive biases amongst lower-seniority staff can be deadly for even the best of strategies if they go unchecked. But if they're identified early, executives have a better chance of overcoming them. By demonstrating their potentially negative impacts and transparently offering strategic alternatives to employees, senior leaders can get the buy-in they need and avoid the mistakes of JC Penney's now-ousted CEO.

When executive managers make a big bet, their decision-making process typically relies on the judgment of a team that has put together a proposal for a strategic course of action. After all, the team will have delved into the pros and cons much more deeply than the executive manager has time to do. The problem is, biases invariably creep into any team's reasoning—and often dangerously distort its thinking. A team that has fallen in love with its recommendation, for instance, may subconsciously dismiss evidence that contradicts its theories, give far too much weight to one piece of data, or make faulty comparisons to another business case.

That's why, with important decisions, executives need to conduct a careful review not only of the *content* of recommendations but of the recommendation *process*.

The Kahneman-Lovallo-Sibony checklist - a tool for team´s cognitive biases neutralisation

To offer a solution for this chaotic approach, the three authors— Kahneman, a economics Nobel Prize Laureate; Lovallo of the University of Sydney; and Sibony of McKinsey university—have put together a 12-question checklist intended to unearth and neutralize defects in teams' thinking. These questions help leaders examine whether a team has explored alternatives appropriately, gathered all the right information, and used well-grounded numbers to support its case. They also highlight considerations such as whether the team might be unduly influenced by self-interest, overconfidence, or attachment to past decisions. By using this practical tool, executives will build decision processes over time that reduce the effects of biases and upgrade the quality of decisions their organizations make. The payoffs can be significant: A recent McKinsey study of more than 1,000 business investments, for instance, showed that when companies

worked to reduce the effects of bias, they raised their returns on investment by seven percentage points. Top-managers therefore need to realize that the judgment of even highly experienced, superbly competent managers can be fallible. A disciplined decision-making process, not individual genius, is the key to good strategy.

A Checklist for Managerial Decision-making

Nobel-winning Princeton professor Daniel Kahneman, University of Sydney professor Dan Lovallo, and McKinsey director Olivier Sibony say managers are increasingly aware that mental biases can lead to bad decisions – for example, confirmation bias (which leads people to ignore evidence that goes against their preconceived notions), anchoring (which results in weighing one piece of information too heavily), and loss aversion (which makes leaders overly cautious). The problem, say Kahneman, Lovallo, and Sibony, is that being intellectually aware of the impact of biases isn't enough to prevent them from continuing to mess things up. Humans tend to be blind to their own biases, and even very smart people can't to do much about that. Why can't people see their own biases? The main reason is that there are two kinds of thinking: intuitive and reflective.

With intuitive thinking, "impressions, associations, feelings, intentions, and preparations for action flow effortlessly," explain the authors, as when people brush their teeth, chat with friends, or play tennis. "We're not consciously focusing on how to do those things; we just do them.

Reflective thinking, on the other hand, is "slow, effortful, and deliberate. This mode is at work when we complete a tax form or learn to drive… It's mobilized when the stakes are high, when we detect an obvious error, or when rule-based reasoning is required."

But most of the time, we're operating at the intuitive level, which leaves us vulnerable to cognitive biases. "We almost never catch ourselves in the act of making intuitive errors," say Kahneman, Lovallo, and Sibony. "Experience doesn't help us recognize them… This inability to sense that we've made a mistake is the key to understanding why we generally accept our intuitive, effortless thinking at face value. It also explains why, even when we become aware of the existence of biases, we're not excited about eliminating them in ourselves. After all, it's difficult for us to fix errors we can't see."

But all is not lost, say the authors. "We may not be able to control our own intuition," they contend, "but we can apply rational thought to detect others' faulty intuition and improve their judgment." When making important decisions that are dependent on recommendations from colleagues, leaders should focus on the decision-making process and systematically identify and neutralize biases in their colleagues. To do this, managers need a checklist when teams make recommendations. Partial adherence may be a recipe for total failure.

- **Check for self-interested biases.** "People do sometimes lie deliberately, of course, but self-deception and rationalization are more common problems," say Kahneman, Lovallo, and Sibony. Managers shouldn't ask directly about self-interest, which would come across as questioning integrity and diligence, but they should probe for this possibility.
- **Check to see if the team fell in love with its recommendation.** "When evaluating something we like, we tend to minimize its risks and costs and exaggerate its benefits," say the authors. "When assessing something we dislike, we do the opposite." If this is occurring, it's time for an extra-careful examination of the components of the recommendation.
- **Check for groupthink.** Were dissenting voices stifled? "Regardless of its cause, an absence of dissent in a team addressing a complex problem should sound an alarm," say the authors. Short-term, the manager may have to speak to one or two team members privately to find the real story. Long-term, managers should strive to create a climate where dissent and arguments are seen as healthy.
- **Check to see if the recommendation was overly influenced by an analogous situation.** People sometimes use past successes to argue for a similar program (an example of saliency bias), and the manager has to ask whether the analogy is apt.
- **Check for confirmation bias.** When trying to solve a problem, groups have a tendency to come up with one plausible hypothesis and then search only for evidence that supports it. The manager needs to ask what other alternatives were considered, and ask teams to present more than one recommended course of action.
- **Check for availability bias**. This gets at the WYSIATI assumption: What you see is all there is. "Because our intuitive mind constructs a coherent narrative based on the evidence we have," explain Kahneman, Lovallo, and Sibony, "making up for holes in it, we tend to overlook what is

missing." One question a manager can ask is whether we would make the same decision a year from now, when different information is available.

- **Check for anchoring bias.** There's a tendency for teams to use initial estimates or figures extrapolated from past history and stick with them. Managers need to ask where the numbers came from and request solid evidence or new analysis.
- **Check for the halo effect.** There's a tendency to assume that because a person or approach was successful in one area, they will be just as successful in another. The manager needs to eliminate false inferences and ask the team to seek additional comparable examples.
- **Check to see if the recommendation is overly attached to past decisions.** People tend to go with past practices, and the manager needs to challenge that and ask for a thorough rationale as if the decision were being made for the first time.
- **Check for overconfidence.** The manager needs to push teams to take a harder look and adopt an outsider's perspective, thinking through what could go wrong.
- **Check for disaster neglect.** The manager might have the team construct a pre-mortem, imagining that the worst has happened and constructing a story explaining why.
- **Check for loss aversion.** Is the team being overly cautious because it fears consequences? Managers need to realign incentives or remove risks so colleagues aren't too conservative in their recommendations.

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Analysis of Debt of the Slovak Population
in the Light of Economics and Ethics

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Abstract

Indebtedness of the population is a very actual economic phenomenon at the whole world and in Slovakia, too. The growth of household debt in Slovakia is rapidly faster, compared to other countries of Central and Eastern Europe, whose debt of population is at the similar level as in Slovakia. Indebtedness of the population is a very important trend, not only in the Slovak banking sector, but also in the whole economy and the whole society. The reasons of indebtedness are always on various sides, the borrowers and the lenders. The indebtedness brings with it a large number of economic, social and ethical problems. In this actual context the process of indebtedness of population, it is important to answer some basic questions about the economy, society and ethics.

Key words
Indebtedness of the population, household debt problems, ethical aspects of debt.

Introduction

Indebtedness of the population of Slovakia in recent years become a serious economic, social and ethical issues. At the development of indebtedness Slovak population has a significant influence many different aspects. For years affected at the financial assets and liabilities of households number of significant positive and negative factors. A fundamental aspect of the growth of household liabilities was relatively low debt levels, typical for Central and Eastern Europe. During the centrally planned economy, there were various social programs and projects that did not force the population into debt. In addition to the low level of indebtedness of the population to contribute to the growth of loans and a significant drop in interest rates. Although this trend was mainly macroeconomic phenomenon, increasing competition banks contributed to the reduction of interest rates, which occurred mainly in the last period.

An important aspect of increasing household debt, especially in the period before the financial crisis, was also an emerging confidence of households in terms of economic development. Before the crisis, the people of Slovakia expected revenue growth, reduce unemployment and increase social security. Before the crisis, in particular increased volume of mortgage lending, as one of the reasons often cited rapid growth in house prices, particularly in the period 2005 to 2009. The growth in house prices coupled with expectations of further increases was not only the reason to accelerate the investment decisions of households, but also result of the large volume of loans directed to this market.

Financial assets of households undergone several changes. The dynamics of their growth was indeed slower than in the case of financial obligations, in terms of volume, however, they rise well above. The most significant change in the structure of financial assets can be considered the emergence of pension funds, which are gradually becoming a very important part of household savings. An important factor of the changing structure was the development of life insurance and collective investment. Some influence on the structure of the financial assets of households had the financial crisis.

Banking sector in Slovakia

Interconnection Slovak population and local fi Slovak financial sector in comparison with other countries, especially Western Europe is very high. Banks operating in Slovakia are mostly part of larger international banking groups, the prevailing strategy is to focus on the Slovak economy. The activity of the banking sector on international fi nancial markets is often minimal. Very often dominated mainly Slovak loans to households and businesses. Purchase of Slovak government bond forms the bulk of the assets of banks operating in Slovakia.

Positive for banks, in particular, is the fact that the indebtedness of Slovak households compared with many other EU countries, showed less risk parameters. This is particularly the total amount of debt which

at this stage is not a source of macroeconomic imbalances, as well as the denomination of the national currency, which not exposes households to foreign exchange risk.

The positive is also the predominance of housing loans, suggesting that the loans are used for investment rather than for consumption purposes. The weakness remain dependence of employment Slovak households of export-oriented enterprises and their suppliers. On the other hand, most of the financial assets of households is held in bank accounts. Due to said orientation of most banks in the domestic market, household savings are in these banks invested relatively traditional conservative way in loans to households. From the viewpoint of stability of the banking sector, it is extremely important.

Domestic banks as opposed to the more parent banks are not dependent on raising funds in international fi nancial markets and thus at risk of general lack of confidence in the interbank market. Relationship Slovak households and local banks is in a way a traditional banking model.Several controllers in the same period strive to decouple the traditional banking from investment activities. This model, which, despite exceptions dominate in domestic banks, is one of the reasons why financial economic crisis has not had a major negative impact not only on the financial assets of households, but neither the Slovak banking sector as a whole.

Analysis of financial assets of the Slovak population

Analysis of fi nancial assets of residents is an important component of understanding the financial position. While commitments are for households in a sense the weight and also the source of a specific but very important risk financial assets may represent a protection against any adverse changes, such as losing a job.

Although aggregated view of all assets and liabilities not indicative of the fi nancial position of individual citizens. While the volume of total assets on average, exceeds the total liabilities of the Slovak population. If we accept the premise that the typical household has no reason to hold for example greater amount in the account at the bank, as the value of its loans, then this situation is the result relatively low level of loan burden in this segment.

The fact is that the growth of savings and financial investment by households in Slovakia is slower than the growth of debt. Debts of the population are growing faster than their savings, which in the future may entail huge economic, social and ethical issues. In terms of structure, the financial activities of the Slovak population characterized by several important aspects.

1. The first aspect is relatively strong focus Slovak citizens on cash. Holding cash is in our country higher not only in compared to Western European countries, but also compared to the neighboring Czech Republic. This fact was also reflected in the changeover to the euro, when households in a few months put to domestic banks around 120 billion. SKK, while the majority of this money in the form of new currency came into household wallets during 2009.
2. The second important aspect is the low household investment in shares and other securities. Despite the fact that such a possibility, for example, offer some collective investment funds, Slovak households in this context appear to be very conservative. In view of the prevailing theories fi nancial market in this way, while missing out on the opportunity of higher appreciation of their savings, on the other hand, to minimize the direct impact of the fi nancial crisis in late 2008 and in 2009. The investments in equity funds offered by domestic management companies on average lost 50% in value.
3. The third important aspect is the fact that the Slovak population is very thrifty with low incomes and with low interest rates (Graph 1). In Slovakia, the average monthly gross wage varies only about 880 euros in 2015. The investigation was particularly important for the middle and older age group population of Slovakia. Younger age groups are now less friendly and more open to the indebtedness.
4. The fourth aspect is to share in life insurance and pension funds. Retirement pension savings established in 2005 has become the fastest growing component of financial assets of households. Together with supplementary pension saving ahead of insurance products by the middle of 2008. It should be noted that the increase was not always the result of an active decision making of households, but also was associated with a series of legislative changes. The fact remains that it is the retirement savings gradually reduces the concentration of household savings in the banking sector.

Graph 1. Deposit rates in Slovakia and Euro Area (% p.a.)

Comparison of Debt of Slovak Population with other Countries

According to the latest data from the National Bank of Slovakia, citizens of Slovakia at the end of 2015 borrowed from banks about 18 billion. euros in the form of housing loans. But it is not only mortgages but also on other real estate loans and construction and bridge loans building societies. For banks, however, residents borrow money in the form of consumer credit, which also cut for a significant part of the credit market in Slovakia.

Towards the end of 2015, Slovaks had borrowed from banks a total of about 24 billion. euros. Up to three quarters of this volume was accounted for by loans related to housing. On the other loans related to real estate redound 60% of this amount. The actual mortgage loans accounted for slightly more than a quarter. The rest featured construction and bridge loans of building societies. More than 3.6 billion euros, or 15.5% of all loans were granted by banks in the form of consumer loans. Under-represented in the total volume had overdrafts, credit cards or even operating loans. Compared to 2014 there was an increase in the overall condition of granted loans by 12%.

According to the European Central Bank had at the end of 2015, every adult Slovak citizen from banks borrowed an average of 5 759 EUR. Compared to June 2014, this amount was increased by about 650 euros. Average eurozone is moving up at around 20,000 euros. Less than Slovak citizens owed adult citizens in nine EU countries. Less owed the residents in the neighboring Czech Republic, if only for a few euros. Lower outstanding debts to banks had also Poles and Hungarians.

Just Hungarians belong together with Romania and Bulgaria in the trio of the least indebted EU nations. Towards the end of the first half of 2015 owed banks every adult citizen of Hungarian on average 2,383 euros. The lowest amount of credit in the EU were for adult Romanians, and only 1,463 euros. Resident of Bulgaria owed an average of a hundred more. In contrast, neighboring Austrians were placed to the average of euro area for a loan of 21 417 euros for an average adult Austrians.

The largest volume of loans in the range of 30 thousand euros per adult falls on Cypriot, Dutch, Briton and Swede. Most indebted nations, however, are adult residents of Luxembourg where one of adults owed at the end of 2015 to an average of 92,779 euros. This is twice more than the average Swede and up to 17 - times more than the average adult resident of Slovakia. However, every coin has two sides and for a better picture, it is appropriate to take into account the amount of deposits that are residents of mentioned countries in banks saved.

Table 1. Indebtedness of the population of various countries in the euro at the end of 2015

Country	The average indebtedness per capita 18+ (EUR)	The average deposit per capita 18+ (EUR)	Loans to residents 18+ to 100 EUR deposit
Romania	**1 463**	**1 969**	**74**
Bulgaria	1 549	3 462	45
Hungary	2 383	2 788	85
Lithuania	3 194	4 315	74
Latvia	3 322	3 383	98
Poland	4 791	4 968	96
Croatia	4 783	7 174	67
Slovenia	5 227	9 337	56
Czech Republic	5 553	8 648	64
Slovakia	**5 759**	**6 870**	**84**
Estonia	6 809	5 504	124
Italy	12 232	19 102	64
Greece	12 052	11 306	107
Malta	14 013	29 170	48
Portugal	14 211	16 299	87
Belgium	17 265	36 930	47
Spain	18 860	19 696	96
Eurozone	**19 924**	**24 403**	**82**
Austria	21 417	32 767	65
France	21 869	24 648	89
Germany	22 498	29 348	77
Ireland	27 330	27 886	98
Finland	27 870	18 816	148
Cypress	31 005	34 935	89
Netherlands	33 801	30 132	112
Great Britain	33 379	31 830	105
Sweden	44 704	21 559	207
Luxemburg	**92 779**	**107 175**	**87**

Source: Postal Bank conversion data by the ECB in 2015

Slovakia's population belongs, along with other 18 members of the EU to the countries that have banks more money saved both of them borrowed. For every 100 euros of deposits accounted for 84 euros from the bank lent. It is only just above the euro area average, where this amount came to 82 euros.

Leadership in this direction acquired in Bulgaria, where for 100 euros deposit accounted only 45 euros credit. On the contrary, the Swedes have borrowed on average about 107 euros more than they put up in the bank.

Greater amount borrowed than inserted had the inhabitants of Ireland, the UK, Greece, the Netherlands, Estonia and Finland. The same ratio saved and borrowed funds have only residents of Latvia. The development of indebtedness may be in the long term very detrimental and problematic.

Under development in the credit market it has already signed more particularly loose monetary policy ECB and low main interest rate of the bank, which is likely to be located on a technical zero the whole next year. From the rate ECB are based the rates on the interbank market, which are also signed at record low interest credit products.

In Slovakia, the average annual interest rate for newly granted consumer loans at the end of 2015 to around 12.5% and for loans for housing only about 2.5%. Low interest rate of the Slovak population motivated to take more bank loans and retain more and more.

Bank loans and interest rates

The total debt of the Slovak population as measured by share of GDP in Slovakia is lower than the EU average. No cost to repay loans represent in many Slovak households a significant proportion of their disposable income. It is very important to analyze not only the amount of debt, but also the development of interest rates. The interest rate influences the amount of the monthly installments of the loan and the overall financial situation of households. The average interest rate on loans for housing, ie the interest that households on average pay for their loans, Slovakia is the "most expensive" country in the eurozone. Slovak market of housing loans is similar by the interest rate to the Czech Republic.

When interest rates is equally important to analyze the average rate on loans and the average rate on new loans. Interest on loans to state contains the total average cost of servicing the debt. The interest rate on new loans suggests routing immediate loan market and helps to explain the current demand for loans by households. For example, if a significant difference between the average interest rate on loans and the average interest rate on new loans, increasing the motivation of households to redeem the current "expensive" credit utilization through the new "cheaper" credit. This trend in the long term also appears in the analysis of the NBS and the ECB. The amount of the definitive rate affects several aspects. The relatively higher rate in Slovakia was often part through increased credit risk or Slovak households due to lower market liquidity. Although these aspects will certainly put pressure on the final rate, it should be noted that an important part of the difference lies in the relatively strong household demand for loans, which stimulates the competitive environment.

Slovakia is also considerable growth in consumer loans, despite a relatively low income population and higher interest rates compared to the euro area average. Consumer loans in Slovakia are still among the highest in the eurozone. However, banks currently come out with tenders which interest rates could soon reach the European average. While consumer loans with a maturity of one to five years in Slovakia are remunerated at the rate of about 12.5% and the European average is only around 5%.

During the first quarter of 2016 the Slovaks took consumer loans in the amount of nearly 600 million EUR also including refinancing loans. In the annual comparison, this represents an increase of 4.3%. Overall, the Slovaks have borrowed in the form of consumer loans at the end of April 2016 € 4.9 billion (Graph 2). The growth of consumer loans drawn led to historically low interest rates. For new consumer loans of all maturities, the average rate received in March 2016 to a level of 10.86%. The benefit of lower rates in particular say historically the cheapest source, where banks finance. Basic deposit rate the ECB is now in deficit. Term deposits is close to zero.

Graph 2. Growth of consumer credit in Slovakia

Source: NBS

Problems with repayment of loans and Ethics

In recent years, increasingly they emerge problems with repayment of loans of Slovak citizens. The new bank loan clients often also used to make it more favorable to refinance some old loans. Borrowers also often associated more loans into one, and thus consolidate their loans. The enormous debt peoples and states is one of the causes of the economic downturn and subsequent slow recovery in advanced economies. Quick indebtedness Slovaks can have negative effects on our economy and social sphere. Of course, increasing debt creates more pressure on family budgets of households and the emergence of social and psychological problems of the population. Slovak household debt ratios relative to GDP, however, compared to the Eurozone 50%. Banks see further scope for increasing the indebtedness of the Slovak population and adjust the credit policy - on the one hand, falling interest rates, on the other hand, the release criteria for approving loans. This policy of banks in the future could be very dangerous and lead to severe economic, social and ethical issues. The rate of non-performing loans may increase in the future and create an unstable social and ethical environment. As regards the financing of real estate and their price is not excessive, the household debt burden that reasonably can be considered acceptable.

When choosing a loan, people should always comparable among banks. Even small differences in the interest rate can cause large differences in the total for reimbursement and on mortgages even thousands of euros. First of all, you should ask a potential client offers the largest number of banks and then to choose the most advantageous.

Seven recommendations for potential borrowers:

1. Every citizen would be subordinate to consider whether the loan really needs and that there is no option to solve their financial problems. Great alternative to bank loans are loans from relatives and friends.
2. The debt itself does not pose a problem. The loan is only the promise of the debtor to hand over part of their resources in the future. A must for each debtor individually consider their own opportunities and risks, and will be able to repay the loan in the future. Similarly, the risks of its potential clients evaluate the bank.
3. The debtor should not reach immediately after the first offer. Individual credit offer you should carefully consider and compare. Increased attention should be given to the APRC.
4. Before signing the loan agreement requires that the borrower very carefully read all the provisions. Contracts are designed precisely to borrowers in bad times protected. The debtor may not miss a part note under line
5. Before signing the loan agreement borrower should consider whether it will be able to repay the monthly installment of their disposable income. It does not hurt to create a continuous cash reserve of at least three monthly installments.
6. The borrower would have had several loans into one consolidated loan. This way he can clean up its commitment and at the same time save on costs associated with their repayment. By combining multiple loans to one borrower not only save on fees, but it can also reduce the amount of monthly installments.
7. In case of any problem, the debtor must actively communicate with the bank. Timely communication with the bank, the borrower can greatly facilitate the resolution of any problem and avoid the hassle.

Summary

Apart from the credit risk and liquidity can be concluded that in countries with lower saturation of the credit market, as well as Slovakia, Hungary, Poland and the Czech Republic, it is possible to maintain credit growth and a relatively higher interest rates. This fact can be better observed in the average interest rate on new loans, which is captured by the immediate market reaction.

The share of debt of Slovak households to their disposable income is still the lowest in the EU. But the pace of indebtedness in Slovakia is a lot faster than in other European countries. It should be noted, however, that the Slovak credit market, in contrast to Western Europe is not yet fully saturated. Slovak households has won the open access to bank loans relatively late, after the recovery of the bank at the turn of the millennium. These processes can also be a problem of defaults on bank loans. The best way to avoid loan defaults is if the client banks provide a margin of three to six monthly installments. If you have a problem arises and the client does not have a reserve, the client and the bank should find the best solution. Specific options depend on several factors such as the financial and social situation in the home.

The most common solution that clients use, the temporary reduction of loan installments for a period of up to six months. The Bank adapts to the new payment amount of your opportunities for the client and their specific life situations. For the client it is good that the payment does not fall below 30% of the initial installment. The client pays at least part of its loans and knows that a reduction in repayment is only a temporary solution to be replaced by permanent ones.

The experience of banking experience is such that many clients who had temporarily reduced payment for six months, after this period were once again able to properly repay their loans. The second use of the option is an extension of the repayment period. If the client does not suit the amount repayments calculated at 20 years, the bank can reduce it, but the client will pay for example 30 years.

As a result of a series of decisions the ECB takes place a significant decline in interbank interest rates and the increase in debt inhabitants euro area countries. The reaction of interest rates on new housing loans and consumer loans was in most euro area countries clear. The problem can be efforts of central banks to enter into economic development by stimulating monetary and interest rate reductions. Thereby it is affecting the amount of loans granted and can confuse people about future interest costs, which may be a problem, particularly for long-term credit relationship.

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9. Econometrics & Quantitative Methods

Analysis of the Relationships between Financial Metrics in Manufacturing plants

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Abstract

Analysis of financial metrics is very difficult, but it is also important to businesses. This analysis plays a crucial role in the transformation process of production and it therefore requires correct interpretation. Use of statistical methods in finance is a prerequisite for successful implementation of financial management for business entities.

This paper uses statistical methods to highlight the significance of relations between selected relative and absolute financial metrics. Partial aims of this paper are: discussing a multiple regression analysis of these metrics with regards to financial management firms; proposing a model for financial rationing that quantifies the dependence of return on equity from the most important determinants of the Du Pont equation; and proposing a model for absolute indicators, which will show the dependency of the net working capital on liquid assets, receivables and stocks for business entities in the electro technical industry of the Slovak Republic by NACE 263 - production of telecommunications equipment. The proposed models are especially helpful for management decision making, as well as the realm of the generation of funds and cash management.

Key words
Regression, financial metrics, multiple regression, Return on Equity, Du Pont model

Introduction

Profitability as one of the components of the financial health of a company is determined by the sum of all components of a company's actions. The ideal is to follow the actions of the components determining financial balance using the Du Pont model. Financial and economic analysis of differential financial metrics is covered in detail by Sivak (2015), Režňáková (2010), Jenčová (2014, 2016), Kiseľaková et al (2015), and others. The usage of statistics to analyze financial metrics is covered by Litavcová (2013), Brezinski et al. (2015), Terek (2014), Marek (2013) and others.

The relationship between asset turnover and profitability is directly proportional, t. j. the more assets are turned over, the more profits are generated. Fixed assets will turn over slower than current assets. These business sectors achieve a high return on assets due to high profit margins. Also, industries that achieve a high return on assets tend to have a high turnover of assets.

Liquidity can be seen as the transformation of assets from one form to another, for example. Stocks can be sold for money. Generally, companies seek the greatest liquidity. High liquidity produces a high value for current assets, since it increases the numerator in the formula for calculating liquidity. Paradoxically, if a company has a large volume of unneeded inventory or assets, it still appears to be highly liquid. The company, from the perspective of the analyst, would seem too liquid, so it would be necessary to correct this by analyzing the sale of groups of assets (inventories and receivables). Committed funds in short-term activities of the company, such as legal, make little to no income. Holding a high amount of current assets does not produce any firm revenues, thereby causing a decrease in profitability. Therefore, an inverse relationship exists between liquidity and profitability: if liquidity is high, profitability is decreasing.

The relationship between debt and profitability determines the effect of leverage. The relationship of debt and return on invested capital is defined by the theory of capital indifferent bar structure. The decision about

whether to venture more into debt is determined from the analysis of whether the company's ability to generate the acquisition of assets is more than the interest they must pay on borrowed capital.

The optimum limit on debt depends on the variability of the risk climate under macroeconomic conditions, the credit score of the company (based on its reputation) and so on. As debt increases, the profitability of the company is reduced from being optimum. With the growth of indebtedness, the company's liquidity decreases. The company that is characterized by low liquidity and the value of longer-term commitments, such as the maturity of debt, may not have liquidity problems.

Application of regression analysis

According to Grasseová (2013), the method of regression and correlation analysis in managerial decision-making, used to analyze the statistical links between random variables of interest, are also used for the analytical description of the addition of one monitored variable to other random variables. It is also possible to apply regression analysis to predict the values of single, less-complex random variables by other well-measured or easily observable random or non-random variables. According to Terek (2015), performing multiple regression analyses at the same time takes into account more independent variables. Even if we are interested in the relationship between a dependent variable and one independent variable, it is advisable to include in the analysis other variables and consider multiple regressions. It is necessary to eliminate distortions which may occur when other variables are not included in the regression analysis. The inclusion of other variables may reduce the value of residual dispersion and thereby narrow confidence intervals and improved test results.

Predictive model applying the Du Pont equation to Tesla Stropkov, Inc.

This predictive model, based on applying the Du Pont equation to manufacturing by Tesla Stropkov, Inc., utilizes monthly data from January 2011 to May 2015.

According to relationships defined by Litavcová et al. (2013), Pacáková (2003) and Terek (2014), the following proposed prediction models of financial indicators of funds for a manufacturing enterprise, defined by NACE, were developed.

Estimating parameters of the line, which expresses the dependence of return on equity from sales profitability, asset turnover and financial leverage; we estimated a regression equation.
Based on the values of the relationship between the dependent and independent variables estimated using multiple regression equation:

$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$
$Y = -0.023 + 0.127 x_1 - 0.045 x_2 + 0.024 x_3$
Return on Equity = −0.023+ 0.127 Return on Salles – 0.045.turnover assets + 0.024 financial leverage

The mean value, derived by resizing return on equity of unit sales, shows an increase in profitability, with a constant turnover of assets and leverage value of 0.127. The mean value of the return on equity at a unit sales increase in assets and a constant level of sales and profitability leverage value estimate is -0.045. An estimate of the mean value of the return on equity at a unit gain leverage, with constant profitability and sales turnover, is 0.024.

The lower and upper limits of the 95% confidence interval for the mean value of the regression coefficient β_1 is given as: *$0.1225 < \beta_1 < 0.1329$*. This calculated interval, with a reliability of 0.95, for the mean change of the value of the return on equity, assumes a unit sales in profitability at a constant level of sale of assets, and a constant level of leverage.

The lower and upper limit of the 95% confidence interval for the mean value for the regression coefficient β_2 is given as: *$−0,0516 < \beta_2 < −0,0392$*. The calculated interval, for the mean size of return on equity   at a constant level of profitability of sales, provides a constant level of leverage and unit change in the turnover of assets, with a reliability of 0.95.

The lower and upper limit of the 95% confidence interval for the mean value of the regression coefficient β_3: *$0.015 < \beta_3 < 0.342$* provides a mean size of return on equity at: constant level of profitability of sales; and constant turnover of assets and unit change in financial leverage, with a reliability of 0.95.

The statistical significance of regression, test statistic $t_{B0} = −4.155$ and p-value = 0.00013.

Test statistic $t_{B1} = 49.306$ and p-value=0.000; est the statistical significance of regression coefficients. Test statistic $t_{B2} = −14.668$; and p-value=0.000. For $t_{B3} = 5.263$ je p-value=0.000; regression coefficients are the significance at level 0.01. Alternatively, to verify statistical significance of the relationship

between variables use the test statistic F, (Tab.1). On any significance level greater than or equal to the calculated p-value, one can reject the hypothesis of statistically insignificant regression. At a significance at a level of 0.01 one can reject hypothesis of the statistical insignificance of the relationship between variables and accept the hypothesis that the relationship between variables is statistically significant.

Table 1. ANOVA

	df	SS	MS	F	Significance F
Regression	3	0.033272595	0.011091	953.6628	1.97026E-43
Residual	49	0.000569858	1.16E-05		
Total	52	0.033842453			

Source: Own processing

The standard error of regression is 0.0034. The value of the correlation coefficient is R=0.99. The corrected coefficient of multiple determination R^2=0.983. The estimated regression equation explains about 98.31% of the variability of dependent variable. 98.31% of the variability of monthly return on equity (ROE) can be explained by a linear relationship between monthly ROS (Return on Salles), TA (turnover assets) and FL (financial laverage), or 98.31% variability in the size of the monthly return on equity can be explained by considering the regression model.

Diagram of normal probability does not indicate that we should reject the assumption of a normal distribution of random errors (Fig.1).

Figure 1. Diagram of normal probability
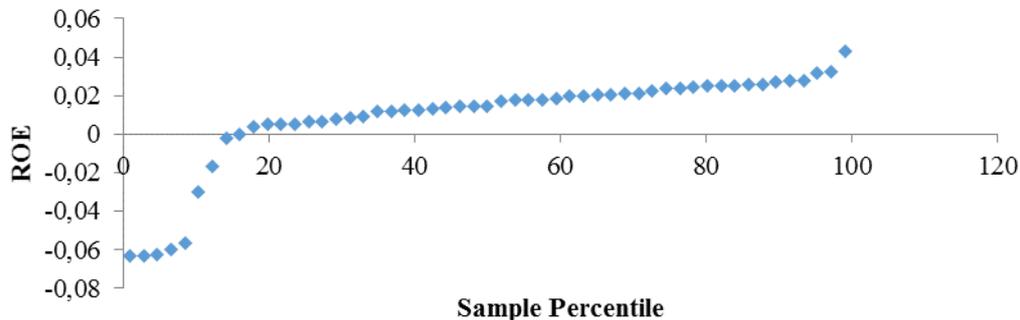
Source: Own processing

The figure 2 represents a diagram of residues for the conditions.
Using the Durbin-Watson test, the significance level α=0.01; (α=0.05); It verified the presence of positive autocorrelation. The test is based on the assumption that the random errors in the linear regression model are generated autoregressive processes of the first order (*first-order autoregressive process*), observed in the same periods of time: $\varepsilon_t = \rho\varepsilon_{t-1} + \alpha_t$, where ε_t is a random error in the model in the time period t, α_t is normal distributed random variable with mean=0 (random variables α_t for different t are statistically independent), and $\rho(|\rho|<1)$ is a parameter autocorrelation (*autocorrelation*). Then the simple linear regression model with autoregressive errors, first-order (*first-order autoregressive errors*) is:

$$Y_t = \beta_0 + \beta_1 x_t + \varepsilon_t, \quad \varepsilon_t = \rho\varepsilon_{t-1} + \alpha_t$$

The test statistic is calculated as:

$$d = \frac{\sum_{t=2}^{n}(e_t - e_{t-1})^2}{\sum_{t=1}^{n} e_t^2}$$

where in e_t, $t = 1, 2, ... $ n, are the residue of the least squares method applied to the data (y_t, x_t), Terek (2014, p.267).

Test statistic $d≈1.869$. If the test statistic lies between d_L and d_U borders so that when d is outside these limits we may decide H_0, according to the following decision rules:
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1. $d<d_L$, reject H_0,

2. when $>d_U$, does not reject H_0,

3. $d_L \leq d \leq d_U$, not make the decision.

Test statistic d≈1.869; for n=53; α=0.01; 3 regressors. The critical value of Durbin-Watson statistic: d_L=1.42; d_U=1.68; d > d_U.

Figure 2. Diagram values Yi-residues
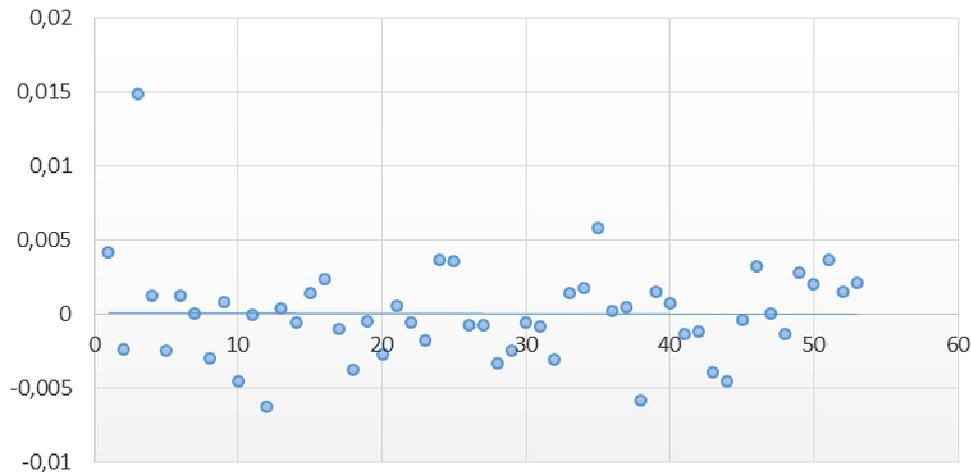
Source: Own processing

Model financial indicators of funds

Estimating parameters of the line, which expresses the dependence of net working capital from financial assets, receivables and inventories.

Based on monthly data in the thousands, € from January 2013 to December 2015, is designed to be a predictive model of net working capital of the production company.

$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3$

Net working capital = −96.638+1.028 Financial assets +0.507 inventories+ 0.886 Current receivables
The threshold line direction is given by the value −96 638 €. The lower and upper limit of the 95% confidence interval for the mean value for the regression coefficients:

ß$_1$: *0.8367 < ß$_1$<1.2205*
ß$_2$: *0.0424 < ß$_2$<0.9735*
ß$_3$: *0.6717< ß$_3$<1.101*

Mean size of net working capital *ß$_1$=1.028* at a constant level of short-term receivables, inventories and constant unit change in financial assets is a calculated interval, on 0.95 confidence level. Mean size of net working capital *ß$_2$=0.507* unit change in inventories and constant financial assets and short-term receivables in calculated intervals. Mean size of net working capital *ß$_3$=0.8863* at a constant level of financial assets and inventories and unit change in short-term debt is a calculated interval. The statistical significance of regression is t_{B0}=−0.0786. Test statistic t_{B1}=10.917 and p-value=0.000 of test the statistical significance of the regression coefficients. Test statistic t_{B2}=2.222 and p=0.033. The statistical significance of regression t_{B3}=−8.411 a p=0,000. An analysis of the ANOVA p-values show that the total F value of the test hypothesis-testing, is 5%, but the level of significance of 1% is rejected, because a value of less than, 0.05 is obtained. On any significance level greater than or equal to the calculated *p*-value we can reject the hypothesis of statistical insignificant regression. At a significance level of 0.01 we can reject the hypothesis of the statistical insignificance of the relationship between variables and accept the hypothesis that the relationship between variables is statistically significant. At the value of the correlation coefficient *R*=0.947, the corrected (adjusted) coefficient of multiple determination R_K^2 = 0.888. The estimated regression equation explains about 89.77% of the variability of the dependent variable. 89.77% of the variability of the monthly amount of net working capital can be explained by a linear relationship: linear dependence between the financial asset of the business; the

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amount of inventory; monthly short-term receivables; or 59.71% variability in the size of the volume of monthly net working capital can be explained by considering the regression model.

Test statistic d≈2.118; pre n=36; α=0.01; 3 regressors.
The critical value of Durbin-Watson statistic: d_L=1.34; d_U=1.66; $d > d_U$.

Summary

This paper focuses on the implementation of multiple regression, with confidence intervals for the parameters of linear regression model with multiple regressors, and confidence intervals for the conditional mean of the dependent variable, along with the prediction interval dependent variable values for the independent variables. Both residue analysis and the Durbin Watson tests are applied.

For the manufacturing undertaking in the electro technical industry, designed estimating parameters of the production line, which express the dependence of return on equity from sales profitability, asset turnover and financial leverage, and we estimate an estimated regression equation for estimating prediction, not only manage companies, but are mainly utilized by business owner. These business owners should be interested in the financial metrics of profitability of equity, since it is this indicator that takes into account the net profit according to the Du Pont model, that breaks down into three basic repressors whose development is essential to further the momentum of the manufacturing business.

The paper has also proposed a model of net working capital, depending on the selected items of the current assets of the company, which forms liquid assets, inventories and accounts receivable. Net working capital should be positive for a longer period of time and should not be subject to significant variations. The amount of net working capital quantified as a financial cushion, as in a reserve, which is in the company's available liquidity. Going beyond short-term foreign resources, the company may at any time be able to finance their business activities. This provision allows it to continue its work. Undertaking should be served by an adequate size in net working capital. A larger volume of working capital puts demands on the financing of current assets of long-term resources, which are relatively expensive and sometimes difficult to keep available. Undertakings to reduce the amount of net working capital to a minimum may have problems with insolvency in the future. On the other hand, it is a completely different view of financial analyst banks that have thus tended to support the growth of net working capital to enable them to make room for financing the short-term needs of businesses in the form of short-term loans on the stock market to bridge the period until the moment of collection of receivables is due.

Theoretical and applied statistical control methods and knowledge of financial - economic analysis of the practice of business entities-belongs to the knowledge of each financial manager.

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Cross-border Mergers and Acquisitions in Terms of Quantile Regression

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Abstract

The aim of this contribution is proposal of bilateral quantile regression models of relationship between log of volume of M&As (the total value of cross-border assets obtained through mergers and acquisitions by the source country in the target country) and its previous investigated three continuous predictors. These three predictors are (1st) log of the product of the two GDPs at date t, which restrict the elasticity to be the same for country i and country j; (2nd) log of market capitalization to GDP ratio of acquirer and target sectors used there as indicator of stock market development; (3rd) log of bilateral geographical distance between the capital towns of source and target country. It is shown that classical normal linear model truly holds on two of these three relationships, first and third one. But, on the second case the application of quantile regression provides a better description of the investigate relationship than a simple normal model with constant variance.

Key words

Cross-border Mergers and Acquisitions, Quantile Regression, European Area.

Introduction

Mergers and acquisitions (M&As) can be understood as an instrument for obtaining a larger share on a market. The main advantage of a cross-border merger is that it provides access to a foreign market, while a national merger reduces the competitive pressure in the domestic market. Many observers refer to economic integration as an important reason for the expansion of cross-border M&As. Trade liberalization and regional integration efforts have added an impetus to cross-border M&As by setting the scene for more intense competition.The development of cross-border M&As in the past ten years has copied the cyclical development in the world economy as a whole.

In this contribution we investigate the relationships between log of M&As as the total value of cross-border assets obtained through mergers and acquisitions by the source country in the target country and their three covariates using simple linear quantile regression in comparison to classical linear model.
The contribution is divided into two subsections in order to achieve its aim. The first subsection defines the methodological basis covering database of research and description of the applied methods for the processing of data necessary for fulfillment of the aim. The second subsection presents the results of analysis and their conclusion.

Data and methodology

The database which was analyzed for the purpose of this study contains 85,510 data items on mergers and acquisitions (M&As) carried out in the countries of the European area and in Turkey in the period from 1998 up through 2012 (16 source countries[1], 25 target countries[2]). The key sources of information used are statistical data from the Zephyr (Bureau van Dijk, 2013), Eurostat (European Commission) and Freedom House (Freedom House, 1998-2012) databases. From the total number of records in the mentioned

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[1] Belgium, Cyprus, Denmark, Finland, France, Greece, Netherlands, Luxembourg, Malta, Germany, Poland, Portugal, Austria, Spain, Italy, United Kingdom.
[2] Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Greece, Netherlands, Lithuania, Latvia, Luxembourg, Hungary, Malta, Germany, Portugal, Austria, Romania, Slovakia, Slovenia, Spain, Italy, Turkey, United Kingdom.

databases, 11,583 relate to cross-border mergers and acquisitions, 4,395 of which have the value of the volume of cross-border activities listed, and 4,285 of these also the values of other selected predictors.

After excluding ambiguous, error data and the highest extreme value (the volume of cross-border assets 204.7 mil. euro about four times higher than 51.3 mil. euro the next highest value of the volume of cross-border activities) it remained 4,260 entries, which are all considered as valid variables.

Based on this dataset, authors Hečková, Chapčáková and Litavcová (2016) proposed generalized linear regression model with significant estimated weights of considered predictors of expected value of mergers and acquisitions between country i and j in the time t and sector s in form:

$log\ (M\&A_{ij,s,t}) = 1.265 + 0.413\ log(GDP_{i,s,t}GDP_{j,s,t}) + 0.862log(MarketCapitalisation/GDP_{j,s,t}) - 0.074$
$log(Distance_{ij}) + 0.089(Border_{ij}) - 0.122(CommonLanguage_{ij}) + 1.085(EU_{i,t}EU_{j,t}) + 0.239(EMU_{i,t}EMU_{j,t})$
$- 0.471(CivilLiberties_{i,t}\ is\ middle) + 1.301(CivilLiberties_{j,t}\ is\ low) + 0.352(CivilLiberties_{j,t}\ is\ middle)$

where $log(M\&A_{ij,s,t})$ denotes log of the total value of assets purchased through cross border mergers and acquisitions in the target country j by firms in sector s resident in country i in year t.

$log(GDP_{i,s,t}GDP_{j,s,t})$ denotes log of the product of the two GDPs at date t, which restrict the elasticity to be the same for country i and country j but none of the results depend on this restriction.

$log(MarketCapitalisation/GDP_{j,s,t})$ denotes log of market capitalization to GDP ratio of acquirer and target sectors. It is used there as indicator of stock market development and can help controlling to equity bubbles. Data on market capitalization is the yearly average market value of the sector from Zephyr database (Bureau van Dijk, 2013).

$log(Distance_{ij})$ denotes log of bilateral geographical distance between the capital towns of source country i and target country j which could be considered as negligible too, as well as the proximity of the countries and the relationship of their languages. $Border_{ij}$ is dummy variable which equals one when the two countries shared the common border and dummy $CommonLanguage_{ij}$ equals one if the two countries share a common language.

$EU_{i,t}EU_{j,t}$ is dummy variable which is equal to one if both countries belong to the EU at time t and zero otherwise. Similarly dummy $EMU_{i,t}EMU_{j,t}$ is equal to one if both countries belong to the EMU at time t and zero otherwise. For the complementary possibilities dummy variables was not introduced. They are handled in analyses as reference categories.

$CivilLiberties_{i,t}$ (resp. $CivilLiberties_{j,t}$) control for the quality of institutions in the source (resp. host) country by means of an indicator of civil liberties at time t, which measures over time and across countries the freedom of expression and belief, the association and organization rights, the rule of law and human rights, personal autonomy and economic rights. The civil liberty index is taken from Freedom House (1998-2012) and ranges between one (the best country) and seven (the worst country). In our dataset $CivilLiberties_{i,t}$ ranges only between 1 and 3 (with values 2 and 3 have been merged due to low frequency of values 3 with only 7 occurrences) and $CivilLiberties_{j,t}$ ranges between 1 and 5 (with values 3, 4 and 5 have been merged due to low frequencies of higher values).

In this paper we focus on quantification of relationship between M&A and its above presented three continuous predictors by using quantile regression primary proposed by Koenker and Basset (1978). As Agresti (2015) explain, simple ordinary least squares method describes conditional mean of response variable as a linear function of explanatory variable. Quantile regression models quantiles of a response variable as a function of explanatory variables. This method can be less severely affected by outliers than is ordinary least squares. When the response conditional distributions are highly skewed with possibly highly non constant variance, the method can describe the relationship better than a simple normal model with constant variance. Quantile regression model fitting minimizes of a weighted sum of absolute residuals, formulated as a linear programming problem. However, when the normal linear model truly holds, the least squares estimators are much more efficient.

Koenker in his book (2005) specified the τ-th regression quantile function as $Q_Y(\tau|x) = x^T\beta(\tau)$, and consider of $\hat{\beta}(\tau)$ solving $\min_{\beta\in\mathbb{R}^p}\sum_{i=1}^{n}\rho_\tau(y_i - x_i^T\beta)$ with check function $\rho_\tau(u) = u \cdot \tau$ for $u \geq 0$ and $\rho_\tau(u) = u \cdot (\tau - 1)$ for $u < 0$. Quantile regression problem may be reformulated as a linear program and solved using linear programming methods. As reported by Fenske (2012), quantile regression is an approach to model the conditional quantile function of a continuous variable of interest Y, e.g. response variable, depending on further variables or covariates X. In the linear model it can be expressed as

$y_i = x_i^T \beta_\tau + \varepsilon_{\tau i}$, $i = 1, \ldots, n$. The index $i = 1, \ldots, n$, denotes the observation, y_i is the response value and $x_i = (1, x_{i1}, \ldots, x_{ip})^T$ the given covariate vector for observation i. The quantile-specific linear effects are denoted by $\beta_\tau = (\beta_{\tau 0}, \beta_{\tau 1}, \ldots, \beta_{\tau p})^T$, and $\tau \in (0,1)$ indicates a quantile parameter which has to be fixed in advance. The random variable $\varepsilon_{\tau i}$ is assumed to be an unknown error term with conditional distribution function $F_{\varepsilon_{\tau i}}$ and density $f_{\varepsilon_{\tau i}}$ depending on quantile parameter τ and observation i. For quantile regression, no specific assumptions are made apart from $\varepsilon_{\tau i}$ and $\varepsilon_{\tau j}$ being independent for $i \neq j$, and $\int_{-\infty}^{0} f_{\varepsilon_{\tau i}}(\varepsilon_{\tau i}) \, d\varepsilon_{\tau i} = F_{\varepsilon_{\tau i}}(0) = \tau$. Due to this assumption, the quantile function $Q_{Y_i}(\tau | x_i)$ of the response variable Y_i conditional on covariate vector x_i at a given quantile parameter τ is equal to $x_i^T \beta_\tau$. Thus, the parameter $\beta_{\tau 1}$, for example, can be interpreted as the change of the conditional quantile function when x_{i1} changes to $x_{i1} + 1$, given all other covariates remain constant (Fenske, 2012).

Results

In this paper we investigate the relationships between log of M&As and their three covariates using simple linear quantile regression in comparison to classical linear model. The first covariate is $log(GDP_{i,s,t}GDP_{j,s,t})$ with the result presented in graphs 1 and 2. Graph 1 shows quantile regression lines which were estimated on 5th, 10th, 25th, 50th, 75th, 90th and 95th quantiles and also presents OLS result as a reference. It indicates that the slopes of regression lines are similar for the various levels of quantiles of variable $log(M\&A_{ij,s,t})$ and they are not significantly different from slope of classical OLS. The results of quantile estimates were allowed for richer interpretation of examined relationship between variables $log(M\&A_{ij,s,t})$ and $log(GDP_{i,s,t}GDP_{j,s,t})$. The estimates of the effect of explanatory variable for each chosen reported quantile levels allowing us to detect different impacts of log of product of GDPs depending on the level of log of M&As. The log of product of GDPs did not present significantly different effect over the conditional distribution of the log of M&As (probability of joint test of equality of slopes based on above reported quantile levels is 0.5222). However, the result proved that the constant effect estimated through OLS was not actually constant across the quantiles. Graph 2 shows different log of product of GDPs slope coefficients in more gentle division of levels of the change in the log of M&As as was reported in Graph 1. Point estimate of slope coefficients between approximately 15th and 55th quantile level of log M&As is less than slope from OLS regression, but not significantly. Every slope coefficient is significantly different from zero and confidence interval of each of them extends into confidence boundaries of OLS regression. The classical simple linear model here truly holds with respect on this result. Division the sample into groups according to amount of M&As volume would not lead to different results about linear relationship between log of M&As and log of product of GDPs.

Graph 4. Quantile regression $log(M\&A_{ij,s,t}) \sim log(GDP_{i,s,t}GDP_{j,s,t})$
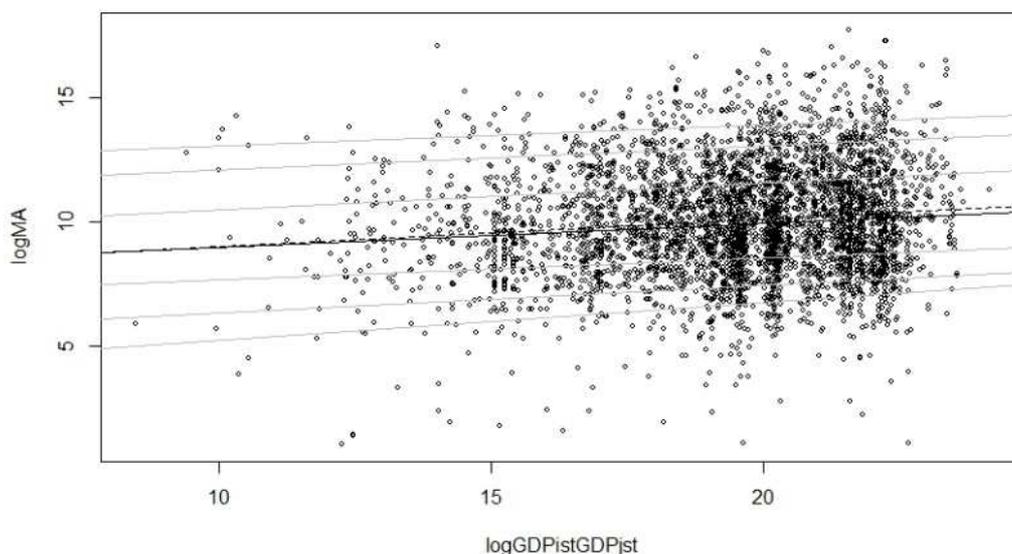
Source: Own calculation.
Note: OLS is dashed line, median line is black and gray lines are for taus 0.05, 0.1, 0.25, 0.5, 0.75, 0.9 and 0.95.

Graph 2. Quantile regression´s $log(GDP_{i,s,t}GDP_{j,s,t})$ slope coefficient estimates at different quantiles of $log(M\&A_{ij,s,t})$
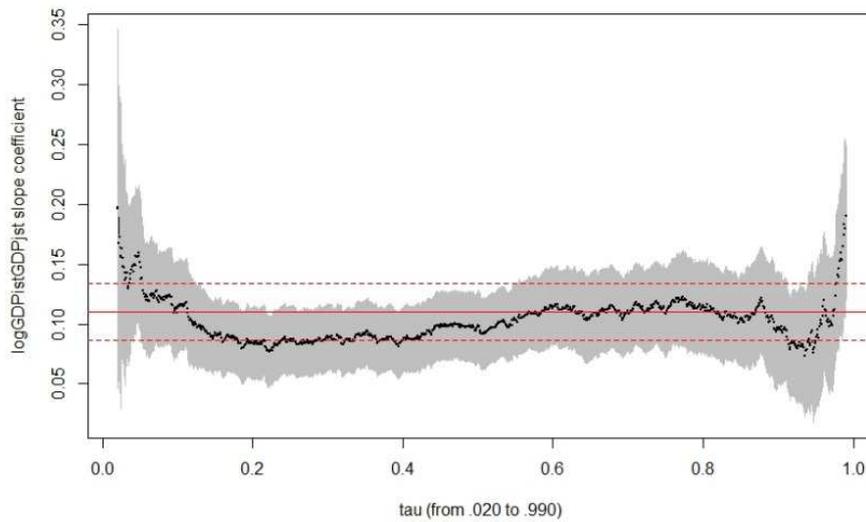
Source: Own calculation.

The second investigated covariate of log of M&As is $log(MarketCapitalisation/GDP_{j,s,t})$ (e.g. log of market capitalization to GDP ratio of acquirer and target sectors) with the result presented in graphs 3, 4 and 5. These graphs show a completely different situation as it was in the previous case. The response conditional distributions are highly skewed with possibly highly non constant variance, so the quantile regression method can describe the relationship better than a simple normal model with constant variance. Graph 3 shows quantile regression lines which were estimated on 5th, 10th, 25th, 50th, 75th, 90th and 95th quantiles and also presents OLS result as a reference. Probability of joint test of equality of slopes based on above reported quantile levels is $0.00*10^{-16}$, so slopes are significantly different. Graph 4 shows an increase in the slope coefficient with increasing quantile level of log of M&As. They are all significantly different from zero and in most cases they are significantly different from OLS result. The scatterplot in Graph 3 as well as the formal testing has revealed a strong tendency for the dispersion of $log(M\&A_{ij,s,t})$ to increase with $log(MarketCapitalisation/GDP_{j,s,t})$. For another view, Graph 5 is the plot of estimated empirical quantile functions of log of M&As for observations that are in the 10th percentile of the sample $log(MarketCapitalisation/GDP_{j,s,t})$ distribution and the 90th percentile. Panel of the right sight of the same graph is the plot of corresponding density estimates for the two chosen groups. So, the classical simple linear model here does not hold with respect on this result.

Graph 3. Quantile regression $log(M\&A_{ij,s,t}) \sim log(MarketCapitalisation/GDP_{j,s,t})$
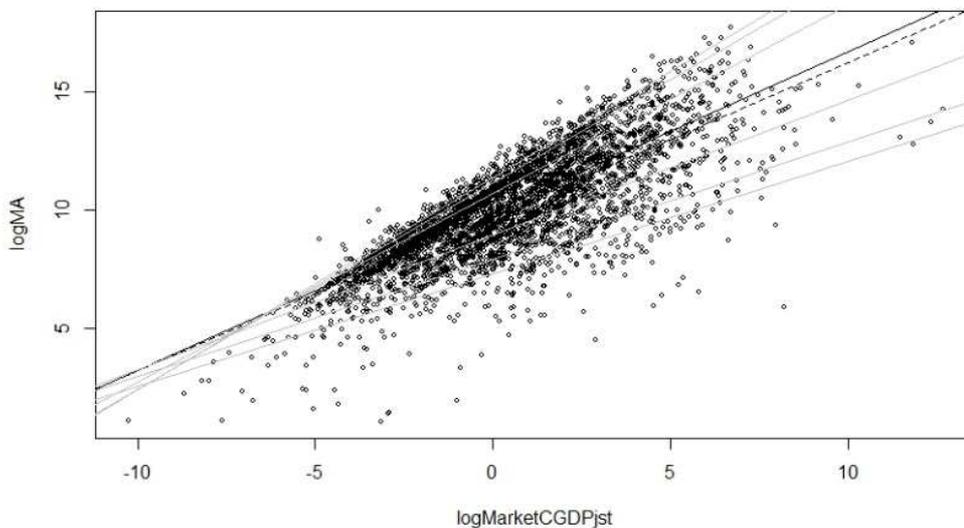
A

Source: Own calculation.

Note: OLS is dashed line, median line is black and gray lines are for taus 0.05, 0.1, 0.25, 0.5, 0.75, 0.9 and 0.95.
Graph 4. Quantile regression´s *log(MarketCapitalisation/GDP$_{j,s,t}$)* slope coefficient estimates at different quantiles of *log(M&A$_{ij,s,t}$)*


A
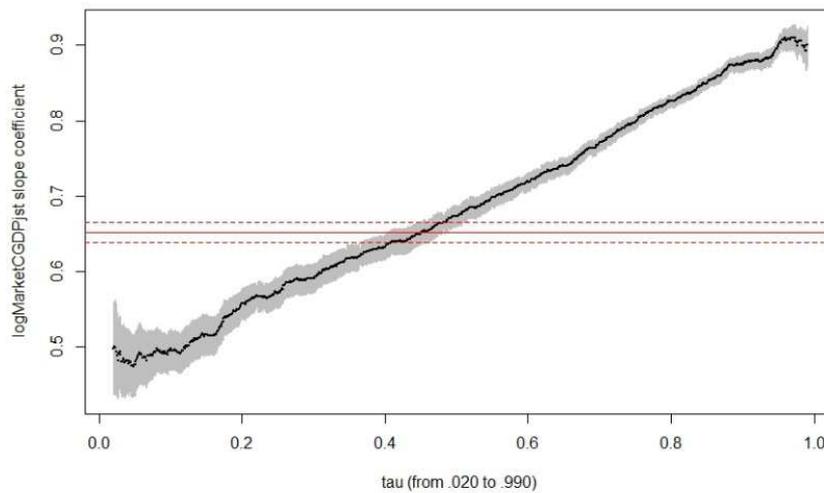
Source: Own calculation.

Graph 5. Estimated conditional quantile and density functions for *log(M&A$_{ij,s,t}$)*. Two estimates are presented one for relatively low value 0.057 (0.1 quantile) of market capitalization to GDP ratio of acquirer and target sectors, and the other for relatively high value 56.602 (0.9 quantile) of the same ratio.
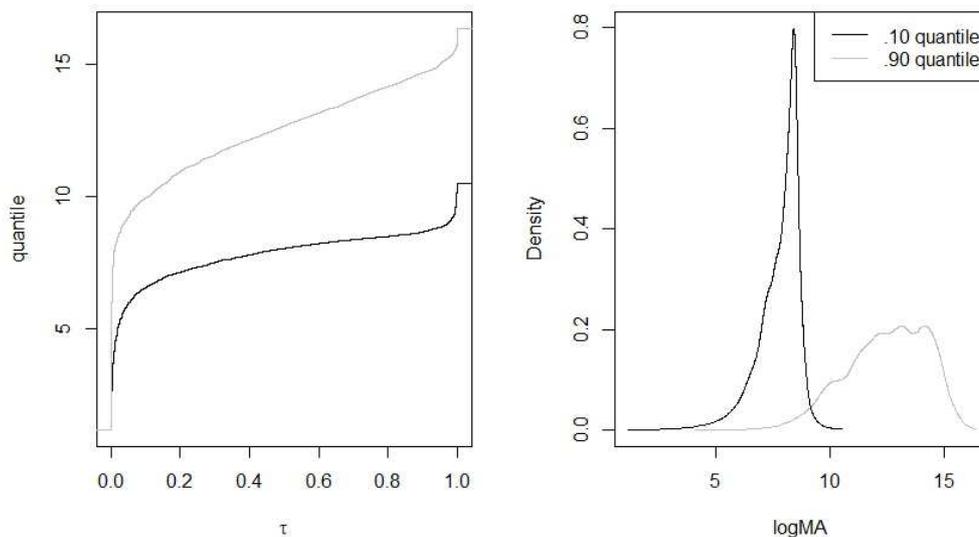
Source: Own calculation.

Finally, the third investigated covariate of log of M&As is *log(Distance$_{ij}$)* (e.g. log of bilateral geographical distance between the of source country *i* and target country *j*) with results presented in graphs 6 and 7. The appearance of the graph 6 shows a similar shape for all quantile regression lines and for OLS regression line too. Probability of joint test of equality of slopes based on 5th, 10th, 25th, 50th, 75th, 90th and 95th quantiles is 0.2112, slopes are not significantly different. More precise interpretation is facilitated by the graph 7 created with gentle division of quantile levels. Quantile regression slope coefficients are not significantly different from zero on down and up quantile levels, up to the level of about 0.2 and over the level of about 0.75. Slope coefficients between about 0.25 and 0.75 are slightly higher than slope from OLS regression, but not significantly. Despite these small differences, this result allows us to conclude that classical normal model is suitable for the relationship between log of M&As and log of bilateral geographical distance between the capital towns of source country *i* and target country *j*.

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Graph 6. Quantile regression $log(M\&A_{ij,s,t}) \sim log(Distance_{ij})$
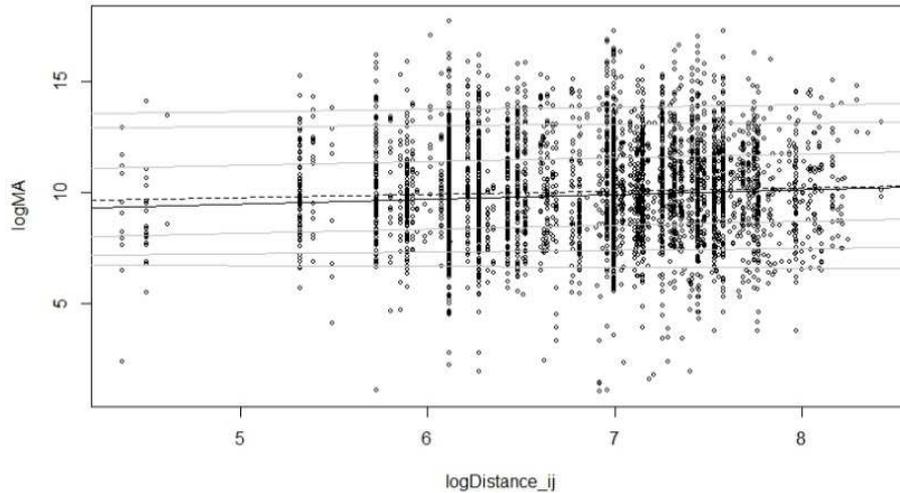
Source: Own calculation.
Note: OLS is dashed line, median line is black and gray lines are for taus 0.05, 0.1, 0.25, 0.5, 0.75, 0.9 and 0.95.

Graph 7. Quantile regression´s $log(Distance_{ij})$ slope coefficient estimates at different quantiles of $log(M\&A_{ij,s,t})$
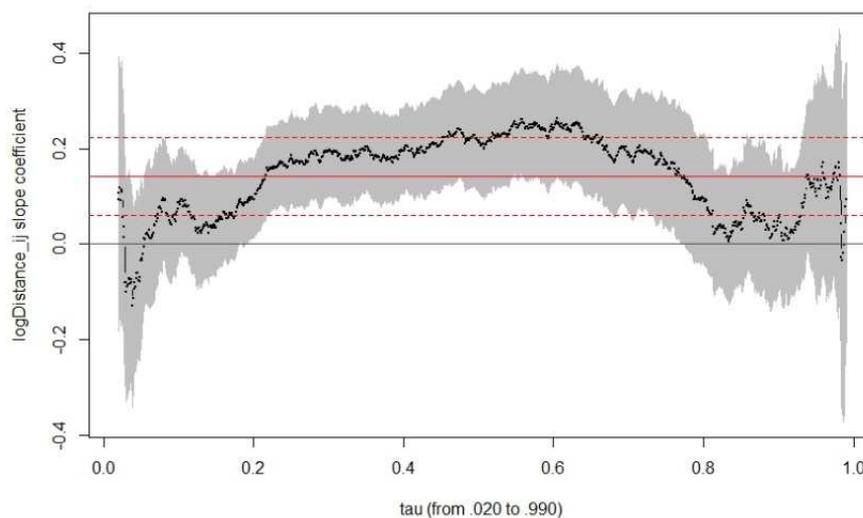
Source: Own calculation.

Summary

    At the beginning of this study we used the relationship quantifying multivariate statistical dependence of ten considered significant predictors of log of expected value of mergers and acquisitions (M&As) between source country i and target country j in the time t and sector s in form proposed by Hečková, Chapčáková and Litavcová (2016). Quantile regression allows us to examine this dependence in a broader context. The aim of this contribution was to examine bilateral relationships between response variable, which is log of M&As and choosen three continuous of 10 previous investigated predictors. These three predictors are (1st) log of the product of the two GDPs at date t, which restrict the elasticity to be the same for country i and country j; (2nd) log of market capitalization to GDP ratio of acquirer and target sectors used there as indicator of stock market development; (3rd) log of bilateral geographical distance between the capital towns of source country i and target country j.

    Here it is shown that classical normal linear model truly holds on two of these three relationships, first and third one. But, on the second case the application of quantile regression provides a better description of the investigate relationship than a simple normal model with constant variance.

    To conclude, these results may be helpful for a deeper understanding of the relationship between volume of mergers and acquisitions and its continuous predictors individually. It appears that equation

from which we started may be varied across different quantile levels of volume of M&As. This however, remains to be tested in our subsequent works.

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Orthogonal Regression Method and Its Application to Energy Loss in a Building Material under Influence of Moisture

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Abstract

The paper deals with the fitting of the measured data of a building material. An orthogonal regression method is presented and compared with widely used classical least squares method. For illustration, both methods are applied to the water absorption content in the silicate calcium brick depending on the air relative humidity. At the beginning we show that the linear correlation is not suitable for considered application. Next, three nonlinear models are suggested and compared by means of the mean square residuals calculated for both methods. Our calculations show that the suggested nonlinear models are closer to the measured data than the linear regression approximation. The best fittings are found for this application in the linearized form $y=a+b.z$ for selected dependences $z=z(x)$ that correspond to the orthogonal regression method. An upper estimate of energy loss is presented for the case of a moist building material.

Key words
Fitting, orthogonal regression, modeling, moisture, energy control

Introduction

Correlation and regression analysis of the studied experimental variables are often used for solution of building problems. A reason is also that experiments on buildings or experiments in laboratories on building materials are quite expensive and therefore the number of measurements is limited. But there is a question, what are the values of the investigated variables between two adjacent measurements, or alternatively, what are the values of variables investigated around the interval of measurement. An answer should be a suitable choice of regression dependence between the variables which are monitoring and which are constructed on the basis of measured values. The appropriate regression dependence is closely related to the selection of the method for determining the corresponding regression coefficients for the selected regression dependence.

At the beginning of this article we show an overview of the literature in which the correlation and regression analysis are used as a tool for variety of problems solving in buildings. As soon as a correlation between the variables which are monitoring is established, it is necessary to determine the regression relationship between these variables. In this article we show two methods for calculation of the regression coefficients. The first method is the classical least squares method (Pearson 1974, Litavcova et. al. 2012), which is used most frequently. The method was also used in the articles, which are mentioned in the chapter Literature overview. The second method is an orthogonal regression method (Pearson 1901), also called a total least squares method (Golub, Van Loan 1996, Nievergelt 1994), which is used only rarely. A reader will find more details in Petras, Podlubny (2010) regarding to the historical background of orthogonal regression method. An application of this method on some national economies is shown in Petras, Bednarova, Podlubny (2008) a Petras, Podlubny (2007). An application of this method to air modeling in building's environment is in Pavlus, Vasanicova (2014).

In this article, for purposes of illustration, both methods are used to determine the regression dependence between the content of absorbed water in the calcium silicate brick, depending on the relative humidity of the outside air (ASHRAE 2009). We propose three different correlation dependences. The mean square residual (Pearson 1901) is applied in this paper for comparison of the suitability of one or other method, or the individual correlation dependences. The proposed correlation dependences in our work are non-linear, and present some models which are relatively simple and linearized regression models. Our intention in this paper is to show the possibility of using of orthogonal regression method for

variety of problems solving in the construction industry as well as to point out its advantages compared to the classical least squares method.

Literature overview

Many professional articles were published on the topic of correlation and regression dependence. For a better understanding of the content and scope of research problems, we introduced descriptions some of recent articles that belong to construction area, including the energy savings management in buildings in Pavluš, Vašaničová (2014). There were papers: Toppi, Mazzeralla (2013), Gladyszewska-Fiedoruk (2013), Caciolo et al. (2013), Katunsky et al. (2013), Suarez et al. (2011), Peeters, Beausoleil-Morrison, Novoselac (2010), Keblawi et al. (2009), Medved, Arkar (2008), Pappas, Zhai (2008), De Rosa et al. (2008), Mahlia et al. (2007), Emmel, Abadie, Mendes (2007), Corrado, Fabrizio (2007), Novoselac, Burley, Srebric (2006), Clear, Gartland, Winkelmann (2003).

Absorption of water content depending on relative humidity of air

It is known, that the moisture in building materials makes their thermal insulation properties worse and due to this it increases energy losses in the building constructions (Korjenic, Bednar 2012, Holm, Kuenzel, 2002, Litavcova et al. 2014). A building material is becoming humid for many reasons. One reason is an increasing of relative humidity of air around the material and thus the water absorption occurs inside material. This process grows mainly in the buildings with increased relative humidity of air, for example, swimming pools, car-wash rooms, kitchens, bath rooms etc. The building materials research is sufficiently developed as to the moisture absorption. For example, in the work ASHRAE (2009) there are presented measurements of water content in kg/m^3 depending on the relative humidity of surrounding air in $\%$. The measurement results are shown in Fig. 1 (black points) and image the water absorption in the calcium silicate brick.

Figure 1. Dependence of water content on relative moisture for the calcium silicate brick (ASHRAE 2009).
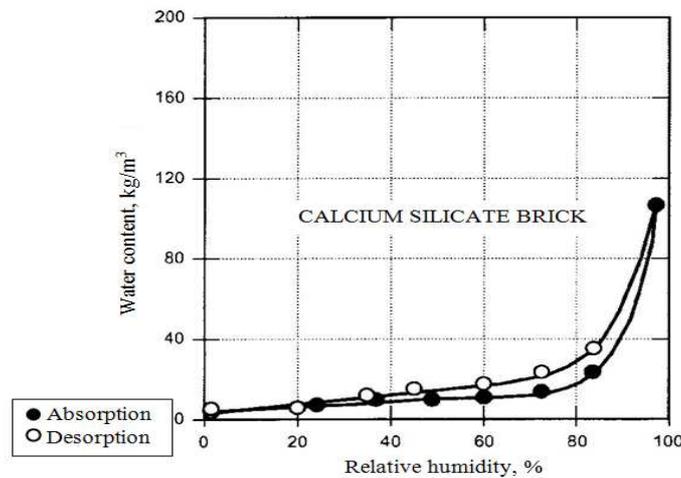
We approximately express the values of relative moisture and water content that corresponds to water absorption (black points in Fig. 1) in the Tab. 1.

Table 1. Tableted adsorption points according to Figure 1

Variable	Ranking							
	1	2	3	4	5	6	7	8
x – relative moisture in $\%$	1	22	38	49	60	72	84	98
y – water content in kg/m^3	3	5	7	8	9	11	19	108

Each of the eight measurements is expensive. It supposes the special measurement devices, creating a conducive environment, and other material security of experiment. In practice, however, it is often necessary to know the values of the quantity of water in the sample and relative humidity, which are not experimentally determined. For this reason it is important to fit (to approximate) the measured values by means of the suitable functional dependences. These dependences allow us to determine at least the approximate values of water content in the case that measurements are unknown. At the beginning in this part of the paper, we show that the classical linear regression is not suitable for such approximation. Therefore, we study three non-linear models by means of the classical least square method as well as by means of the orthogonal regression method, and we determine the point estimates for regression coefficients of both models. Next, for each model we determine the mean square residual that characterizes the curve proximity to the measured points in the sense of the least squares, or as soon as the mean square residual is closer to zero, the curve is closer to the measured points. The mean square residual is equal to zero only if all measured points are laying on the curve; in this case the linearized correlation dependence between studied variables is then either perfectly negative *(r = -1)* or perfectly positive *(r = 1)*. Such cases, however, occur only sporadically.

Classical linear regression

At the beginning we will find out for pair selection from Tab. 1 whether a linear correlation dependence $y = a_c + b_c \cdot x + \varepsilon$ exists between variables y and x where ε is a random variable with zero expected mean and non-zero dispersion. Therefore, we determine the Pearson's coefficient of pair correlation according to the formula (Pearson 1974, Litavcova et. al. 2012)

$$r \equiv r_{x,y} = \frac{\sum_{i=1}^{n} x_i \cdot y_i - n \cdot \bar{x} \cdot \bar{y}}{\sqrt{\left[\sum_{i=1}^{n} x_i^2 - n \cdot \bar{x}^2 \right] \cdot \left[\sum_{i=1}^{n} y_i^2 - n \cdot \bar{y}^2 \right]}}. \tag{1}$$

The result is $r = 0{,}6592$. Next, we test this value whether it can be considered as a zero value or not. Therefore, we formulate hypotheses (Pearson 1974, Litavcova et. al. 2012)

$$H_0 : r = 0 \quad \text{versus the alternative hypothesis} \quad H_1 : r \neq 0 \tag{2}$$

and test them according to the test (Pearson 1974, Litavcova et. al. 2012)

$$\frac{|r|\sqrt{n-2}}{\sqrt{1-r^2}} > t_{1-\alpha/2}(n-2). \tag{3}$$

The value of test statistics $T = \dfrac{|0{,}6592|\sqrt{6}}{\sqrt{1-0{,}6592^2}}$ in this case, is equal to $T = 2{,}1475$ and the critical value of the Student's t - distribution quantile for significance level $\alpha = 0{,}05$ is equal to $t_{0,975}(6) = 2{,}447$. That means the critical region K is given by interval $(2{,}447; \infty)$. The value of test statistics $T = 2{,}1475$ does not belong to critical region K and thus the hypothesis H_0 is not rejected and the value $r = 0{,}6592$ of Pearson's correlation coefficient we consider as a zero. Hence, there is an absence of linear correlation between variables y and x. This independence is confirmed by the p value, which is approximately equal to $0{,}08$ and it is more than the significance level $\alpha = 0{,}05$. Thus, we have to look for other dependence between variables y and x than a linear one.

The mean square residual is also interesting to determine for upper linear dependence. We put for classical least square method in normal system (Litavcova et. al. 2012)

$$\hat{a}_c \cdot n + \hat{b}_c \cdot \sum_{i=1}^{n} x_i = \sum_{i=1}^{n} y_i$$

$$\hat{a}_c \cdot \sum_{i=1}^{n} x_i + \hat{b}_c \cdot \sum_{i=1}^{n} x_i^2 = \sum_{i=1}^{n} x_i \cdot y_i \qquad (4)$$

$n = 8$, $\sum_{i=1}^{8} x_i = 4{,}24$, $\sum_{i=1}^{8} x_i^2 = 2{,}9774$, $\sum_{i=1}^{8} y_i = 170$, $\sum_{i=1}^{8} x_i y_i = 142{,}83$. We have got these sums from values of Tab. 1. Hence, we receive the point estimates $\hat{a}_c = -17{,}0229$, $\hat{b}_c = 72{,}2131$ for regression coefficients a_c, b_c, that enable us to calculate according to formula (Pearson 1974)

$$s_c = \frac{\sum_{i=1}^{n} \left(y_i - \hat{a}_c - \hat{b}_c \cdot x_i \right)^2}{n} \qquad (5)$$

the mean square residual $s_c = 619{,}213$.

Orthogonal regression method

We sequentially obtain from Tab. 1 $\bar{x} = 0{,}53$, $\bar{y} = 21{,}25$, $\sum_{i=1}^{8} y_i^2 = 12374$, and from relations (Petras, Podlubny 2010, Petras, Bednarova, Podlubny 2008, Petras, Podlubny 2007)

$$B = \frac{1}{2} \frac{\left(\sum_{i=1}^{n} y_i^2 - n\bar{y}^2 \right) - \left(\sum_{i=1}^{n} x_i^2 - n\bar{x}^2 \right)}{n\bar{x}\bar{y} - \sum_{i=1}^{n} x_i y_i} \qquad (6)$$

we receive $B = -83{,}072$, $\hat{b}_\perp = 166{,}15$, $\hat{a}_\perp = -66{,}8095$ and finally for the mean square residual according to the formula (Petras, Podlubny 2010, Petras, Bednarova, Podlubny 2008, Petras, Podlubny 2007)

$$s_\perp = \frac{\sum_{i=1}^{n} d_i^2}{n} = \frac{\sum_{i=1}^{n} \left[y_i - \left(\hat{a}_\perp + \hat{b}_\perp \cdot x_i \right) \right]^2}{n \cdot \left(1 + \hat{b}_\perp^2 \right)} \qquad (7)$$

we have $s_\perp = 0{,}0516$. Thus, one can see the mean square residual $s_\perp = 0{,}0516$ for orthogonal regression method is significantly smaller than the mean square residual $s_c = 619{,}213$ for classical linear regression.

Non-linear linearized regression models

Next, we will study several non-linear but linearized regression models. In linear model $y = a + b \cdot z + \varepsilon$ we suggest the following three transformations $z = z(x)$:

$$z = \frac{-5}{x-1}; \quad z = 120 \cdot x^{10}; \quad z = 3 \cdot tg\left(\pi \cdot x / 2 \right).$$

As before, we assume the value of relative moisture x belongs to interval $0 \le x \le 1$. The corresponding values of variable z after transformation of variable x can be seen in the Tab. 2.

Table 2. Values of variable z after transformation of variable x

x	0,01	0,22	0,38	0,49	0,60	0,72	0,84	0,98
Transformation	**Ranking**							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
$z = \dfrac{-5}{x-1}$	5,05	6,41	8,06	9,80	12,50	17,86	31,25	250,0
$z = 120 \cdot x^{10}$	0	0	0,01	0,10	0,73	4,50	20,99	98,05
$z = 3 \cdot tg\left(\pi \cdot x / 2\right)$	0,05	1,08	2,04	2,91	4,13	6,38	11,68	95,46

We make the correlation analysis to individual linear models $y = \hat{a} + \hat{b} \cdot z + \varepsilon$, namely, by means of the classical least square method as well as by means of the orthogonal regression method. The results of this analysis can be seen in Tab. 3.

Table 3. Parameters $\hat{a}, \hat{b}$ for classical least square method and orthogonal regression method

Transformation	**Parameters**			
	$\hat{a}_c$	$\hat{b}_c$	$\hat{a}_\perp$	$\hat{b}_\perp$
$z = \dfrac{-5}{x-1}$	3,3620	0,4197	3,3577	0,4198
$z = 120 \cdot x^{10}$	5,2077	1,0320	5,1212	1,0376
$z = 3 \cdot tg\left(\pi \cdot x / 2\right)$	4,4366	1,0872	4,4298	1,0876

When we are comparing parameters $\hat{a}_c$, $\hat{b}_c$ with parameters $\hat{a}_\perp$, $\hat{b}_\perp$ in Tab. 3, we can find out that for each dependence $z = z(x)$ its values are close. Due to this, the regression lines for classical method and orthogonal method are almost coincided.

Next, we present corresponding values of the mean square residuals in Tab. 4.

Table 4. Quantities of the mean square residuals for individual methods of regression analysis

| **Transformation**	s_c	$s_\perp$
$z = \dfrac{-5}{x-1}$	1,78	1,51
$z = 120 \cdot x^{10}$	11,30	5,46
$z = 3 \cdot tg\left(\pi \cdot x / 2\right)$	0,82	0,37

We can see in Tab. 4 that as in the case of classical least square method as well as in the case of orthogonal regression method the least value of mean square residuals is reached for transformation $z = 3 \cdot tg\left(\pi \cdot x / 2\right)$. Next, we can see that the orthogonal regression method provides smaller values of mean square residuals than the classical least square method for all selected transformations.

It can be proved that the relation between variables y and z where $z = 3 \cdot tg(\pi \cdot x / 2)$ is linear. This fact can be proven by testing. Therefore, let us consider the set y in Tab. 1 and the set z in the last row of the Tab. 2, and we will test the linear correlation dependence $y = a_\perp + b_\perp \cdot z + \varepsilon$. Let us substitute in the formula (1) the unknown x by unknown z and after we calculate the Pearson's coefficient of pair correlation for variables y and z. We receive $r = 0{,}99963$. Now, this value of the Pearson's coefficient of pair correlation we will test according to hypotheses (2). Following to test (3) the value of test statistics is equal to $T = 89{,}58$ and the critical region K remains steady i.e. $(2{,}447; \infty)$. We can see that the value of the test statistics $T = 89{,}58$ belongs to critical region $K = (2{,}447; \infty)$, and therefore the hypothesis H_0 must be rejected. That means the value of Pearson's coefficient of pair correlation $r = 0{,}99963$ must be considered as a non-zero value and therefore between the variables y and z there is a linear correlation dependence. This linear dependence is confirmed by the p value, which is approximately equal to 10^{-10} and it is much less than the significance level $\alpha = 0{,}05$.

Summary

In a similar way as we conducted the statistical analysis of water absorption of calcium silicate brick, it is possible to execute a desorption analysis according to the data of Fig. 1. In this paper, however, we do not investigate the problem of desorption. Water absorption analysis presented can be applied also to the other sorption building materials which are exposed to a higher relative humidity. Assumptions are some experimental data, either in the form of tables or graphs, similar to that in Tab. 1 or in Fig. 1. In this paper we suggested and determined the continuous dependencies which were justified due to the inhomogeneity of the material. A final result is depicted in Fig. 2 which shows the best approximation in the sense of the mean square residual (see Tab.4) and which follows from the data of Tab.3.

Figure 2. The best non-linear dependence $y = 4{,}43 + 3{,}26 \cdot tg(\pi \cdot x / 2)$ obtained by orthogonal regression method
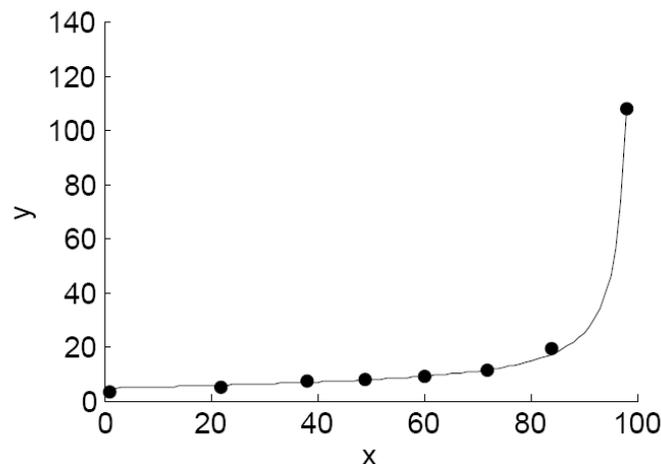
Increase moisture in the pores of building material leads to increased thermal conductivity of building material and consequently the resultant increase in energy loss in buildings. Indeed. The dry material of silicate calcium brick has according to Slovak Technical Norm (2012) the thermal conductivity $\lambda_0 = 0{,}82 \quad W / (m \cdot K)$, but wet one has a higher thermal conductivity. This can be expressed as follows

$$\lambda = \lambda(z) = \lambda_0 + c_l \cdot D_l \cdot z, \tag{8}$$

where c_l is the heat capacity of water in $J / (kg \cdot K)$ and D_l is the diffusion coefficient of water in m^2 / s for the material considered. According to Lide (2001-2002) the heat capacity of water c_l is equal to 4200 $J / (kg \cdot K)$, which represents one of the highest values between different fluids. Next, according to Krus (1996), the diffusion coefficient of water D_l is approximately equal to $2 \cdot 10^{-5} \, m^2 / s$, if we consider the silicate calcium brick totally saturated by water. The value z itself in the formula (8) can take

values from zero to 200 kg/m^3 (see the range of water content in Fig. 1). So, the highest possible increment $c_l \cdot D_l \cdot z$ will be equal to

$$4200 \, \frac{J}{kg \cdot K} \, 2 \cdot 10^{-5} \, \frac{m^2}{s} \, 200 \, \frac{kg}{m^3} = 16{,}8 \, \frac{W}{m \cdot K} \,,$$

that represents an annual energy loss about 145 kWh on the cross-section area $1\,m^2$, on the width $1\,m$ of material, and at temperature change of one degree K of material's ends. Certainly, the annual temperature amplitude is significantly larger than just one degree K. Moreover, the area in a building which the heat is crossing and fading through to outer space, is also markedly higher than just $1\,m^2$ .Therefore, the upper estimate for annual energy loss of a wet calcium silicate brick material can be higher than 145 kWh in some individual cases.

We came to conclusion that the mean square residual $s_\perp$ for orthogonal regression method is less than the mean square residual s_c for classical least square method (see Tab. 4). But this is not a unique advantage of the orthogonal regression method against to the classical least square method. A next advantage is the dependence $y(x)$ and the dependence $x(y)$ in the orthogonal regression method lead to the same line while in the case of the classical least square method these two dependencies are different, in general (Petras, Podlubny 2010, Pavlus, Vasanicova 2014). In the last case we have dilemma which dependence $y(x)$, or $x(y)$ to choose i.e. which variable must be independent and which one dependent variable. If it is not a time series, not always it is easy to decide which variable is independent and which one is dependent. This problem is excluded in the orthogonal regression method. And one more advantage. The mean square residual s_c is much more greater than the residual $s_\perp$ (see Tab. 4) for steep regression lines (with large value $\hat{b}_c$ or large value $\hat{b}_\perp$; see Tab. 3). A reason is that the vertical distances in the classical method are larger than perpendicular distances in orthogonal method. That means the orthogonal method is less sensitive to deviations than the classical method.

Thus, we could see that the orthogonal regression method has several advantages against the classical least square method and due to these advantages it is worth considering its use for research and management of building processes. In the part "Literature overview" of this paper we have introduced the works, that are directed to the management of the building processes, and that use the classical least square method. This classical method can be substituted by the orthogonal regression method especially in the cases when corresponding sum of classical least squares seems to be too large, when we are not able to decide which variable must be independent and which one must be dependent, or when regression line is too steep. In order to apply the methodology of orthogonal regression one need, beside some statistics skills, a mathematical knowledge for derivation and suggestion of correlation dependencies.

Note, the orthogonal regression method was applied to some national economies in Petras, Bednarova, Podlubny (2008) and Petras, Podlubny (2007). This method was also applied to air modeling in building's environment in Pavlus, Vasanicova (2014).

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