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AND SOCIAL SCIENCES RESEARCH

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Management

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Preface

Business, management and social sciences research is an essential, existential and strategic route to reaching high academic standards of the universities and faculties of management.

The transfer of one's own research results into the practice of organizations is one of the most significant dimensions and justifications for the current and future existence of faculties and universities oriented on business and management. It is one of the basic driving elements of development of universities and their faculties as well as organizations in practice. It is also the source of innovations and one of the conditions for the dynamic development of organisations, and whole integration blocs.

New knowledge gained by research appears to be a key factor in overcoming consequences of crisis as well as in overcoming important existing problems of enterprises, and in performing theoretical, mainly current macroeconomic tasks especially at the stage of after - crisis subsequent development.

Finally, the success of a company in a strenuous effort to gain a leading position in the market is one of the main tools how to measure the quality of management. Marketing and financial health of companies along with high competitiveness in the area of human resources and technology, satisfaction of markets by quality and desired production based on high technology – all this is the added value provided by transferring research results into practice.

The structure of this publication has been devised to present significant areas of current management and its important segments and remarkable connections:

Economics, business & economy, financing are dealt with in the first part of the publication. The following part focuses on modern management area and its one of the most important parts – human resource management.

A significant part of the next section is traditionally dedicated to the issues of marketing and innovations. Management of tourism, hotel and spa industry plays an important role in the development of our territory and it is one of the study and research areas of our faculty and its departments, which has translated into a number of articles published in this section.

Important current issues of regional development, regional management, and related topicsare analysed in the fifth section of this publication.

Very beneficial is the section focusing on econometrics, quantitative methods, and informatics in management.These could be regarded as highly significant areas of current business and management.

Psychological, ethical, environmental and other selected aspects of management are gaining significant importance.Socio-scientific attributes, are also very significant factors of the current economic and managerial problems of enterprises, and this section concludes the publication.

The ambition of this publication is not to remain a published collection of theoretical studies and recommendations based on research results. The ambition of this publication is to help our organisations at the time of development of entrepreneurial sphere after the global economic crisis as well as to contribute to the increase of competitiveness of companies in international markets in the coming period leading to economic growth and social welfare.

We hope the publication is a convenient contribution to our organizations, academics, but also to practitioners.

September 2014

prof. Ing. Dr. Róbert Štefko, Ph.D.

Management

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1. Economics, Business & Economy, Financing

The Analysis of the Socio-Economic Development Indicator of the Sustainable Development of the Slovak Republic

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Abstract

Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs. If nations should think in terms of long-term sustainability, measures of sustainable development are needed. Sustainable socio-economic development is a main goal of the European Union's Sustainable Development Strategy. The strategy sets out the objective of promoting a prosperous, innovative, knowledge-rich, competitive and eco-efficient economy, which provides high living standards and full and high-quality employment throughout the European Union. The economic prosperity of Slovakia and its sustainable economic growth can be achieved through a full convergence of our economy with the economies of advanced EU Member States. The Paper aims at the analysis of the socio-economic development indicator of the Sustainable Development of the Slovak republic.

Key words

Sustainable development, socio-economic development, indicators, Slovak republic

Introduction

The Sustainable Development Indicators (SDIs) are used to monitor the EU Sustainable Development Strategy (EU SDS) in a report published by Eurostat every two years. They are presented in ten themes.

Of more than 100 indicators, eleven have been identified as headline indicators. They are intended to give an overall picture of whether the European Union has achieved progress towards sustainable development in terms of the objectives and targets defined in the strategy. For a more complete picture it is necessary to look at the progress of all indicators within a theme.

Table 1. Headline indicators of Sustainable Development

Theme	Headline indicator
Socio-economic development	Growth rate of real GDP per capita
Sustainable consumption and production	Resource productivity
Social inclusion	People at-risk-of-poverty or social exclusion
Demographic changes	Employment rate of older workers
Public health	Healthy life years and life expectancy at birth, by sex
Climate change and energy	Greenhouse gas emissions Share of renewable energy in gross final energy consumption Primary energy consumption
Sustainable transport	Energy consumption of transport relative to GDP
Natural resources	Common bird index Fish catches taken from stocks outside safe biological limits: Status of fish stocks managed by the EU in the North-East Atlantic
Global partnership	Official development assistance as share of gross national income
Good governance	No headline indicator

Source: European Commission, 2013

The evaluation of progress since 2000, based on the headline indicators, shows a rather mixed picture:

- Clearly favourable changes for indicators: 'Resource productivity' (since 2011), 'Employment rate of older workers', 'Greenhouse gas emissions' and 'Share of renewable energy in gross final energy consumption' (since 2005);
- Moderately favourable changes for the indicators: 'Real GDP per capita', 'Common bird index' and 'Life expectancy at birth' (since 2002);
- Moderately unfavourable changes for the indicators: 'Primary energy consumption', 'Energy consumption of transport relative to GDP', 'Fish catches from stocks outside safe biological limits' and 'Official development assistance';
- Clearly unfavourable changes for the indicator 'People at risk of poverty or social exclusion' (since 2008) (European Commission 2013).

Sustainable economic growth

Sustainable economic growth means a rate of growth which can be maintained without creating other significant economic problems, especially for future generations. There is clearly a *trade-off* between rapid economic growth today, and growth in the future. Rapid growth today may exhaust resources and create environmental problems for future generations, including the depletion of oil and fish stocks, and global warming (Economics online 2014).

Slovakia GDP Constant Prices

GDP Constant Prices in Slovakia increased to 16615.70 EUR Million in the first quarter of 2014 from 16516.60 EUR Million in the fourth quarter of 2013. GDP Constant Prices in Slovakia averaged 12823.40 EUR Million from 1997 until 2014, reaching an all time high of 16615.70 EUR Million in the first quarter of 2014 and a record low of 9043.20 EUR Million in the first quarter of 1997. (Trading Economics 2014).

Graph 1. Growth of the Slovak GDP at constant prices (2011-2014)

Source: www.tradingeconomics.com according to the Statistical Office of the Slovak republic, 2014

Graph 2. Growth of Slovak GDP per capita at constant prices (prediction)
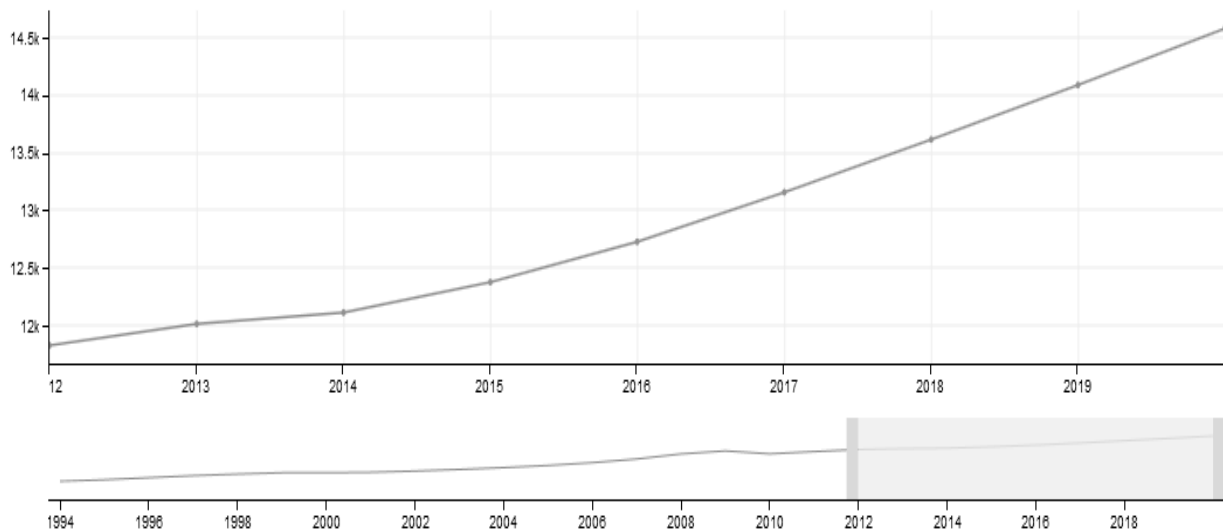
Source: http://www.quandl.com, 2014

Economic growth occurs when real output increases over time. Real output is measured by Gross Domestic Product (GDP) at constant prices, so that the effect of price rises on the *value* of national output is removed.

Graph 3. Development of GDP at current prices (year on year in %), unemployment rate and inflation rate
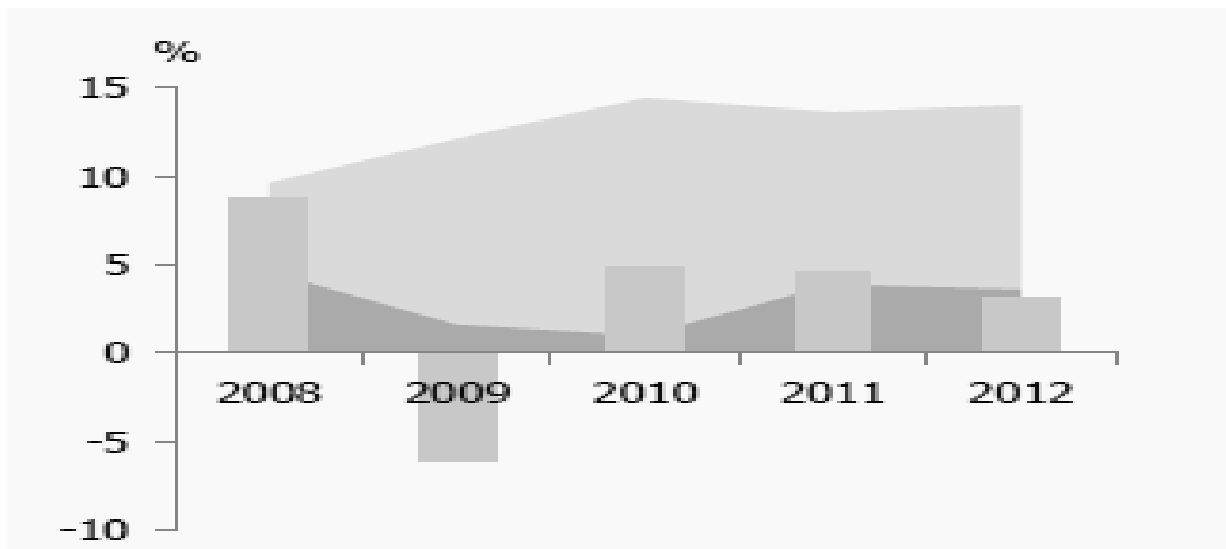
Source: Statistical Office of the Slovak Republic, 2014

    The long-term year-on-year growth of the Slovak economy´s productivity stopped in 2009. The real GDP in the mentioned year experienced the only year-on-year decrease in the Slovak history. In the next year the GDP increased, but its relative year-on-year increases dropped until 2012. The year-on-year inflation rate recorded fluctuating development in the last years. Average year-on-year change in 2008 reached 4,6 % and to 2010 decreased on the level 1 % (historically lowest level). Based on Labour Force Survey results, the labour market development during 2008-2012 was characterized by a decrease in employment and its slight growth in years 2011 and 2012 (Statistical Office of the Slovak Republic 2014).

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Figure: International comparison GDP per capita in Purchasing Power Standards in 2012

Country	Value
Bulharsko / Bulgaria	47
Rumunsko / Romania	49
Lotyšsko / Latvia	62
Maďarsko / Hungary	66
Poľsko / Poland	66
Estónsko / Estonia	69
Litva / Lithuania	70
Grécko / Greece [1]	75
Portugalsko / Portugal	75
Slovensko / Slovakia	75
Česká republika / Czech Republic	79
Slovinsko / Slovenia	82
Malta / Malta	86
Cyprus / Cyprus	91
Španielsko / Spain	97
Taliansko / Italy	99
Európska únia (27) / European Union (27)	100
Francúzko / France	108
Spojené kráľovstvo / United Kingdom	110
Fínsko / Finland	115
Belgicko / Belgium	119
Nemecko / Germany	122
Dánsko / Denmark	125
Holandsko / Netherlands	129
Švédsko / Sweden	129
Írsko / Ireland	130
Rakúsko / Austria	131
Luxembursko / Luxembourg	272

EU 27 = 100

Source: Statistical Office of the Slovak Republic, 2014

Summary

The Sustainable Development Indicators (SDIs) are used to monitor the EU Sustainable Development Strategy (EU SDS) in a report published by Eurostat every two years. They are presented in ten themes. Of more than 100 indicators, eleven have been identified as headline indicators. The headline indicator of Socio-economic development is Growth rate of real GDP per capita. The long-term year-on-year

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growth of the Slovak economy´s productivity stopped in 2009. In the next year the GDP increased, but its relative year-on-year increases dropped until 2012. By an international comparison of the GDP per capita Slova Republic has achieved 75 % level of the average European Union (27) GDP per capita.

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Business Process Reengineering

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Abstract

Today exist various methods for improving the business processes, and without them, each company will sooner or later face the decrease of turnover and profit. As the time goes, the business of any company loses its original efficiency, especially because of the effect of internal factors, not due to competition, although its effect is also great. For radical change of approach to management of business processes in enterprises, the re-engineering of business processes is used. The application of reengineering of business processes enables to perform more fundamental, radical and technological changes in the company.

Key words

Business, reengineering, management.

Business process reengineering

The current stage of development of socio-economic relationships in Russia pays special attention to the development of innovations. The approved Conception of long-term socio-economic development of the Russian Federation for the period of up to 2020 declares that the main goal in the future period is the transformation from the export raw material model of economic growth into the innovative one, which has to ensure the increased competitiveness of Russian products and services in domestic and world market. The increase of national competitiveness is a complex task, whose achievement is in connection with human resources and economic institutions development, realization and strengthening of the current Russian competitive advantages. Accession of the Russian Federation to the World Trade Organization also requires better using of modern approaches to business, including management of the companies. Better using of the process approach to management is one of such possibilities of introducing the innovation management into the business activities of Russian companies and organizations. Reengineering of business processes is one of methods of introduction of the process approach to company management.

Besides, the rapid development of modern technologies caused considerable excess of potential supply over demand in some markets. This is due to abrupt growth of labour productivity, overproduction of goods, elimination of communication and trade barriers, improvement in the standard of living in the countries with developed market economy. That affects the change of proportion between producers and consumers and the sharpening of competitive fight. The producer must solve new problem in this situation: even slight quality deterioration leads to the decrease of consumer demand and further to the decrease in sales or business loss-making in terms of a lot of competitors. Research and innovations results become the possession of competition for a short time.

Internal factors, existing in the activity of all organizations, are very significant for the increase of quality of goods produced. Due to effects of internal factors, the activity of each organization loses its original efficiency as the time goes. Production processes are complicated and more ponderous, activities turn off of original purposes and priorities of the activity, personal motivation decreases, functions of personnel and department of the companies are mutually duplicated. Reason of these deteriorations in the activity of the organization is in imperfection of managing personnel.

The most significant problem is the need to change the mentality of current managers from functional into the processional one. At present, Russian companies strongly feel this problem. Today a lot of current Western European, American and Japan companies uses a process approach during the ensuring of the activity of their business. At the same time, the functional approach still prevails in Russian companies when individual functions are divided and anchored between individual employees and departments of the companies. Each employee and each department is responsible for a certain "part" of activity, performed within their job obligations.

The process approach of management requires a different model of organization of activity of the company. Each employee is not responsible for a definite "part" of activity of the company, but for the fulfilment of the definite business process. Purpose of organizing the activity of the company is fulfilment of the fixed business process as a whole and achievement of the required result during the realization of this business process. The process approach, used originally in the American companies which later

extended to companies in other countries, enables to improve the efficiency of activity of the company, purposefulness, responsibility and to improve results of the activity, decrease useless time losses and material costs for remuneration of personnel, who perform similar and continuing jobs.

Nevertheless large Russian companies, within the frame of public offering of shares in the international stock exchange, adopt foreign standards of management of business processes in the company. A lot of companies adopted a process approach to their activity as early as after the crisis end in 1998.

Modern information technologies caused a revolution in the management of business processes, and they enable to do the engineering and reengineering of business processes. Today business process reengineering (BPR) is the most popular and perhaps most effective tool of revolutionary change of business processes. The revolutionary character of this approach is on diversion from traditional rules and requirements in business, which are often out of date, incorrect or even unsuitable for a definite situation.

The first use of a definition of business process reengineering was in the United States of America in 1990. Authors of business process re-engineering are Michael Hammer and James Champey. According to authors, business process reengineering is "fundamental revaluation and radical transformation of business processes for the purpose of achieving significant improvement of such key modern economic parameters as costs, quality, level of services and flexibility". From this time, business process reengineering is in raising spotlight of professionals in management and the information technology sphere.

According to Hammer and Champey´s definition, business process reengineering is understood as "fundamental revaluation and radical transformation of business processes (BP) for the purpose of achievement of significant improvements at basic parameters of business activity"[1].

According to E.G. Oykhman´s and E.V. Popov´s definition "Business reengineering requires a new thinking method – view of business building as an engineers´ work"[2]. Company or business is an object of designing and redesigning according to the rules of the designer´s and engineer´s activity.

Business process reengineering is a separate project, which is realized by reengineering team of designers supported by top management of the company. The reengineering project is an aimed activity, which results in the change of complex business processes of the company, required for the achievement of company´s business goals. The budget and duration of re-engineering project analogously as any other project are limited, the project is fulfilled by a team of members, especially established for the period of project realization and managed by the project manager.

Team responsibilities during the improvement of processes can be classified as follows: design of the diagram (schedule) of business processes and accompanying documentation according to chosen methodology and standards of processing of documentation; analysing; carrying out of research and submission of the report; preparation of the drafts for realization of the best solution and realization of the drafts related to the processes.

Using of standards of project management within the process of reengineering enables to use such new elements as risk analysis, quality management, etc. Available special literature about reengineering states that, according to statistics, more than 50% of the projects of business process reengineering ends with failure. The reason is in the absence of universal approaches of reengineering realization. Each company has its own unique business processes requiring specific methods for their improvement. In the theory, researchers state individual methods used in companies during the realization of business process reengineering. They point out at the same time to unacceptability to use these methods as an axiom during the resolving of tasks determined for the team of project of business process reengineering.

Methods for the improvement of business processes

Modern process management uses two conceptional approaches of business process improvement: a). gradual (evolution) approach of process improvement – quality management system stated in Edward Deming´s publications within the existing organizational structure of management, requiring low or any investments; b). radical (revolution) approach (according to Michael Hammer and James Champey) contributing to fundamental changes of processes and fundamental changes in organizational structure of management.

Both of these approaches are based on the common basis of process theory and methodology of process management. First of them is rather aimed at the improvement of fragmentary processes within functional specialized structures of management for the purpose of their unification and standardization according to ISO system – the International Organization for Standardization. For this reason, practical improvement of processes within this approach consists in transferring of the organizational department functions to established process departments, i.e. in their mere renaming without change of their content and purpose.

The second basic approach of process improvement requires, mainly, research of the activity process as an aggregate of operations useful for consumers. Except for reengineering, other methods of business process improvement are used for business process rebuilding. Particularly these: method of fast analysis of decision making (FAST), process benchmarking, process redesigning, process engineering, downsizing, total quality management, outsourcing, knowledge management, customer relationship management, enterprise resource planning, quality function deployment. The above stated methods of improvement of business process management resulted from growth of competition in international markets and from knowledge improvement in the area of management.

1. Method of fast analysis of decision making (FAST) focuses its attention on a definite process within one-day or two-day group meeting to improve the process for the purpose of determination of method for process improvement during the following 90 days. The FAST method usually results in decrease of costs and reduction of process duration. Level of errors in case of acceptance of suitable solutions will decrease by 5 to 15 % within three months. Advantages of this method consist in quick preparing of the decision, minimum costs of the realization of method, customer focus, which usually determines the object of improving as a problem or process and approves the action or decision of the FAST group. Principal deficiency of this method consists in the relative local application of surveyed process; process research without considering mutual relations and mutual dependence on other business processes in the organization; often removes only consequence, but not a cause, which may be out of the analysed process; measures of business process improvement may be effective for a short time.
2. Process benchmarking is based on comparative analysis of economic processes of the organization with sample processes in the organizations, performing the same or similar processes, but with higher efficiency. Purpose of process benchmarking consists in the determining of better functioning of business processes in the "sample" companies and precaution of undesirable differences from these in surveyed organizations. The main advantages of this method are a short period of realization, relatively low costs and efforts, connected with business processes improvement. Benchmarking enables to decrease the costs and duration of the process, the level of errors will decrease by 20 to 50 %. Benchmarking is suitable for local (partial, fragmentary) or integrative processes in the organization, sometimes requires more radical approach during changes of organizing activity.
3. Process redesigning focuses its attention and efforts on the improvement of the current process. Redesigning is usually used at well-functioning processes which require correction in relation to changes of conditions and customers´ or clients´ needs and requirements. Within the frame of redesigning of the process, a model imitating the current situation is being processed. A range of redesigning usage is relatively wide. Process redesigning is usually realized parallel with comparative analysis (benchmarking) so that the redesigned process is not worse than the current sample, or to the contrary better. Attractiveness of redesigning of the process results from the possibility to decrease costs, shorten the duration of the process, realize works within 80 to 100 days and decreases the occurrence of errors by 30 to 60%. Deficiencies of this method are related with the fact that it significantly aims at improvement of the business processes or processes ensuring definite management functions. By this it strengthens the position of traditional functional structure of the hierarchy without changing its content.
4. Process engineering as a method of improvement of the process in the organization is not accepted unequivocally today. The very definition of "engineering" was adopted from the technical engineering area. Some researchers understand the process engineering as a general definition, including the business process reengineering and business improvement. A. Bolshakov and V. Mikhaylov[3] have a different opinion. According to them, engineering is a new method of thinking, which performs a view of the company building as engineers´ performance. P. Kutelyev performed a more detailed research[4]. He implements the definition of organizing engineering and defines it as a designing of business processes connected into one information space. A lot of researchers state the definition of business-engineering and define it as a designing of business processes and management systems of the companies "from scratch". The most accurate definition of process engineering is the following one. Process engineering is a method of designing the business processes in newly established organization or business processes at new types of business in the existing organizations taking into account the best experiences and principles of optimal process management. Process engineering aims at a definite management model – functional and specialized or process management – and determines its radicalism.

5. Business process reengineering. Researches in the area of business process re-engineering state that business process reengineering is "revolutionary", "fundamental", "radical", "substantial" reengineering of business processes in the organization. Common characteristics of the key words "revolutionary" and "substantial" are demonstrations of significant changes aimed at new qualitative level of the organizational development. Radical redesigning means direct research of the basic phenomena, that is to say not smaller changes or reorganizations of the existing systems, but refuses decisively all obsolete.

Reengineering of business processes is the most radical from the above stated methods of business process improvement, except for engineering, because it is not directly a method of improvement, but mainly is a method of process management. Business process reengineering provides a new look on the substance and content of the process and fully disregards the current process and organizational structure. Objects of reengineering are the business processes determining the activity of the enterprise. Reengineering can be mostly realized many times up to full redesigning of most business processes. It means that the activity is divided into stages out of which each has an unequivocally determined goal, which consists mainly in substantial improvement of the activity of the organization.

According to specialists, suitable realization of reengineering decreases the costs, reduces the process duration by 60 up to 90% and the error level by 40 up to 70%.

Common characteristics of business processes

Besides differences, methods of business process improvement also have a lot of common characteristics.

1. Processes being improved must meet modern requirements for quality, services, flexibility and low cost, and they must further be well-arranged. Regardless of the integration of activities, business processes maintain the requirement of uncomplicated task.
2. Several activities are connected into one. Originally different activities (or tasks) are integrated. Jobs performed by several specialists, who were earlier a part of various departments, connect into the job performed by one person with access to database and specialized evaluation.
3. Process receiver must participate in the changed process. This requirement, which must be taken into account during process improvement, supposes higher process receiver´s participation compared to the current situation. This is the result of considering the receiver´s requirements for the result and development of the process.
4. Supplier (or suppliers) of the process must fulfil the tasks as if they were a part of the process or organization being changed. The task of suppliers´ process changes as a result of establishing partnership with process members or by means of engagement of the fulfilment of some parts of the process by external suppliers.
5. Various versions of processes are formed. Each version of the process is aimed at one definite situation (case). For example, IMP has three versions for each process: simple cases (computer processing data without professional intervention); average complicated cases (the processing by specialists with the use of database and expert´s evaluation); complicated cases (the processing by specialist through experts´ evaluation). Preparing of various versions of the processes is the most important stage in the improvement process; which is achieved through process simulation. At the moment when the model imitating a newly prepared process meets the set requirements, the theoretical model will be transferred into physical form for the purpose of supporting the conception.
6. Effort to decrease the numbers of process inputs is one of the methods of improvement of the process control and management. The improvement of the process requires only elimination of outputs and their comparison with inputs, which results in the decrease of controls and checks number, not providing the customer with the required production.
7. Goal to increase the autonomy of the processes by means of higher decentralization with parallel improvement of the centralized data exchange system. Higher decentralization during business process improvement extends the authorization during decision making of the authorized personnel of the process and results in the increase of autonomy and decrease of bureaucracy during process management. The application of this approach enables to perform not only horizontal, but also vertical process compression. Vertical compression is achieved by the fact that in those points of the process when, within the frame of traditional organization of work, the worker turned to a higher management level and this accepted the decision, newly this worker does them personally.

8. Creation of a central database ensuring fast access for management personnel and for participants of processes, including higher use of information technologies for the providing of effective management decisions making.
9. Focusing on the decrease of time parameters of the process. Decrease of process duration is a significant criterion of optimization of the business process, which aims mainly at the increase of process productivity and efficiency.
10. Elimination of useless or long-lasting flows. Improvement eliminates useless and unproductive activity. Maximum aiming at a deviation from subsequent fulfilment of operations within the frame of process during the connection of parallel performed operations enables to make the activity faster.
11. Elimination of intervals in business processes. Such elimination enables to eliminate "intervals" and "blank spaces" in business processes, which are often found at enterprises with haphazard or chaotic activity performing.
12. Connection to business process of the minimum amount of each resource. Fulfilment of all tasks within the frame of business process requires the maximum elimination of resources, for example, by means of a confluence of tasks performed by each employee. A key aim is the release of personnel and conjunction of various functions which results to exclude the whole departments from the process.
13. Analysis of differences and determination of common methodical rules for business process improvement provides possibilities for their application, enables to prefer some methods of improvement or changes of business process or their complex use according to task definition.

Specialized literature also compares approaches of business processes reconstruction through the comparison of two ideologies:
a) quality management (total quality management),
b) radical improvement (business process reengineering).

Goals and task of re-engineering
Definition of reengineering declares that it is fundamental revaluation and radical redesigning of business processes in the company for the purpose of achieving significant improvements of the main parameters: price, quality, services and development[5].

Reengineering is a radical method of business process improvement. This method often encounters resistance on the part of employees of the company, because employees connect this approach with employee reduction and dissolution of functions in the company or group of the companies. Employees´ reduction is not a task of reengineering, but it is more likely the necessary consequence. Goal is increasing the efficiency of the company´s activity, decrease of undesirable time losses and material costs, transition to personnel activity evaluation according to quality of task fulfilment. Reengineering requires fundamental reconstruction of the whole system of activity in the company. In fact it results in the new building of enterprise on the base of modern approaches within the frame of designing of business processes. Together with it, the application of reengineering can meet certain problems. Unsuitable providing of the method can result in internal conflicts in the company. It should be noted that only fifty per cent of realized reengineering projects are successful. Successful realization of process approach in the company through business process reengineering should be explained by the explanation of needs of the fundamental change among the company´s personnel, including their active participation in the process of transformation from functional into the process model of the activity in the company. A lot of functions in the new structure of the company can be "cancelled" directly by existing employees of the company.

Determined goal can be achieved by means of resolving of these current tasks of modern management practice: 1. comparing the theoretical and methodological bases of business process reengineering concept in the company and modern approaches during the realization of business process reengineering projects; 2. comparison of business process reengineering in the company with other methods of improvement of organization of the system of business process management in the company; 3. analysis of current business processes in construction company; 4. analysis of practical approaches during the realization of reengineering project according to the activity of managing company in the construction holding.

Summary

Business process reengineering may be applied in large and also in small companies. Object of reengineering can be one or few business processes used in the company. Owners and top managers make a decision on reengineering in the company after careful consideration. It is necessary to assess the pluses and minuses of such decision, determine goals and preferences in the company´s activity, which are the reasons of the company´s owners interest in reengineering. Reengineering should be provided with the participation of external specialists, which will enable to decrease time and financial costs of the company. It is necessary to take into account that only 50% of reengineering projects are successful. Besides, reengineering is always considerably expensive. In conclusion it should be noted that reengineering is not the only tool of the building of business processes, although this method enables to achieve required results in short and optimal period.

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Private Equity and Venture Capital Investments in Central and Eastern Europe

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Abstract

Private equity represent progressive form of corporate financing. Since 2007, European private equity has backed in excess of 21,000 portfolio companies, to the tune of more than EUR 271 billion. Most private equity investments, around 85 %, are into SMEs. Private equity contributes to the creation of up to 5,600 new businesses in Europe each year. This paper examines the development of private equity and venture capital transactions in Europe, and analyses the nature of these transactions.

Key words
Private Equity, Venture Capital, investment, GDP

Introduction

Private Equity is a form of equity investment into private companies not listed on the stock exchange. It is a medium to long-term investment, characterised by active ownership. Private equity investment provides a strategy for company growth, with agreed time limits and targets. The strategy is tailored to the entrepreneur and the stage of the business, whether it's an innovative new start-up or an established Small Medium Enterprises (SMEs) looking to take the next step in its development.

Strictly defined, *venture capital* is a subset of private equity. Venture capital is thus professional equity co-invested with the entrepreneur to fund an early-stage (seed and start-up) or expansion venture. Offsetting the high risk the investor takes is the expectation of a higher than average return on the investment. If cross-border investment in seed capital and the early stages of firms were unimpeded, venture capital funds could use their knowledge of the different sectors of industry and invest in a wider geographical area. This would reduce their costs and further develop their specialised sectoral expertise.

There is a need within the European Union (EU) for a dynamic venture capital industry that is capable of providing early-stage equity financing to the EU's most innovative high-growth SMEs. SMEs and businesses backed by financial and business support such as venture capital can generate economic growth, create new jobs and contribute to the design and use of new knowledge and technology. Active venture capital markets would be important drivers of the more competitive, entrepreneurial, innovative and dynamic European economy. Thus, venture capital investment activity is consistent with the EU's Europe 2020 Strategy objectives, as well as with many other EU policy goals, such as SME initiatives, the Competitiveness and Innovation Programmes, and the development of cross-border 'clusters' to support technology transfer. Venture capital investment can also play a significant role in strengthening European economies in the current economic turbulence and downturn.

However, the EU venture capital market still works below its potential. There are natural obstacles arising from differences of language and legal and regulatory requirements. However, one of the main reasons identified is the lack of cohesion between the 28 tax systems across the EU that can lead to double taxation, tax treatment uncertainties and administrative obstacles. The result is that venture capital tends to be restricted to domestic national markets rather than extending across the larger EU and international markets. Most Member States have agreed bilateral double taxation conventions (DTCs) between each other that are generally based on the Model Double Tax Convention of the Organisation for Economic Cooperation and Development (hereafter the OECD Model). These should normally allocate taxing rights to prevent the occurrence of double taxation. However, this is not always the case because the often complex commercial structures used in venture capital are not always accommodated by DTCs. This is why the cross-border management of venture capital funds risks creating a layer of taxation at the level of the management of the funds. The different tax treatment of venture capital funds in different Member States creates further problems.

This paper examines the development of private equity including venture capital transactions in Europe and analyses the nature of these transactions. This paper was compiled as a part of the

projects VEGA No. 1/0054/14 „Research into Business Risk Controlling in the EU Aimed at Proposing Models for Enhancing Solutions and Financial Risk Forecasting of Business Entities" and KEGA No. 032PU-4/2013 „Applying E-Learning to Teaching Economic Disciplines of the Management Study Programme and New Accredited Study Programmes at the Faculty of Management of University of Prešov in Prešov".

Venture capital fund structure for cross-border investments

Prior to detailed consideration of the particular direct tax obstacles to cross-border venture capital investments, it might be helpful to present an example of a typical cross-border venture capital fund structure illustrating the different players, the flow of income, management and advisory services.

Figure 1 below presents a typical venture capital fund structure. There are five major components to a venture capital fund and its investments: the investors, the venture capital fund, the venture capital Management Company (the venture capital Fund Manager), the Portfolio company and one or several Advisory companies.

Figure 1. A typical venture capital fund structure
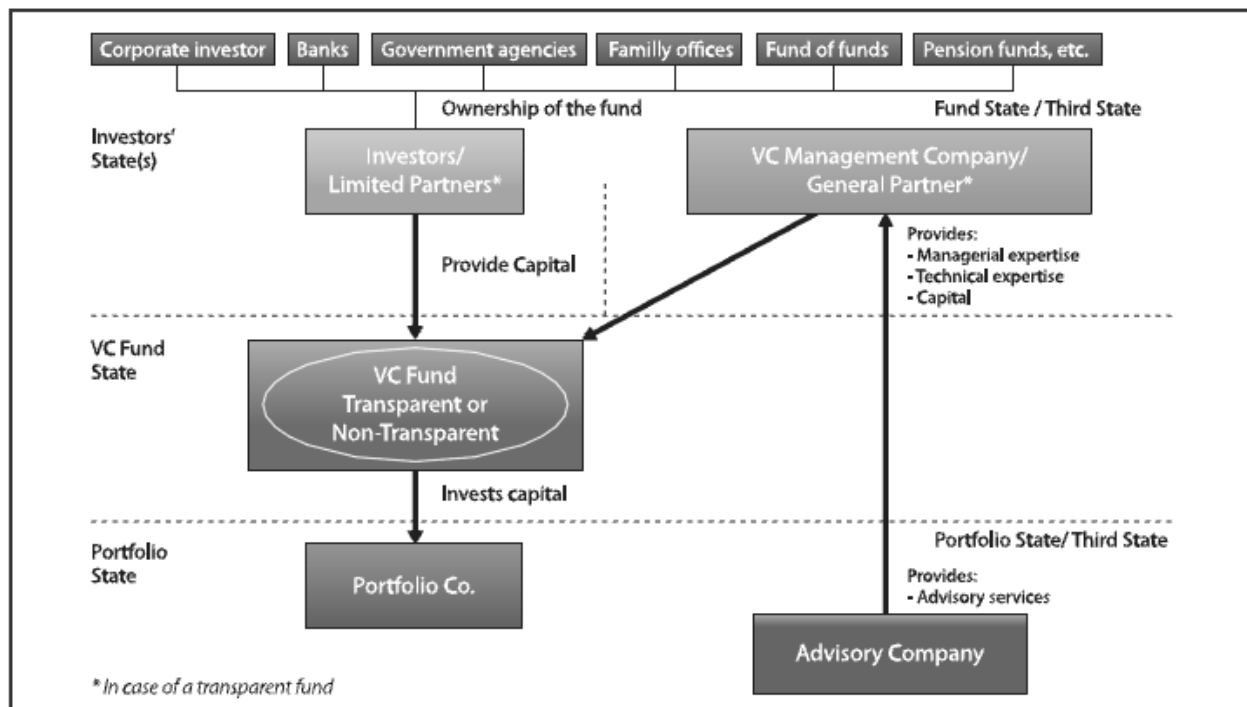
Source: European Commission, 2010, p. 10

Investors provide capital, which is pooled together by external managers (venture capital Management Companies/venture capital Fund Managers) into collective investment vehicles (usually called venture capital funds). The investors seek external venture capital Management Companies with the investment objectives, track record and capabilities that best match their requirements. In the case of a transparent fund structure (the most common type), the investors are the fund's 'Limited partners' with limited liability. The vast majority of venture capital financing comes from investors with long-term investment horizons, such as institutional investors, (including corporate investors, banks, government agencies, family offices, funds of funds and pension funds) and high net-worth individuals. They invest for a period of approximately ten years on behalf of themselves and their investors (who are acting on behalf of their own policy holders, e.g. pension/insurance policy holders) to achieve risk-adjusted returns. The usual return the investors receive takes the form of capital gains (European Commission, 2010).

Figure 2. Venture Capital - Funds raised by type of investor in Europe 2007 - 2013
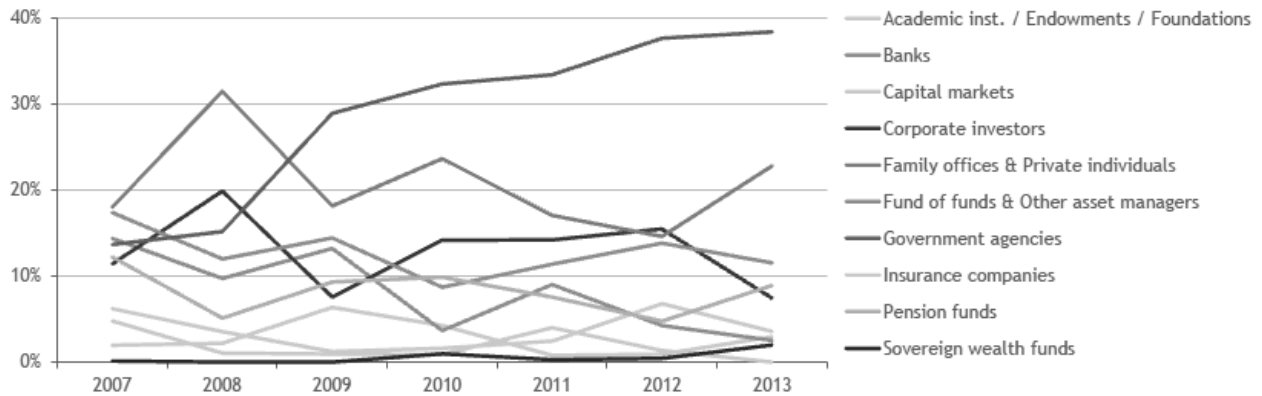
Source: EVCA, 2014

The Venture Capital fund is a collective investment vehicle into which the investors commit their capital. Typically the fund's life is ten years (with a possible extension of one to three years), but this varies considerably between funds. Venture capital funds are established under a variety of legal forms and regimes across the EU. Structures can include:

- Partnerships – with or without legal personality (usually transparent for tax purposes).
- Corporations – with legal personality (non-transparent for tax purposes).
- Other venture capital fund vehicles, either fiscally transparent or non-transparent, which are designed to benefit from a preferential tax regime.

In the EU, venture capital funds are typically structured as transparent limited partnerships. The European Investment Fund is the largest EU investor into venture capital funds, having committed some EUR 5 billion to the sector through investments in funds in a variety of European jurisdictions. The majority of the Fund's investments are into limited partnerships. However, the number of non-transparent funds has increased slightly in recent years.

The Portfolio Company receives the capital. Portfolio companies are predominantly unlisted young high-potential growth companies or companies quoted on exchanges that need an active ownership that can help them to achieve growth and to secure funding for expansion. They are typically too small and generally not profitable enough to raise capital in the public markets or to secure a bank loan or complete a debt offering. A significant part of venture capital is invested in life sciences and healthcare, technology-related areas such as new information and communication technologies, electronics and new materials industries. In recent years, the sector has also been an important driver in the financing of energy and 'green' and 'cleantech' environmental technologies.

Figure 3. Sector distribution of venture capital investments in Europe 2007 – 2013
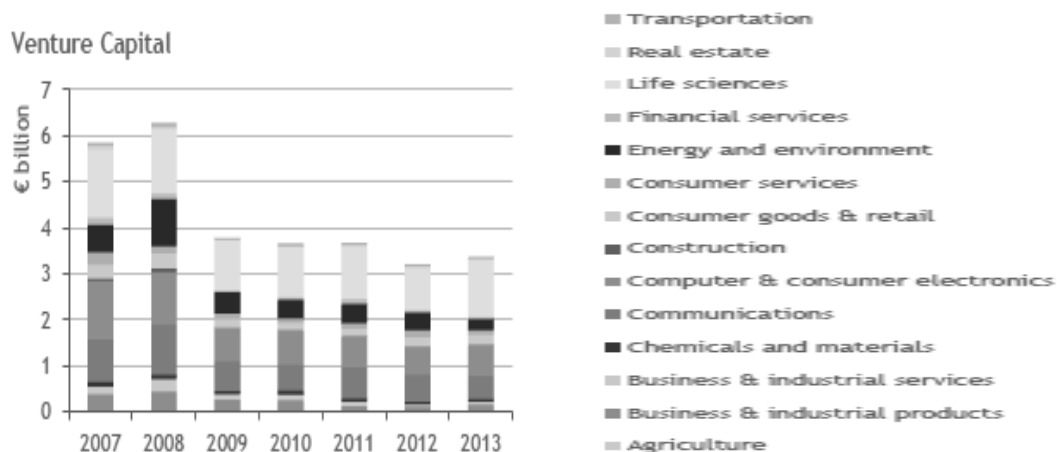
Source: EVCA, 2014

The venture capital Management Company/venture capital Fund Manager manages the venture capital fund. In the case of a transparent fund structure, the venture capital Fund Manager or an entity in the venture capital Fund Manager's group is usually the fund's 'General Partner' with unlimited liability, or a related entity. The venture capital Fund Manager will often wish to invest in portfolio companies outside its own jurisdiction but the tax uncertainties identified in this Report generally make it unattractive to do so except for the larger funds. From a tax perspective, the aim is that the venture capital Fund Manager does not create a permanent establishment for the fund or its investors.

The Advisory Company

In the case of venture capital cross-border investments a local presence in other EU jurisdictions may be required to enable the venture capital Fund Manager to find new investments in those jurisdictions and to look after investments it has acquired there. Often such a local presence will be limited to advisory activity because of concerns that if it operates as a Manager it could, as in the case of the Fund Manager, risk being treated for tax purposes as a permanent establishment of the venture capital fund or its investors in the state of the portfolio company. These advisory entities analyse the local market, identify and evaluate potential investment opportunities and prepare investment proposals with appropriate input from the venture capital Fund Manager. These proposals are then submitted to the venture capital Fund Manager for a decision on whether to proceed with an investment or not (European Commission, 2010).

Flows of capital in a venture capital investment

Figure 4 describes the stages in the typical flow of capital for a venture capital investment.

Figure 4. Stages in the typical flow of capital for a venture capital investment
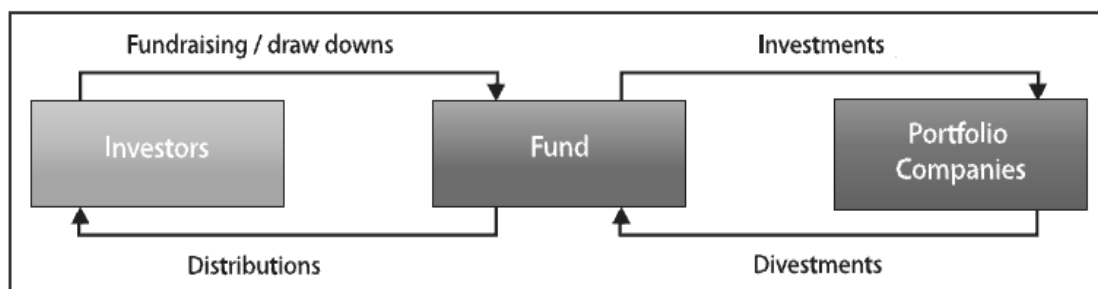
Source: European Commission, 2010, p. 40

Venture capital firms (venture capital fund management companies) set up venture capital funds to pool money from sophisticated investors in order to invest in privately held companies within a 'portfolio'.

Before investors commit any money to a fund, a detailed Limited Partnership Agreement (LPA) (or equivalent documentation) is negotiated between the managers of the fund and the investors. The LPA defines the legal framework, the fund's focus and the terms and conditions for capital committed into the fund.

The investors (Limited Partners or equivalent passive participants if a limited partnership is not used) commit a certain amount to the fund. Often there is a minimum amount that limits the investors to professional and institutional investors.

Upon identifying investment opportunities, the venture capital Fund Managers make capital calls, i.e. they draw down from the pool of committed capital. The main part of the capital is typically drawn down during the first five years of the fund's life (called fund investment period).

Venture capital funds invest primarily in unquoted companies. Investments are made in rounds and are typically syndicated: one venture capital firm (lead investor) puts together a syndicate and leads an investment round. The syndicate for a venture capital investment round usually comprises some or all of the existing investors from previous rounds and some new ones. The total investment amount is not usually invested at once. Instead it is split into tranches and is conditional on various technical

and/or commercial targets (milestones) being met by the portfolio company. This process attracts amounts to be invested in the company from other sources than venture capital funds.

The typical period during which the venture capital-backed company is held in the venture capital funds portfolio (holding period) is between three and seven years. The company's management is responsible for the day-to-day operations. Venture capital Fund Managers are generally far more actively involved in the activities of their portfolio companies than the owners of publicly quoted companies.

Fund Managers try to exit from the companies within the portfolio during the fund's life. Divestments of portfolio companies are typically made through an IPO or a trade sale.

Upon realisation, the proceeds (net of agreed management fees and carried interest) are distributed back to investors.

During the fund's life, venture capital firms operate clear disclosure and communication of relevant and material information to their investors. There is regular reporting to investors in accordance with the established industry standards - Reporting Guidelines and Valuation Guidelines, including substantial details about each of the portfolio companies and valuation of the fund's portfolio at fair value.

Total private equity and venture capital investments in Central and Eastern Europe

The private equity investment activity is measurable by several methods. One of standard methods is a ratio of actually carried out private equity investments to total gross domestic product (GDP) of the given state in the given year. Their advantages include relatively simple explicability, the elimination of size differences between states and data availability. This indicator may subsequently be compared with other states and thus a real mutual comparison of private equity investments activity in particular national markets is feasible.

The region of Central and Eastern Europe (CEE) represents over EUR 1.2 trillion of combined GDP and a population of more than 160 million people. Investment activity in the CEE region currently represents 2.8 % of the total investment value in Europe.

Private equity and venture capital investment activities are concentrated in a few countries in the CEE region: Poland, the Czech Republic, Hungary, Slovakia and Bulgaria accounted for 86 % of investments by value and 63 % by number of companies. Notably, Romania and Ukraine saw their investment amounts fall to some of the lowest levels of the past few years (see Table 1).

Poland was the largest CEE private equity investment market, accounting for 47 % of the total amount invested in the region in period of 2007 to 2012. Polish companies attracted EUR 478 million of investment in 2012, a 30 % decrease from 2011 and 2010 (EUR 678 and 657 million). However, the number of Polish companies financed grew by 36 % to 75 (vs. 55 in the previous year). With EUR 291 million of buyout investments (44 % of the region), Poland remained the largest buyout market in CEE, as has been the case since 2010. Poland was also the largest market for growth investments in 2012 at EUR 144 million, comprising 70 % of this type of investment across the region. At only EUR 9 million, venture investments in Poland were surprisingly low in 2012, but financed 32 companies, the most in a single year since 2008.

The Czech Republic (EUR 106 million) and Hungary (EUR 101 million) came next in the investment ranking in 2012. The value of investments in the Czech Republic and in Hungary dropped in 2012 by 26 % (EUR 143 million) and 48 % respectively (EUR 194 million), compared to 2011. The decrease in the Czech Republic was fairly homogenous among the stages of investment, while in Hungary buyout investments decreased by 78 % and venture investments grew by 61 %. As a result, in 2012 Hungarian venture capital investments comprised a significant majority (i.e. 63 %) of all venture investment activity across the region. The number of companies financed in the Czech Republic dropped to 10 in 2012, while in Hungary it grew to 42, thanks to a significant increase in venture-backed companies (up from 29 to 40).

Slovakia (EUR 98 million) and Bulgaria (EUR 84 million) both showed significantly higher levels of investment in 2012 compared to 2011 (9 and 7 million). Thanks to a small number of sizeable buyout transactions, Slovakia recorded its highest amount of investment for at least the last six years and Bulgaria was back in line with its historical level of investment after a very low level of investment in 2011. The number of companies financed in these countries was low at six in Slovakia and five in Bulgaria.

It should be noted that year-on-year changes in the reported investment amounts for individual CEE countries may be directly affected by a limited number of large transactions in a particular country. Furthermore, private equity fund managers in CEE mostly operate on a regional basis and complete transactions in those countries where they believe the particular deals are most attractive, which can also account for shifts between countries in a given year.

Table 1 shows details of private equity investment value, Table 2 as a percentage of the private equity investment of GDP in particular states of the CEE in the period from 2007 to 2012. Private equity investments participate only in a small extent in the total GDP production in the European environment. United Kingdom, France, Luxembourg and Sweden are the private equity leaders in Europe in the period from 2007 to 2012.

Table 2 data shows considerable unevenness among particular states in region. In 2012, the ratio of private equity investment value to GDP in the CEE region was 0.082 % compared to the Europe-wide average of 0.260 %. Total investment as a percentage of GDP dropped for both Europe overall and the CEE region in comparison to 2011, when the ratio was 0.104 % for the CEE region and 0.328 % for Europe. The CEE level in 2012 remained at approximately one third of the European level. This continuing gap is in line with the historical trend of the CEE region's investment levels and indicates the region's long-term potential for further private equity development as it is still under-invested compared to Europe. Bulgaria, Slovakia and Poland showed the highest ratio investment vs. GDP of the CEE region in 2012, but all remained below the Europe-wide average.

Table 1. Private equity investment by amount (in EUR x 1,000) in CEE (2007 – 2012)

	Total Investment (in EUR x 1,000)					
	2007	**2008**	**2009**	**2010**	**2011**	**2012**
Bosnia – Herzegovina	456	4,208	6,267	0	0	0
Bulgaria	563,374	90,477	184,003	82,238	7,225	84,164
Croatia	7,150	100,875	28,154	12,500	15,625	32,299
Czech Republic	182,368	434,553	1,396,299	192,973	143,933	105,874
Estonia	36,316	14,972	4,507	26,382	6,508	18,630
Hungary	214,682	476,104	213,637	65,046	194,841	101,455
Latvia	23,654	63,084	997	5,280	20,222	3,802
Lithuania	151,661	0	1,183	1,604	26,671	7,651
Macedonia	13,500	0	14,388	0	0	0
Moldova	15,050	0	0	10,860	975	0
Montenegro	0	25,000	0	0	0	0
Poland	440,715	633,210	268,094	657,002	678,436	477,615
Romania	318,089	289,371	220,881	119,138	65,918	26,506
Serbia	105,718	8,402	0	13,208	0	4,350
Slovakia	24,700	31,145	0	14,473	9,149	97,848
Slovenia	1,554	2,853	79,130	6,945	14,089	3,508
Ukraine	245,021	305,745	38,244	95,827	63,309	43,314
Total CEE	**2,344,007**	**2,479,998**	**2,455,783**	**1,303,476**	**1,246,901**	**1,007,015**
Total Europe	**71,445,012**	**52,674,787**	**22,690,468**	**41,689,066**	**44,870,147**	**36,459,491**

Source: EVCA, 2010, 2011, 2012b, 2013

Table 2. Private equity investment as a percentage of GDP in CEE (2007 – 2012)

	2007	2008	2009	2010	2011	2012
Bosnia – Herzegovina	0.004	0.036	0.052	0	0	0
Bulgaria	1.950	0.265	0.543	0.229	0.019	0.211
Croatia	0.017	0.213	0.061	0.027	0.035	0.073
Czech Republic	0.143	0.294	1.017	0.124	0.092	0.069
Estonia	0.232	0.093	0.033	0.184	0.041	0.109
Hungary	0.208	0.422	0.223	0.067	0.194	0.103
Latvia	0.111	0.273	0.005	0.029	0.100	0.017
Lithuania	0.531	0	0.004	0.006	0.086	0.023
Macedonia	0.233	0	0.217	0	0	0
Moldova	0.462	0	0	0.243	0.019	0.020
Montenegro	0	0.809	0	0	0	0
Poland	0.141	0.167	0.089	0.186	0.183	0.125
Romania	0.239	0.205	0.189	0.098	0.049	0.020
Serbia	0.649	0.049	0	0.045	0	0.014
Slovakia	0.040	0.046	0	0.022	0.013	0.137
Slovenia	0.004	0.008	0.227	0.020	0.039	0.010
Ukraine	0.230	0.232	0.045	0.092	0.053	0.033
Total CEE	**0.190**	**0.201**	**0.239**	**0.115**	**0.104**	**0.082**
Total Europe	**0.570**	**0.394**	**0.181**	**0.320**	**0.328**	**0.260**

Source: EVCA, 2010, 2011, 2012b, 2013

In 2012, the CEE region's structure of investments by type broadly matched that of Europe overall, with the exception, as in prior years, that CEE had a higher proportion of growth capital investments. The growth segment accounted for 20 % of CEE investments in 2012 vs. 10 % in Europe. This is natural and is likely to continue as CEE fund managers are generally focused on growth companies in the higher growth CEE economies. Otherwise, Europe showed a higher percentage of buyouts at 77 % versus 65 % for CEE. For the first time since recording CEE investment activity, CEE showed an overall higher percentage of investments in the venture segment than was seen across all of Europe, with 10.2 % vs. 8.7 %, respectively. The relatively strong proportion of venture investing in certain countries of the CEE region in 2012 was supported by certain EU-driven government programs (for example, the Jeremie program) that have brought needed funding to the venture segment over the past couple years (EVCA, 2013, p. 14-18).

Summary

The need for a dynamic private equity and venture capital industry within the EU and its important role in strengthening European economies are widely recognised. Nevertheless, there are still various obstacles to cross-border venture capital investments in the EU and the majority of them are considered to be in the area of taxation.

The private equity industry is vital to the development of European economies and its role in helping the EU through this period of unprecedented uncertainty should not be underestimated. Over the past decade, the industry experienced significant growth; it has become an increasingly important source of finance and expertise for ambitious companies seeking to develop.

One recent phenomenon is flourishing of pan-European private equity funds, with local teams sourcing deals in more than one European country and investors from all over Europe (and often the rest of the world). However, the industry as a whole still works below its potential due to constraints in effective fund structuring. Different national, administrative, regulatory and tax rules make cross-border investment difficult. But on top of this, many private equity investment funds are faced with complex structuring issues because some European countries have standard solutions for domestic funds which will not be appropriate for use in other European countries. Complexities multiply when funds have investors from several countries and make investments in more than one country.

The private equity industry could make a greater contribution to the Euroepean economy if only we had a more consistent tax environment across the EU – one that took greater account of the industry's specific concerns. If funds were able to freely operate across borders, they would achieve economies of scale. In addition, we would see more sector specialists, which would increase investment sizes, diversify portfolios and, ultimately, boost investors returns. Most importantly, perhaps, lower costs would encourage new entrans to the market, thereby increasing competition.

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Analysis of Risk Acceptance in Calculating the Cost of Equity

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Abstract

This contribution is dedicated to the issue of calculating the Cost of Equity as one of the most important indicators of business performance. It elaborates and analyses inputs for calculating the Cost of Equity, particularly in terms of acceptance of risk entering the individual models for calculating the Cost of Equity. Research sample analysis revealed that when calculating the Cost of Equity, various risk are accepted, whether internal or external. The most of the models accept mainly internal risk, but also models with the acceptance of external risk are used. The risk determination and their calculation in the form of Risk Premiums is the most difficult point of solution of the Cost of Equity calculation. The most of the Risk premiums is very high for the Slovak businesses. It results in the classification of Slovak businesses to lower performance ranges. The contribution of this paper is to point out various risk acceptances by models for calculating the Cost of Equity.

Key words
Cost of Equity, Risk premiums, Slovak businesses, Performance.

Introduction

Business performance evaluation is nowadays quite significant and discussed issue. Equally important are also the indicators applied in the area of performance evaluation. The most important indicator for business performance evaluation is EVA (Economic Value Added) indicator. When calculating this indicator it is important to determine the Cost of Equity which enters into its calculation. To calculate the Cost of Equity, there are several models. Each of these models accepts, various types of risk, which are defined and analysed in the following text.

Risk

Each activity which is carried out in the enterprise represents some risk for its operation in the market. The risk is a category which influences business performance in the same way as the environment. Businesses continually undergo certain risks, whether in financial, commercial or personal area. According to Fetisová, Vlachynský and Sirotka (2004), for each financial decision you need to consider not only its expected return, but also the risk. Significant attention should be paid to the risk in case of the long-term financial decisions. Return on investment can be expected only after several years so the business is not able to dispose of these funds. According to Čunderlík (1998) the risk is an expression of the level of uncertainty in various forms and expressions. It can be expressed as probability in some interval or standard deviation which measures rate of variability of studied phenomenon. (Majtán et al. 2007, s. 19). The risk is defined as the state of imperfect knowledge when the decision-making entity is aware of the various possible consequences of its decision and is able to estimate the degree of probability that one or other result occurs (Buganová et al. 2012, s. 6). The amount of risk depends on the probability and negative consequences arising from the occurrence of the phenomenon. Risk is for example the chance to achieve above-average return on investment. (Klučka 2006). Risk identification is not a one-off issue but it is an activity which is according to the purpose carried out periodically or continuously (Buganová et al. 2012). The input for the risk identification is the analysis of internal and external environment.

When calculating the Cost of Equity, we accept three groups of risk:
- **systematic risk** – varies depending on the overall economic development and its sources are for example changes in fiscal and monetary policy, changes in legislation and changes in market,

- **unsystematic risk** – to a great extent is independent of the economic development and can be caused for example by significant production and technological innovation or new competitor in the market,
- **overall risk** – is determined by multiplying the operational and financial risk, while the operational risk is given by a degree of operational leverage and financial risk is determined by business dependence on fixed financial costs (Majtán et al. 2007).

In addition to the above mentioned, it is possible to specify risk classification related to the application of models with Gradual Counting Risk Premium for the calculation of Cost of Equity (Oščatka 2004).

Business risk:
- sector risk – sector growth rate, sector dependence on the business cycle, innovation potential of the sector, determining trends in the sector,
- risk of the market on which the business operates - market capacity, risk of achieving lower sales, the risk of market penetration,
- risk of competition – competition and competitiveness of the products, prices, quality, research and development, advertising and promotion, distribution and service,
- management risk – vision, strategy, key employees, organizational structure,
- risk of the production process – evaluation in terms of production risk, technological opportunities of production, labour force, suppliers,
- other business risk factors – level of fixed costs, position of the business towards customers and suppliers, entry barriers into the sector.

Financial risk:
- Debt/Equity, EBIT/ Interest, Loan repayments from Cash flow, Share of the Net Working Capital to Current Assets, Current Ratio and Quick Ratio, Average Collection Period, Inventory Turnover Ratio.

Above mentioned risk factors are assessed by individual risk levels and with the use of weighted average is calculated the total market risk premium, which can be further adjusted for limited liquidity. Risk premium calculated in such way is used in subjective business valuation but is not applied in market valuation.

The aim and the methods used

The aim of this contribution is to compare selected models for calculating Cost of Equity, to compare inputs necessary for computing Cost of Equity and also to analyse risks which individual models accept in the calculation. For the comparison we selected three models. Two of them represent models with Gradual Counting Risk Premium with various risk structure and the third one is the CAPM model. To analyse and compare models we used data of the business operating within the energy industry of the Slovak Republic.

For the calculation of the risk premium of the model with Gradual Counting Risk Premium we used functional relationship (Oščatka 2004).

$$RP = rf \, x \, a^x - rf$$

Where:
RP – Risk Premium,
rf – Risk-free rate of return,
a^x – Specific function where „a" is a constant and „x" level of risk.

We express constant „a" as follows:

$$a = \sqrt[x]{\frac{re}{rf}}$$

It implies that the minimum Cost of Equity corresponds to the risk-free rate of return and the maximum Cost of Equity is selected with the highest possible risk (Oščatka 2004).

The second model is based on the method of Gradual Counting Risk Premium, which is used to determine the value of business for individual investor, respectively to verify the calculation applying CAPM model. This method includes also specific risk assessed from the perspective of individual investor. It is used mainly to determine investment value of the company. This method is often used for the identification of risk influencing the business. This model with Gradual Counting Risk Premium accepts following risk (Neumaierová, Neumaier 2002):

r_f	- Risk-free rate of return,
r_{LA}	- Risk premium for lower stocks liquidity in the market,
$r_{business}$	- Risk premium for business risk,
$r_{financial}$	- Risk premium for financial risk.

CAPM model is used to measure the risk of market portfolio consisting of all stocks traded in the market compared to the risk-free rate of return. It measures only systematic risk. This risk enters the Cost of Equity through the beta coefficient. This coefficient measures the risk of individual investment in relation to diversified market portfolio. In the case of investment valuation, specific risk associated with limited diversification opportunities of investors should be taken into account afterwards. CAPM model assumes that market return on capital is equal to the sum of cost of risk-free rate of return and premium for market risk, which is equal to the market remuneration for risk multiplied by beta coefficient.

To calculate the Cost of Equity we apply shortened version of modified CAPM model Mařík (2003), Damodaran (2014).

$$re = r_f + \beta_L*(ERP + CRP)$$

re	- Cost of Equity,
r_f	- Risk- free rate of return,
β_L	- Levered Beta,
ERP	- Equity Risk Premium,
CRP	- Country Risk Premium.

$$\beta_L = \beta u * (1 + (1-t)*(d/e))$$

d	- Debt,
β_U	- Unlevered Beta,
e	- Equity,
t	- Tax.

Results and discussion

The table below summarizes achieved values of the Cost of Equity calculated with the use of three different methods. When comparing results, we can see significant differences. Cost of Equity achieves the lowest values when applying model with Gradual Counting Risk Premium of Ivan and Inka Neumaier, but this model accepts only internal risk specific for given business.

Table 1. Values of Cost of Equity

	Indicator	2012	2011	2010	2009
Model with Gradual Counting Risk	**RP (%)**	0	0	0	0
	r_f **(%)**	3,921	5,215	4,063	4,224
	r_e **(%)**	**3,921**	**5,215**	**4,063**	**4,224**
CAPM model	r_f **(%)**	1,87	3,29	3,89	2,21
	ERP (%)	7,28	6,28	5,85	7,10
	CRP (%)	4,88	5,18	2,35	3,70
	β unlevered	0,96	0,97	0,89	0,89
	β levered	1,04	1,07	0,95	1,07
	r_e **(%)**	**14,32**	**15,19**	**11,80**	**13,51**
Model with Gradual Countin g Risk	r_f **(%)**	1,87	3,29	3,89	2,21
	r_e **(%)**	14,32	15,19	11,80	13,51
	X	44	44	44	44
	a	1,05	1,04	1,03	1,04
	r_e **(%)**	**16,01**	**18,49**	**14,28**	**12,42**

Source: Own processing

The highest Cost of Equity is in the case of acceptance of General Model with Gradual Counting Risk Premium. If we compare all three models, we can see that development of the Cost of Equity is the same however it differs in the amount of risk. The highest is the risk of the market on which the business operates. Risk level „x", which reaches 44, is also a high-risk valuation. Resulting from these facts it can be concluded that analysed company achieves high internal as well as external risk.

The following table summarizes risk which is accepted by three selected models.

Table 2. Risk acceptation

	Indicator	2012	2011	2010	2009
Model with Gradual Counting Risk Premium of Inka and Ivan	**RP (%)**	0	0	0	0
	r_f **(%)**	3,921	5,215	4,063	4,224
	r_e **(%)**	**3,921**	**5,215**	**4,063**	**4,224**
CAPM model	r_f **(%)**	1,87	3,29	3,89	2,21
	ERP (%)	7,28	6,28	5,85	7,10
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	X	44	44	44	44
	a	1,05	1,04	1,03	1,04
	r_e **(%)**	**16,01**	**18,49**	**14,28**	**12,42**

Source: Own processing

Summary
Model with Gradual Counting Risk Premium of Inka and Ivan Neumaier
In model with Gradual Counting Risk Premium of Inka and Ivan Neumaier we can further specify the calculation procedure and its possible shortcomings. For the calculation of risk premium for lower liquidity of the stocks in the market is set out a benchmark in CZK. It is necessary to transform this

criterion to EUR, while reducing the amount of Equity for the determination of zero risk. This limit is set out at the level of 3 billion CZK.

Similar procedure is also in the calculation of risk premium for business risk, where we use benchmark computed by multiplication of these ratios: Interest / Debt x (Equity + Debt) /Assets). The calculation of this type of risk is acceptable.

In calculating the risk premium for financial risk, benchmark is established in the form of current ratio which limit is 1.2. Based on our findings, it is sufficient business liquidity and this benchmark can be considered as properly established.

CAPM model

Despite the fact that by the application of CAPM model we achieve high values of the Cost of Equity in the analysed business, what negatively influence the value of the company, this model is the most accurate. CAPM model through the formula mentioned in theoretical part of this thesis points out that it accepts particularly risk of the country, in which the business operates. Country risk can be considered the most important because it reflects the economic situation of the country. This model in addition to premium for country risk accepts also risk of the market on which the business operates.

If we plan to determine more precisely the Cost of Equity with the use of CAPM model, we should use modified model, which is more accurate. This model expresses the values of risk premiums, but is more demanding in terms of collection of the data which are necessary (Prodělal 2008, s. 41):

$$\mathbf{E_{(ri)} = r_f + \beta \; x \left[E_{(rm)} - r_f \right] + R_1 + R_2 + R_3 + R_4 + R_5}$$

Where:
$\mathbf{R_1}$ - Premium for country risk,
$\mathbf{R_2}$ - Premium for market capitalization,
$\mathbf{R_3}$ - Premium for limited liquidity,
$\mathbf{R_4}$ - Premium for companies with uncertain future,
$\mathbf{R_5}$ - Premium for specific risks.

General model with Gradual Counting Risk Premium

This model deals mainly with the area financial and business risk so it evaluates the internal business environment. These areas are specified in details. Therefore we propose that the general model with Gradual Counting Risk Premium besides accepting internal environment accepts should accept also external business environment and take into account country risk and market risk.

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SMEs Support in Phases of Early Development of Enterprises in Poland

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Abstract

Competitiveness of small and medium-sized enterprises in the early stages of their existence in the market, largely depends on the support of which these entities may use. Very important role in this respect have the so-called. business environment institutions. Huge significance has also support the targeting to SMEs from institutions implementing EU programs.
The aim of this article is presenting the support provided to the SMEs sector in Poland, in the years 2007-2013 and its evaluation by potentially interested.

Key words

Competitiveness, small and medium-sized enterprises, EU support

Introduction

Seed and start-up phases are considered the highest risk phase in the development of company. Entrepreneurs often need support to carry out extended research, market analysis or other activities whose purpose is to transform innovative ideas into business concepts, and finally - into enterprises. Support during this period, addressed to small and medium-sized enterprises is one of the aims of regional and economic policies of European Union. Poland, which is a member of the EU, offers the support too. Providing of adequate facilities for the development of these companies, in the form of training, advising and capital, often determines the competitiveness of individual entities, and through it - the whole SMEs sector.

The problem of competitiveness of small and medium-sized enterprises and support for this sector in Poland is not new. The topic was analyzed by: Piasecki, Konieczny (1995), Strużycki (2004), Laszczak (2004), Wojnicka, Klimczak (2008), Matejun, Miller (2010), Banaszczyk (2010), Kolterman (2013) and others.

The aim of the author is to analyze support aimed to SME's in Poland in the early stages of their existence in the market, granted in 2007-2013 and evaluation of this support by potentially interested.

The policy of support of SME's in Poland in period 2007-2013

Support for start-ups, is one of the objectives that have set themselves individual countries of the European Union, as part of regional and economic policies. Adopted to implement the actions are related to administrative modification of the market allocation through the direct impact of countries on the system of forces of supply and demand in the market system, as well as exerting an indirect influence on the system as a result of formation of the elements of the socio-economic environment.
For activities that are directed to entities belonging to the SMEs sector, both existing and future, include:

- reducing bureaucracy (elimination of unnecessary legislation, drafting of better regulation),
- improving access to financing of activities (facilitating access to loans, microcredit, acquiring investors, etc.),
- promoting entrepreneurship (financing training on. entrepreneurship, improving women's entrepreneurship, rewarding of entrepreneurship example. European Enterprise Awards),
- improving access to markets (eg. by increasing the participation of SMEs in public procurement, the internationalization of economic activity).

The European Union emphasizes the role of SMEs in economic and social development in a particular way, by taking a number of initiatives directed to this group of companies. For example: June 25, 2008. was adopted a "Small Business Act" for Europe, in which, inter alia, was determined set of guidelines in the form of 10 fundamental principles, whose implementation in the member states will stimulate the development of this sector, as well as, proposals for new legislation based on the principle of "Think Small First" (Commission of the European Communities, 2008, 5). Also Polish assumptions, under which the SME sector was supposed to receive 75% of the pool of available measures under structural and regional programs, indicates on recognition of the importance of small and medium-sized enterprises in

the economy (NSRO, 2007, 61). In order to optimize forms of support to the SME sector was used a method with combination of "hard" (direct support for investment) and "soft" measures (business support services, training, creating an innovative environment). Support was directed also to networks and clusters.

In programs under Cohesion Policy has been granted to SMEs support in the period of 2007-2013, particularly for creation and development them (for this form of support allocated approx. € 27 billion, which accounted for 7.9% of the total).

Exemplary forms of support SMEs in Poland in the period 2007-2013 were (Howaniec, Kurowska-Pysz, 2013, 39-48):

1. 3rd. priority axis "Capital for Innovation" of Innovative Economy Programme (IEP), the aim of which was to increase number of innovative new enterprises and increasing access to external sources of financing, including venture capital. To achieve this objective earmarked 370 million euros (IEP, 2011, 100-105).

2. 4th. priority axis "Investments in innovative undertakings" of IEP, which purpose was to increase the level of competitiveness of enterprises through the use of new solutions related to the creation, implementation and transfer of innovative solutions, both technological and organizational, inter alia, through the financing of research and development (R & D) and implementation of the outcome of research and development, financing of new investments of innovating service and process. To achieve this objective earmarked 3.68 billion euro (IEP, 2011, 106-113).

3. Support under the Regional Operational Programmes (ROP). In the financial perspective 2007-2013 in Poland was implemented 16 regional operational programs (approx. 16.5 billion Euros), in which - according to the Ministry of Regional Development - 36% of the funds should have been allocated to the sphere of production (including direct support for enterprises). Average allocation of these funds, in fact, was approx. 25%. In the ROP done, among others, such activities as:

   - direct financial support for investment of companies,
   - support for participation in trade fairs, exhibitions and domestic and foreign missions,
   - support to SMEs adapting to the requirements of environmental protection,
   - support for tourism projects,
   - supporting business environment institutions.

Support was implemented at the level of individual provinces.

4. Action 6.1. "Improving access to employment and support economic activity in the region" of Human Capital Programme (HCP). This action was directed to the unemployed only, and their purpose was to provide a free one-time grant for starting a business, including to cover the cost of consultation, advice or legal assistance.

5. Action 6.2. "The support and promotion of entrepreneurship and self-employment" of HCP, in which were handed over a grant to start a business in the amount of 40 thousand PLN[1]. Under this action, beneficiaries received also support in the form of advice, training, "bridge" support (up to sixth month of business) and the extended "bridge" support (up to 12 month of business).

6. Action 312 "Creation and development of micro-enterprises" of Rural Development Programme (RDP), whose aim was to increase the economic competitiveness of rural areas, development of entrepreneurship and labour market and employment growth in rural areas. In this case it was necessary to create new jobs. The maximum grant amounted to 300 thousand. PLN (PLN 100 thousand for one workplace, the grant covered 50% of eligible costs) (RDP, 2011, 298-304).

7. Action 311 "Diversification of activities in the direction non-agricultural" of RDP, in which it was possible to apply for a grant, inter alia, to start a business. This assistance was directed to farmers, their spouses or family members insured by Agricultural Social Insurance Fund who wanted to start a business other than farming. Grants covered 50% of eligible costs (or 80% in case of special conditions) (RDP, 2011, 293-297).

Important activities aimed at the creation of small and medium-sized enterprises were, among others, related to the grants for starting a new business for unemployed. For example: District Labour Offices spent in 2011 funds of the total value of 592078,6 thousand PLN. on job creation by / for the unemployed which allowed for the creation of 36765 workplaces, including 26108 through one-time funds for starting a business, the remaining 10657 through refunding the cost of equipment and workplaces for unemployed

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[1] 1 EUR = 4,15 PLN (Value as at 31.12.2013).

workers incurred by employers. The average amount of funds allocated to the unemployed to take up economic activities in 2011 amounted to - 16160 PLN (in 2010 - 18 thousand PLN), and the average cost refund was 16200 PLN (in 2010 – 18,4 thousand PLN) (Ministry of Labour and Social Policy, 2012, 21).

Materials and methods

The aim of the study was to evaluate the forms of support provided to SMEs in Poland in the early stages of their existence in the market, i.e. seed and start-up phases, by evaluating the perception of support for SME by potentially interested.

The author assumes that greater knowledge about the possibilities for companies in the early stages of their development, may to raise level innovativeness of SMEs, their scope and - consequently - competitiveness, understood as the ability to meet competitors.

The development is based on the author's own empirical research, which uses a questionnaire. The study was conducted among students of Bachelor studies from Silesian and Malopolska region, in the period December 2013 - January 2014.

Purposeful selection was used in the study. The study included students aged 18-25 years old, from management major. The study assumes that students from selected major are most (relative to other majors) interested in starting their own business (42% of respondents say that desire to start a business, 3% of running his own business, and 10% have tried to obtain the funds to start a business). 120 questionnaires were distributed, of which due to errors 12 were rejected. The basis for the analysis are 108 questionnaires. Due to the sample size ($N = 603161^2$), the test can be regarded as initial research, and form the basis for further research.

The perception of the support system in the early stages of the development of enterprises in Poland

56% from the group of respondents said that until now benefited from the support offered by business environment institutions or other, addressed to potential entrepreneurs. The vast majority benefited from training (81%), relatively few of advice (13%) and even less - from financial support (4%) - Figure 1.

Unfortunately, the majority of respondents have not met with the notion of risk capital (definitely not - 14%, probably not - 44%, definitely yes - 5%, probably yes - 37%; see Fig. 4.1). The vast majority can not also define the concept of risk capital (definitely not - 14%, probably not - 57%, definitely yes - 0%, probably yes - 29%). Taking into account that 3 people surveyed are entrepreneurs, 11 - tried in the past to raise funds to start their own business, and 45 (42%) plan starting a business after graduation - the results are not satisfactory. Potential entrepreneurs have no knowledge about alternative forms of financing of business development – Figure 2.

Figure 1. Answers to the question: Have you ever benefited from training, financial or otherwise support from any institution? (in %)
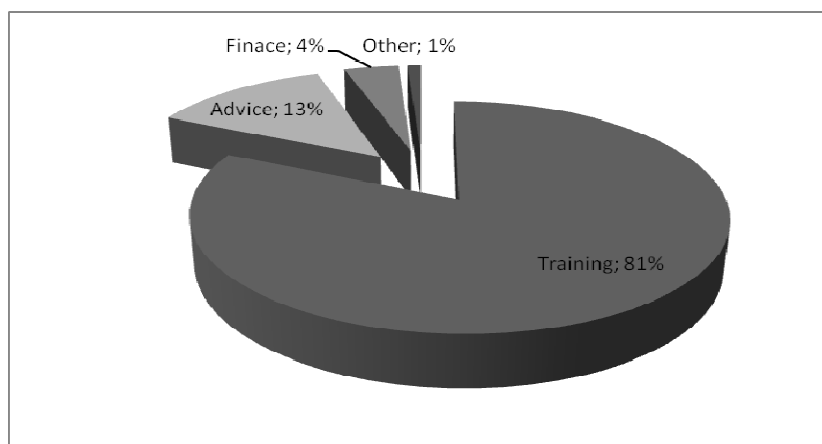
Source: own elaboration, n=108

[2] Numbers of students of Higher Education Institutions in group of directions: social sciences, economy and law (Central Statistical Office, 2013, p. 62).

Figure 2. Answers to the question: Did you meet with the notion of venture capital funds? (in %).
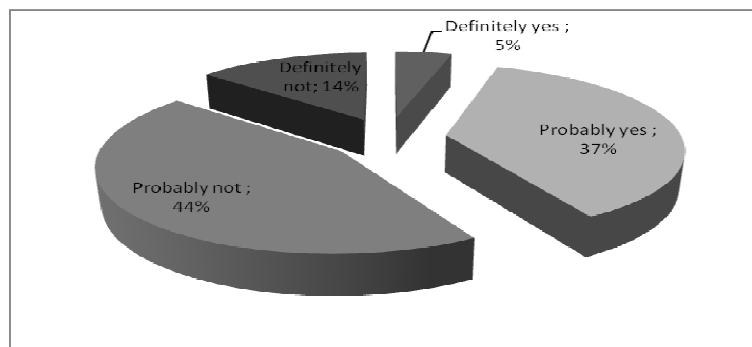
Source: own elaboration, n=108

Respondents can not also specify the names of entities or institutions that provide financial support for companies in seed and start-up stages. Answers "probably not" gave 56% of respondents, and 34% indicated a definite lack of knowledge in this area - Figure 3.

Figure 3. The level of knowledge about institutions / entities that provide financial support for SMEs according to the survey (in %)
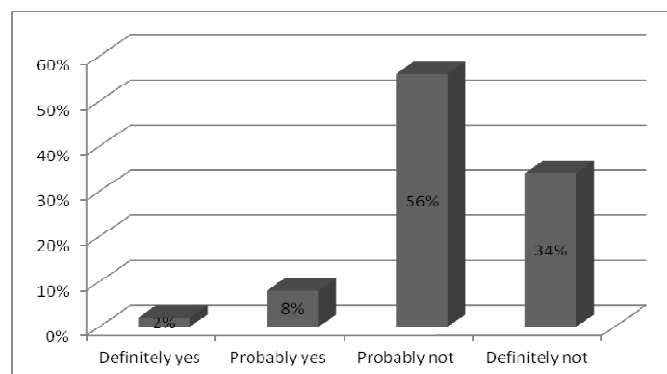
Source: own elaboration, n=108.

The availability of funds for SMEs in the early stages of development was rated relatively low. Only 2% of respondents assess it as very good in the seed phase and 4% in the start-up phase. As a "quite sufficient" in the seed phase – 24%, in the start-up phase – 19%. Most of the respondents replied that it was "quite insufficient" (in the seed phase – 55% and 60% in the start-up phase) – Figure 4.

Figure 4. Availability of funds for SMEs in Poland according to the survey (in%)
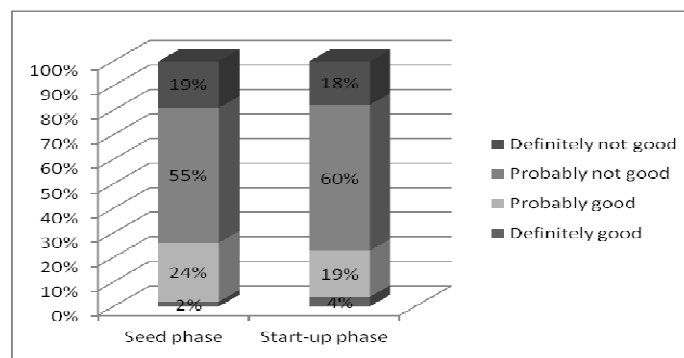
Source: own elaboration, n=108

Summary

Actions (including the EU funded) aiming at developing entrepreneurship and improving the competitiveness of enterprises are taken in Poland. Unfortunately, the support is insufficient in the mind of potentially interested. Relatively available seem to be training, but support in the form of advice or facilitating access to capital, including provided by private investors, is seen by respondents as insufficient. The study also confirms the lack of knowledge potentially interested about actions conducted in area of SMEs support. The results may indicate the following: 1) insufficient solutions in the area of SMEs support in early stages of development; 2) lack of promotion of actions undertaken in this area by business environment institutions and other entities responsible for implementing them; 3) badly targeted promotion activities, undertaken which does not reach potentially interested. The problem is very important. The study group consists of students of management, who have knowledge about the establishment and development of the company. Meanwhile, in a group interested in starting own business are also people with lower educational background, for which support in the form of training, advise, as well as capital, aimed at increasing the competitiveness of the businesses, is much more important. These people having a business idea, often characterized by high levels of innovation than the solutions offered on the market, are not adequate support, which allowed them to be effective and efficient functioning of the economy. Undertaken within the framework of regional policy in Poland instruments to support SMEs are therefore not sufficient.

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Macroeconomic Consequences of the Slovak Republic

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Abstract
One of the factors determining economic growth as measured by gross domestic product is the production factor labor.

The aim of this paper is to highlight the link in the unemployment rate relative to the rate of GDP growth in the Slovak Republic. Based on the available data to forecast the evolution of the unemployment benefits from economic growth. Point out the theoretical, methodological and practical importance of the validity of the Okun law in macroeconomic context.

Key words
Unemployment, Gross DomesticProduct, Model

Introduction
It can be concluded that there is a correlation between the availability of labor and economic growth. Economic growth increases employment, or, to state it another way, economic growth is accompanied by a reduction in unemployment. For a given level of output that an economy reaches, it attains a natural rate of unemployment that can be called a potential product. If economic expansion is so great that the level of real GDP exceeds potential output, unemployment falls below its natural level. It is necessary to employ more labor in order to produce more output. At the time of recession, output decreases below the level of potential output and unemployment rises above its natural level, i.e. less labor is required (Caplan, Martincová 2013).

Unemployment and Gross Domestic Product
The answer to the question, "What happens to unemployment when there is fluctuation in real GDP?", economists rely on Okun's law. The relationship between changes in GDP and changes in the unemployment rate have been studied by American economist Arthur Okun. Okun's law has important implications for macroeconomic policy, expressing the relationship between changes in domestic product and unemployment. The law includes two economic variables, which are elemental to it.

By Knotek (2007 s.74), "In his 1962 article, Okun presented two empirical relationships connecting the rate of unemployment to real output, which have become associated with his name.1 Both of these, as simple equations, have been used as rules of thumb since that time. In addition, both have been expanded on by economists to include elements that Okun omitted in his analysis. This section begins by describing the relationships that are commonly known as Okun's law. Okun's original estimates are then compared with estimates using a longer string of data."

Equations of Okun's law under Knotek
*Change in the unemployment rate = a + b * (Real output growth). Change in the unemployment rate = 0:30 to 12:07 * (Real output growth). Unemployment rate = c + d * (Gap between potential output and actual output). Change in the unemployment rate = 0:23 to 00:07 * (Real output growth).*
By Knotek (2007 s.92), Figure 1, "shows how the three forms of Okun's law perform compared with the baseline auto regressive model. The comparison is made using recent data from 1984 to 2006, and forecasting performance over one-, two-, and four-quarter periods. The chart displays the percentage difference between the average errors from forecasting with a Particular Form of Okun's law and the average errors from the baseline forecasting model. For a given period and a given form, a positive bar indicates that the particular form of Okun's law generates larger forecast errors, on average, than the baseline model. A negative bar indicates that the form of the model produces smaller forecast errors over that time period than the baseline model. The chart shows that since the beginning of the Great Moderation in 1984 the difference version of Okun's law estimated using all the available data generates larger forecast errors than the baseline auto regressive model. This is especially true for longer forecast

periods. For a forecast one year into the future, the auto regressive model's average errors are nearly 30 percent smaller than those from Okun's law."

Figure 1. Average Forecast errors Compared
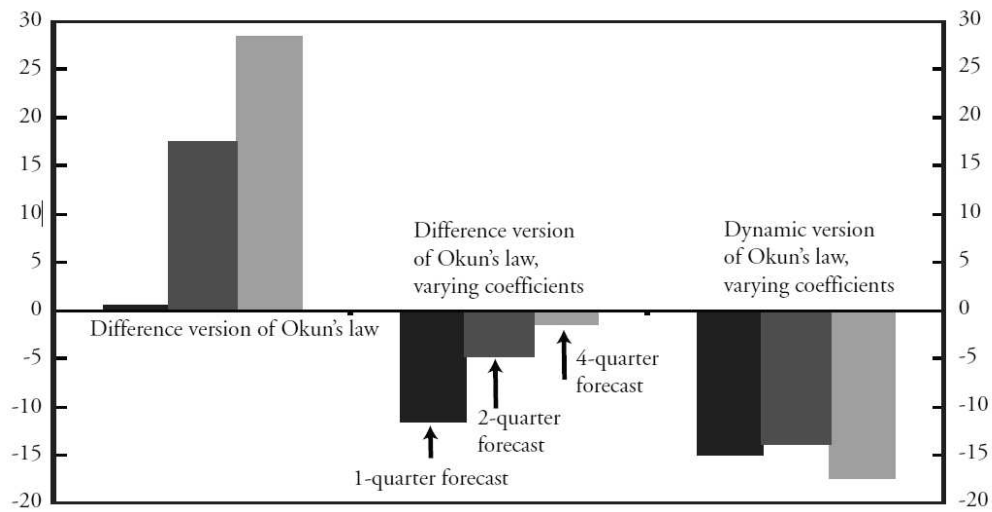
The unemployment rate is a decreasing function of the rate of growth of the economy as measured by GDP. According to Knotek, if real domestic product falls below potential output by 1%, increases unemployment above the natural rate by about 0.33% should be expected. It is clear that this relationship changes over time. (In the U.S. in the 80's a 1% deviation of real output from potential output is associated with a 0.5% deviation of unemployment from its natural rate). By Holman (2004, s.306) demand inflation is caused by growth in aggregate demand, which will reduce unemployment below the natural rate, causing the growth of nominal wages and consequently increasing prices.

Unlike the natural rate of unemployment, the real unemployment rate is equal to the product of the coefficient ß and real output gap and potential output.

$$(u*-u) = \beta \times (Y - Y*)$$

u* - natural rate of unemployment; u - the real unemployment rate;
Y- real output; Y*- potential output.
β - coefficient quantifies the sensitivity (response) changes in unemployment to changes in real domestic product.

The size of the coefficient depends on the technological, institutional and structural characteristics of a particular country's economy.

$$g = \varepsilon \times (u*-u)$$

(u* - u) - coefficient reflecting the drop in unemployment below the natural rate,
ε- expressing the reaction rate (sensitivity) of nominal wages to deviations from the natural rate of unemployment,

$$\pi = \varepsilon \times (u*-u) - \eta$$

π - price inflation, price growth in%,
n - labor productivity growth in%.

By Mankiw (2009, p.660) Okun law can be given by the equation:
Change in unemployment rate = -1 / 2 × (percentage change in real GDP - 3%). This equation implies that with an the average rate of economic growth of 3%, there will be no change in the unemployment rate. If the economy grows faster than 3% per year, the unemployment rate should fall by half this rate of growth. If, for example, the economy grows (real GDP) by a rate of 5% per year (2% faster than usual), Okun's law predicts a fall in the unemployment rate by 1 percentage point. If there is a decrease in GDP, or if GDP increases by less than 3%, the unemployment rate increases. For example, if GDP falls by 1%

per year, for example, the result of a recession, then Okun's law predicts an increase in the unemployment rate by 2 percentage points. View of the Okun law under (Tancošová 2013):

The growth of unemployment in the economy is increasing among the working-age population who can not find work. It also reduces the number of goods and services which the unemployed could produce. This leads to incomplete utilization of the potential for production of a country and the economy in turn not producing to its ability. An economy in such a state incurs economic losses, which are highest during a recession, and results in an under performing economic system. For any economic loss, the higher the loss, the higher the increase in unemployment. And it is also true, that when unemployment is rising, levels of output decline and vice versa. This relationship between the evolution of output and unemployment was first noted by American economist Arthur Okun. Clarification of the relationship bears the name Okun's law. According to the Okun's law, each 2% decline in GDP compared to an economy's potential level corresponds to an increase in the unemployment rate by 1% point. An important conclusion which follows from this law is that real GDP must grow as fast as potential production to prevent growth in the unemployment rate. This means that the GDP must maintain a certain growth rate so that unemployment does not grow, or if we want to reduce unemployment, then real GDP must grow faster than potential GDP. Okun's law is the important link between aggregate and market developments in output and labor market developments and unemployment. Social effects that can be predicted by increases in unemployment are mental afflictions (stress and depression) and other related disorders "(Tancošová 2013 p.206).

Okun's Law in the Slovak Republic

Figure 2. Evolution of the unemployment rate in the Slovak Republic in%
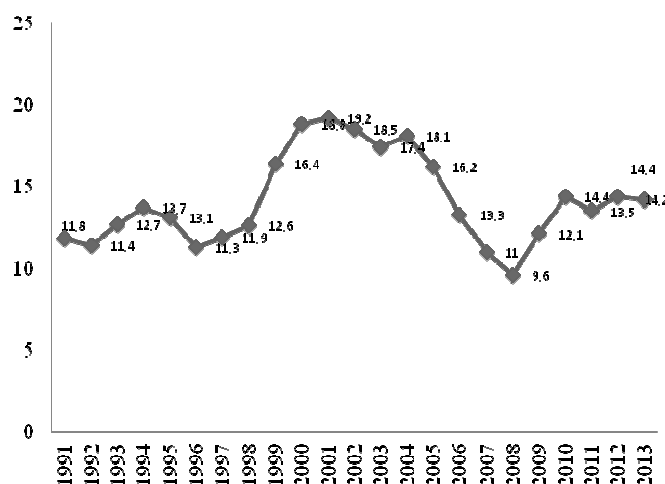
Source: Own processing

Figure 3. Evolution of the growth rate of GDP in the Slovak Republic in%

Source: Own processing

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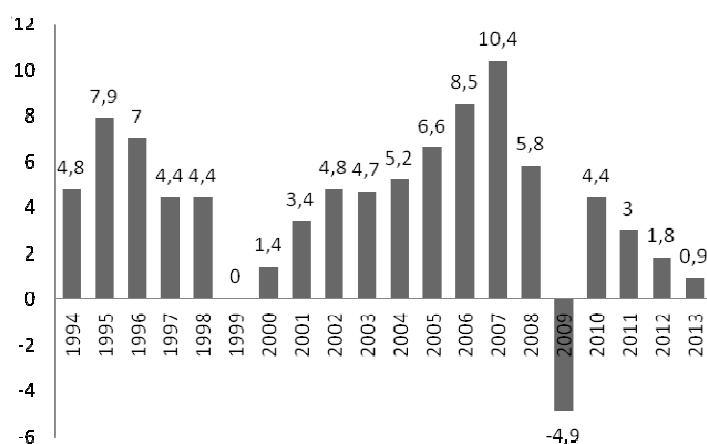
Okun's coefficient in the Slovak Republic is compiled by regression analysis based on data from the Statistical Office of the SR.

(Košta 2011) applied Okun's law in Slovakia from 1995 to 2008.

The regression equation when using the given values for the period 1995-2008:: Y = –0,613x + 2,9976

Δ u = 2,9976 – 0,613 × (GDP), provides the change in unemployment dependent on changes in the growth rate of the GDP.

The coefficient of determination is 82%, which means that the model explains 82% of the total variability of the variable change in unemployment. Lokujúca's constant is 2.9, i. e. if the GDP growth rate was zero, the unemployment rate would increase by 3%. Okun's coefficient says that if the growth rate increases by 1%, the unemployment rate would in turn decrease by 0.6 percentage points. The closer this value is to one, the production is more labor-intensive and thus less leeway remains to improve labor productivity. A value of (0.0299 / 0.614) represents the growth rate of the GDP with a stable unemployment rate, or how fast the economy must grow to reach a constant level of unemployment. To achieve a better outcome in terms of employment, an economic growth rate greater than 4.89% is required. When this value is compared with the value estimated by Okun, we see that this estimation is about twice as high. Consequently, the economy must actually achieve high rates of economic growth to reach at least a small reduction in unemployment. According to the Okun's law this should be achievable if the GDP growth rate is higher than the GDP growth rate that provides a stable unemployment rate, i.e. if the GDP growth rate is 5.89%, then unemployment would be reduced by 0.6%.

Figure 4. Relationship between the unemployment rate and the rate of economic growth in Slovakia
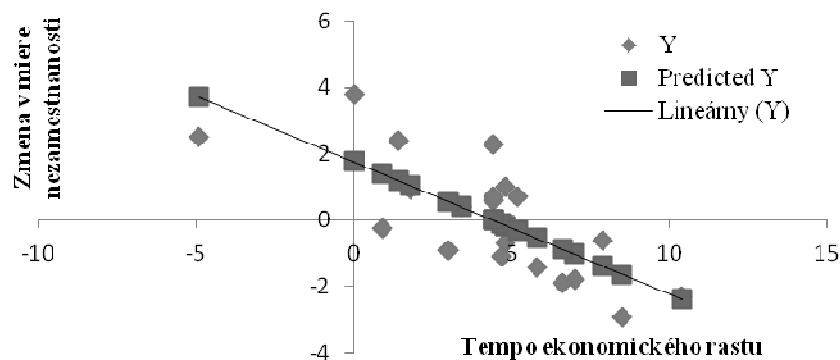
Source: Own processing

Table 1. Regression Statistics

Regression Statistics					
Multiple R	0,752062838				
R Square	0,565598512				
Adjusted R Square	0,541465096				
Standard Error	1,207821851				
Observations	20				
ANOVA	df	SS	MS	F	Significance F
Regression	1	34,18969	34,18969	23,43632	0,000131101
Residual	18	26,25901	1,458834		
Total	19	60,4487			
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	1,756398	0,4399667	3,992	0,00085	0,832062	2,680734
XVariable	-0,39796	0,0822051	-4,841	0,00013	-0,57067	-0,225257

Source: Own processing

Data from the Statistical Office for the Slovak Republic from 1994-2013, shown in Figure 4 and Table 1, was converted into a regression equation using Okumovho's law. The regression equation, when using the given values for the period 1995-2008 is as follows: $Y = -0,39x + 1,756$.

The regression coefficient has a value of 0.39. This implies that if the economic growth rate is zero, then the unemployment rate in Slovakia would increase by 1.75%. Based on data for twenty years, it can be concluded that if the growth rate is increased by one percent, the unemployment rate is reduced by 0.39%. The test statistic is -4.84 and p-value is 0.000. The the test statistic is listed in the ANOVA table. The coefficient of determination is 56%, with a correlation coefficient of 75.2%. Regression error is 1.2

Table 2. Regression models in the European Union

	Regression Statistics	**-a/b (%)**	**Multiple R**
Slovakia	y = 0,662x + 3,1262	4,74	0,771
Ireland	y = -0,247x + 1,1324	4,52	0,666
Netherlands	y = -0,44102x + 0,7879	1,93	0,659
Spain	y = -1,284x + 3,5974	2,8	0,644
Malta	y = -0,1842x + 0,308	1,68	0,631
Portugal	y = -0,3914x + 0,8845	2,26	0,585
Germany	y = -0,6567x + 0,9565	1,45	0,523
Lithuania	y = -0,1762x + 0,5123	2,78	0,499
Poland	y = -0,9809x + 3,8544	1,72	0,422
Belgium	y = -0,4481x + 0,8192	1,82	0,393
Italy	y = -0,2973x + 0,0027	0	0,381
Czech Republic	y = -0,3066x + 1,0766	3,55	0,309
Luxemburg	y = -0,1518x + 0,8782	5,87	0,299
United Kingdom	y = -0,3096x + 0,6141	1,97	0,266
Estonia	y = -0,1937x + 0,7799	4,21	0,254
Denmark	y = -0,2117x + 0,1193	0,57	0,241
Latvia	y = -0,2631x + 0,8304	3,2	0,199
Bulgaria	y = -0,9998x + 4,2864	4,29	0,172
Slovenia	y = -0,1991x + 0,6677	3,35	0,136
France	y = -0,2439x + 0,1737	0,71	0,120
Sweden	y = -0,2495x + 0,4851	1,96	0,115
cypress	y = -0,1908x + 0,5267	2,65	0,075
Finland	y = -0,1161x + 0,3902	3,33	0,068
Hungary	y = -0,1433x + 0,359	2,57	0,063
Romania	y = -0,0712x + 0,3861	5,43	0,054
Greece	y = -0,1547x + 0,4705	3,13	0,050
Austria	y = -0,0198x + 0,0101	0,5	0,001

Source: (Košta 2007, p.91)

According to (Košta 2011,s.97)) "Economic growth may not be associated with a decrease in unemployment, especially if this growth comes after a period of prolonged recession. The U.S. economy during the crisis in 1990 and 1991 and the recession in 2001, experienced a new phenomenon - the jobless recovery - restored growth, but without job growth. It is a period following the end of a recession, with real GDP growth, but no increase in jobs. This may be due either to a loss in a desire to find work for people who had also lost their job in previous bad times, or due to the high cost of retraining. This effect, which is associated with periods of persistent structural unemployment, appears to be an hysteresis effect." In connection with the improvement of the labor market, should increase the flexibility of the workforce. One of the solutions to increase flexibility represent Kot and Ślusarczyk (2011). The concept of flexibility often involves adjustment of wages, spatial ability, non-traditional forms of employment and work

organization, as well as the ability to apply and utilize human capital. The concept of "flexicurity" has come to the fore, which is, of course, the combination of the English words flexibility and security. Combine this with the principle of easy hiring/easy firing, in other words simple receipt of a job coupled with a system of easy layoffs. This system was first applied in Denmark, and later other Nordic countries, to manage, as well as reduce unemployment.

The Slovak labor market is affected by the difficulty that exits in defining its interaction with the national labor market and economic growth. Slovakia is a small market economy significantly tied to large European companies. It is dominated by its linkage to the German economy. Empirical estimates from the Slovak Ministry of Finance indicate that a 1% growth in the German economy increases the pace of economic growth in the Slovak economy by 2%.

The main reason for the loss of employment is the sustained depletion of the capacity of individual sectors in the economy to absorb labor that has been released into the workforce due to increases in productivity. For example, in the U.S. today only about 0.5% of the workforce is employed in agriculture, but around 13% is employed in industry. One can look for help by outsourcing work for both the customer and the machine. But, one common type of outsourcing, to "Plato's cheap" countries, is only a temporary solution, because jobs are disappearing in these countries due to increases in wages. These trends are irreversible, because increases in labor productivity is essential for a dignified life. Historically, there has always emerged a new sector, which absorbed surplus labor, i.e. agriculture, industry, services and the state. Currently, new sectors appear because advanced economies in terms of employment have exhausted all four traditional economic activities of mankind - food production, manufacture things, the provision of services (Čaplanová, Martincová 2013).

Comparisons of Slovakia and selected EU countries are listed in Table 2 (linear models macroeconomic context, the unemployment rate and the rate of economic growth).

Summary

GDP growth and reducing unemployment rates is a key aim of every country. Contributing articles have pointed to the importance and significance of macroeconomic indicators regarding the unemployment rate and the growth rate of gross domestic product. Okun's law is only one forecasting tool for economists and politicians regarding changes in the labor market as affected by changes in gross domestic product. Currently, looking at unemployment as an ethical problem at the macro level takes on added significance with the introduction of inclusive markets. Inclusive markets have the potential to address the problem of long-term unemployment.

The inclusive market is a parallel, separate labor market that offers services to the long-term unemployed together with other economically inactive populations. Inclusive employment provides a parallel labor market for the long-term unemployed through small local companies (inclusive businesses). People coud be employed for simple manual labor, such as the work related to city and road management, as well as motorway companies. Enterprises would bid on orders over procurement and contracts would be guaranteed by the state. The target group would be persons without work experience who cannot obtain regular employment. The long-term unemployed would include those who have served time in prison, recent graduates, orphans and other parts of the economically inactive (i.e., those who would otherwise be unemployed). The prerequisite for the introduction of inclusive markets is the less effective abolition of activation allowances.

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Testing CAPM Model on the Emerging Markets of the Europe

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Abstact

The paper examines if the Capital Asset Pricing Model (CAPM) is sufficient for capital asset valuation on the European emerging markets using monthly stock returns for five countries for the period of January 2008 to December 2013. To be more exact, it is tested if beta, as the systematic risk measure, is valid on observed markets by analyzing are high expected returns associated with high levels of risk, i.e. beta. My intention is to find if the relationship between expected return and risk is linear, if beta is a complete measure of the risk and if a higher risk is compensated by a higher expected return.

Key words
CAPM, European emerging markets, Coefficient Beta, Securities market portfolio, Systematic risk, Unsystematic risk.

Introduction

CAPM (Capital Asset Pricing Model) was established on the basis of the modern theory of Markowitz portfolios. This model was developed through a theory F.Sharp William (1963 and 1964) and John Linter, is based on the theory of modern portfolios. Over the years, he was awarded the Nobel Prize.

Capital asset pricing model is a linear model of sustainable income through investment of evolving, it shows the expected return on investment through the use of covariance of the overall market. To calculate the level of risk of the securities, as well as the level of risk portfolios towards a overall market CAPM systematic risk is checking the level of influence changes in income assets associated with changes in income combined with a portfolio of securities and units of measurement referred to as the estimated value of beta.This model shows the expected return assets associated with non-diversification risk beta value of expected return and risk-free interest rate shows that between its beta versions have a mutual relationship positive line. Although theoretically the CAPM model is simple and rational, there are some significant limitations to the model which make it not work in practice, as it has been highlighted in many empirical studies. Studying the causes of these restrictions were conducted empirical studies that have found their confirmation.

In particular, for the first time in studies of Black, Scholes and Jens (1972) showed positive interrelated lines of expected revenues and beta.According to the content model securities having a high coefficient beta bring high income.But later research, as well as the most recent one, has shown that the relationship between systemic risk and expected return is not always significant. Therefore Michailidis, Tsopoglou, Papanastasiou, Mariola (2006) tested this model on the stock market in Greece, which is considered emerging markets and showed that in contrast to the basic hypothetical models expected high income does not expect a high level of risk. Kapil and Sakshi Choudhary (2010) also came to this conclusion by examining the stock market in India.There is an example that confirms the main settings of the model in particular on the basis of research carried out on the stock market in Italy (Canegrati, 2008). Trifan A. L. (2009), an experiment conducted in the stock market A. L. Trifanom Romania in 2009 showed that the regression model has no statistical significance, but despite the results of this test do not give specific facts against the CAPM.Because this experiment was carried out during the global financial crisis, which affected the stock market in Romania.As for Croatia, there isa small number of tests conducted. Fruk and Huljak (2004) tested Sharpe-Lintner model on the Zagreb Stock Exchange and found a positive correlation between income and the beta coefficient, but no results were obtained by using an investment decision beta coefficient. Perković (2011) proving these views revealed that the regression model is not an indicator, so the relationship between beta and income proves nothing. Proceeding from this, given the originality of rapidly growing markets of Europe and a small amount of evaluating the effectiveness of CAPM interesting is the idea that beta is a measure of determining the level of systemic risk in these markets. These studies paved the CAPM stability in the stock markets of developing countries in Europe and in the calculation of the level of systemic risk in these markets has determined that beta is the appropriate units. Below are the countries where the survey was conducted.

This paper explores the viability of the CAPM model in the emerging markets of the European countries and examines whether beta is a suitable measure of risk in these markets.Countries included in the survey were: the Czech Republic, Portugal, Greece, Poland, Italy.

Capm model

William F. Sharpe in 1964 and 1965 John Linter developed CAPM (Capital Asset Pricing Model), similar to the risk and expected income ratio being the most simple and easy by providing a definition of efficient portfolio securities, which has the same value as the Markowitz model. This model has proven that there is a positive linear relationship between the amount of income required by the Securities and the contest portfolio. The volume of expected income equal to the amount of income without the risk and the risk premium reflecting diversification.

In determining the risk to the total risk CAPM is divided into two parts:

> **Systematic risk**

> **Unsystematic risk**

Systematic risk is that associated with the market (purchasing power risk, interest rate risk, liquidity risk, etc.).

Unsystematic risk is unique to an individual asset (business risk, financial risk, other risks, related to investment into particular asset).

Unsystematic risk can be diversified away by holding many different assets in the portfolio, however systematic risk can't be diversified (see Figure 1). In CAPM investors are compensated for taking only systematic risk. Though, CAPM only links investments via the market as a whole.

Figure 1. Portfolio risk and the level of diversification
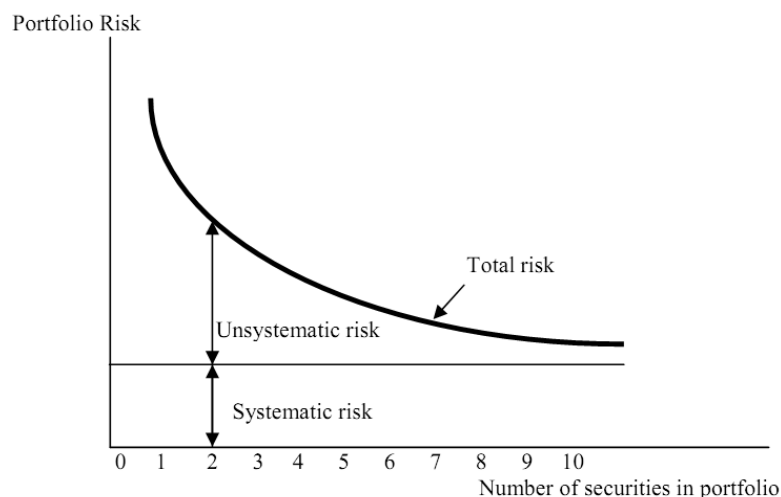
The essence of the CAPM: the more systematic risk the investor carry, the greater is his / her expected return.

The CAPM being theoretical model is based on some important assumptions:

1. All investors look only one)period expectations about the future;
2. Investors are price takers and they can't influence the market individually;
3. There is risk free rate at which an investors may either lend (invest) or borrow money investors are risk) averse;
4. Taxes and transaction costs are irrelevant;
5. Information is freely and instantly available to all investors;

All investors common objective to the volume of income, standard deviation and covariance of the securities. Not only independent risk securities, but also keeping the overall market portfolio CAPM incorporates measurement of systemic risk called beta value.This unit is used to determine the influence of variable yield on the securities markets, changes in income market portfolio. Beta securities considered to

be associated controls (system assets), financial resources (capital system) and industry (capital system), or of the company. The equation used for calculating beta for each individual security β_j is as follows

$$\beta_j = \frac{Cov(Rj, R_m)}{\sigma_m^2}$$

$$\text{i.e. } \beta_j = \frac{Cor(R_i, R_m)\sigma_j \sigma_m}{\sigma_m^2}$$

Where Rj is the rate return of security j, Rm the rate of return on the market (rate of return of the market portfolio). Therefore, a stock's beta depends on the "stock's correlation with market", own variability – standard deviation (σ_j) as well as on the variability of the market (σ_m)

For the securities for which: (see Table 1)

Table 1. Interpretation of coefficient Beta (β)

Beta	Direction of changes in security's return in comparison to the changes in market's return	Interpretation of β meaning
2,0	The same as market	Risk of security is twice higher than market risk
1,0	The same as market	Security's risk is equal to market risk
0,5	The same as market	Security's risk twice lower than market risk
0	There is no relationship	Security's risk are not influenced by market risk
Minus 0,5	The opposite from the market	Security's risk twice lower than market risk, but in opposite direction
Minus 1,0	The opposite from the market	Security's risk is equal to market risk but in opposite direction
Minus 2,0	The opposite from the market	Risk of security is twice higher than market risk, but in opposite direction

The fundamental equation defines the relationship between securities or portfolios, as well as the expected amount of income from the expected market risk. E (R) the number of expected income exactly the amount of risk-free interest rate (Rf), they are made through premium risk (RP) shown in this article.

$$E(R) = R_f + RP$$

or the equation

here:
E(R) - expected return on stock;

$$E(R) = R_f + (R_m - R_f)\beta$$

R_f- risk free rate of return;
R_m- expected rate of return on the market
β -coefficient Beta, measuring undiversified risk of security

Several of the assumptions of CAPM seem unrealistic. Investors really are concerned about taxes and are paying the commissions to the broker when buying or selling their securities. And the investors usually do look ahead more than one period. Large institutional investors managing their portfolios sometimes can influence market by buying or selling big amounts of the securities. All things considered, the assumptions of the CAPM constitute only a modest gap between the theory and reality. But the empirical studies and especially wide use of the CAPM by practitioners show that it is useful instrument for investment analysis and decision making in reality.

Capm testing

1. Testing the relation between beta and return

Stocks are selected in the sample according to their share in the official stock exchange indices of the observed countries. 8 most liquid stocks will be considered for each market, taking into account the weight of stocks within a particular stock market index. The data were taken from the investing.com website for the period from 1st January 2008 to 31st December 2013. The sample of shares for selected countries is shown in Table 2. For the Czech Republic, Bulgaria, Bosnia and Herzegovina the sample is reduceddue to insufficient number of shares in the official stock index traded in the last six years.

Cross section testing using MS Excel spreadsheet program will be used in testing the CAPM model in particular stock market, where, based on the return on 10 stocks, the expected yields and the betas of the corresponding stocks will be calculated. As a substitute for the market portfolio, official stock market index will be used. After that, the regression analysis of expected returns on stocks and their betas will be carried out using the software package SPSS.

Table 2. Share sample for each of the observed markets

Czech Republic (PX)	Greece (AthensGeneral-Composite)	Poland (WIG20)	Portugal (PSI 20)	Italy (FTSEMIB)
VIGR	OLTr	ACPP	ALSS	ATL
CETV	HDFr	PEO	BBPI	BAPO
ORCO	MTKr	BZW	EDP	BZU
ERST	DEHr	EUR	ESF	DIAS
SPTT	SRSr	LTSP	GALP	ENI
BKOM	OLPr	KGH	IMPA	GASI
PGSN	HRMr	LPPP	JMT	GTCH
UNPE	FRIr	MBK	NOS	LUX

In order to test the validity of the CAPM model on each stock market it is necessary to calculate the expected rate of return and beta of each stock. The following equation is used for calculating the expected rate of return of the stock X:

$$E(R_X) = \frac{\sum_{t=1}^{M} R_X(t)}{M}$$

where M is the number of observed data, in this case number of monthly rates of return of the security X. Equation for calculating beta is:

$$\beta_x = \frac{Cov(x, M)}{\sigma_m^2}$$

Where Cov (x, M) is the covariance of the security x and the market portfolio and σ^2 is variance of the market portfolio.

After the expected return and beta have been calculated, in order to test the relatedness, i.e. analytical mathematical form of relationship between beta and expected returns, regression analysis is carried out of the expected return as the dependent variable of the regression line and beta as the independent variable. Scatter diagrams for all nine countries show that there is no correlation between the observed variables, which can be seen in Figure 2.

Figure 2. Scatter diagrams of the expected return and betas in the observed markets

Italy
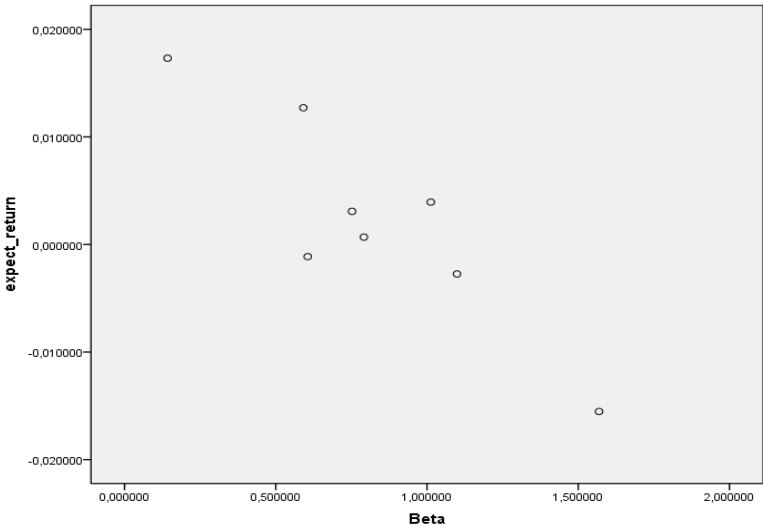
Portugal
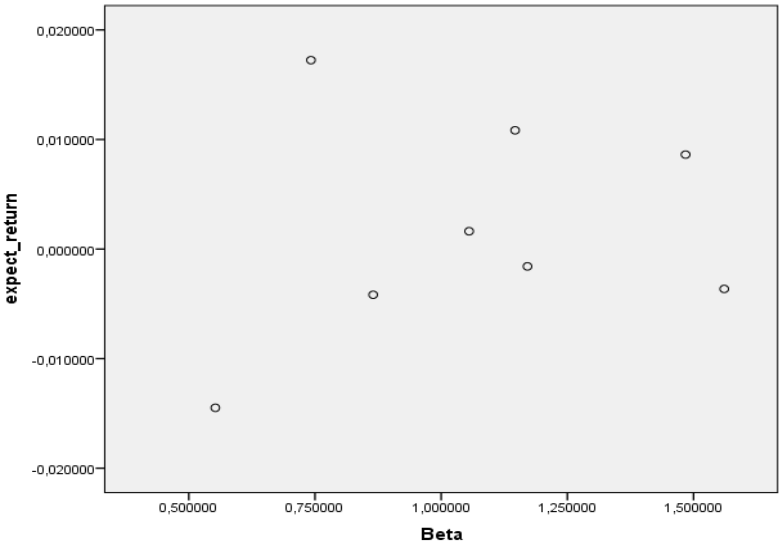
Greece
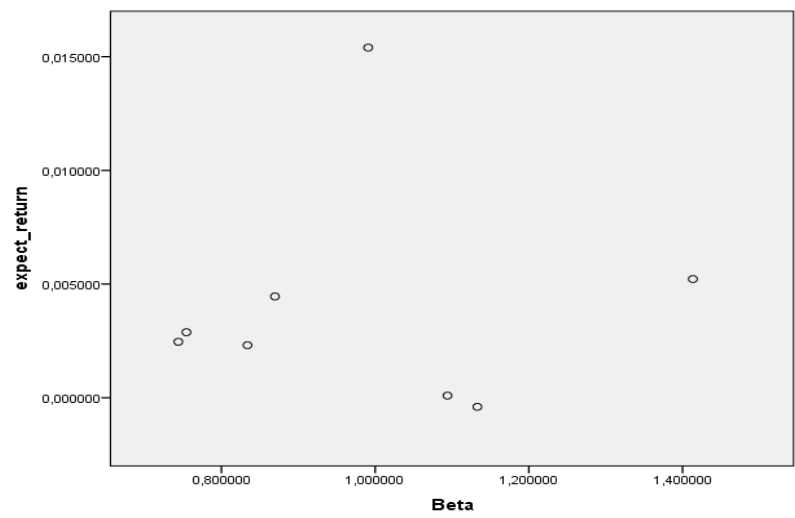
Poland
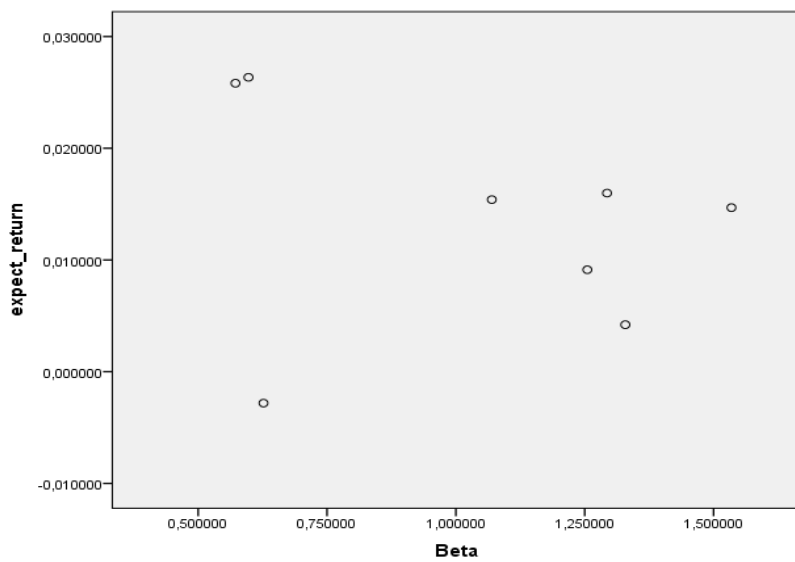
Czech Republic
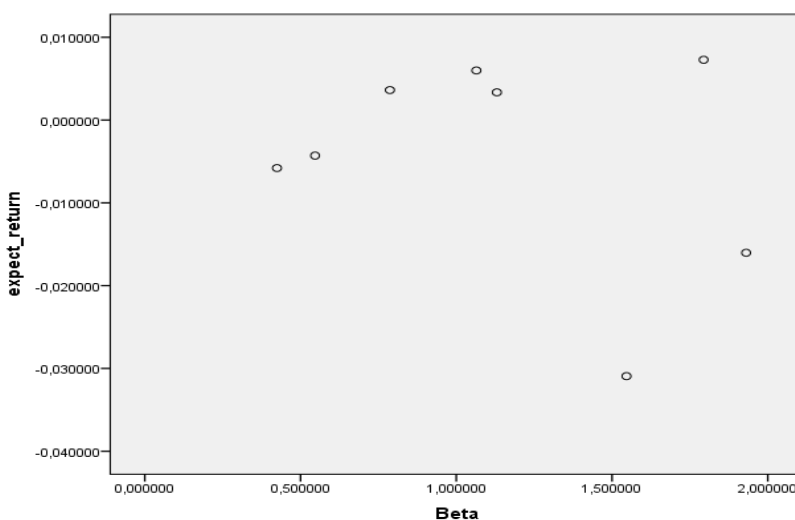
Since the scatter diagram suggests that there is correlation between the observed phenomena because there is imaginary line that runs between the points on this graph, we can conclude that there is correlation between the observed variables because one can define whether the increase in one variable follows the growth observed variables. **Table 3** shows the basic data in the evaluated model for all nine markets.

Table 3. Basic data for the evaluated model

	Italy	**Portugal**	**Greece**	**Poland**	**Czech Republic**
R	0,6433	0,5961	0,6844	0,6323	0,6618
r^2	0,4570	0,3665	0,4713	0,4235	0,4565

We can see that the relationship between beta and expected return measured by the linear correlation coefficient is not positive and not weak in all countries the coefficient of determination has shown that the model is representative.

Summary

In conclusion we can say that after checking all the six countries regression model was an example, as well as giving the opportunity to appeal to the CAPM in these markets are considered problematic became a model, except that we can come to the conclusion that the possibility of an appeal to the CAPM in distressed markets has statistical value. Test results showed that in the rapidly developing European stock markets stock market valuation of assets is considered appropriate. At a cost of using beta regression analysis on risk measurement, it became clear, high income is not high beta. They may not be appropriate means when measuring risk markets.

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Analysis of Global Risks in the Entrepreneurship with Focus on the Necessity of Implementation of Enterprise Risk Models in Practice

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Abstract

The global economic environment and post-crisis world is changing current business practice resulting in an increased focus on risk management and risk controlling. The aim of this article is to analyze the main factors of midterm and long term global risks in business with specific focus on financial risks in the EU in order to prevent and mitigate risks in global business competition. The method of empirical analysis, and methodology of risk indexes are used in this study. In the end of article are outline risk profiles of European region through risk reports and risk indexes for risk prevention and the findings outline the necessity of implementation of enterprise risk models in risk controlling in practice of entities.

Key words

global risks, risk controlling, risks indexes, empirical analysis, enterprise risk models

Introduction

This article aims to investigate and analyze the field of risk management and risk controlling in the prevention and resolution of business risks, to identify risk factors in business and focus on necessity to use new models of financial risk management for business entities in order to monitor, reduce and prevent risks. The issue of risk management is constantly in the spotlight and under examination in economic theory and in economic and managerial practice and gaining strength due to the continuing impact of the global crisis. The current global business risks can be expressed e.g. by Global Risk Index 2013 Lloyd´s which reveals determinants of the major risks which the world´s managers must deal with. This action reflects the risks to the quality of the business environment, manifested in the process of financial management and growth of businesses financially incapacitated. Businesses must respond flexibly to the changing economic environment and its risks in practice, in order to prevent the risks early (Kislingerová, 2010).

Controlling the risk in business is one of the newer ways of controlling within scope of controlling system but its importance is growing. Financial controlling as a conception of financial stability of companies and risks solution based on controlling is irreplaceable in a modern company. The issue of implementation of effective financial decisions in times of crisis is often conditioned by factors such as conflict of interest, the time deficit and deficit of financing sources and alternatives, deficiencies of organizational and managerial nature (Fotr, Souček, 2011). To reduce the risks means to anticipate, predict and create possible alternatives scenarios of companies'

development and its financial characteristics (Smejkal, Rais, 2010). Modern approaches to financial management are based on ValueBasedManagement, EnterpriseRiskManagement, economic capital and economic profit. Krištofík and Sten-van´t Hoff (2011) emphasize the use of economic capital in financial management which is a function of solvency and risk of enterprises and it is possible to be used in several ways. No economic subject can predict the results of financial, investment or other decisions because every decision is risky (Shim and Siegel, 2008). The methods of analyzing and quantifying of the risk are well known statistical tools and techniques to express numerical level of risk (Fotr, Souček, 2011).

Methodology and methods

Multiple managerial and business focused areas of research examine the detection and mitigation of global risks and their determinants.

Main aim of this article is:
- to analyze the main factors of midterm and long term global risks and risk factors in business with specific focus on business and financial risks in the EU and the necessity of use enterprise risk models, in order to prevent and mitigate risks in global business competition.

Partial aims:
- identify main determinants of long term financial risks threatening the current business environment using a Global Risk Index – Lloyd's Risk Index, and risks for Slovakia published by Intrum Justitia – Slovakia Risk Index, analyzed using recently developed financial management and business practice in order to solve and prevent risks
- outline the steps of enterprise risk management model (ERM model) and summarize its principles and risk management tools and techniques.

Methodology and methods:
- empirical analysis using selected indicators describing the economic environment aimed at identifying current risks in business in global environment, the EU and inside Slovakia
- analysis and comparison indicators of global financial stability, financial risks and default risk from the point of view of businesses attempting to mitigate the risks during 2009 -2013
- synthesis the determinants of global risks from the point of view of business and suggest risk review process and enterprise risk models.

Analysis of global risks using methodology of risk indexes

Current global business risks can be summarized using the Risk Index published by Lloyd's, a global insurance company. The Lloyd's Risk Index assesses corporate risk priorities and attitudes among business leaders across the world. The findings are based on a global survey of more than 500 of the world's most senior business leaders and are focusing on more pressing problems. Risk Index can detect and capture the main risks perceived by managers around the world, and how the managers intend to deal with future risks. The survey asked respondents about their attitudes to fifty risks across five categories (see in Table 1). Compared to 2009, the risk index rose in all categories during 2011, but while in 2009 the main concerns were economic, regulatory and market risks, managers were more concern about business and strategic risks (Table 1). Lloyd's ranked the following top five risks for 2011: loss of customers, lack of talent, reputation loss risk (for business risks), and currency fluctuations and legal changes (for strategic risks). The managers felt ill prepared for the any potential changes in the legal environment. In the EU region, the economic and business risks were lower or comparable to worldwide average. The EU region managers ranked the following five risks as most important: loss of customers (order cancellations), lack of talent, currency fluctuations, capital costs, and legal environment changes (Table 2). A score was calculated for each, with zero being the lowest level of priority or preparedness and ten being the highest.

Table 1. Overall global risks in 2011 versus 2009

2011 Priority Rank	Overall risks	2011 Priority score	2011 Preparedness score	2009 Priority score	2009 Preparedness score
1	Business and strategic risks	7,3	7,1	6,5	6,0
2	Economic, regulatory and market risks	7,2	6,5	6,8	5,8
3	Political, crime and security risks	5,4	6,5	4,9	5,1
4	Environmental and health risks	5,0	6,1	4,0	5,1
5	Natural hazard risks	4,2	5,5	3,9	5,4

Score – out of 10, high 7,3 -7,2
Source:
http://www.lloyds.com/~/media/Files/News%20and%20Insight/360%20Risk%20Insight/Lloyds_Risk_Index_2011.pdf

Table 2. Top five risks in 2011 in the EU

Rank	Risks	2011 Priority score Europe/Global
1	Loss of customers/cancelled orders	6,0/6,2
2	Talent and skills shortages (including succession risk)	5,66/6,2
3	Reputational risk	5,53/5,8
4	Currency fluctuation	5,34/5,6
5	Changing legislation	5,33/5,6

Score – out of 10, high 6,3 -6,2
Source:
http://www.lloyds.com/~/media/Files/News%20and%20Insight/360%20Risk%20Insight/Lloyds_Risk_Index_2011.pdf

Some changes have been made to the list of fifty specific risks since the 2011 survey. The executive summary identifies the priority risk area in 2013 as well as the biggest changes since 2011 (see in Table 3).

Table 3. Overall global risk categories in 2013 versus 2011

2013 Priority Rank	Overall risks	2013 Priority score	2013 Preparedness score	2011 Priority score	2011 Preparedness score
1	Business and strategic risks	6,5	6,3	7,3	7,1
2	Economic, regulatory and market risks	6,3	6,5	7,2	6,5
3	Political, crime and security risks	5,2	6,0	5,4	6,5
4	Environmental and health risks	4,8	5,8	5,0	6,1
5	Natural hazard risks	4,1	5,5	4,2	5,5

Score – out of 10, high 7,3 -7,2
Source:
http://www.lloyds.com/~/media/Files/News%20and%20Insight/360%20Risk%20Insight/Lloyds_Risk_Index_2013.pdf

In 2013, the EU region managers ranked the following five risks as most important: high taxation, loss of customers (order cancellations), changing legislation, *costs and availability of credits*, excessively strict regulation. High taxation is now seen as the number one threat to global business according to the Lloyd's Risk Index and Široký (2013) and as the biggest risk faced by business leaders after prolonged public and political exposure and debate (from 13th to 1st place in the last two years). Cyber security now sits squarely towards the top of the agenda for boards around the world with cyber risk moving from 12th to 6rd place, especially in the index in the Europe.

The financial liquidity risk in the business sector is mostly affected by the decreased ability to provide timely payments on orders made by other businesses. According to Slovakia Risk Index published by Intrum Justitia, 47% of business reported worsening liquidity as a result of a delay of repayment of accounts receivable. As a second most important growth limiting factor, over 50% of business reported a decline in revenues. 88% of businesses suffering from delayed payments on account receivable suggested the delays are largely due to a poor financial situation of their business clients. 42% of business suggested that the delay in repayment will remain stable, and 30% of business suggested it will increase over time. The uncertain situation is further underscored by European payment index, which documented an increase in write-offs to 2,7% in 2011 from 2,6% in 2010, and 2,4% in 2009. Slovakia Risk Index remained within 160-169 and suggested an intervention to reduce the risk profile (Slovakia Risk Index, 2011).

Enterprise risk management model in managerial practice
    It can be recommend five steps of the general ERM review process:
    1. Risk Identification. What can work wrong? List all possible events that could occur in a subsystem if there are no controls. Once risks are identified, combine like risks according to the following key

areas impacted by the risks: people, mission, physical assets, financial assets, financial sources and customer/stakeholder trust.

2. Risk Analysis - basic. What is the likelihood and impact? Rate risks according to probability and impact.

3. Requirements Identification. What is in place to prevent it? List all controls that would exist without subsystem-specific controls.

4. Controls Identification. What else is needed to control the risk? Where there is a significant or extreme risk rating, list gaps between existing risks and existing controls.

5. Risk Registry. What documentation is needed so that the logic and conclusions are clear? Create a register that documents the results of the risk evaluation, including the events, probabilities, impacts, and risk management strategy.

For each subsystem and subject matter experts complete the following:
1. Risk Identification. What can be risky? What events can have an impact on people, mission, physical assets, financial assets, sources, and customer/stakeholder trust? A risk can also be a missed opportunity for improving effectiveness and efficiency.

2. Risk Analysis. Look at the subsystem in the context of existing external controls. If there were no-specific controls what is the probability and impact of specific risks? (see in Table 4).

Table 4. Risk Analysis – basic

Impact				
		Negligible	Low	Medium	High
Probability	Certain	Minor	Moderate	Extreme	Extreme
	Likely	Minor	Moderate	Significant	Extreme
	Possible	Minor	Moderate	Significant	Extreme
	Unlikely	Minor	Minor	Moderate	Significant
	Rare	Minor	Minor	Minor	Moderate

Source:http://www.fnal.gov/pub/cas/erm_training_briefing

3. Requirements Identification. What is in place to prevent it? List all controls that would exist without subsystem-specific controls.

4. Controls Identification. What else is needed to control the risk? Where there is a significant or extreme risk rating, list gaps between existing risks and existing external controls. Defer to existing external controls and standards whenever possible.

5. Risk Registry. Clearly document the analysis of identified risks, existing controls, and proposed controls to address any serious gap between existing controls and risk.

• Risk Mitigation Options – Acceptance, Monitoring, Mitigation, and Avoidance
• Evaluate the costs of various mitigation techniques compare the cost/benefit of the risk (Table 5).

Table 5. Risk Registry

Risk/ Opportunity	Risk Level	Potential Cost/Benefit
Identify specific risks and their risk level	Minor, Moderate, Significant and Extreme – based on the probability and impact chart.	Give a rough estimate of the magnitude of the cost/benefit of the risk/opportunity without specific controls.

External Control(s)	Proposed Mitigation Technique	Internal Control (if needed)
List all external controls that help address the risks and opportunity identified.	Based on any gap between the risk/opportunity and existing controls, what strategy should adopt?	List all internal controls needed to effectively and efficiently address gaps between risks and external controls.

Source: http://www.fnal.gov/pub/cas/erm_training_briefing

Why is ERM important?
- Integrated Strategy - ERM is important because it supports the business's strategy and Management Principles including, "we will manage risk in fulfilling our mission".
- Consistency- Systematic approach for management and operations – how we make decisions, govern how we establish and implement requirements, and how we hold ourselves accountable.
- Better Communication - ERM will provide that framework for clearly articulate the processes we use for program execution in business practice.
- Clear and Concrete Measures of Performance - It will improve efficiency and allow to consistently speak with one voice to our contractors, customers, and stakeholders.

Then it is the necessity to continue in the implementation of effective enterprise controlling systems and specific enterprise risk models.

Summary

Risk management tools allow planners to explicitly address uncertainty by identifying and generating metrics, parameterizing, prioritizing, and developing responses, and tracking risks. The modern managerial methods can be classified as e.g. quantitative methods, causal models, and time series analyses, benchmarking, Workflow Management Systems and dynamically developing Balanced ScoreCard, where within the scope of financial perspective it is possible to capture and solve risks of enterprises on time, link financial controlling and controlling of the risks (Kaplan, Norton, 2010). Viewed macroeconomic indicators and indicators of European companies often show developmental trends that are predictable and therefore understanding and quantifying of developmental trends enables managers more effective decision about the future development (Filip, Grzebyk, Kaliszczak, 2010). Predictive models for effective solutions and forecasting risks are examined by research projects, since they are low applied in business practice (Evans, 2002; Horváthová, Mokrišová, 2013; Šofranková, 2013). The aim is to find the best applicable enterprise risk model based on controlling of risks for business entities in European Region. The benefit of ERM is that it will better equip to manage long –term performance and make risk-informed decisions in companies in global competition.

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Energy Prices in Europe and the Largest European Energy Companies

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Abstract

The challenges in energy sector are one of the major challenges that Europe faces today. Rapidly increasing energy prices and growing dependence on imports results in a lower reliability in energy supply, and may pose a threat to national economy. Each energy commodity price undergoes continuous development, which is greatly affected by the oil price. The aim of this paper is to characterize the largest European companies in the energy industry and compare to each other, according to the amount of revenues. Comparison of energy companies in the paper is made from several views. The paper also analyzes the price evolution of the selected energy commodities and their mutual interaction during specified period.

Key words

energy, electricity, utility, company, Europe

Introduction

Energy policy is one of the most important strategic policies of the European Union. European Commission is trying to direct us to the future based on low emissions and saving energy. The objective of the EC is to reduce volume of emissions by 20%, to increase the share of renewables by 20% and to improve the efficiency of energy consumption by 20% by the year 2020. (Climate and energy strategy EU 20-20-20)

In the area of electricity production in Europe is seen black and green trend. Production of electricity increases from renewable sources and coal. Electricity bills with taxes and fees are rising up and to the fore get affordability and competitiveness.

Figure 1. Fuel mix in European utilities market 1995/2007
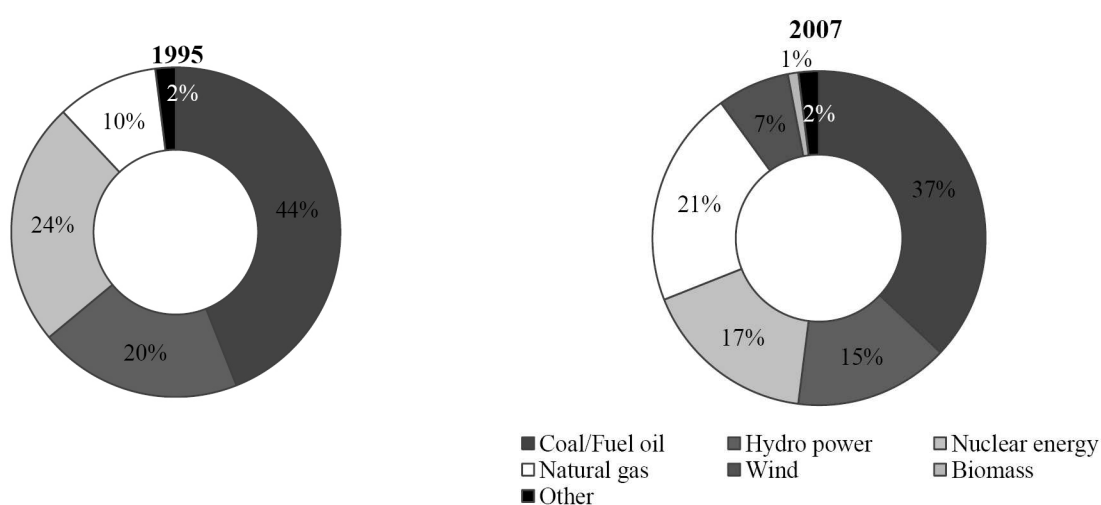
Source: processed according to http://globalbusinessinsights.com/content/rben 0211m .pdf

European energy companies

The 10 largest companies dominate EU electricity markets and most individual national markets. They produce more than half of total power in Europe.

Leading players in this market are having to overcome a number of challenges to secure future growth, including infrastructure obstacles in distribution and transmission networks, energy security issues, increasing EU guidelines on environmental policies and the adoption of expensive renewable technologies. (The Top 10 European Utility Companies, 2009)

Table 1. Shares in power generation by the 10 largest EU utilities (2012)

Companies	Share in EU power generation
EdF	20,0 %
RWE	7,4 %
E.ON	6,2 %
Enel	5,9 %
Gdf Suez	5,4 %
Vattenfall	5,3 %
Iberdrola	2,5 %
CEZ	2,2 %
EnBW	1,9 %
PGE	1,9 %
Others	41,3 %

Source: http://www.greenpeace.org/austria/Global/austria/dokumente/Reports/klima _Locked_in_the_past_2014.pdf

After decades of growth recorded top energy companies in Europe since 2008 the decline in value of shares. Nine largest of them expect the decline of their combined revenues in 2015 by 30% in comparing to the base year 2010. Most of them also experienced decrease assessments by rating agencies.

Table 2. Top 10 EU utilities production and renewable share in (2012)

Company	Power production within EU (TWh)	Renewables			
		Wind power (%)	Hydro (%)	Other (%)	Total (%)
EdF	618,6	0,8%	6,5%	0,6%	7,9%
RWE	227,1	2,1%	1,6%	1,8%	5,5%
E.ON	192,1	2,2%	9,0%	1,0%	12,2%
Enel	180,6	3,6%	2,9%	3,1%	9,6%
Gdf Suez	167,5	3,8%	12,5%	2,2%	18,5%
Vattenfall	163,4	2,4%	24,5%	1,6%	28,5%
Iberdrola	78,4	20,9%	12,4%	0,9%	34,2%
CEZ	68,8	1,4%	3,0%	1,6%	6,0%
EnBW	59,1	0,8%	10,8%	0,6%	12,2%
PGE	57,1	0,2%	0,8%	2,6%	3,6%
Together	1 812,7	2,7%	8,0%	1,4%	12,1%

Source: http://www.euractiv.sk/energetika/analyza/uzamknuti-v-minulosti-preco-sa-velke-energeticke-firmy-boja-zmeny-022111

Companies that failed in diversify their energy sources or their businesses are now particularly vulnerable. The 10 largest energy companies produce 58,7% of all electricity in Europe, but only 12,1% come from renewable sources, without including hydropower it is only 4,1 %.

Table 3. Selected indicators in selected EU utilities (2013)

Company	Employees	Sales (mil USD)	Sales per employee (USD)
EdF	154 941	100 413	648 072
RWE	66 341	68 266	1 029 017
E.ON	62 239	162 652	2 613 345
Enel	71 394	102 623	1 437 418
Gdf Suez	133 416	118 618	889 084
Iberdrola	30 680	44 128	1 438 331

Source: http://www.bloomberg.com/visual-data/industries/detail/utilities

According to Bloomberg, all large European utilities grew their revenues during the past 12 months.

Figure 2. EBITDA in mil. USD (2013)
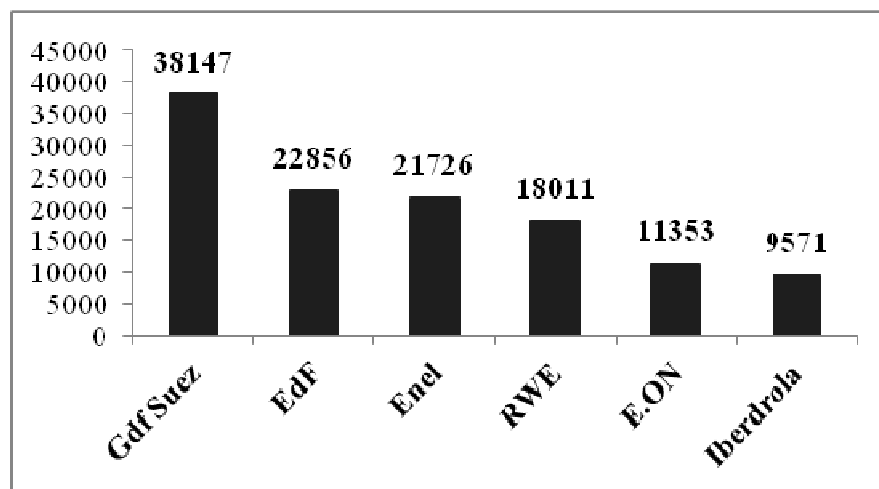
Source: processed according to http://www.bloomberg.com/visual-data/ industries /detail/utilities

The top eight European utilities produced strong revenue growth during the whole past decade as well. Each of the giants grew their revenues partly as a consequence of the integration of their acquired businesses.

Electricity prices in Europe
Europe's energy sector is in the midst of a major transformation. Its gas and electricity sectors are moving from public monopolies into competitive private companies in liberalised markets and electricity generation is being decarbonised, with strong growth of wind and solar power in particular. At the same time, alternative gas supplies are being developed and diversified
and the transport sector is becoming more fuel efficient and starting to use cleaner, alternative fuels. (EC, 2014)

With the growth of oil prices is often compounded also an increase in electricity prices.

Figure 3. Electricity prices in EU in €/kWh (2011)

Source: processed according to http://www.penize.cz/spotrebitel/250619-ceny-elektriny-v-evrope-kde-je-nejlevneji-a-kde-nejdraz
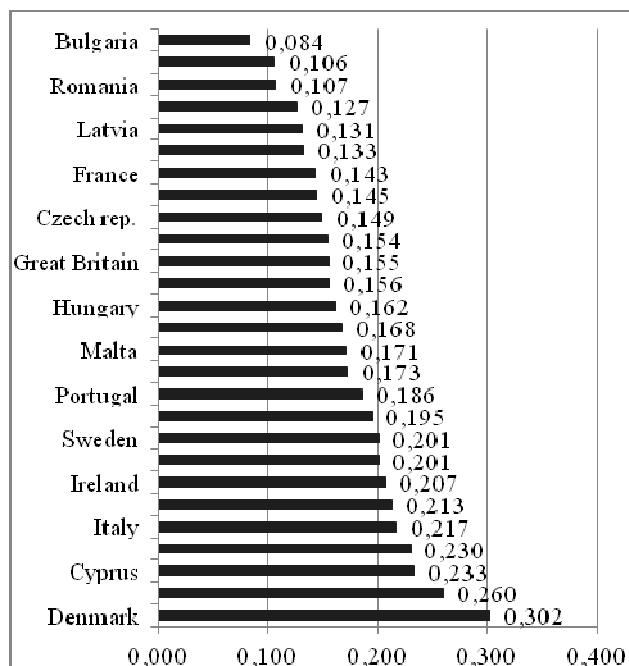
European electricity markets are gradually becoming more interconnected. The reason of energy markets is primarily an effort to ensure safer and more stable electricity supply. Common markets already operate in Scandinavia, between Spain and Portugal, or between Belgium, France and Netherlands.

Table 4. Changes in electricity prices in selected EU countries (€)

Country	2011	2013		Change
Denmark	0,302	0,305	⇧	0,003
Germany	0,260	0,297	⇧	0,037
Belgium	0,230	0,209	⇩	-0,021
Italy	0,217	0,193	⇩	-0,024
Netherlands	0,213	0,199	⇩	-0,014
Ireland	0,207	0,223	⇧	0,016
Austria	0,201	0,201	⇨	0,000
Sweden	0,201	0,182	⇩	-0,019
Spain	0,195	0,224	⇧	0,029
Portugal	0,186	0,219	⇧	0,033
Slovakia	0,173	0,177	⇧	0,004
Luxemburg	0,168	0,18	⇧	0,012
Hungary	0,162	0,151	⇩	-0,011
Finland	0,156	0,141	⇩	-0,015
Great Britain	0,155	0,177	⇧	0,022
Slovenia	0,154	0,163	⇧	0,009
Czech rep.	0,149	0,138	⇩	-0,011
Poland	0,145	0,142	⇩	-0,003
France	0,143	0,155	⇧	0,012
Greece	0,133	0,153	⇧	0,020
Romania	0,107	0,131	⇧	0,024

Source: processed according to http://www.energypriceindex.com/wp-content/uploads/2013/10/HEPI_October-2013.pdf

In contrast to the primary energy sources oil, natural gas, coal, uranium, bioenergy, solar radiation, or wind, electricity is a secondary energy carrier that can be produced from fossil, nuclear, or renewable primary energies. Electricity is in general supplied to the consumers without offering different qualities. Nonetheless, electricity is supplied on different voltage levels, and with limitations on the usable power, depending on the voltage level and on the contract. (Albrecht, et. al., 2014)

Summary

Ten largest energy companies will lose billions of euros because of over-investment in fossil fuels instead in renewable energy. Those companies that invested in green energy projects earned on this projects. Enel, E.ON and Iberdola according to estimates reached earnings before interest, taxes, depreciation and amortization (EBITDA) of 4 to 5 billion euros per year. According to the report elaborated by German research center DLR (Deutsches Zentrum für Luft-und Raumfahrt) if renewable energy and energy efficiency became a priority of energy system, and replaced the core and fossil fuels in Europe by 2020 would be created almost half million new jobs. Other benefits would be long-term savings for consumers, reduce of energy demand and better stability of climatic manifestations.

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The Role of Consultation in the Operation System of Micro and Small Enterprises

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Abstract

Consultancy firms are a growing phenomenon globally. It is highly important to get to know each-other's attitudes, expectation and system of values and form a common language for actors of the process and the society in order to improve cooperation among consultants and their customers.

The article deals with problems of micro- and small enterprises, type of consultancy and how can they solve their problems. The result of this article based on my in-depth interviews.

Key words
micro and small enterprises, consultancy, services, marketing

Introduction

In recent months it has become obvious that neoliberal view existing both in politics and economics cannot be maintained any more. Managing directors subordinate a lot values to serve rapid profit return and short time profit interest. Significant theoretical and social values have been neglected and relegated to the background. Its ineligible consequence that the importance of consultation will increase. In this critical time not only individuals but also managers of enterprises put up the question: To which further direction? Who shall I turn to for help? The area of consultation is not a newly born thing. Several studies, books and researches have been published in this issue. The activity of consultation may be approached from different aspects: e.g. which area of enterprise it is, in which phase of operation it is and last but not least, how big the enterprise is. The research of micro and small enterprises (MSE) is an unrevealed area, although their number and their economic role are significant.

My research work is aiming consulting activities relating to Micro and Small Enterprises starting point of which is analyzing the present situation and the current problems of them, as well as clarifying the relating basic concepts and areas.

Main characteristics of small and medium sized enterprises and their problems

Vast majority of experts claim that small enterprises suffer from disadvantages not for their size or power source, but having the basic characteristic features of an enterprise. However significant the fund is to run a successful enterprise, it is though negligible when we consider the ability to run a business. There is an existing spontaneity in the market behaviour of small enterprises and the lack of it prevents the company from development and becoming a medium sized enterprise. The barrier of development and efficient functioning (and maintenance) is the fact that people did not use to have and still does not have enterprising knowledge and experience, and they ever do not have own accrued fund.

Nowadays, under capitalization lack of financial resources still creates a big problem. What makes thing worse is the very low social acceptance, negative judgement and the low enterprising status.

There are a significant number of people who are expert in their field of activity; however they face serious problems due to the lack of basic enterprising knowledge, even though they are not at home how to operate the enterprise on the base of market competition.

The present middle class entrepreneurs grew up in a totally different political and economic area, which has nothing in common with the current situation oriented by the market economy. The situation is getting more complicated, because the current economic and political situations make entrepreneurs unsure and make it difficult to reach their objectives. However, we have to emphasize that the social judgement and acceptance of entrepreneurs have been getting better since 1990s. Recently we can often hear the generalization: entrepreneur = tax evader. Surely this judgement is not without truth value, but at the same time it is unfair.

Hans Finzel (2001) can state the managers' mistakes in enterprise.

- Superior manner – it reveals in abuse power, lack of attention, autocratic decision making and in selfish behaviour.
- Paper work is much more important than the labour work. In this case, the manager is tend to ignore his employees. He is impatient and according to his opinion, the value of a human being depends on his performance, thus visible results are much more important than invisible relationships.
- Lack of feedback – in my opinion, it is in connection with emotional intelligence. Relating studies have been highlighted in recent years. Everybody needs certain feedback depending on the type, the quantity and quality which can vary.
- There is no place for the independence – the autonomy the non-conform, the eccentric employees with different way of thinking can have difficulties in accommodating to the rigid systems. If the manager sticks to his standpoint and structural scheme of the company too strictly, he may lose his most talented employees.
- Dictation decision making
- They do not delegate the work – the main cause of it, that they are afraid of losing their power, as well as work carried out badly or well, and they have a fear of being relied on other people; they lack the knowledge of methods and their own experience.
- Communicational chaos – the hints of it: chaos and inappropriate operating system wasting sources through projects, which come to a halt in the middle, bad work moral.
- Neglecting the signs of community culture – whether it is clearly outlined what sort of values and principles are considered significant
- Success without descendant – without descendant the question may arise: Who will run the business in the future?
- They do not concentrate on the future – although one of the manager's tasks is to develop prospects for the future by giving guidelines to achieve this. József Poór (2001) declares the most common problems of micro and medium sized enterprises "club culture" and describes if like a spider web, (Handy's power type culture) and explains it by role conflict.

In the club culture the key of efficient operation is honesty, empathy, and motivation. We have to make a difference between the owner, manager and the employee manager, because they carry different interests and behaviour. The owner manager has different roles, since he is an entrepreneur, a manager and an expert at the same time. Michael Gerber highlighted the problems coming together with this. (1995)
The results of deep interview I have conducted in this issue also supported this phenomenon.
The questions of my interview aimed the following areas:

- What is the situation of micro and small enterprises and what sort of problems do they have?
- What pieces of advice should be given to enterprises?
- How easy and simple to reach these enterprises?

The interviewees included a manager of a company dealing with tender management, managers of a consultancy company, and a representative of the local chamber and a representative of the labour service office.

1. How can they judge the current situation of micro and small enterprises and what problems do these companies have?

- The activity of micro and small enterprise are operative, their energy is used up by solving short term problems
- Their bureaucrative and administrative burden is relatively high; exploitation of contributions is a significant problem for most of them.
- All the interviewees mentioned the difficulties caused by the lack of sources, which is a barrier of development
- A lot of enterprises do not have the classic enterprising features such as risk taking, capital investment
- The so called "jungle fighters" do not unite their power, do not cooperate with one another they run a badly understood market completion, they do not know the game of "win – win".

- A few of them can make forward planning, many of them make short – term plans. Mainly in the case of micro enterprises we can see the phenomenon that those people can become entrepreneurs who are willing to plan in short time.
- Most of them do not have strategic objectives at all, thus their tender activities are ad-hoc.
- Most of them struggle with the lack of proper education and relevant language knowledge.
- The lack of managerial competence, the insufficient or distorted professional knowledge how to do business based on not real business performance but on relationships only.
- They cannot leave their own world.
- They are too cost sensitive trying to save money even if is unwise

2. What pieces of advice should the enterprises need?
- Consultation can be considered as a decoder of messages drifting towards the enterprise and the definition of replies.
- In many cases, not managerial but personal consultancy is needed together with self management. To do this, self-recognition is inevitable
- Getting familiar with those techniques, which enterprises can apply in the future

3. How simple or easy to reach these enterprise?
- It is very difficult to reach micro and small enterprises, thus building a database system is problematic.
- Data security also makes it difficult to reach the enterprises.
- The operation of background organizations is not efficient enough. One of the reasons is the lack of capacity, the other one is the lack of trust, which can be dated back to political and personal differences

National approach of consultancy

According to István Tótfalusi (2001) advice is a helping suggestion from a more experienced person.
According to the encyclopaedia: advice is a suggestion what to do; discussion, consultancy, decision making panel; a committee which makes a verdict to the Supreme Court. Its synonyms: suggestion, tip, idea, notion, guideline, committee, panel, gathering, advisory board, Supreme Court, conclave.
József Poór divides the approaches relating to managerial consultancy into 2 groups:
1. Ability to give help: it includes those authors who claim that all the activities, aim of which is giving help can be considered consultancy. In this case, anybody can give advice (Hungarian Word Origin Encyclopedia)
2. Organization: advising can be considered a professional service which can be done with the existence of certain factors.

Advising is a kind of professional service, which is given to organizations or managers of organizations by internal or external companies, in order that they could help the enterprise to achieve their objectives, reveal and solve their problems, identifying their possibilities, acquiring their necessary skills and fulfil the changes. (József Poór 2005. p. 23.)
According to Éva Nádor, the notion of business consultancy is the following:
A professional advisory service is a service given by an internal or external advisor, within the framework of a contract, or in return of certain fees, in other words, it is an official advisory expertise activity.

According to Rob Tonge (1986) advisory service is nothing else than:
- being aware of the clients problems and wishes
- finding solutions, which can fulfil the clients requirements
- accessing it at a reasonable price
- providing the service at the highest level
- fulfil the service by the given time and within the given financial limit

There is a strong connection among the development and changes of economy, society and advising, thus certain advisory areas are highlighted, and others stay behind. That is why newer and newer advisory services are appearing in the market from time to time. But the requirement for advisory services is

unstable. Namely in which points should the requirements be fulfilled to reach the objectives or avoid failures.

Table 1. 12 point of advising

The main characteristic successful	Facts leading to failure feature of a advisor
1 Knowledge of business environment and industrial	1 Overburden
2 Be able to motivate himself	2 Not identifying the limits of professional
3 Decision making ability	3 exaggerated financial demand
4 Willingness to do flexible working hours	4 under billing
5 Willingness to listen to other people	5 exceeding the financial offer
6 High level of tolerance	6 Knowing everything behaviour
7 Objectivity	7 Giving higher salary to under ranked
8 Anticipations	8 Not efficient time for marketing offer
9 Ability to search for information	9 Poorly written and handed in offer
10 Ability to communicate in the client's language	10 Left behind the deadline at billing
11 Paying attention to details	11 Lack of control outstanding accounts
12 Fulfilments of requirements	12 illegal use of the client's name

Source: Rob Tonge (1986)

In accordance with József Poór's research work the national managers have identified 4 problem areas

Table 2. General acceptance of giving guidance

Order	Characteristic features
1.	They acquire the task and the firm on the employee's money
2.	Overgeneralized with few practical value
3.	Requires long and tiring fulfilling process
4.	The advisor's have insufficient practical knowledge

Source: József Poór (2000)

The types of advisory organizations

1. Organizations specified in business advisory
   a) A local advisory firm: its market and clients are local, using ordinary advisory techniques. It has no export and offers local services
   b) International firms: Globalization, finding potential market, profit orientation is the main motivation factors
   c) Boutiques provide everything: They are firms including all the advisory activities (business reliability, business advisory service, firm financing, IT, e-business, human resource advisory service, outsourcing, risk advisory service, taxing) Nowadays the efficiency of these enterprising are questioned.
   d) Specialized enterprises: They concentrate on certain areas of business activity (marketing, informatics, EEM, Quality assurance etc.) or they concentrate on definite client circle.
   e) Professor advisors and gurus: They play a significant role in spreading managerial theories and methods. The lecturers in higher education are playing more and more significant role.
   f) Individual advisors: The advisor works together with only 1 or 2 assistants in his own business. In many cases these enterprises successfully compete with big advisory companies due to their flexibility and low prices
   g) Advisory network: It is a useful tool of small and medium sized local advisory companies.

2. Other areas relating to business advisory activities, which are not included directly to the restricted areas of advising
  a) Tax advisors, book keepers, auditors, reveal the connections relating the whole organization, thus they can give overall advice. Book keepers and tax advisors play especially important role in micro and small enterprises as primary sources of information.
  b) Head-hunters: the activities of these companies have a lot common in advisory activities. In ethnical reasons, an advisory company never does headhunting activity.
  c) Financial institutions, insurance companies
  d) Attorneys
  e) Producers: They have realized that the success of their sales is highly influenced by the advice provided for the customers
  f) Sectorial alliance, chambers

3. Borderline areas
  a) Helping advisory service: the areas of personal oriented advisory firms such as choosing a career, marriage guidance, educational guidance, etc.
  b) Engineer advising
  c) Agricultural advising

4. Other specific areas
  a) Internal advisors
  b) Specific alliances of advisors

5. Tasks of micro and medium sized enterprises from advisory side
  - conscious business planning, market development
  - searching for and occupying local markets by update marketing tools
  - identifying not only competitors but also potential cooperation possibilities in the market participants - They keyword is: Learn how to cooperate! Unification of power sources!
  - involving in different projects, profit change or expand if there is stagnation or significant decline in the activity
  - reasonable expansion – appearing in new local markets introducing up to date management system strengthening enterprise mobility
  - cost efficient operation
  - highlighting forward planning instead of short term way of thinking
  - applying up to date technologies – cost efficient energy use

Summary

Nowadays, in Hungary there is a social layer having a chance to run a micro or self employed enterprise, and development of which is necessary due to economic and social reasons, and demand of which relating to solving problems are not totally exploited by market participants.

This layer should be a potential market target of different advisory organizations.

To achieve success, it is necessary that aspirant entrepreneurs should have the right background to accept contributions and advice.

Advisory organizations, enterprises try to show more and more contributory and problem solving possibilities in vain if on the recipient side there are no suitable conditions.

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Intellectual Capital Accounting – How It Works

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Abstract

Knowledge-based economy requires a new perspective on the issues of accounting and finance. Traditional financial accounting focused on capital significantly reduces the possibility of obtaining true and fair view of the knowledge-based enterprise in its financial statements. The article presents the theory of intellectual capital accounting as a system of equations: (1) the equation of financial capital, (2) the equation of intellectual capital and (3) the equation of relational capital. Further, the article presents basic tools of intellectual capital accounting on simple examples: (1) a personal knowledge balance sheet for a knowledge worker, (2) a book of intellectual capital and knowledge-based balance sheet for an enterprise.

Key words

intellectual capital, financial accounting, knowledge-based enterprise, knowledge worker

Capital-centered theory of traditional financial accounting

Modern management theory is dominated by the opinion that successful functioning of an enterprise in the competitive market requires specific competences (cf. *core competency*). Such a statement is also significant for intellectual capital accounting. But traditional financial accounting is concentrated on financial capital. Its paradigm has been shaped throughout last 500 years (Pacioli, 2007), together with the development of capitalist economy. The capital paradigm of accounting fails to fully keep up with the evolution of real economy.

In traditional capitalist economy, the balance sheet equation was the most often presented as follows:

assets = owner's capital + debt capital

From the logical point of view, the scheme mentioned above is beyond doubt. However, it is worth noticing that it is formulated in a specific way, which closes accountant's imagination to the economic resources reaching beyond the criterion of transferable assets (capital). Such a form of the equation was sufficient in the period of great commercial revolution and great industrial revolution. Nowadays, it is legitimately considered insufficient.

In the era of knowledge-based economy, the balance sheet equation should be presented at a higher level of generalization, i.e.:

assets = capitals

This form of the equation allows to derive different specific equations, the scope of which reaches beyond the financial capital. Such an equation system is presented in Table 1.

Table 1. Theory of postindustrial accounting expressed as system of equations

General equation	Specific equation	Designation of specific equation
assets = capitals	traditional assets = owner's capital + debt capital	the equation of financial
	competence assets = intellectual capital	the equation of intellectual
	marketing assets = relational capital	the equation of relational

Source: author's studies.

All specific equations presented in Table 1 are deductively derived from the general equation. They constitute a base for a traditional balance sheet, but also for the knowledge-based balance sheet and full

balance sheet (Niemczyk, 2011a). In the era of postindustrial economy, these are knowledge-based balance sheet and full balance sheet that represent true and fair view of the knowledge-based enterprise.

Knowledge worker as an intellectual capital disposer

In the system of intellectual capital accounting knowledge worker is perceived as an economic "micro entity" operating within the structure of the entire knowledge-based enterprise. This knowledge worker, being the disposer of his personal competences, is inevitably co-responsible for the revenues and expenses of a knowledge-based enterprise, so in consequence also for its financial result. For this simple reason, there exists an objective need of registering the economic value of knowledge workers' competences, which globally constitute the core of competence of the entire knowledge-based enterprise.

Basic methodology of registering the competences controlled by an individual knowledge worker (accounting micro entity) is presented in Example 1.

Example 1

Young journalist, Mr. Brown, graduated from the faculty of journalism. According to the educational note issued by the university, the economic value of his studies amounts to €12.000. During his studies, Brown participated also in the German language course, for which he paid €2.000 in total. Then, he took part in the professional course of journalist photography for which he obtained a non-repayable grant from a public institution in the amount of €1.200. Having completed the course, he found a job in the information agency (see Example 2). The head of the agency financed for the new employee additional professional training worth €500.

Prepare a personal knowledge balance sheet of the journalist (Niemczyk, 2013, p. 211).

Solution

economic value of knowledge = €12.000
economic value of skills = €2.000 + €1.200 + €500 = €3.700
owner's intellectual capital = €12.000 + €2.000 + €1.200 = €15.200
outside intellectual capital = €500
verification: €12.000 + €3.700 = €15.200 + €500, so "competence assets = intellectual capital"

Journalist Brown PERSONAL KNOWLEDGE BALANCE SHEET			
Assets		**Intellectual capital**	
Competences	15.700	Competences – funding sources	15.700
- knowledge (journalist studies)	12.000	- owner's intellectual capital	15.200
- skills (courses and trainings)	3.700	- outside intellectual capital	500
Total assets	**15.700**	**Total intellectual capital**	**15.700**

In practice, personal knowledge balance sheet presented in Example 1 should constitute the most important element of employee records, representing job qualifications and career development of a natural person. *Curriculum vitae* is an efficient means of providing details on the information included in a personal knowledge balance sheet.

The system of intellectual capital accounting

In traditional financial accounting, current registering patterns, regulated by the standards of national and international balance sheet law, are insufficient to present a true and fair view of the knowledge-based enterprise. That is why, the instruments of postindustrial accounting reach further than traditional accounting and they include among others competence book and knowledge-based balance sheet. Example 2 presents their main principles.

Example 2

At the beginning of the accounting period, Information Agency „Press" Ltd controlled the following assets included in the knowledge-based balance sheet:

Information Agency „Press" Ltd KNOWLEDGE-BASED BALANCE SHEET (01.01.20X1)			
Assets		**Capitals**	
Current assets	150.000	Borrowed financial capital	
- cash	60.000		
- short-term receivables	90.000	Own financial capital	
Fixed assets	150.000	- share capital	300.000
- tangible assets	150.000		300.000
Competence assets	402.000	Intellectual capital	402.000
- knowledge	160.000	- intellectual capital received	240.000
- skills	130.000		
- experience	112.000	- intellectual capital generated	50.000
		- experience capital	112.00
Total assets	**702.000**	**Total capitals**	**702.000**

In the accounting period, the following business operations occurred:

1) employment relationship was established with young journalist Brown, whose personal knowledge balance sheet is as follows[1]:

Journalist Smith PERSONAL KNOWLEDGE BALANCE SHEET			
Assets		**Intellectual capital**	
Competences	15.200	Competences – funding sources	15.200
- knowledge (journalist studies)	12.000		
- skills (courses and trainings)		- owner's intellectual capital	15.200
	3.200	- outside intellectual capital	-
Total assets	**15.200**	**Total intellectual capital**	**15.200**

2) The head of the agency financed for the new employee additional professional training worth €500, the training was successfully held,
3) commercial invoice for the amount of €500 was received from the training company,
4) training company's commercial invoice for the amount of €500 was paid,
5) commercial invoice was issued for the client of the agency – web portal publisher – for periodic access to current press information for the amount of €5.000,
6) financial result was calculated.

Create bookkeeping accounts, present business operations on them and prepare knowledge-based balance sheet for the end of the accounting period. CIT and VAT issues were omitted for simplification purpose.

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[1] This personal knowledge balance sheet does not yet take into account the operation number two, that is why its total is lower by €500 in comparison with the personal knowledge balance sheet presented in the solution for Example 1.

Solution

Competence assets – knowledge			
OB	160.000		
(1a)	12.000		
	172.000	-	
		172.000	CB

Intellectual capital – received			
		240.000	OB
		15.200	(1c)
	-	255.200	
CB	255.200		

Competence assets – skills			
OB	130.000		
(1b)	3.200		
(2)	500		
	133.700	-	
		133.700	CB

Intellectual capital – generated			
		50.000	OB
		500	(2)
	-	50.500	
	50.500		

Competence assets – experience			
OB	112.000		
	112.000	-	
		112.000	CB

Intellectual capital – experience capital			
		112.000	OB
	-	112.000	
CB	112.000		

Fixed assets – tangible assets			
OB	150.000		
	150.000	-	
		150.000	CB

Share capital			
		300.000	OB
	-	300.000	
CB	300.000		

Accounts receivable			
OB	90.000		
(5)	5.000		
	95.000	-	
		95.000	CB

Accounts payable			
(4)	500	0	OB
		500	(3)
	500	500	
CB	0		

Current account			
OB	60.000	500	(4)
	60.000	500	
		59.500	CB

Financial result			
(6b)	500	5.000	(6a)
	500	5.000	
CB	4.500		

Expenses			
(3)	500	500	(6b)
	500	500	
	-	-	

Revenues			
(6a)	5.000	5.000	(5)
	5.000	5.000	
	-	-	

Trail balance can be prepared in order to verify if the bookings are correct.

Information Agency „Press" Ltd **KNOWLEDGE-BASED BALANCE SHEET (31.12.20X1)**			
Assets		**Capitals**	
Current assets	154.500	Borrowed financial capital	-
- cash	59.500		
- short-term receivables	95.000	Own financial capital	304.500
		- share capital	300.000
Fixed assets	150.000	- financial result	4.500
- tangible assets	150.000		
		Intellectual capital	417.700
Competence assets	417.700	- intellectual capital received	255.200
- knowledge	172.000		
- skills	133.700	- intellectual capital generated	50.500
- experience	112.000		
		- experience capital	112.000
Total assets	**722.200**	**Total capitals**	**722.200**

Income statement for the year 20X1:

+ revenues	5.000
– expenses	500
= financial result	+ 4.500

Accounts for competence assets and intellectual capital presented in example 2 constitute a competence book which allows to have an insight into the competences controlled by an enterprise. As far as knowledge-based balance sheet is concerned, it expands a traditional balance sheet by representing true and fair view of the knowledge-based enterprise. This form of balance sheet constitutes a starting point for the postindustrial financial analysis of an enterprise (Niemczyk, 2014).

Summary

Intellectual capital accounting is understood in procedural sense as a system of constant recognizing, grouping, presenting and interpreting of general and specific numeric data concerning economic resources controlled by a knowledge-based enterprise. These resources are expressed in monetary terms, balanced and have got influence on financial result.

The article presents arguments for the statement that the scope of postindustrial accounting is wider than traditional accounting when it comes to the following issues (cf. Niemczyk, 2011b, p. 40):
- identification and valuation of competence assets,
- registering competence assets and intellectual capital,
- competence assets account and determining their influence on financial result,
- settlements connected with competence assets and intellectual capital,
- financial reporting of intellectual capital.[2]

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[2] In a more developed version of postindustrial accounting, marketing assets and relational capital are also entered into accounting books (cf. Niemczyk, 2013).

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Redistribution of Non-Repayable Funds in the Energy Industry in Slovakia

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Abstract

Operational Programme Competitiveness and Economic Growth for years 2007-2013 has been prepared in connection with the strategy of the National Strategic Reference Framework. Mentioned document represents a basic material which formulates the direction and support of innovation, industry, tourism and other selected services utilizing the growth potential of regions. The article examines the contribution of non-refundable amount of allocated funds within that operational program. In the priority axis 2 Energy the article focuses on the Measure 2.1 Increasing energy efficiency in production and consumption and introducing advanced technologies in energy. The aim of the article is to analyze and compare the height and redistribution of non-repayable funds for the 2007 - 2013.

Key words
Priority axes, Measures, Operational programme, Energy sector

National Strategic Reference Framework

As a new member state of the European Union, the Slovak Republic for the first time used the EU funds for cohesion policy based on the document **Community Support Framework** in 2004 – 2006, i.e. in the shortened programming period that for the EU 15 Member States began in 2000. The programming period of 2007 – 2013 was therefore the first one in which Slovakia has the opportunity to use the EU funds throughout its duration, based on a document called **National Strategic Reference Framework**.

Over the 2007 – 2013 programming period, the EU cohesion policy was implemented by streamlining the fund contributions to three main objectives: "Convergence", "Regional Competitiveness and Employment" and "European Territorial Cooperation". Under the Convergence objective, the entire Slovakia was eligible for the Cohesion Fund financing. For the Structural Fund financing under that objective, the entire Slovakia except for the Bratislava region was eligible, covering 88.84 % of Slovakia's population. The area of Bratislava region with its population of 601 132 (11.16 %) falls under the Regional Competitiveness and Employment objective. As for cross-border cooperation, the European territorial cooperation objective applies to NUTS 3 border regions; in case of supra-national cooperation, supra-national areas are eligible for that objective (their list is issued by the European Commission); in case of inter-regional cooperation, cooperation networks and information sharing, the entire Community is eligible.The NSRF covers the Convergence objective and the Regional Competitiveness and Employment Objective. It does not include the European Territorial Cooperation objective. (NSRF, 2007)

Operational Programme Competitiveness and Economic Growth

The draft Operational Programme Competitiveness and Economic Growth for 2007-13 ("OP C&EG") was prepared by the Ministry of Economy of the Slovak Republic ("MoE SR") in compliance with Resolution of the Government of the Slovak Republic No. 837/2006 of 8 October 2006 concerning the justification and proposal of the 2007-13 Operational Programme for the Ministry of Economy of the Slovak Republic, in compliance with Resolution of the Government of the Slovak Republic No 832/2006 of 8 October 2006 concerning the proposed update of the National Strategic Reference Framework of the Slovak Republic for 2007-13, document "Proposal on revision of the NSRF SR 2007-2013 proposal following comments of the European Commission and negotiations with the European Commission" approved by the Government Resolution of the Slovak Republic No. 407 of 2 May, 2007 and in accordance with applicable EC regulations for the programming period of 2007-13. (Ministry of Economy SR, 2007)

The OP C&EG elaborates the specific priority of the NSRF SR "Support to the competitiveness of industry and services mainly through innovations" by Priority Axis 1 "Innovations and Competitiveness Growth", Priority Axis 2 "Energy Sector" and Priority Axis 3 "Tourism", which are hierarchically classified as a specific priority under Strategic Priority 2, "Knowledge Economy".

The Priority Axis 2 „*Energy Sector*", in which the objective is to increase energy efficiency in production, transport and consumption of energy, decrease energy intensity in industrial production, consumption of primary energy sources and increase exploitation of renewable energy; it is aimed at support of entrepreneurial activities by which decreasing energy intensity to a unit production in industry will be reached and ensuring accessibility of energy for entrepreneurial sphere as well as increasing exploitation of renewable energy sources.

Table 1. Measures proposal for Priority Axis 2 "Energy Sector"

Priority Axis of the Programme	Name of Measure
2 – Energy Sector	**2.1** Increasing energy efficiency both on the side of generation and consumption and introducing advanced technologies in the energy sector
	2.2 Establishment and modernisation of public lightening for towns and municipalities and providing consultancy in the field of the energy sector

Source: processed according to Operational Programme Competitiveness and Economic Growth

Measure 2.1 – Increasing energy efficiency both on the side of generation and consumption and introducing advanced technologies in the energy sector

The purpose of this measure in the energy sector is to drive the energy intensity closer to the level comparable with that of the EU-15, achieving energy savings, increasing the efficiency of the use of primary energy sources with the purpose of reducing energy costs, as well as increasing the proportion of consumption of renewable energy sources in the total energy consumption. Support will be provided to activities leading to increasing the use of renewable energy sources as well as to activities aimed at savings and efficient use of energy in industry and services related thereto.

Results

- Energy savings, reduction of energy intensity, reduction of energy consumption in the industry and services related thereto;
- Modernised existing energy sources (reduction of the environmental pollution by technologies generating energy and electricity, increased efficiency of power and heat generating plant);
- Increased proportion of electricity generated from renewable sources in the total production resulting from the use of biomass, building small hydropower plants and other alternative energy sources. (Ministry of Economy SR, 2007)

Table 2. Eligible activities in Measure 2.1

	Group of eligible activities
2.1.1	Energy savings in all areas of industry and services, including insulation of buildings to improve their thermal properties
2.1.2	Combined generation of electricity and heat
2.1.3	Use of renewable energy sources, ie. construction, modernization or reconstruction: small hydroelectric power stations, facilities for energy uses of biomass and biogas, facilities to produce biofuels and biogas, facilities for the use of solar energy, facilities for the use of geothermal energy
2.1.4	Reconstruction and modernization of existing energy sources based on fossil fuels to increase equipment efficiency or for renewable energy
2.1.5	Reconstruction of existing thermal facilities for heat distribution (eg, improving insulation of piping, introducing systems that monitor heat loss, reconstruction of heat exchange stations, etc.)
2.1.6	Other similar eligible activities that support the objectives of the measure

Source: processed according to Programme manual to Operational Programme Competitiveness and Economic Growth

Financing in the programming period 2007 - 2013 according to the regions

Figure 1. Finance Sources of the Operational Programme Competitiveness and Economic Growth according to the regions in the years 2007 – 2013 in EUR
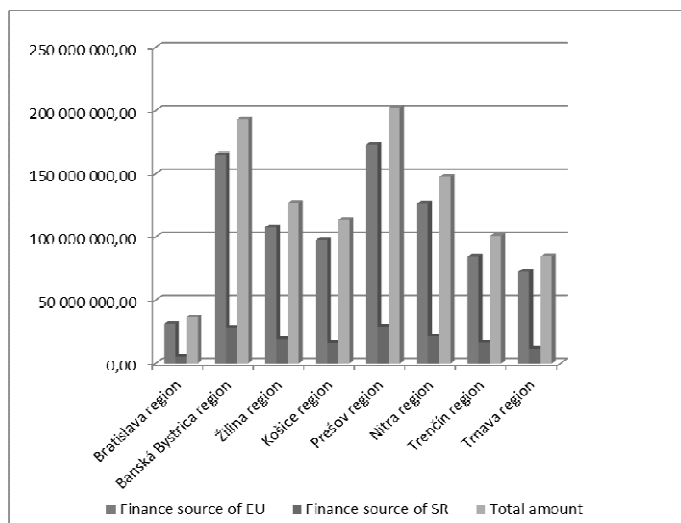
Source: processed according to List of beneficiaries of EU Structural Funds for PP 2007 - 2013, National Strategic Reference Framework

In the framework of the Operational Programme Competitiveness and Economic Growth, over the period 2007 - 2013 the total amount of contracted resources was 1 005 800 415,04 EUR. The lowest share of this amount went to projects carried out in the Bratislava region with 4 %. The second region with the lowest share of contracted resources was Trnava region with a share of 8 % of the total volume of resources provided. The third region with the lowest number of the aid granted was Trenčín region with a share of 10 % of the total volume. Košice region follows with reached 11% of the total volume of contracted resources and in the Žilina region, the share of resources was 13 %. The third region with the highest proportion of contracted resources allocated within the Operational Programme Competitiveness and Economic Growth was Nitra region with a 15 % share. Banska Bystrica region received 19 % of the total volume of recources provided. The highest volume of contracted resources went within this operational program in the years 2007 - 2013 in Prešov region, accounting for 20% of the total volume of the resources provided. In all regions, the projects were supported in the ratio of 85% from EU sources and 15% from the state budget.

Figure 2. The amount of contracted resources in the Operational Programme Competitiveness and Economic Growth according to the regions in the years 2007 - 2013 in EUR
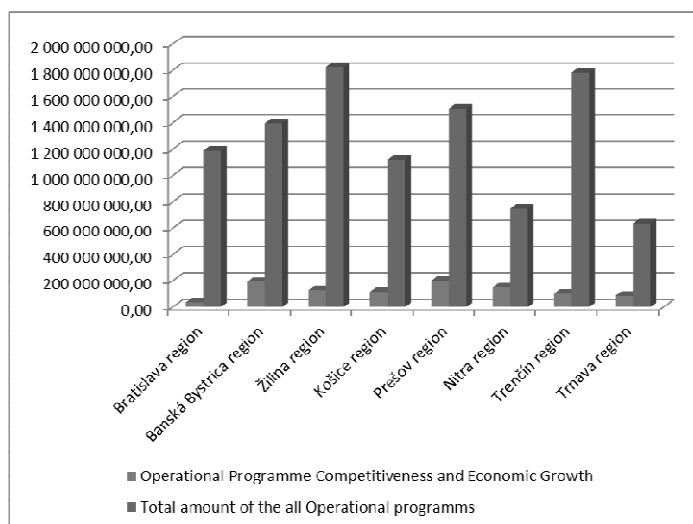
Source: processed according to List of beneficiaries of EU Structural Funds for PP 2007 - 2013, National Strategic Reference Framework

Fig 2 shows the shares of the amount of the contracted resources within the Operational Programme Competitiveness and Economic Growth according to the regions in the years 2007 – 2013 to the total amount of the all operational programms. In all operational programs in that period was spent in total of 10 218 849 484 EUR. The most resources received the projects from the Žilina region with share of 18 % of the total, while the Operational Programme Competitiveness and Economic Growth (OP CaEG) had share of 7 %. Followed by Trenčín region, which received 17 % of the total and from which was 6 % of the OP CaEG. The third was the Prešov region, accounting for 15 % of total resources and from which was 13 % in the OP CaEG. Banska Bystrica region received 14 % of the total amount and from which was 14 % of the OP CaEG. Fifth lowest share of total amount had Bratislava region with its 12% and from which was 3 % of the OP CaEG. Followed by the Košice region with 11 % of the total volume and that 10 % of the OP CaEG. Penultimate region in terms of volume of funds for projects under all operational programs Nitra region with a share of 17 % and 6 % that the OP CaEG. The lowest amount of resources in the period earned Trnava region with a share of 6 % and that 13 % of the OP CaEG.

Figure 3. Amount of contracted resources in Measure 2.1 in EUR
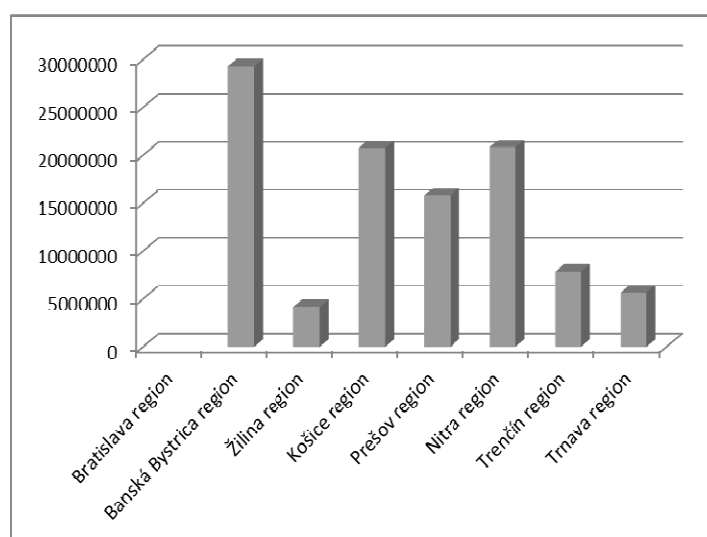
Source: processed according to Slovak Innovation and Energy Agency

Fig 3 shows the shares of the volumes of the amount of contracted resources in Measure 2.1 – Increasing energy efficiency both on the side of generation and consumption and introducing advanced technologies in the energy sector. Total volume of the contracted resources in Measure 2.1was 104 380 928 EUR. Bratislava region had share of 0 %, Banska Bystrica region 28%, Žilina region 4 %, Košice region 20 %, Prešov region 15 %, Nitra region 20 %, Trenčín region 8 % and Trnava region 5 % of the total volume of resources spent within the Measure 2.1.

Summary
The goal of the support to be provided under OP C&EG is to maintain and foster the competitiveness and efficiency of the manufacturing potential of industrial production and of the energy sector, as well as the potential of tourism and other selected services, whilst respecting the conditions of sustainable development, and thereby effectively contribute to enhancing the economic performance of Slovakia as a whole, and reduce the existing disparities in the economic performance of individual regions of Slovakia. Attention is also paid to supporting those activities that have a positive impact on employment and development of innovations.

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The Textile Industry in the SR: Present and Perspectives

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Abstract

This article describes the current situation in the textile industry in Slovakia. The current situation is analysed through selected indicators. This article tries to show the influence of the crisis on this industry. At the end of this paper, there are described some perspectives for this industry for future. This industry has been chosen for its long history in Slovakia, and we try to show its perspectives in the economy of the SR.

Introduction

According to the classification of industrial activities (SK NACE) textile and garment industries are included in Section C, Section 13 and 14. Section 13 includes production of textiles and section 14 production of garments. These sections are further divided into groups and subgroups in the textile and clothing industries.

At present, the status of the textile and clothing industries has been in a worse situation than in the past. (Kiseľaková, 2008) The most significant reason is considered the import of this type of products into Slovakia, which is much cheaper and also of lower quality. The current situation is influenced by the low purchasing power of the Slovak population, which creates scope for competition of cheaper, though less quality goods which are imported mainly from Asian countries.

One of the major causes of this recession of textile and clothing production in Slovakia, but also in the neighboring countries of the European Union, was the ongoing economic crisis in 2007 - 2010. (Kubák et. al, 2012) During this period textile and clothing production experienced the fall like the other sectors in the Slovak Republic. With regard to the size of the textile and clothing industries in Slovakia, the development of sales affected the disclosure of small businesses. (Jesný 2010).

Figure 1. The largest enterprises of the textile and clothing industries in the Slovak Republic (2013).

Source: Trend, 2014, own processing

According to the analysis of the Trend magazine in 2013 the largest enterprises of the textile and clothing industries in Slovakia are:

- Kufner Textil, s. r. o., Kúty,
- Bodet & Horst mattressticking, a. s., Vŕbové,
- Texiplast, a.s., Ivanka pri Nitre,
- Timm Slovakia, s. r. o., Trenčín,
- Ozeta Neo, a.s., Trenčín,
- Accord, a. s., Trenčín,
- Makyta, a.s., Púchov,
- Zornica Banko Fashion, a. s., Bánovce nad Bebravou,
- Eterna, s. r. o., Bánovce nad Bebravou,
- Belfein Slovakia, a.s., Čadca,
- Muller Textiles Slovakia, s. r. o., Myslina,
- Spilatex, s. r. o., Levice,
- Dipex, s. r. o., Sereď,
- Revúcke koberce syntetické, s. r. o., Revúca,
- Gemor Fashion, s. r. o., Prešov,
- Ozex, s. r. o. Prešov,
- Egotex, s. r. o., Prešov,
- Tytex Slovakia, s. r. o., Humenné,
- Zekon, a. s., Michalovce.

Aims and methodology

The article aims are to analyze the development of the textile industry in the Slovak Republic on the basis of selected indicators. For the analysis there were chosen the following variables:

- production,
- employment,
- the amount of the average nominal wage,
- sales,
- RCA 1 index.

During the elaboration of our analyses, we worked with data from the statistical office SLOVSTAT, information from various sectoral analyzes published for example in annual reports. We have also used information from the contributions of other authors dealing with the same issue.

In this paper, we have applied the method of analysis and the calculation of RCA index 1, which shows comparative advantage, respectively disadvantage of analyzed country in the given commodity on the international market.

Discussion

Table 1 and Graph 1 show the development of production (in mil. EUR) in textile and clothing industries in the Slovak Republic in 2009 -2012 with the forecast for the years 2013 and 2014. On this basis, the production of textiles grew in the given period, except in 2012, which was mainly related to the top of the crisis in Slovakia. Textile production declined only in 2010, in other years it had an upward trend. The highest production of garments was recorded in 2012.

Table 1. Development of textile and garment productions in the SR in period 2009-2012 (in mil. Eur).

	Production (in mil. Eur)	
	Textile	Garment
2009	189.788327	239.649124
2010	192.761343	226.999936
2011	246.107042	241.703832
2012	239.036848	242.143887

Source: Annual reports 2008, 2010, 2013.

Graph 1. Development of textile and garment productions in the SR in period 2009-2012 (in mil. Eur).
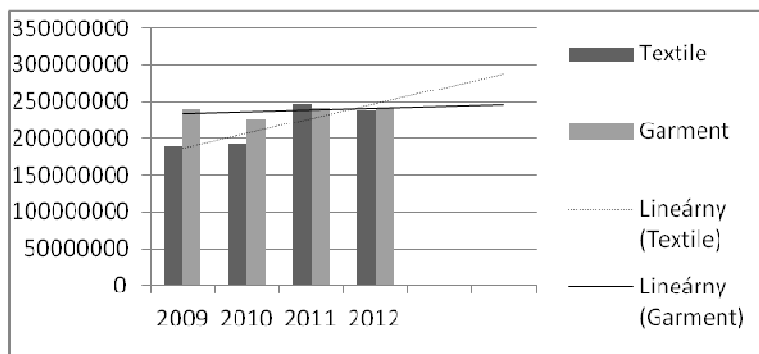
Source: own processing

Development of employment in the textile and garment industries in the given period had a negative trend. (Tej, 2012) Since 2009, employment in both industries has declined, with the exception of textile production in 2011, when the number of employees rose slightly. (Kotulič – Muchová, 2012) The following years 2013 and 2014 are assumed the falling number of employees in these industries.

Table 2. Development of employment in textile and garment productions in the SR in period 2009-2012

	Employees	
	Textile	Garment
2009	4,432	15,811
2010	3,875	12,758
2011	4,500	12,100
2012	4,384	11,370

Source: Annual reports 2008, 2010, 2013.

Graph 2. Development of employment in textile and garment productions in the SR in period 2009-2012
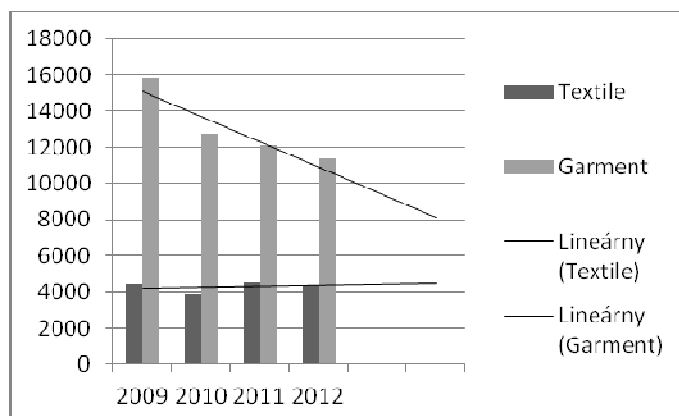
Source: own processing

In the area of the average monthly wage in the clothing industry there was recorded an increase in the whole observed period. Although monthly wage was increasing, still it does not reach the average values for the all industries of SR. The highest value was in 2013, when the average monthly wage was at € 568 in the textile industry, while the average salary in other Industries was higher by 200 €.

Table 3. Development of the average monthly wage in the textile and clothing sector in Slovakia in the years 2009-2013 (in EUR)

	2009	2010	2011	2012	2013
All industries	754.07	795	824	857	888
Production of textile, garment, leather and leather products	494.06	518	529	547	568

Source: Annual reports 2008, 2010, 2013.

Graph 3. Development of the average monthly wage in the textile and clothing sector in Slovakia in the years 2009-2013
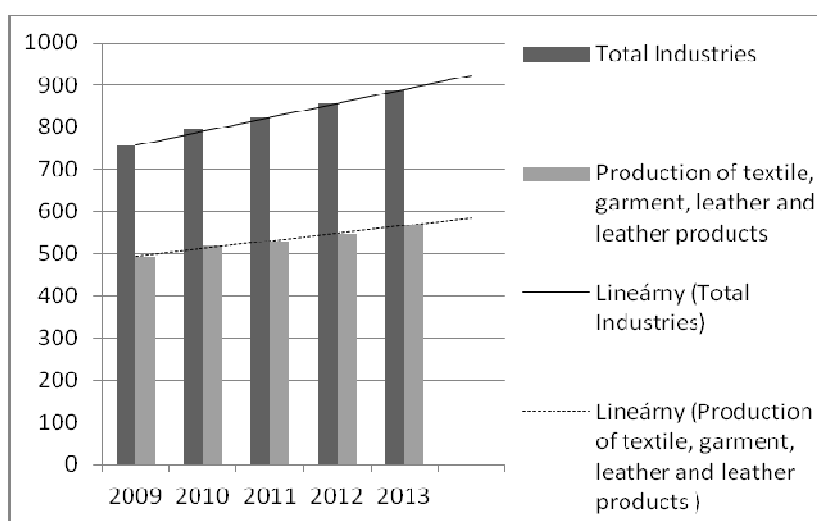
Source: own processing

The data in the tables and graph show that sales in the textile and clothing industries had an upward trend in the given period, while the decline in sales was only in 2010 in the clothing sector. The figure 4 displays the growth of sales in the textile industry and a less significant upward trend in the clothing industry.

Table 4. Development of sales in textile and garment production in the SR in period 2009 – 2012 (in Eur).

	Sales (in mil Eur)	
	Textile	Garment
2009	196.251305	244.685232
2010	199.489634	234.067549
2011	247.162842	247.439170
2012	247.278633	251.490180

Source: Annual reports 2008, 2010, 2013.

Graph 4. Development of sales in textile and garment production in the SR in period 2009 – 2012
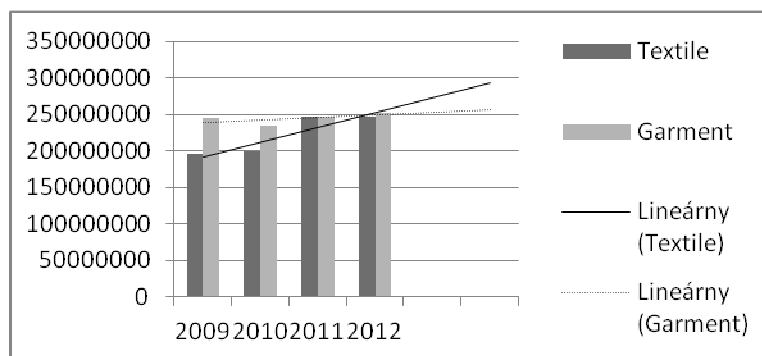
Source: own processing

Competitiveness Index RCA1 highlights the comparative disadvantage of most commodities in the textile and clothing industries. (Bobáková – Hečková, 2007), (Dubravská, 2011) This negative trend indicates higher import of commodities than their export. Commodities from silk in 2011 and garments other than knitted and crocheted in 2010 showed a comparative advantage, thus their export exceeded their import. The SR has the greatest comparative advantage in commodities of chemical and synthetic or artificial silk.

Table 5. RCA 1 index in textile and garment industries in the SR in period 2009 – 2012

	2009	2010	2011	2012
50 natural silk	-4,0935	-2,1564	0,6813	-1,5536
52 cotton	-1,4460	-0,9438	-0,8921	-0,7762
54 chemical and synthetic or artificial silk	0,3419	0,2521	0,6958	0,0998
57 carpets and other textile floor coverings	-1,6746	-1,4827	-1,6280	-1,2788
58 special fabric, lace, tapestry, embroidery	-0,8674	-0,6014	-0,5829	-0,2915
61 clothing and clothing accessories, knitted or crocheted	-0,2129	-0,0163	-0,1172	-0,1124
62 clothing and clothing accessories other than knitted or crocheted	-0,1070	0,0941	-0,0317	-0,0687

Source: own processing
Note: highlighted boxes represent areas with a comparative advantage of the SR in foreign markets

Conclusion

Clothing and textile sectors in the SR are in the period of stagnation. According to the analyzed indicators, a decline in employment is clearly displayed and under current development, we can also predict a decline in the following years. Modest growth is expected in the following years in production and sales. However, given results of the RCA index 1 and the growth of production volume present the fact, that the products from the SR are not competitive in the international market.

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Tax Havens in Global Economy – the Biggest Money Laundry Ever?

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Abstract

Low or zero taxes seem to be historically rooted in efforts to attract firms, whereas the protection of bank secrecy and other related information by law seems to be historically connected with the wealth of individuals. The first documented practice of offering lax regulation of incorporation was in the late 19th century in the U.S. states of New Jersey and Delaware. In the 1920s, the practice was imitated and brought to Europe – in particular, first to the canton of Zug in Switzerland, and then to Zurich and Liechtenstein. The term "tax havens" was introduced later, in the mid 20th century. Thus, tax havens in the contemporaneous sense are approximately 100 years old. The evolution of several tax havens can be traced to either British, Swiss or Benelux legal origins.[1]

Key words

tax havens, tax avoidance, tax evasion, international taxation, offshore financial centres

Introduction

A *tax haven* is a state, country or territory where certain taxes are levied at a low rate or not at all. Individuals and corporate entities can find it attractive to establish shell subsidiaries or move themselves to areas with reduced or nil taxation levels. This creates a situation of tax competition among governments. Different jurisdictions tend to be havens for different types of taxes, and for different categories of people and companies. States that are sovereign or self-governing under international law have theoretically unlimited powers to enact tax laws affecting their territories, unless limited by previous international treaties.[2] There are several definitions of tax havens. *The Economist* has tentatively adopted the description: *"What identifies an area as a tax haven is the existence of a composite tax structure established deliberately to take advantage of, and exploit, a worldwide demand for opportunities to engage in tax avoidance."* The Economist points out that this definition would still exclude a number of jurisdictions traditionally thought of as tax havens.

The OECD identifies the following *characteristics* of these jurisdictions:
1. very *low or no tax* on capital income,
2. a *special tax* regime for shell companies (ring-fencing),
3. a lack of *transparency* concerning ownership and/or lack of effective supervision,
4. no effective *exchange of information* on tax issues with other countries and jurisdictions.[3]

The second of these characteristics means, in reality, that tax havens create laws and systems through ring-fencing which primarily effect other states. This is a fundamental problem with tax havens. The first characteristic, concerning low or no tax on capital income, helps to make tax havens attractive, but it is the combination of this and the other distinguishing features which make them so damaging to other countries. What forms of taxation and levels of tax should apply to the state's own citizens and within its own jurisdiction must be a decision for each sovereign state alone.

The problem is that the damaging systems in tax havens primarily have a direct effect on the taxation rights of other countries, with income which should have been taxed where the recipient is domiciled, for example, being concealed in the tax haven. The sovereignty principle does not extend to granting freedom from tax on income which is wholly or substantially liable to tax in other states, even though it might seem that only recognised legal principles are being applied.

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[1] Shafik Hebous. *Money at the Docks of Tax Havens.* [online]. SSRN, 2011 [cit. 25.06.2014]. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1934164>.

[2] *Tax Haven.* [online]. Wikipedia, 2012 [cit. 25.06.2014]. Available at: <http://en.wikipedia.org/wiki/Tax_haven>.

[3] *Tax Haven Criteria.* [online]. OECD, 2011 [cit. 25.06.2014]. Available at:
<http://www.oecd.org/tax/harmfultaxpractices/taxhavencriteria.htm>.

The damaging structures in tax havens not only influence tax revenues in other states. These structures are also suitable for conducting and concealing a great many forms of criminal activity in which it is important to *hide* the identity of those involved, where the crimes are being committed and what they involve. This includes such activities as the *illegal sale* of valuable goods, weapons, narcotics, human trafficking, terrorism, corruption, theft, fraud and other serious economic crimes. Generally speaking, the structures are suitable for *laundering* the proceeds of criminal activity.

The term "tax haven" is often applied to offshore centres, leading to confusion between these two concepts. An "offshore financial centre" can be described as *"a politically correct term for what used to be called a tax haven."*[4] An *offshore financial centre* (OFC), though corporate and commercial services to non-resident offshore companies, and for the investment of offshore funds. The term was coined in the 1980s. Academic Spiegel, Société Générale, and the International Monetary Fund (IMF) consider offshore centres to include all economies with financial sectors disproportionate to their resident population.[5]

Role of tax havens

Capital is mobile. This is an old and widely acknowledged notion in the economics of taxation. The consequence of this idea is that countries compete over capital. Originally, models of international tax competition did not explicitly mention tax havens. Recent contributions incorporate tax havens in the model. Although all models agree that the existence of tax havens is a *drain on revenues in non-haven countries*, there are broadly two different views. One praises tax havens while the second finds them parasitic stressing their negative effect on resources.

The economic literature cites a number of positive aspects related to tax havens. In principle, tax havens could have a positive impact on prosperity in countries which are not tax havens and countries which are tax havens.[6]

Beneficial tax competition

Some commentators have maintained that a political system has an underlying tendency to set the level of taxation too high. In such circumstances, tax havens – with low or non-existent taxes – can help to keep taxes in other countries down. This is because other countries would lose part of their tax base to the tax havens if they set tax levels too high. In other words, the tax havens discipline politicians so that they do not increase taxes beyond levels desirable for the voters.

Increased investment in high-tax countries

Tax havens can contribute to increased activity in high-tax countries, and so do not crowd out investment there. Tax havens can contribute positively to a high level of investment if investors can transfer taxable profits from a high-tax country to a tax haven. This will increase the effective return on investment in high-tax countries and thereby make them more attractive for further investment. Alternatively, the use of tax havens can be a source of tax credits which would also reduce the effective tax rate on investment in high-tax countries. Furthermore, it might be that economic activity takes place in tax havens which involves the sale of low-priced goods and services (low-priced because they are not taxed) to high-tax countries. Such activities would also increase the return on investment in high-tax countries.

Economic development in the tax havens

Tax havens often display political stability, a well-functioning legal system, a democratic form of government, little corruption and a relatively well-qualified bureaucracy. One reason that countries become tax havens could be that low tax is not the only important attraction for mobile capital. Institutional conditions which assure the safety of investments and the conduct of financial transactions may also be important. The study shows that tax havens are well organised and that competition over capital sharpens the requirements for institutional quality and good politics. Since institutional quality is an important factor for economic expansion, competition over capital between tax havens helps to

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[4] *Offshore financial centers.* [online]. Wikipedia, 2012 [cit. 25.06.2014]. Available at:<http://en.wikipedia.org/wiki/Offshore_Financial_Centre>.
[5] Ibid.
[6] *Tax havens.* [online]. Ministry of Foreign Affairs, Norway, 2012 [cit. 25.06.2014]. Available at: <http://www.regjeringen.no/en/dep/ud/documents/nou-er/2009/nou-2009-19-2/5.html?id=572183>.

improve their growth prospects. The fact that a tax haven is able to develop strong institutions and that it must have these in place to be an attractive investment. Overall, this ensures cost-efficient handling of transactions and low risk for investors.

Negative effects[7]

We cannot see that the positive effects of tax havens outlined above are in any way sufficient to compensate for the damaging impact which has been identified. Tax havens impose losses on other countries because they weaken the ability of tax systems to yield tax revenues and encourage transfer pricing, economic crime and income transfers in general from high-tax to low-tax countries. The competition between high-tax and low-tax countries is not conducted on equal terms. Virtually all tax havens have a dual tax system, with extremely favourable rates for foreigners and more normal rates for residents. This type of discrimination does not occur to the same extent in other countries.

In addition, tax havens combine low or no tax with legal structures which prevent access to information by other countries, and which cut the link with real ownership while providing anonymity which caters to tax evasion in the country of domicile. So tax havens are not involved in competition on equal terms, but in a type of competition which is directly aimed at harming the economies of other countries. The fact that very limited real economic activity is conducted by the companies in tax havens which are offered zero or very low tax rates further supports this view. The tax havens thereby serve as pass-through locations for capital rather than as places which lay a sound basis for value creation and in which capital is genuinely invested locally.[8]

Damaging tax competition

Economic integration has made it easier to avoid taxation in one country by moving mobile taxable objects to other countries. Tax havens have contributed to reinforcing tax competition by offering secrecy rules combined with "zero tax" regimes. This is not tax competition.

Governments can in principle reduce the problem of competition over capital taxation by assigning the right to tax capital gains to the country in which the owner of the capital is domiciled rather than the one in which the capital has been invested. However, this principle has often proved difficult to enforce because it depends on the country of domicile obtaining information from the source country. Tax havens increase this problem because their secrecy legislation hinders insight by third parties.

The costs of tax competition affect all countries, but are higher for developing countries because they derive the larger part of their tax revenues from capital. This means that they face a greater threat of losing tax revenues and must accordingly reduce public sector investment.

Inefficient allocation of investment

To maximise the contribution to value creation, investment should be made where it obtains the highest *pre-tax* return – in other words, where the socio-economic return is best. However, taxes influence investor behaviour. The greater the difference between private and socio-economic returns, the more the tax system will impose an efficiency loss on the economy.

Tax havens can change investor behaviour and thereby increase the difference between socio-economic and private returns. This is because the profitability of some investments could be enhanced by routing them through tax havens. The existence of such jurisdictions and low/zero tax may mean that investments which would not have occurred if they were taxed under the usual rules are nevertheless made. This reduces the socio-economic return on the investments actually undertaken, so that tax havens have lowered overall value creation for society.

Effects of secrecy

The secrecy rules mean that tax havens can easily become pass-through locations where investors achieve anonymity from the tax authorities in their home country and from possible creditors.

The principal competitive parameter of tax havens is that they offer a combination of (a) tax affiliation without the investor or company needing to have real activity and (b) systems which hinder access to information. This cuts the link with real ownership and ensures anonymity, so that owners avoid having to

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[7] *Tax havens.* [online]. Ministry of Foreign Affairs, Norway, 2012 [cit. 25.06.2014]. Available at:
   <http://www.regjeringen.no/en/dep/ud/documents/nou-er/2009/nou-2009-19-2/5.html?id=572183>.
[8] Ibid.

pay tax in their own country of domicile. This is not tax competition in the traditional sense, but competition over offering the combination of low tax and tax evasion technology. Low tax serves as bait in order to charge for the sale of tax evasion technology. Income from these services is the real source of revenue for tax havens.

In reality, jurisdictions where no real activity occurs and where technology is provided to promote transfer pricing and tax evasion offer investors "weapons" for tax evasion in their country of domicile. This is not beneficial for the world economy because it has no effect other than to damage national and international welfare while simultaneously violating national rights to the tax base. Establishing "safe houses" to conceal criminal activity is not an acceptable competitive parameter.

Illegal transfer pricing

Much analysis has been conducted into the way multinational companies transfer corporate profits to low-tax countries through the pricing of intra-group transactions. Corporations engage in international tax planning to reduce their overall tax burden. Such strategies operate within the legal setup. Two principal methods are available to a multinational company for transferring profits from a high-tax to a low-tax country.

The first method is to *overprice transactions* from low-tax to high-tax countries and under-price transactions in the opposite direction. Such a strategy reduces the taxable profit in the high-tax country and, conversely, increases it in the low-tax country.

The second method is to *structure the balance sheet* of a company to minimise tax. One way of doing this is through debt financing of subsidiaries in high-tax countries in order to achieve large tax deductions there, while financing subsidiaries in low-tax countries by equity.

Multinational companies also use subsidiaries in tax havens as *pure holding companies* to achieve tax credits. Since capital income often goes untaxed in tax havens, tax on current profits is avoided. This makes it particularly attractive to use companies in tax havens as holding companies.

Another strategy is to transfer the *ownership of brand names* to subsidiaries in tax havens. These companies then charge royalties for the use of the brand name, reducing taxable profit in high-cost countries. A multinational company may have transferred such brand names to subsidiaries in tax havens at a very low price or free of charge. Such transfers of brand names, for instance, can be legal pursuant to the tax regime in certain countries. The fact that tax havens apply tax rates for foreigners alone which are effectively zero or close to zero makes such transactions very attractive. But it also means that high-tax countries lose a tax object which they might have been entitled to tax.

More unequal division of tax revenues

The use of tax havens also affects which countries have the right to tax capital income which can lead to a more unequal division of tax revenues. This problem is particularly associated with the taxation of capital gains by companies registered in a tax haven.

Under international tax law, both the country where an owner is domiciled (if a private individual) or registered (if a company) and the country where the company operates basically have the right to tax capital gains. A large network of bilateral tax treaties seeks to overcome the potential problem of double taxation which arises because more than one jurisdiction has the right to tax the same tax base. A characteristic of tax havens is precisely that a minimal link exists between the taxpayer and the jurisdiction.

Main offshore financial centres (ofcs)

Many offshore financial centres are current or former British colonies or Crown Dependencies, and often refer to themselves simply as offshore jurisdictions. The following jurisdictions are considered the major destinations for offshore finance:
- *Bahamas* - used to be the dominant force in the offshore financial world, but fell from favour in 1970s after independence.
- *Bermuda* - is market leader for captive insurance, and also has a strong presence in offshore funds and aircraft registration.
- *British Virgin Islands* - has the largest number of offshore companies.
- *Cayman Islands* - which has the largest value of Assets under management in offshore funds, and is also the strongest presence in the U.S. securitisation market.

- *Jersey* - is the most international of the British Crown dependencies, all of which can be counted as offshore centres. Jersey has particularly strong banking and funds management sectors and a high concentration of professional advisers including lawyers and fund managers.
- *Luxembourg* - which is the market leader in Undertakings for Collective Investments in Transferable Securities (UCITS) and is believed to be the largest offshore Eurobond issuer, although no official statistics confirm this.
- *New Zealand* - the most remote jurisdiction, has the advantage of being a true primary jurisdiction but with a tough but practical regulatory regime. It is well positioned for the Asian market but retains close ties to Europe.
- *Panama* - which is a significant international maritime centre. Although Panama (with Bermuda) was one of the earliest offshore corporate domiciles, Panama lost significance in the early 1990s.[9]

Jersey[10]

Jersey is a British Crown Dependency just off the coast of Normandy, France. Jersey is a self-governing parliamentary democracy under a constitutional monarchy, with its own financial, legal and judicial systems. It is not part of the United Kingdom, and has an international identity separate from that of the UK. Jersey is not a part of the European Union but has a special relationship with it, being treated as part of the European Community for the purposes of free trade in goods.

Picture 1. Jersey geographical location

Source: http://en.wikipedia.org/wiki/Jersey#Economy

Jersey's economy is based on financial services (43% of GVA in 2013). Thanks to specialisation in a few high-return sectors, at purchasing power parity Jersey has high economic output per capita, substantially ahead of all of the world's large developed economies. Gross national income in 2013 was £3.7 billion (approximately £40,000 per head of population).

The island is recognised as one of the leading offshore financial centres. Because VAT has not been levied in the island, luxury goods have often been cheaper than in the UK or in France, providing an incentive for tourism from neighbouring countries. The absence of VAT has also led to the growth of the fulfilment industry, whereby low-value luxury items, such as videos, lingerie and contact lenses are exported, avoiding VAT on arrival and thus undercutting local prices on the same products.

Although Jersey does not have VAT, Jersey's 0/10 corporate tax regime. All 'non-financial services entities' are liable for the 0% standard corporate tax rate, excluding utility companies, which pay income tax at 20%. For the purposes of the 10% tax rate, the new tax law defines a 'financial services company' as one registered, or holding a permit.The 10% rate applies to the following entities. All entities carrying

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[9] *Offshore financial centers.* [online]. Wikipedia, 2012 [cit. 25.06.2014]. Available at:<http://en.wikipedia.org/wiki/Offshore_Financial_Centre>.
[10] *Jersey.* [online]. Wikipedia [cit. 25.06.2014]. Available at: <http://en.wikipedia.org/wiki/Jersey#Economy>.

out banking business through a permanent establishment in the Island, whether through a Jersey company, through a branch or through some other structure.

Jersey's 0/10 corporate tax regime may prove to be short-lived, however, due to concerns expressed by the EU that it does not adhere to the 'spirit' of the Code of Conduct on Business Taxation. But Jersey is not subject to European Union fiscal legislation.

Cayman Islands[11]

The Cayman Islands are a British Overseas Territory located in the western Caribbean Sea. The territory is a major world offshore financial centre. Caymanians have the highest standard of living in the Caribbean. According to the CIA, the Cayman Islands GDP per capita is the 14th highest in the world.

No direct taxation is imposed on residents and Cayman Islands companies. The government receives the majority of its income from indirect taxation. Duty is levied against most imported goods, which is typically in the range of 22% to 25%. There are no taxes on profits, capital gains, income or any withholding taxes charged to foreign investors.

Picture 2. Cayman Islands geographical location

Source: http://en.wikipedia.org/wiki/Cayman-Islands#Economy

The Cayman Islands are a major international financial centre. The biggest sectors are banking, hedge fund formation and investment, structured finance and securitisation, captive insurance, and general corporate activities. The Cayman Islands are the fifth-largest banking centre in the world with $1.5 trillion in banking liabilities. There are 279 banks. Financial services generated 55% of the total economy. There are a number of service providers. These include global financial institutions including HSBC, Deutsche Bank, UBS, and Goldman Sachs; over 80 administrators, leading accountancy practices (incl. the Big Four auditors), and offshore law practices including Maples & Calder. They also include wealth management such as Rothschilds private banking and financial advice.

Though the Cayman Islands are involved in no major international disputes, they have come under some criticism due to the use of their territory for narcotics trafficking and money laundering. In more recent years, they have stepped up the fight against money laundering, by limiting banking secrecy, introducing requirements for customer identification and record keeping, and requiring banks to cooperate with foreign investigators.

Regulations[12]

A number of international organisations work on issues related to the harmful effects of tax havens and similar damaging structures in other countries. None of these organisations have a mandate directed specifically at tax havens, which is one of the reasons why they view such jurisdictions from different perspectives. International collaboration in this area is aimed primarily at money laundering and at establishing tax treaties that include the right to obtain information from other states on specific tax matters.

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[11] *Cayman Islands.* [online]. Wikipedia [cit. 25.06.2014]. Available at: <http://en.wikipedia.org/wiki/Cayman_Islands>.
[12] *Tax havens.* [online]. Ministry of Foreign Affairs, Norway, 2012 [cit. 27.02.2013]. Available at:
     <http://www.regjeringen.no/en/dep/ud/documents/nou-er/2009/nou-2009-19-2/5.html?id=572183>.

Tax treaties and efforts to combat tax evasion

Many other countries, have recently entered into treaties on double taxation or on information exchange with tax havens. Whether such treaties make a substantial contribution to the fight against tax evasion is a contentious issue.

International Monetary Fund

The goal of the IMF is to promote monetary and financial stability through, in part, international cooperation. This has been the starting point for the organisation's work in relation to tax havens.

The OECD

The OECD has worked since 1996 to improve transparency in tax havens and to prevent harmful tax practices. It published a report in 1998 entitled *Harmful Tax Competition: an Emerging Global Issue*. This defined the problem and what was regarded as harmful tax competition. The *Towards Global Tax Cooperation* report in 2000 included a longer list of possibly harmful tax regulations in member countries, as well as a list of 35 jurisdictions characterised as tax havens.

The EU

Cooperation within the EU provides a number of points where the work touches on tax havens. These include collaboration on fighting crime. Moreover, the EU places great emphasis on strengthening competition by ensuring a level playing field for all players offering the same product or service.

Conclusion

The peak of hits in the news addressing tax havens was recorded in the aftermath of the global economic crisis of 2008 – 2009. Whether for alleviating the fiscal pressure over the cycle or for other reasons, there seems to have been a consensus in favour of shutting down (or at least minimising) tax havens' operations. Tax competition, tax avoidance, and tax evasion activities are the hallmarks of most current economic research on the effects of tax havens in the global economy. The preponderance of works focus on corporations' strategies for seeking shelter from their home tax authorities.

Broadly, some analyses seek to emphasise some potentially desirable effects, or at least deemphasise the undesirable effects, of tax havens, while others express great concerns.

The efficiency argument posits that tax havens can have a positive effect on firms' investment at home. Also, tax havens can induce productivity of the financial sector via competition effects. Tax havens mitigate harmful tax competition among non-haven countries.

Worried voices emphasise the role of tax havens in supporting illicit business, corruption, money laundering, and holding back the pursuit of development in lower-income countries. Further research on these issues could help in designing regulations and taking measures to reduce the strong and negative influence of tax havens, and preserve the tax bases and revenues of the non-haven countries.

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The Competitiveness of EU According to Various Indexes

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Abstract

The competitiveness, the major phenomenon of nowadays, is the most frequent question for every government. Every state tries to find effective strategy to increase the country´s competitiveness and it apply also for European Union. The aim of this article is to analyze the competitiveness of European Union according to various indexes. The article also examines the other world hegemons in term of competitiveness and compare them to EU.

Key words

Competitiveness, European Union, Global Competitiveness Index, Doing Business

Introduction

The global economic and financial crisis brought forth first and foremost various challenges in global business. National representatives have understood that if they want to take the lead in this new global environment, they will have to focus especially on improving their own competitiveness, thus also strengthening their position on international markets. In our assessment of the economic position of the European Union and its member states from a perspective of competitiveness, we proceed from the approach of multicriterial valuation, comparable in an international framework, plus some results of those international indexes which focus on analyzing quality factors of the business environment.

Methodology

The paper aims to analyze the competitiveness of the European Union and its comparison from a perspective of international indexes. The author employs various scientific methods to pursue this goal. First of all, the author worked with the method of statistical and graphic data which also represent the core of the paper. In addition, methods such as synthesis and analysis were used to allow a detailed comparison of the results from the EU and select leaders. In the final part of the paper the author employed the method of critical assessment as she critically evaluated all her results and drew the respective conclusions.

The Global Competitiveness Index

The Global Competitiveness Index, released by the World Economic Forum, consists of twelve pillars which are used to evaluate individual countries (144 countries altogether) (WEF, 2013):

1) **Institutions:** this environment is defined by a legal and administrative framework,
2) **Infrastructure:** this pillar represents an inseparable part of the competitiveness growth,
3) **Macroeconomic environment:** is important for attracting Foreign Direct Investments (FDI),
4) **Health and primary education:** this pillar is connected with the living standard of the population,
5) **Higher education and training:** this pillar is important for countries which seek to pursue products with a higher added value, thus also maintaining their competitiveness in long-term,
6) **Goods market efficiency:** higher efficiency implies an emphasis on quality and reduced prices for goods,
7) **Labor market efficiency:** workforce market flexibility,
8) **Financial market development,**
9) **Technological readiness:** the ability of an economy to establish new technologies and know-how,
10) **Market size:** it includes economic openness which is an important competitiveness factor,
11) **Business sophistication:** is related to the productivity of companies,
12) **Innovation:** represents the foundation stone of a competitive economy.

According to their significance, the aforementioned pillars are divided into three sub-indexes. These pillars are then assigned values of 1-7, the accumulation of which provides the index of a respective country. The sum of the indexes for all countries provides the *Global Competitiveness Index* which is currently perceived as the best source of information about the competitiveness of a select country.

According to this index the EU countries are at different stages of development. An illustration can be seen in Chart 1.

Chart 1 shows that according to this index the EU's most competitive countries are Finland, Sweden, Germany, the Netherlands, and Great Britain. At the tail of this ranking in the EU context are Greece, Croatia, Romania, the Slovak Republic, and Hungary.

Graf 1. Global competitiveness index - countries of EU (2013-2014)
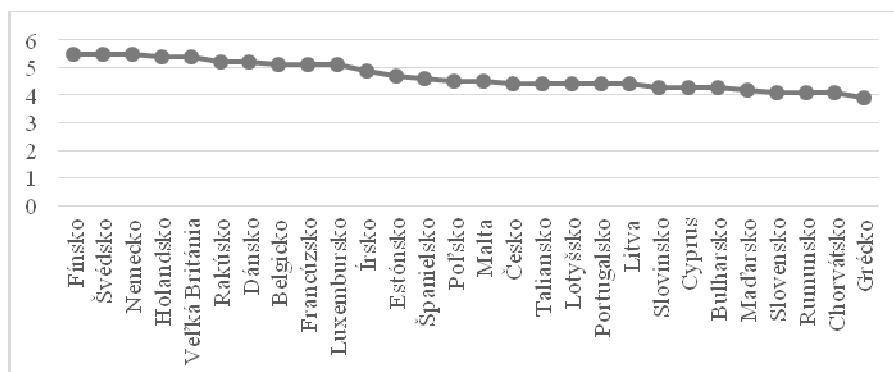
Source: made by author according to: SCHWAB, K. – MARTIN, S. X. – GREENHILL,R. et al. The Global Competitiveness Report 2013-2014. Geneva : World Economic Forum.

As table 1 shows there is no major difference in the index value between the top five countries. On the other hand, the difference between the five least competitive countries is striking. Greece is behind by farthest as it has been hit by the economic and financial crisis to the largest extent. At the same time, it is also necessary to point out the fact that Croatia, the last country to enter the EU until now, counts as one of the least competitive countries. Based on the results of this index the beneficial effect of Croatia's entering the EU is debatable.

Table 1. The most and the least competitiveness countries in GCI

Country	Index
Finland	5,5
Sweden	5,5
Germany	5,5
Netherlands	5,4
Great Britain	5,4
Hungary	4,2
Slovakia	4,1
Romania	4,1
Croatia	4,1
Greece	3,6

Source: made by author according to: SCHWAB, K. – MARTIN, S. X. – GREENHILL, R. et al. The Global Competitiveness Report 2013-2014. Geneva : World Economic Forum. s. 34.

The Business Environment Quality Index

The World Bank annually publishes an evaluation of business environment according to the Ease of Doing Business Index and the Index of Economic Freedom. *"The results of these indexes provide significant information about the development in individual components of competitiveness from a perspective of the country's attractiveness for foreign investments."* (HOŠOFF, HVOZDÍKOVÁ, 2009)

The first of the indexes (**Doing Business**) focuses on evaluating the business environment in 185 countries around the world according to ten criteria. Each country has its ranking in each category based on certain

criteria. Having averaged them one comes to the overall ranking of a country in the Doing Business ranking. This index counts among the most important indicators from the investors' perspective as it enables them to estimate the greatest risks and benefits of investing in a certain country. The country with the highest quality business environment in the EU context is Denmark. It is followed by Great Britain, Finland, and Sweden. Based on the countries' ranking in this chart one might conclude that the countries' ranking in the Global Competitiveness Index is comparable with the countries' ranking according to the Business Environment Index. It means that if a country is competitive, it is apparent that its business environment quality index will also be high. This conclusion is also supported by the fact that it applies to the least competitive countries as well, i. e. Greece and Malta. However, there is also an exception to this comparison, namely Luxembourg which is the 10th most competitive EU country according to the GCI, while according to the Doing Business Index its quality of the business environment definitely does not count among the European elite. The reasons are great difficulties when acquiring credits, and high bureaucracy when registering property.

The second of the indexes (**the Index of Economic Freedom**) has been compiled annually by The Wall Street Journal and the think-tank The Heritage Foundation since 1995. The publishers of this index believe that if institutions protect the freedom of the individual, it will have a positive effect on greater prosperity for the large society. The idea of the whole index is based on Adam Smith's book, *The Wealth of Nations*, which promotes free market. The index includes 10 freedoms[1] which are assessed on the sample of 185 countries (HERITAGE, 2013):

- property rights, freedom from corruption, fiscal freedom, government spending, business freedom, labor freedom, monetary freedom, trade freedom, investment freedom, financial freedom.

Each of these freedoms is evaluated on the scale of 0-10 points. Having added up the points for each freedom one will get the total index of economic freedom. For the sake of clarity, the compilers of the index divided the countries into 5 categories, where the highest category represents the countries with complete economic freedom, while the lowest category those with minimal economic freedom. Not a single EU country made it to the first category ("free"). In 2013 it included Hong Kong, Singapore, Australia, New Zealand, and Switzerland. EU countries rank no higher than the second category ("mostly free"), where one can find Denmark, Ireland, Estonia, Great Britain, Luxembourg, Finland, the Netherlands, Sweden, Germany, Latvia, Austria, and the Czech Republic. In the third category ("moderately free") one finds the following EU countries: Belgium, Cyprus, Slovakia, Spain, Malta, Hungary, Lithuania, Poland, Romania, Bulgaria, France, Portugal, Slovenia, Croatia, and Italy. The only EU country which ranked in the fourth category ("mostly unfree") in 2013 was Greece.

Institutional quality and the corruption rate (SOPKOVÁ, 2013)

The achieved rate of attractiveness of a country for investors is not only a result of its macroeconomic factors, but also of a good quality legal framework or political stability. The *Governance Matters* analysis, which is done by a research group of the World Bank as part of the *Worldwide Governance Indicators* project (WGI), deals with measuring the institutional quality as one of the significant factors of competitiveness. The aim of the project is to compare individual and aggregate governance quality indicators for more than 200 countries in six basic dimensions (1 - quality of democracy [voice and accountability], 2 - political stability and absence of violence, 3 - government effectiveness, 4 - regulatory quality, 5 - rule of law, 6 - control of corruption). (TI, 2012) The most recent report covers the period of 1996-2012. The WGI collects information from 30 data sources, ranging from public institutions and non-governmental organizations to private companies. With regard to world powers (China, Russia, the USA, Japan, the EU), the worst results in the first dimension, i. e. the rate of participation by the population in the public issues administration, are scored by China. Somewhat better results achieve Russia, followed by Japan. The USA has the best rate of participation by its population in public issues. The EU is placed second in this comparison. The second monitored dimension includes political stability indicators. In 2012 the EU became the power with the greatest political stability. It was followed by Japan, the USA, and China, while Russia took last place. In the third, fourth and fifth dimensions the compared countries were placed in the identical order, i. e. the USA, the EU, Japan, China, and Russia. (WORLD BANK, 2013)

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[1] Note: 1 - Starting a business, 2 - Building permit, 3 - Power supply, 4 - Property registration, 5 - Possibility to acquire a credit, 6 - Investors' protection, 7 - Taxation, 8 - Trading across the country's borders, 9 - Contract enforceability, 10 - Insolvency policy (the author's note).

We are going to deal with the last dimension (control of corruption) in greater detail, i. e. we supplement the data with the help of the **Corruption Perception Index (CPI)**, which is annually released by the Transparency International. The index measures the rate of conditions for corruption in the public sector for 174 countries. Each country is evaluated separately and its scores can range from 0 to 100, whereas 0 represents a country with high corruption, while 100 means a very "fair" country. With regard to general evaluation, a country which scores under 50 is regarded as a country with very serious corruption issues. (TI, 2012) The most recent results, published by this organization, were for 2012. In 2012 top places in this ranking took EU countries, namely Denmark, Finland, Sweden, the Netherlands, Luxembourg, and Germany. On the other hand, the EU countries with the highest corruption rate are Greece, Bulgaria, Italy, Lithuania, the Czech Republic, and Latvia. The first five of these countries even dropped under the level of 50 which indicates their high rate of corruption. The EU newcomer, Croatia, took 62nd place, together with Slovakia. The very last, i. e. 174th place was taken by Somalia.

The European Decisiveness Index (SOPKOVÁ, 2013)

If a company or a country seeks to be competitive, it will need to manage a quick decision-making process, while at the same time achieving the effectiveness of these changes within the process as a whole. The *European Decisiveness Index*, launched by Hay Group, takes into account both of these aspects. At the same time, it compares its own results with the G14 countries.[2] The research uses data from Hay Group's global employee opinion database which includes 4,053,555 employees from all G14 countries. Due to such a large sample, all data point differences of one point or more are statistically significant. Table 2 shows the results for the G14 countries on the issue of making decisions without undue delay. The results indicate that the most agile companies are in China, India, and Mexico. The EU countries took only 6th and 8th places. The most striking surprise is Great Britain which was placed thirteen, falling behind Russia, Egypt, and South Africa. It is curious that in the GCI it took a better place than these countries.

Table 2. Percentage of employees who believe that decisions in their companies are without delay

Position	Country	Decision without undue delay
1	China	60
2	India	58
3	Mexico	52
4	Japan	50
5	USA	50
6	Germany	48
7	Canada	48
8	France	47
9	Italy	47
10	Russia	47
11	Egypt	47
12	South Afrika	47
13	Great Britan	45
14	Brasil	44

Source: Moderní řízení, 2013. Pomalý proces rozhodování snižuje konkurenceschopnost evropských firiem. 2013. [online]. [cit. 2013.10.30]. Dostupné na internete: <http://modernirizeni.ihned.cz/c1-59573470-pomaly-proces-rozhodovani-snizuje-konkurenceschopnost-evropskych-firem>.

Summary

The European Union counts among the most competitive groupings of the 21st century. Having assessed all four indexes (the Global Competitiveness Index, the Business Environment Quality Index, the Corruption Perception Index, and the European Decisiveness Index) one can regard this statement as

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[2] Germany, Italy, Great Britain, France, Russia, China, India, Brazil, Mexico, South Africa, the USA, Canada, Egypt, and Japan.

proven. According to the Global Competitiveness Index some EU countries, such as Finland, Sweden, Germany, and Great Britain, count among the world's most competitive countries. With regard to the business environment the EU as a whole was placed first among world powers (the USA, Russia, China, and Japan). With respect to corruption, the world's "fairest" country is one of the EU countries - Denmark. Moreover, the EU as such can also be regarded as "the fairest grouping" as it took first place among the aforementioned powers. Question-marks arise only with regard to the last index (the European Decisiveness Index) which is based on research done among employees of select companies and whose results differed a bit from the previous indexes. According to this index it can be concluded that although international indexes confirm the competitiveness of the EU, but this competitiveness is questionable with regard to the view of employees in companies from select EU countries. *"Finding and selecting the right people for management positions is an effort of each organization. Filling this effort is neither easy no simple."* (FRANKOVSKÝ, LAJČIN, SLÁVIKOVÁ, 2012) But finding them means that the company increase its competitiveness.

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Analysis of Energy Poverty in Slovakia

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Abstract

The theme of energy poverty is very actually. Concept of the energy poverty is very important to analyze in Slovakia and the European Union, too. This paper discusses the main aspects of the energy poverty in Slovakia. Energy consumption continues to grow up and grow its price; the result is rapid growth of the energy poverty. This problem will need to solve comprehensively at all levels. First step of all is the process of creation high-quality national energy policy and to determine the energy mix. Subsequently, we can solve the problem of the energy poverty, define vulnerable customers and implement appropriate tools.

Key words
Energy, Energy poverty, Energy policy

Introduction

Energy poverty is lack of access to modern energy services. It refers to the situation of large numbers of people in developing countries, but also in EU countries, whose well-being is negatively affected by very low consumption of energy, use of dirty or polluting fuels, and excessive time spent collecting fuel to meet basic needs. It is inversely related to access to modern energy services, although improving access is only one factor in efforts to reduce energy poverty. Energy poverty is distinct from fuel poverty, which focuses solely on the issue of affordability. According to the Energy Poverty Action initiative of the World Economic Forum, "Access to energy is fundamental to improving quality of life and is a key imperative for economic development. In the developing world, energy poverty is still rife. Nearly 1.6 billion people still have no access to electricity, according to the International Energy Agency (IEA)."As a result of this situation, a new UN initiative has been launched to coincide with the designation of 2012 as the International Year for Sustainable Energy for All, which has a major focus on reducing energy poverty.

Worldwide energy consumption continues to rise, resulting in a growth rate of utilization of fossil fuels. Natural reaction to this development is the increase in energy prices. The result of this process can be a phenomenon of energy poverty. In the 20th century, economic growth was based on the use of cheap fossil fuels, but the situation is changing. The result of this approach is the drastic environmental degradation and climate changes.

Energy poverty is often defined as spending more than 10% of income to maintain enough energy for the home. This serious social problem first appeared in the 70s and 80s of the 20th century in the context of rising oil prices and the weakening of social protection systems and the first wave of liberalization and privatization of the energy market. In the context of energy poverty, it is necessary to deal with three crucial aspects:
1. to ensure adequate income,
2. fair-pricing of energy,
3. reduced consumption through energy efficiency

It is a global issue with many aspects. For 1.2 billion people is electricity still inaccessible 2.8 billion people still use to heat their homes or cooking wood or other biomass (World Bank / International Energy Agency, May 2013). The problem of availability of modern energy services is such extensive that the United Nations declared 2012 the "International Year of Sustainable Energy for All" (decision 65/151) just to support global availability of these services.

Even EU Parliament is constantly striving to take effective measures against energy poverty. If the EU does not recognize access to energy as a fundamental social right and will not to protect the obligation of the universal right of access to affordable, quality and continuous energy services, will treat that the risk of energy poverty will continue. The important step in reducing energy prices is the liberalization of the

energy market in the EU and improves competitiveness. However, it is questionable to what extent the measures in the energy market can eliminate the energy poverty as energy prices paid by small consumers, are derived from the prices of oil and gas to world markets.

The EU, however, is responsible for providing a universal and public services and for providing protection to vulnerable consumers, particularly those with low incomes. It must do much more than ever to ensure better access to information, greater transparency, choice and representation. Hand in hand with this would be awareness of their own rights of citizens in relation to their energy needs. National regulatory authorities need to gain more powers and also must improve cooperation within the EU to ensure effective competition and affordable prices for consumers.

The EU should persuade Member States to devise a definition of energy poverty at the national level and develop national energy action plans, which will include measures of social inclusion and energy efficiency. The Commission should monitor these steps to coordinate and publish data and best practices.

EU Member States have different opinion to the phenomenon of energy poverty and its solution. In Belgium functioning safety net scheme from excessive consumption and prices, while in winter it provides financial assistance to people who otherwise are not reliant on social security benefits. In the UK, more common term is fuel poverty than energy poverty. The customer is classified under the scheme of fuel poverty, if he spends 10% of monthly income on energy bills. Sweden prefers to care for vulnerable customers through mechanism that operates at the level of local government. Customers, who fail to pay their energy bills, receive a voucher for energy. France takes care of vulnerable customers through the mechanism of social tariffs. Italy provides minimum consumption for customers who have difficulties to pay their energy bills.

Energy poverty is lack of access to modern energy services. It Refers to the situation of large numbers of people in developing countries, but also in EU countries, whose wellbeing is negatively affected by very low consumption of energy, use of dirty or polluting fuels, and excessive time spent collecting fuel to meet basic needs. It is inversely related to access to modern energy services, improving, although access is only one factor in Efforts to reduce energy poverty. Energy poverty is distinct from fuel poverty, Solel which focuses on the issue of affordability. According to the Energy Poverty Action initiative of the World Economic Forum, "Access to energy is Fundamental to improving quality of life and is a key imperative for economic development. In the developing world, energy poverty is still rife. Nearly 1.6 billion people still have no access to electricity, According to the International Energy Agency (IEA). 'As a result of this situation, a new UN initiative has been launched to coincide with the designation of 2012 as the International Year for Sustainable Energy for All, Which has a Major focus on reducing energy poverty.

European indicators and statistics of energy poverty

Energy insecurity: the insecurity refers to a temporary state of high vulnerability. Energy poverty refers to the social situation influenced by external factors (energy prices, the performance of the flat etc.) and internal factors (aging, income ...). Relevant definitions in the EU have only France, Slovakia, the Great Britain and Ireland.

Great Britain defines energy poverty - "fuel poverty" as follows: it is a situation of households that must spend more than 10% of their income to reach a satisfactory level of temperature in their apartment (21 degrees in the main room and 18 degrees in the other rooms, according to the World Health organization). Taken into account, there are three elements: household income, energy costs and energy consumption. This definition, which does not reflect other household energy needs, the government is currently revising.

France applies the law Grenelle II., which defines the energy uncertainty as a situation in which a person on the basis of insufficiency of funds or their housing conditions have a difficulty in his apartment to have energy supply sufficient to meet their basic needs.

Although some countries do not have a definition, special rules they do not miss. Belgium has defined the status of "protected customers", under which they are to any recipient of social assistance accorded social tariffs and free tools (computers of consumption with prepaid card, guarantee of supply). In Italy and Spain, there are tools bonuses electric or bono social. Germany introduces local social tariffs for local and regional energy companies. In Sweden unpaid invoices are paid by the general social security system. In more than half of the Member States there is legislation or a code of ethics for energy distributors (ERGEG Report 2009), which is intended to protect consumers from stopping the supply.

The EU has neither the definition nor the indicator of energy poverty, nor specific European policies oriented for the problem which is solved piecemeal. The European Commission approach to energy poverty through the European Platform against Poverty and Social Exclusion, which is a specific instrument strategy 2020th Energy poverty can in fact cause that households remain without heating or cooling, no hot water, lights and other basic household needs, is a serious lack of form.

Directive of the internal energy market (July 2009) recognize energy poverty, but no European definition and without commitment of the EU and calls Member States to properly protect vulnerable consumers and to define the concept of vulnerable consumers, which may be a reference to energy poverty and specifically on disconnection of electricity or gas to these customers in their difficult times. In the notice of the proper functioning of the energy market (15 March 2012), the Commission expresses its intention to assist Member States in the definition of vulnerable consumer of energy and causes of vulnerability by providing them with guidance and facilitate exchange of best practices.

Analysis of Energy poverty in EU in period 2009-2013

Analysis of Energy poverty in EU is a very complex problem with many various aspects. In period 2009-2013, the gas and electricity prices have risen very rapidly in EU. Old countries of EU-15 rise in wholesale prices on the back of the tentative global economic recovery and expectations of higher demand. The situation was very interesting, electricity prices fell in the first half of the year 2010. This situation was simply a case of energy suppliers cutting prices after large increases in January 2010. The dip in gas prices has lasted longer, but even they are on the up again.

European household electricity and gas prices
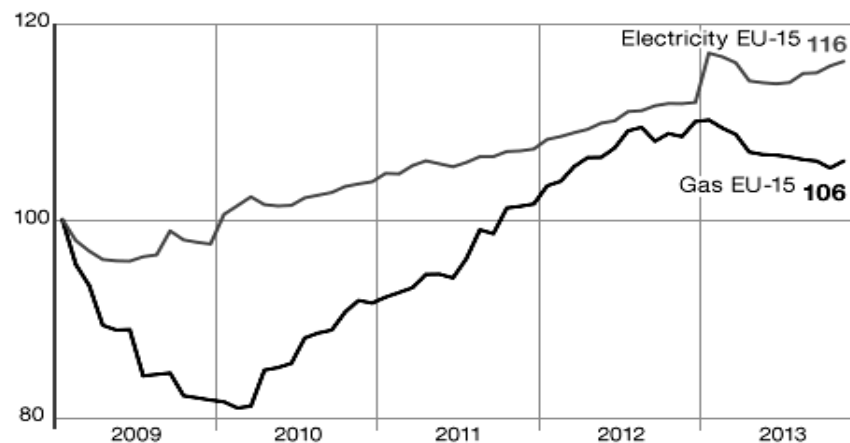
Source: HEPI by Energie-Control Austria, MEKH, VaasaETT

EU countries cannot be treated as a single entity, because every country has own problems and different development. There are very large differences between individual countries, in what households pay for their power. Energy think tank Vaasaett says that although its prices are specific to capital cities, the rankings shown below would not change if the country as a whole was substituted for the city. For example, Helsinki is the cheapest of the 23 European cities surveyed for electricity prices, but Berlin is the most expensive. Householders in Berlin have to pay two-and-a-half times as much, largely due to taxes and subsidies designed to boost renewable energy production. Capital of Slovakia – Bratislava – has the fifth position among the 23 European cities.

The equivalent figure for the Great Britain is currently 9%, but this will fall – possibly by three or four percentage points – once energy suppliers pass on recently announced changes in green levies. This has sparked dismay among consumers and sparked heated political discussion about how best to reduce bills – hence the reduction in green levies. Britain consumers are less active in changing energy companies than at any time since 1999 – when they were first free to pick and choose supplier – with just 10% of customers switching during the past year. Even after the recent price rises, however, London remains one of the cheaper places to buy electricity, and below the European average.

Residential electricity prices including taxes

Cents (Euro)/KWh Nov 2013

City	Price
Berlin	28.49
Prague	28.27
Lisbon	26.99
Bucharest	26.51
Bratislava	25.69
Warsaw	24.44
Madrid	24.34
Budapest	23.53
Copenhagen	22.29
Dublin	21.44
Ljubljana	19.88
Zagreb	19.77
Rome	18.88
Brussels	18.66
Vienna	18.33
Amsterdam	18.12
London	17.75
Athens	17.18
Luxembourg City	14.93
Belgrade	13.7
Paris	13.7
Stockholm	13.53
Helsinki	11.43

Average 20.34
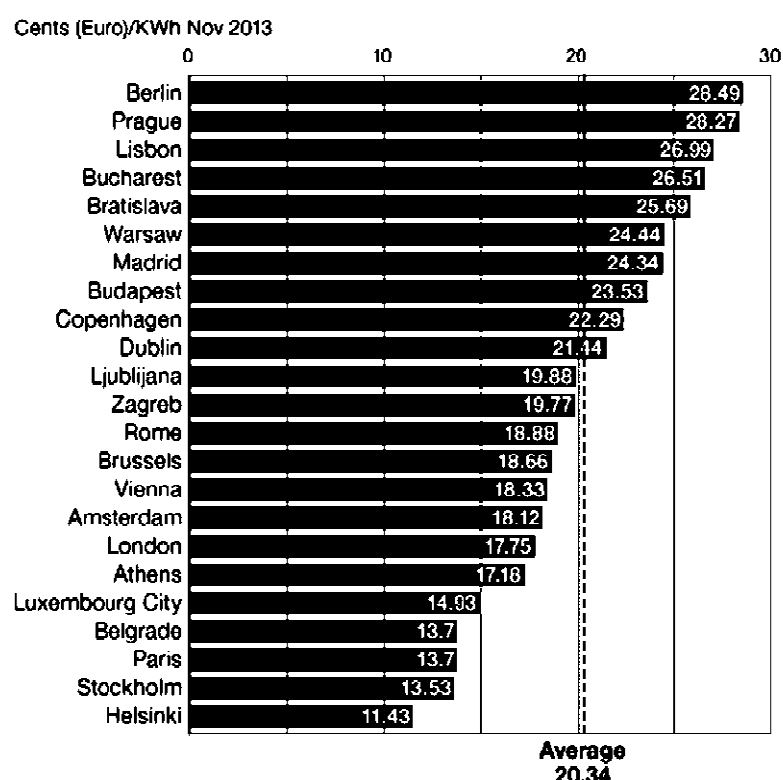
Prices are shown on a Purchasing Power Standards basis, which strips out the impact of exchange rates, giving a more accurate comparison of prices.

Source: HEPI by Energie-Control Austria, MEKH, VaasaETT

But prices haven't been going up in all EU, particularly in Central and Eastern Europe, with the Hungarian government reducing prices by 11% and its Croatian counterpart cutting them by 6%. The actual energy price component in EU, including supplier profit margins, represents about 41% of a household's electricity bill, while distribution represents 33%, energy taxes 11% and sales tax 16%, according to Vaasaett. In the Great Britain the price of energy including margins is 58%, distribution is 26%, energy taxes 11% and VAT 5%. Compare this with Copenhagen, where the cost of energy comprises less than a fifth of bills while taxes make up more than half.

Gas prices also vary a great deal, with households in Stockholm – the most expensive city – paying three times more than those in the cheapest, Luxembourg City.Stockholm is much more expensive than everywhere else simply because the gas market is so small – there are only 33,000 households buying gas in the whole of Sweden.London is the second cheapest city, where households pay well below the European average, despite recent price rises. In the past month, seven countries have seen gas price rises, while eight have seen prices fall. Across EU, the actual wholesale gas price, together with suppliers' profit margins, represents 54% of an average gas bill, while distribution represents 23%, energy taxes 7% and sales tax 16%. In the Great Britain, the price of energy including margins makes up 67% of a gas bill, while distribution represents 23%, energy taxes 6% and VAT 5%.

Analysis of Energy poverty in Slovakia in period 2009-2013

The average Slovak household in 2013 spent about 12% of their income on energy. Overall, according to the index of energy poverty Slovakia ranked among the worst EU countries. Energy poverty as a social phenomenon is gaining prominence across the EU and is also undertaken by Slovakia. Individual countries are compared based on data from the Statistical Office of the average salaries and energy prices in the EU. Energy poverty does not yet have a precise definition, but many institutions for the limit consider a condition where households pay for energy more than 10 percent of disposable income. The EU is also working on a uniform methodology for calculating this indicator, because different methodologies and ways of calculation a little distort the comparison condition in each EU country. Although there is not

a single methodology, it is estimated that the problem of energy poverty in Europe could cover about 50 million people.

In Slovakia, the development in recent years is favourable, in the years 2009-2013, the average ratio of energy costs to disposable household income decreased by 3% to 4% percentage points to 11% to 12%.With the growth of wages during the economic crisis cannot be counted, fortunately crisis has hindered the growth of prices. The question is how these two factors will evolve after the economic crisis. In addition to the legislative definition is missing in Slovakia and the EU concrete proposals to combat energy poverty. The Slovak government hasn't prepared any concept measures so far. Network of non-governmental organizations promoting sustainable development in the energy INFORSE - Europe recommends that Member States have defined the so-called vulnerable customers and prepare them for social programs. Between them should include, inter disabled people who are dependent on adequate access to energy, and vulnerable members of society.

The new concept of consumer protection meeting the criteria of energy poverty does not bring complete solutions. The concept of fighting energy poverty published by the Regulatory Office for Network Industries does not contain under Slovak Association of Heat real solutions to this Europe-wide problem. Slovakia is starting to address the problem of energy poverty, design concepts, however, need to supplement the things needed for a real solution to this social problem.

The concept includes an overview of solving the problem of energy poverty in selected European countries. To some extent, attempts to bring an analysis of household income and expenditure of energy, and thus defines the boundary between energy poverty customers Slovak. It ignores, however, for example regional differences in household income, which can significantly change the threshold of energy poverty in the regions. In Slovakia, although there are available socioeconomic analysis and materials dealing with the situation in Slovakia, but when planning the results they were not used. According to a study MESA 10 and the Institute for Energy poverty (ESI) in 2012, fulfilling the definition of energy-poor people, those who have arrears of housing, about 7.5% of the population of Slovakia.

New concept of URSO talks about the possibility of a support mechanism for people based on expenditure arrears to the level of average consumption. This mechanism would, in concept not affect the state budget or the budgets of local governments. Unanswered question remains that these supplements energy-poor households pay. Subsidize prices, only for needs of households, which are supplied with heat from district heating, representing an increase in costs of 75 million to 100 million EUR. And if support mechanisms apply to all methods of heating and domestic hot water, so the minimum requirements to address energy poverty were approximately 200 million EUR. It is only a question of the heating and hot water. The cost of providing electricity supply for lighting and operation of household appliances and gas cooking should be estimated and added to it.

Slovak Association of Heat may contribute to finding solutions, because its members are faced with this problem daily and understand its mechanism.

Slovakia until the end of 2013 introduced the concept of URSO, which should help customers who have trouble paying their energy bills. Design concepts solutions so serious socio-economic problem, however, was not preceded by professional discussion with the participation not only energy suppliers as well as consumers and institutions dealing with social issues.

Summary

Even bearing in mind that this is a problem whose scope is greater than you can recognize anyone, and it is only the tip of the iceberg of poverty, it is necessary to initiate this topic factually substantiated discussion in order to find real solutions. High proportion of expenditure on electricity and fuels in the total cost of households and average wage rates, respectively ability to pay for energy, is the reason why more and more families in Slovakia and the EU falling into fuel poverty. This is why the EU level begins to discuss the unification of the methodology of calculating the threshold energy poverty, as well as recommendations to address this problem. Proposals for measures to address energy poverty in Slovakia and the EU:

1. *Harmonization of statistics and indicators of fuel poverty:* The introduction of European indicators of energy poverty and the harmonization of statistics would allow to better define the problem, prevent it and deal with it at European level and to develop a European solidarity in this area. Creation of a European observatory on poverty, which focused mainly on energy poverty, could integrate all stakeholders and should contribute to the definition of European indicators of fuel poverty (in cooperation with Eurostat), the appreciation of the situation, setting best practices and

make recommendations for better prevention of the problem and its solution and implementation of European solidarity in this area.

2. ***Improved energy efficiency:*** The EU has set ambitious targets "3x20% by 2020", which include reducing energy consumption by 20%. Directive on electrical efficiency of October 2012 contains a long-term strategy (2050) targeting investment in the renewal of public and private housing and other residential and business premises. EU Member States have until 30 April 2014 to submit national action plans for applying this strategy. Application of measures for energy efficiency is very important to reduce carbon emissions, create jobs, but also to fight against energy poverty. Many experts recommended to allow EU Member States to include energy efficiency to the definitions and criteria to assess whether the housing in rented apartments and houses healthy and dignified.

3. ***Improving thermal insulation of houses and flats:*** Energy poverty is a consequence of poorly insulated houses and apartments, which are often rented to vulnerable families disproportionately high prices. A well-insulated house or apartment will reduce energy consumption and thereby the amount of the invoice (if it is combined with an appropriate energy behavior). Residents and housing low-income, whether by tenants or owners do not have the funds for thermal insulation and replacement heating system, so they should help state and local authorities and institutions.

4. ***Decentralization of production generation and heat:*** Many experts recommend promoting decentralized production of electricity and heat from renewable sources, as this could solve the problem of access to energy, especially for the most vulnerable households. Decentralisation would also increase competition in the energy market.

5. ***Create the incentive mechanism for the owners:*** This mechanism allows on the one hand strongly encourage owners who rent homes and apartments (for example, the rent conditional on energy efficiency) to it to carry out renovation work on the thermal insulation of housing, while allowing them to provide some contribution and on the other hand, the European real estate market phasing houses and apartments, where energy efficiency reaches a certain standard of thermal insulation.

6. ***Support for EU Member States:*** The European Commission should support innovative technologies, methods and tools for raising efforts of EU Member States on energy efficiency to households with the lowest incomes, taking into account the limits of their financial possibilities. Improving insulation of dwellings occupied vulnerable persons must become a priority in all policies and programs. The Commission must ensure that national plans should prioritize energy efficiency investment in housing, which tend to be most vulnerable.

7. ***Use of EU Structural Funds:*** When programming the Structural Funds for the period 2014-2020 more account of the fight against energy poverty and energy solidarity and that the budget allocated for energy efficiency and renewable energy increased to match the needs.

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2. Management and Human Resource Management

Analytical Study of Managing Talents in the Slovak Business Environment

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Abstract

The paper presents insight into selected areas of talent management in Slovak organizations in terms of the type of organization i.e. its equity participation (domestic/foreign). Based on the knowledge base and current researches was conducted questionnaire survey to obtain primary data. The aim of the survey was to investigate broad spectrum of talent management activities, processes and practices in Slovak organizations. Since the range of talent management activities is wide and survey results are extensive, the paper presents some partial results of the survey.

Key words
human resource, talent, talent management

Talent management and its importance

Talent management is becoming integral part of the organizations' management because talents i.e. high potential, skilled and experienced people are and will be fundamental for organizational success, they will enable organizations to compete in the future.

Talent management is strongly related to human capital. According Cappelli (2008, p. 1) talent management is "simply a matter of anticipating the need for human capital and then setting out a plan to meet it". Snell (2007, in Pandey et al. 2012) stated that talent management is the implementation of integrated strategies or systems designed to improve processes for recruiting, developing and retaining people with the required skills and aptitude to meet current and future organizational needs. Kehinde (2012, p. 179) defines talent management as „the implementation of integrated strategies or systems designed to increase workplace productivity by developing improved processes for attracting, developing, retaining and utilizing people with the required skills and aptitude to meet current and future business needs".

Similarly problematic as the definition of "talent" is the definition of talent management. In the literature focused on talent management there is a lack of clarity regarding the definition, scope and overall goals of talent management (Lewis and Heckman 2006). Many authors point to the lack of a clear definition of talent management. For example, Woollard (2010) argue that there is no single consistent definition of talent management that is followed by organizations, but on the contrary, there are many interpretations made by firms. There are three main streams: (1) for one group of companies talent management means a wide range of HR activities including attracting, selecting, developing and retaining the best employees; (2) organizations of the second stream focus their talent management more closely on employee career management, such as the use of learning and development strategies and career and succession planning; and (3) some organizations in their talent management focus on key positions – they identify some positions within a firm that have a greater impact on the overall firm performance and long-term success of a business and they focus their talent management efforts on filling these key role positions with the best available talent (Woollard 2010).

Green (2011) emphasizes the need of integrating components of talent management because it can "improve organizational performance and create sustainable competitive advantages for an organization and its employees".

Author points out that many organizations are still at the beginning of the talent management journey, while others have successfully integrated some talent management components (Green 2011).

Talent management is aptly characterized by Pandey et al. (2012) who indicate some fundamentals of talent management:

1. Talent management represents 3R: the activity of recognize, reward, and retain available potential in people.
2. It means developing those people who have ability and potential to become part of any organization's recruitment and retention strategy.
3. Talent management involves individual and organization development with respect to a changing and complex operating environment.
4. Talent management includes the creation and maintenance of supportive people oriented organizational culture.
5. Talent management is a core purposeful approach undertaken to attract, develop, retain and guide people with the talent and abilities to meet current and future organizational needs.
6. Talent management brings together a number of important human resources and management initiatives.

Talent management from the strategy perspective explains Kehinde (2012) who indicates *three perspectives:*

1. *Process perspective:* talent management includes all processes needed to optimize people within an organization. This perspective is based on assumption that the future success of the company is based on having the right talent – so managing and nurturing talent is part of the everyday process of organizational life.
2. *Cultural perspective:* talent management is a mindset and that organization must believe that talent is needed for success. This can be seen where every individual is dependent on their talent for success due to the nature of the market in which they operate, and is typical of organizations where there is a 'free' internal labour market, with assignments being allocated according to how well they performed on their last assignment.
3. *Competitive perspective:* proposes talent management is about accelerated development paths for the highest potential employees (Wilcox 2005, in Kehinde 2012), applying the same personal development process to everyone in the organization, but accelerating the process for high potentials. Hence the focus is on developing high potentials or talents more quickly than others.

Methods and methodology

The collection of primary data was conducted through questionnaire survey among representatives (owners, managers, executives or HR managers) of the companies in the Slovak Republic. The sample consists of 119 organizations operating in the Slovak Republic, while in the sample were included organizations from all regions of Slovakia.

The main aim of the survey is to get insight into the current state of the talent management processes and practices in Slovak organizations. Examined the issue is broad and therefore it is not possible to present all conclusions. In this paper our attention is focused on finding the differences between organizations with domestic and foreign equity participation.

We examined statistically significant differences between organizations with domestic and foreign capital participation, namely:

- differences in talent management strategy, specifically its perception,
- work performance appraisal,
- talents acquisition (finding and acquiring skilled human resource).

In all three areas, we assumed the existence of statistically significant differences between the two groups of organizations. Our assumption was based on the fact that most of the practices and processes as well as examples of talent management success come from very large, mostly foreign companies.

Survey results concerning differences in talent management practices between organizations with domestic and foreign equity participation

1. Differences in talent management strategy

In our survey, we investigated whether there are statistically significant differences between organizations with foreign capital participation and organizations without foreign capital participation in the implementation of talent management (as thought approach). Consequently the (alternative) hypothesis has been formulated:

H1₁: Organizations with foreign capital participation are increasingly declared talent management (as thought access) to all interested parties as organizations without foreign capital.

Respondents were asked to express the degree of agreement and disagreement with the statement "Our organization has declared a talent management as a thought for its all stakeholders" on 5-point scale: 5 - strongly agree, 4 - agree, 3 - neutral (neither agree nor disagree), 2 - disagree, 1 - strongly disagree. The hypothesis was tested using a statistical method t-test for two independent samples, comparing the average in the two groups. Organizations with foreign capital expressed greater agreement with the statement than organization without foreign capital participation.

Since the Student's t-test value is less than predetermined significance level (p-value of 0.05) it is possible to „reject the null hypothesis"and thus we conclude the existence of statistically significant differences between organizations with foreign capital participation and organizations without foreign capital participation in the implementation of talent management (as thought approach).

2. Work performance appraisal

Performance appraisal is another research area of talent management in which investigated existence of statistically significant differences between organizations with foreign capital participation and organizations with domestic capital participation. Also in this area we assumed that there are differences and we formulated the following hypothesis:

H1₂: There are statistically significant differences in employee (work) performance between companies with foreign capital participation and companies without foreign capital participation.

Similarly, on 5-point scale (5 - always, 4 – frequently, 3 - sometimes/ occasionally, 2 – rarely, 1 – never) respondents express their answer to the question concerning the frequency of use of the individual tools in the employee performance appraisal. Rated were these tools of work performance appraisal: (1) assessment system, (2) potential measuring, (3) 360° feedback, (4) Development Centre, (5) evaluation by objectives. Significance of the differences between companies with foreign capital participation and companies without foreign capital was tested using the Mann-Whitney U test.

On significance level of 0.05 were found statistically significant differences in the four of the five items (except 360° feedback). It can be concluded that in the area of work performance appraisal evaluation and development there are statistically significant differences between companies with foreign capital participation and without foreign capital participation are in the evaluation and development of operational performance.

3. Finding and acquiring talents

Part of our research was the area of talent acquisition. In this context, we examined the main sources of acquiring talented employees by companies with foreign capital participation and those without foreign capital participation. We assume the existence of statistically significant differences between these two groups in particular, that companies with foreign capital participation have more sophisticated area of identification and retaining talents and thus have better opportunities to acquire talents among its own staff. In this context we tested the hypothesis:

H1₃: Companies with foreign capital participation are more likely to acquire talent among current employees than companies without foreign capital participation.

Hypothesis testing has shown that organizations with foreign capital participation are more likely to acquire talent among current employees than organizations with domestic capital participation.

Summary

Human resources with their knowledge, skills and creativity are key determinant of economic success of the organizations. In highly competitive business environment the talents are behind the success and great performance of organizations. Talent management becomes an integral part of management practice. It covers wide spectrum of practices and activities such as talents identification, attracting,

acquisition, recruitment, selection, succession planning, development, retaining, performance appraisal, compensations etc.

Detection of statistically significant differences in selected areas of talent management between organizations with foreign capital participation and organizations with domestic capital participation is evidence that the talent management is not sufficiently implemented in the Slovak business environment. Organizations with foreign capital participation have the considerable head-start and advantage over local firms. Subsidiaries have a distinct advantage of consistency and resemblance of practices with their parent companies.

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Particularities of the Recruitment & Selection of Staff in an International Context

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Abstract

The subject of this paper is the issue of the recruitment & selection process in an international human resource management context. The aim of this paper is to point out some specific characteristics of staffing in multinational companies through the description of different approaches that may be applied in staffing, their advantages and disadvantages, with particular attention to the staffing choices determinants.

Key words
International human resource management (IHRM), staffing, recruitment & selection.

Staffing in an international context

Obtaining quality employees is one of the most important aims of human resource management in most of organizations, national as well as those which operate internationally. Dowling, Festing and Engle (2008) report two major differences in the staffing processes in the national and international context:

- The tendency of an international organization to apply one of the approaches (ethnocentric, polycentric, geocentric, regiocentric) in filling key positions in the parent company and subsidiaries.
- Restrictions arising from the political and legal system of the host country, which can greatly reduce the possibility of filling positions by suitable candidates.

The staffing process in multinational companies (MNCs) can be realized through two approaches (similarly to the case of national organizations), namely obtaining candidates from outside sources or filling positions with internal employees. The internal recruitment method process is not very different from that which is used by organizations operating nationally. This approach has its strong points in particular in relation to the short process of adaptation and previous knowledge of the personality and abilities of the selected employee.

However, there are significant differences in the implementation of this HR activity in the external candidates recruitment. Staffing through using external sources in organizations with an international scope is much more difficult, for a number of reasons (Sršňová et al. 2008):

- The same or related formal qualifications of candidates from different countries can differ in practice,
- The required qualifications may be missing abroad,
- Expectations of workers are determined by different cultural background,
- Staffing practices usually differ between countries.

When filling job positions, MNC may choose various strategies, which result from the overall approach applied in the human resource management. The author who first described these approaches is Perlmutter (1969). In the description of these four approaches, the author used aspects of organizational design, such as decision-making, evaluation and control, information flows and complexity of organization.

1. Ethnocentric approach

The ethnocentric approach is based on the transfer of practices into the host country, resulting in a tendency to occupy management positions in MNC subsidiaries by the parent company workers. Reasons for the application of the ethnocentric strategy may include a shortage of workers with the requisite skills in the host country and the need for smooth communication with the headquarters of the MNC. The ethnocentric strategy is often used by companies in the early stages of internationalization when trying to

reduce a possible high risk of filling positions with local employees. It is also a frequently applied in MNCs with long year experiences because of the effort to ensure that subsidiary complies with overall corporate objectives and policies (Dowling, Festing, Engle 2008).

In addition to the above benefits of the ethnocentric strategy, Baláž et al. (2010) state some drawbacks stemming partly from the limited career opportunities of local workers, which can ultimately lead to decreased performance, turnover, etc. Another negative aspect of the ethnocentric strategy is the need for adequate training of workers from the parent country (expatriates) for their work in the host country, as well as risks arising from their failure. Zeira (1976) states differences in the compensation of expatriates and host country employees, which are often unjustified and difficult to accept by local workers. Dowling, Festing, Engle (2008) show another disadvantage – financial aspects, stemming from the fact that the preparation and transfer of employees from the parent country to the host country is very costly. A study by Pricewaterhouse Coopers reports that the average expatriate assignment cost per annum is 311,000 US dollars with a range of between 103,000 US dollars and 396,000 US dollars. The average expatriate management costs amount to 22,378 US dollars as compared to the management of an average employee of 3,000 US dollars (In Dowling, Festing, Engle 2008).

2. *Polycentric approach*

The polycentric approach is characterized by the company filling the top positions by candidates from the host country. Thus management positions are fully filled by local employees. The application of the polycentric strategy has many benefits. Ferenčíková (2010) mentions lower costs and the elimination of the risk of indirect costs as an important advantage (In Baláž et al. 2010). Additional benefits include the elimination of language barriers, avoiding the adjustment problems of expatriate managers and their families and removing the need for expensive cultural awareness training programs. Dowling, Festing, Engle (2008) add that this approach avoids the turnover of key managers that results from an ethnocentric approach.

As disadvantages of this strategy, Baláž et al. (2010) mention the existing barriers between employees of the parent company and subsidiaries arising from language barriers and cultural differences. The second shortcoming is related to career development, since local workers have limited opportunities to gain experience outside their own country, their career growth is thus significantly limited. Language barriers and cultural differences may lead to isolation of the staff of parent company from the employees of MNC subsidiaries. This could possibly result in a situation in which the MNC becomes a federation of independent national units (Dowling, Festing, Engle 2008).

3. *Geocentric approach*

Using a geocentric approach is based on four assumptions (Ferenčíková 2010):
-    Highly qualified employees are suitable not only for operating in MNC headquarters, but in subsidiaries too,
-    International experience is a criterion for career growth,
-    High-potential managers must be prepared to transfer to another country,
-    Managers must be able to adapt quickly and effectively operate in different cultural conditions.

Dowling, Festing, Engle (2008) state that the geocentric approach enables to develop an international executive team with a global perspective. This strategy overcomes the danger of a creation of a federation, which is typical for the polycentric approach and it supports cooperation and resource sharing across all units. Ferenčíková (2010) cites some disadvantages of this approach, in particular she refers to the efforts of host countries on employing its citizens, as well as time and financial demands associated with the employment of people from different countries.

Welch (1994, In Dowling, Festing, Engle 2008) identified barriers that may limit the application of the geocentric strategy in international staffing as following:
-    Staff availability,
-    Time and cost constraints,
-    Host government requirements,
-    Ineffective HRM policies.

4. Regiocentric approach

This approach focuses on the movement of workers within the regions that are not strongly culturally distant. This approach allows deepening interactions between regional headquarters and subsidiaries within the region. It also allows for broader career development of subsidiary employees. Morrison, Ricks a Koth (1991) state that this approach may represent the same bridge from ethnocentric or polycentric approach to a geocentric approach.

Dowling, Festing, Engle (2008) list the following advantages of using the regiocentric strategy:

- It allows interaction between executives transferred to regional headquarters from subsidiaries in the region and workers from parent company moved to the regional headquarters,
- It reflects some sensitivity to local conditions.

Authors highlight some disadvantages of this approach:

- It can produce federalism on a regional rather than on a country basis,
- It enables carrier growth only at the regional level.

Table 1. Advantages and disadvantages of employing of various categories of employees.

Parent – country nationals	
Advantages	*Disadvantages*
• Easier control and coordination with the headquarters	• Limited opportunities for the career growth of local workers
• Possibility of international experience for talented managers	• Long period of time needed for the adaptation of expatriates
• Compliance of corporate objectives and procedures with the objectives and procedures in subsidiaries	• Different compensation conditions for local employees and expatriates
Host – country nationals	
Advantages	*Disadvantages*
• Elimination of language and cultural barriers	• Control and coordination with the headquarters more difficult
• Elimination of costs associated with the transfer of employees	• Opportunities limited outside of the subsidiary
• Improvement of local management	• Limited possibilities of obtaining foreign experience
• The possibility of career development for local staff in local conditions	
Third – country nationals	
Advantages	*Disadvantages*
• Salary requirements are usually lower than those of expatriates	• Hostility towards some nations (India vs. Pakistan, China vs. Japan)
• Better information about the environment of the host country than expatriates in the most of cases	• Negative attitude of the government because of the employment of third-country nationals
	• Reluctance to return after termination of employment, especially from developed countries to less developed

Source: Baláž et al. 2010

Determinants of staffing choices

The decision of whether to elect local or foreign worker is affected by the degree of interdependence and interconnectivity of the parent company and subsidiaries among others (Štrach 2009).

*1.	Context specificities*

Dowling, Festing and Engle (2008) include cultural and institutional factors in this group. Tariq, Schuler and Gong (2006) understand the cultural distance between the parent country and the country of the subsidiary as an important moderator between MNC strategy and approach to staffing. The authors state that there is a tendency of MNCs to staff culturally distant subsidiaries with expatriates. Institutional factors include specifically the political and legal requirements that support or restrict the filling positions by workers from other countries. Dowling, Festing and Engle (2008) also take into account the factor of availability of staff in the local market and the type of industry.

*2.	Company specificities*

This group of determinants includes the structure and strategy of the MNC, its international experience and organizational culture (Dowling, Festing, Engle 2008). It is expected that MNCs with long-term presence and with a more formal organizational culture will tend to use the ethnocentric approach.

*3.	Local unit specificities*

The way of establishing a subsidiary (in the form of a greenfield investment, a merger, an acquisition or a shared partnership) is a very important factor, which belongs to this group. Another variable is the strategic role of the subsidiary and its strategic importance for the MNC as well as its degree of control and autonomy (Festing, Eidems, Royer 2007).

*4.	IHRM practices*

The process of implementation of other HRM practices directly relates to the staffing choices. Specifically, there are activities such as training and development, compensation and career management (Dowling, Festing, Engle 2008).

This model provides a general view on the wide range of variables which determine the choice of staffing strategy.

Summary

The issues of filling positions by right employees still presents one of the primary tasks of human resources management. It is especially difficult in the case of MNCs, where this task is made much more challenging because of different cultural, institutional differences between the parent and host country as well as from certain specifics of the MNC itself. Understanding and analysing factors that determine HRM practices in an international context help in assessment the advantages and disadvantages of possible staffing strategies and in selection of the optimal approach in line with corporate strategy.

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Importance of Employee Engagement in Organizations

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Abstract
   Companies must engage their employee if they are to differentiate themselves in financial and market performance. Based on the analysis of domestic and foreign resources we depict what employee engagement look like and what drives it. This article throws light on the importance of employee engagement.

Key words
employee engagement, drivers of employee engagement, engaged employees, models of increasing employee engagement

Defining employee engagement

   A variety of *definitions* of employee engagement can be found on the Web sites of **HR firms:**
➢ The individual's involvement and satisfaction with as well as enthusiasm for work (Gallup Consulting, 2010).
➢ A result that is achieved by stimulating employees' enthusiasm for their work and directing it toward organizational success (Hay Group, 2001).
➢ The capability and willingness to help the company succeed, i.e., discretionary performance (Towers Perrin, 2008);
➢ A heightened emotional and intellectual connection that employees have for their job, organization, manager or co-workers that in turn influences them to apply additional discretionary effort to their work (Conference Board, In Schneider et al, 2009).

Also **the academic community** provides various *definitions:*
➢ Kahn (1990, p. 694) defines personal engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances." Personal disengagement refers to "the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances. Thus engagement means to be psychologically present when occupying and performing an organizational role.
➢ The proponents of the burnout theory define engagement as the opposite or positive antithesis of burnout (Maslach et al., 2001). According to Maslach et al. (2001), engagement is characterized by energy, involvement, and efficacy, the direct opposite of the three burnout dimensions of exhaustion, cynicism, and inefficacy.
➢ Schaufeli et al. (2002, p. 74) define engagement "as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption." They further state that engagement is not a momentary and specific state, but rather, it is "a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior" (Schaufeli et al., 2002, p. 74).
➢ Most often it has been defined as emotional and intellectual commitment to the organization (Baumbruk, 2004; Richman, 2006; Shaw, 2005) or the amount of discretionary effort exhibited by employees in their jobs (Frank et al., 2004).
   This diversity of definitions is both a strength and a weakness of the employee engagement concept. It is strength because companies can pursue whatever it is they think employee engagement is, and we agree with Schneider et al (2009) that anything that gets companies to appropriately attend more to their employees is fundamentally practical and useful. At the same time, a drawback of this diversity of viewpoints is that it becomes difficult to interpret and use results accumulated across organizations because the aggregate findings cut across very different kinds of measures and constructs.

Drivers of employee engagement

We need to realise that different authors have different opinions. So it is nothing new in this topic, that we can meet many different drivers of employee engagement. Therefore we determine only some.

Authors Effron and Ort (2011) are of the opinion that on the employee engagement affects a wide range of factors: *the working environment, the work itself, leadership, individual characteristics*

According to Hewitt's research, the key driverss of engagement (such as *relationships, total rewards, opportunities, quality of work-life, people practices and the actual work itself*) can all be affected by the immediate manager. For example, how a manager positions pay and talks about it with an employee affects how well that employee understands the pay process and what they can do to influence it. There are a number of core areas that a manager can focus on in order to improve their employees' engagement (Gorman, Gorman, 2006).

Schneider et al (2009) define employee engagement as having two major components. First, there are the *feelings of engagement* or the heightened state of energy and enthusiasm associated with work and the organization. Second, there is *engagement behaviours* demonstrated in the service of accomplishing organizational goals-behaviours such as persistence at tasks, being proactive and taking on responsibilities when the need arises. Therefore also divides the drivers of employee engagement:

➢ The drivers of feelings of engagement are *feeling that there is full utilization of one's skills and abilities, seeing a link between one's work and the objectives of the company and being encouraged to innovate.*
➢ The drivers of engagement behaviours are *quality of relationships with co-workers, feeling trusted and respected and supervisor credibility.*

Importance of employee engagement

Current studies show that organizations are focusing as to how to make employees more engaged. The main reason is that an engaged employee is aware of business context, and works with colleagues to improve performance within the job for the benefit of organization. The organization must work to develop and nature engagement, which requires two-way relationship between employer and employee.

Simon (2011) consider for *the essence of employee engagement*:

➢ A positive attitude towards, and pride in, the organization.
➢ Belief in the organization's products or services.
➢ A perception that the organization enables the employee to perform well.
➢ A willingness to behave altruistically and be a good team player.
➢ An understanding of the bigger picture and a willingness to go beyond the requirements of the job.

This can be also understood as the characteristics of engaged employee. The consulting company Hewitt Associates LLC (2004) argue, that **engaged employees** consistently demonstrate three general behaviours:

1. *Say* – the employee advocates for the organization to co-workers, and refers potential employees and customer.
2. *Stay* – the employee has an intense desire to be a member of the organization despite opportunities to work elsewhere.
3. *Strive* – the employee exerts extra time, effort and initiative to contribute to the success of business.

Richman (2006) define **engaged employees** as:

➢ Are energized, committed and work hard to help the company succeed.
➢ Use their energy, skills, experience and creativity to satisfy customers and deliver results.
➢ Say that they work for the firm because they want to.
➢ See their role as following through to make sure that problems they identify get solved.
➢ Are action-oriented and know how to take intelligent risks.
➢ Believe they have a stake in the company.
➢ Exert extraordinary effort to do whatever it takes to make and keep the company successful, while embracing the company's culture.

From above mentioned we can conclude, that employees feel engaged when they find personal meaning and motivation in their work, receive positive interpersonal support, and operate in an efficient work environment.

But what brought engagement to the forefront and why is everyone interested in it?

We agree with Simon (2011) that the main reason is the tight economy has refocused attention on maximizing employee output and making the most of organizational resources. When organizations focus attention on their people, they are making an investment in their most important resource. Engagement is all about getting employees to "give it their all".

Since employee engagement is hot topic, organizations are exploring new ways of enhancing it. Drama-based interventions can achieve positive results by increasing employee self-efficacy and their confidence in their competence to undertake challenging tasks. In turn, confident employees are typically more engaged and perform better than less confident ones.

The concept of self-efficacy is defined as "an individual's beliefs about their ability to organize and execute the courses of action required to produce given attainments" (Bandura, 1997) and has also been found to be highly correlated with employee engagement (Carter, 2010). Therefore, training, learning and development activities that focus on improving employee confidence will not only boost performance but lead to increased employee engagement scores.

How can training, learning and development professionals boost employee self-efficacy? Carter (2010) answered the question that the key is to undertake activities that specifically focus on lifting self-efficacy through:
1. enactive mastery (practice makes perfect);
2. vicarious experiences (learning by watching role models);
3. verbal persuasion and social influence (supporting through coaching and encouragement);
4. the environment (reducing emotional and physical stress).

Although each of these four factors can independently increase self-efficacy, the ideal training, learning and development intervention would incorporate all four in order to maximise employee confidence. An ideal intervention would also enhance employees' sense of personal agency and control - their belief in their ability to be self-organising, pro-active and self regulating.

Many research proved that employee engagement is linked to three essential forces in the organization - attrition, productivity and profitability. Ultimately the productivity is what is expected by the company from employees. An engaged employee carry out what is expected of him, having his focus and goal clear and brings success to the organization. Profitability is the result of actively engaged workforce.

The result of these researches is that there can be found many models of increasing employee engagement in organizations. For example Baumruk argue that managers can generate engagement with their employees in the following practical ways (Gorman, Gorman, 2006):
1. *Coaching and career support*
   Be attentive to potential career paths, skills needed for development and advancement. Look for opportunities for training and for assignments that will broaden employees' experience.
2. *Recognition*
   Provide consistent and frequent acknowledgement of good work. Provide informal and formal rewards.
3. *Accountability*
   Be clear about performance expectations. Hold employees accountable for results. Provide appropriate consequences for meeting or not meeting expected results.
4. *Involvement*
   Involve employees in decision making and execution. Ask them what they think. Find out what's most important to them and help deliver it.
5. *Communication*
   Ensure frequent and scheduled interaction and sharing of information, feedback and ideas. Listen, understand and respond appropriately.

Summary
Employee engagement is an emerging phenomenon which should be well taken care of by the managers in the present scenario of business environment. The managers have to be keen whether employees are engaged or disengaged in their work setting, since disengagement or alienation can be the central problem of workers for their lack of commitment and motivation. Investments in people (i.e., HR-related practices) have a reliable impact on the performance of organizations. Also the organizations have

to know how they should increase of employee engagement. Just knowing the drivers of employee engagement and different ways of enhancing engagement allows organizations to create their own model of increasing employee engagement and therefore improve their own performance.

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Working Team as a Factor of Job Satisfaction PhD Students at the Faculty of Management

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Abstract

The ARRA in 2013 recorded the lowest interest in studying at universities and assumes that, over the next few years this trend will not change. The PhD degree is the highest level of education in Slovakia, therefore the study-satisfaction survey was conducted on the PhD students at the Faculty of Management at University of Prešov in Prešov during the 2013/2014 winter semester. One aspect of the overall satisfaction is the working team, where the PhD students work and this is also the subject of this paper. The extent, to which the doctoral students are satisfied or dissatisfied with their jobs, is a key determinant not only for effective performance, but for overall well-being in the workplace too. Satisfaction with the working team was identified on the basis of selected independent variables. Partial outcome of the survey is the positive assessment of the working team by the PhD students that encourages them for further work and to perform better.

Key words
doctoral studies, job satisfaction, factor of job satisfaction, working team

What is job satisfaction?

Job satisfaction is one of the most widely discussed and enthusiastically studied constructs As reported by Kubáni (2011) job satisfaction in psychology is systematically studied since the 30s of the 20th century. However, job satisfaction is among the most difficult constructs to define. The various definitions of job satisfaction make it clear that different researchers have different opinions about job satisfaction.

Early definitions of job satisfaction tended to focus on an employee's emotions and feelings towards the job. The most-used definition of job satisfaction in organizational research is that of Locke (1976), who described job satisfaction as „a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1304). Also Smith, Kendall and Hulin's define job satisfaction „as persistent feelings toward discriminable aspects of the job situation" (1969, p. 37).

This affect-based definition of job satisfaction remains popular and continues to be used by researchers, some of whom define job satisfaction as "an affective reaction to a job that results from the incumbent's comparison of actual outcomes with those that are desired" (Cranny, Smith, Stone, 1992, p. 1). A recent meta-analysis by Connolly and Viswesvaran (2000) also provided support for the use of affect in definitions of job satisfaction when they found that job satisfaction was correlated with both positive and negative affectivity.

Armstrong (2007) states that positive and favorable attitudes to job signal satisfaction. Negative and unfavorable attitudes contrary signal dissatisfaction

Building on conceptualization of Locke, Hulin and Judge (2003) noted that job satisfaction includes multidimensional psychological responses to one's job, and that such responses have cognitive (evaluative), affective (or emotional), and behavioral components.

Brief (1998, p. 86) described job satisfaction as "an internal state that is expressed by affectively and/or cognitively evaluating an experienced job with some degree of favor or disfavor." This definition can be seen as an attempt at reconciling both the affective and cognitive dimension of job satisfaction.

Brewer (1998, p. 27) defined job satisfaction as the "degree to which an individual enjoys his or her work".

From above mentioned we can agree with Kollárik (1986) that job satisfaction can also be seen as a specific attitude to work as a whole and to its individual components which an individual attaches importance or significance.

We consider it important to distinguish (Kollárik, Kubalák, 1979):
- *Overall job satisfaction*, which reflects the general level of relationship for the work performed.
- *Partial satisfaction* of expressing satisfaction with various factors related to the work situation.

According to Cranny, Smith and Stone (1992), general job satisfaction is an essential part of the system of consistent satisfactions. Satisfaction with definite features of a job situation causes satisfaction with the components of job, with the job in general, and eventually with life."

Factors of job satisfaction

Factors affecting on job satisfaction are numerous. Their significance and order of importance depends on the circumstances that are the nature of the work, the nature of the professions and the environment in which they are performed and so also individual specifics, that depends on personal preferences (Kollárik, 1986).

Factors of job satisfaction may be differentiated into external and internal.

External factors are independent of the worker. According to Rymeš (2003), this includes:
- *financial rewards,*
- *career development (promotion),*
- *working team,*
- *physical conditions.*

Intrinsic factors of job satisfaction are associated with a person of the employee. Kollárik (1979) divides the internal factors into three groups:
- *objective personal factors* (eg. age, sex, job title),
- *personal characteristics* (eg. emotional stability, uniformity, extraversion, ...),
- *motivational factors* (eg. needs, attitudes, expectations and aspirations, ...).

Armstrong (2007, p. 228) argued that "the level of job satisfaction is influenced by internal and external motivating factors, quality of management, social relations in the working group and the extent to which individuals are at your job succesful or failure".

Based on the analysis of literary knowledge among the most commonly pursued a research factors of job satisfaction include (Kubáni, 2005; Štikař a kol., 2003; Fuchsová, Kravčáková, 2004, Výrost, Slaměník, 1998): *the content and nature of work, working conditions, organization of work, financial rewards, relationship with supervisor, working team, promotion and growth in the organization, the level of social welfare.*

Many research suggested that **working team** has very important affect on job satisfaction. Bellicki and Woolcott (1996, In: Brewer, Clippard, 2002) have found those employees who felt involved at work, had good peer bonding, good supervisory support, a sense of autonomy, and clarity in their job duties, opportunity to be innovative and physical comfort on the job had greater job satisfaction.

Working team allows individuals to satisfy their social needs and create some quality social climate.

We agree with Hill (2014) the employees seek to be treated with respect by those they work with. A hostile work environment (with rude or unpleasant co-workers) is one that usually has lower job satisfaction. In an August 2011 survey published by FoxBusiness.com, 50 percent of those responding said they had personally experienced a great amount of workplace incivility. Fifty percent also believe morale is poor where they work. Managers need to step in and mediate conflicts before they escalate into more serious problems requiring disciplinary action. Employees may need to be reminded what behaviours are considered inappropriate when interacting with co-workers.

Based on the foregoing, we conducted the study-satisfaction survey among the PhD students at the Faculty of Management at University of Prešov in Prešov.

Methodology

The study-satisfaction survey was conducted on the PhD students at the Faculty of Management at University of Prešov in Prešov during the 2013/2014 winter semester. According to Štefko et al. (2012), graduates of this study have the prerequisites of managerial work, the application of research and teaching activities, or as a university teacher. The questionnaire was given to PhD students in electronic form through the application GoogleDocs. The questionnaire consisted of 17 questions (of which 3 were identification questions). This paper also discusses the identification issues and the results of questions no. 13 (scale) and no. 14 (dichotomous question):

13. How do you evaluate working team at your faculty?
14. Does your working team encourage you to higher/better performance?

The base set consisted of PhD students at the Faculty of Management at University of Prešov (doctoral study programme Management in Tertiary Sphere). 62 PhD students studied the present program in the current academic year and the sample was composed of 43 full-time students and part-time students.

The sample is characterized through selected moments. Tkáč (2001) and Řezanková (2010) define the moments as a different frequency and include there a rate position or rate variability. The mean (arithmetic, geometric and harmonic), the median and the mode belong to the characteristics of the position. To the characteristics of the variability belong the mean deviation, variance and standard deviation. While processing the survey results, we opted for the division which prefers Markechová, Stehlíková, Tirpáková (2011):

- *rate position* (mode, median, mean),
- *rate variability* (standard deviation),
- *degree of asymmetry* (skewness and kurtosis coefficients).

For verification, the relationship between variables is also important to determine its strength. For the purposes of this paper we confirm the relationship between selected pairs of variables by Pearson correlation coefficient. Pearson product-moment correlation coefficient, also known as r, R, or Pearson's r, a measure of the strength and direction of the linear relationship between two variables that is defined as the (sample) covariance of the variables divided by the product of their (sample) standard deviations:

$$r = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 \sum (y - \bar{y})^2}}$$

Results of the survey were processed in MS Excel. Space for graphics processing has provided program Statistica 12.

Results and discussion

The basis for further processing is the characteristic of the sample (43 PhD students), which is shown by the following graph 1.

Graph 1. The age distribution of the sample
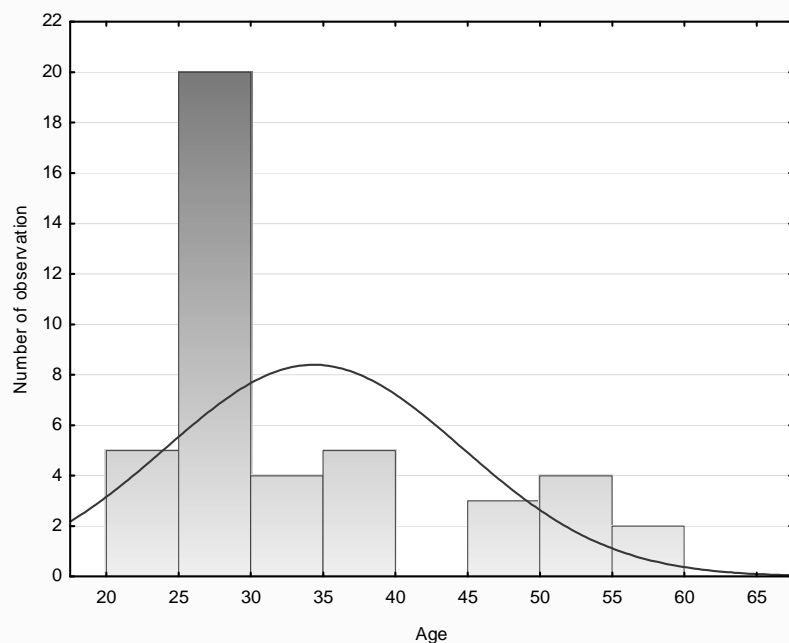
The minimum age in the sample was 24 and the maximum age was 59 years. The overall standard deviation represented 10.2 years so variability survey sample was relatively high (caused mainly by PhD students in part-time study). High variability caused kurtosis at the level of 0.183, thus the concentration of values around the average is high. Implication of skewness at the level of 1.198 is that age is skewed to the left. On this basis, the following relationship holds mode <median < mean. Based on the median (30) we can talk about the right hand side asymmetry of the researched samples age.

The histograms (graph 2 and 3) display the results obtained through the questionnaire. Subsequently the correlation between age, gender, form of doctoral studies and the responses obtained in the survey was investigated.

Graph 2. Histogram – Question no. 13
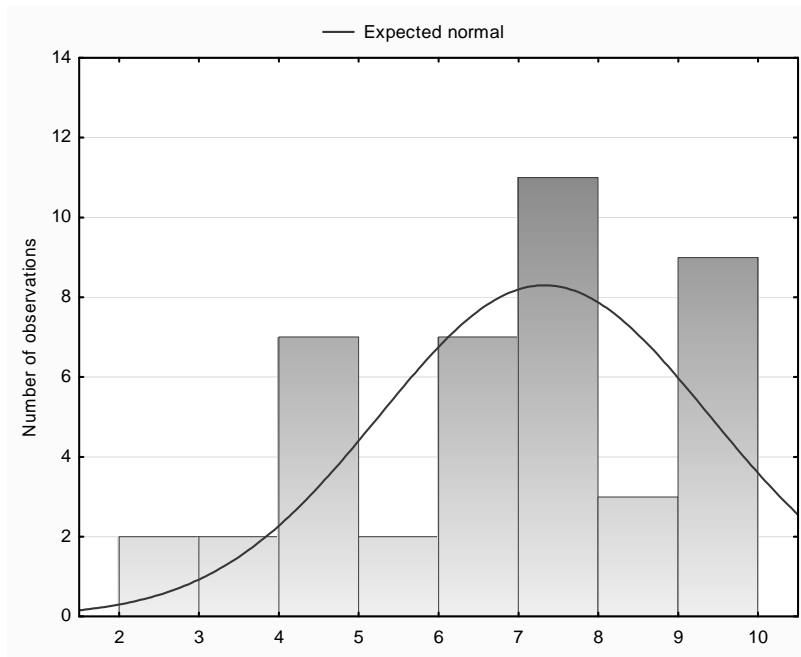
The majority of respondents (PhD students) evaluated the working team at the faculty by minimum value of 7.The investigated correlation between the form of doctoral studies, age, gender, and evaluation of working team did not confirm the level of significance ($p \leq 0.05$).

Graph 3. Histogram – Question no. 14
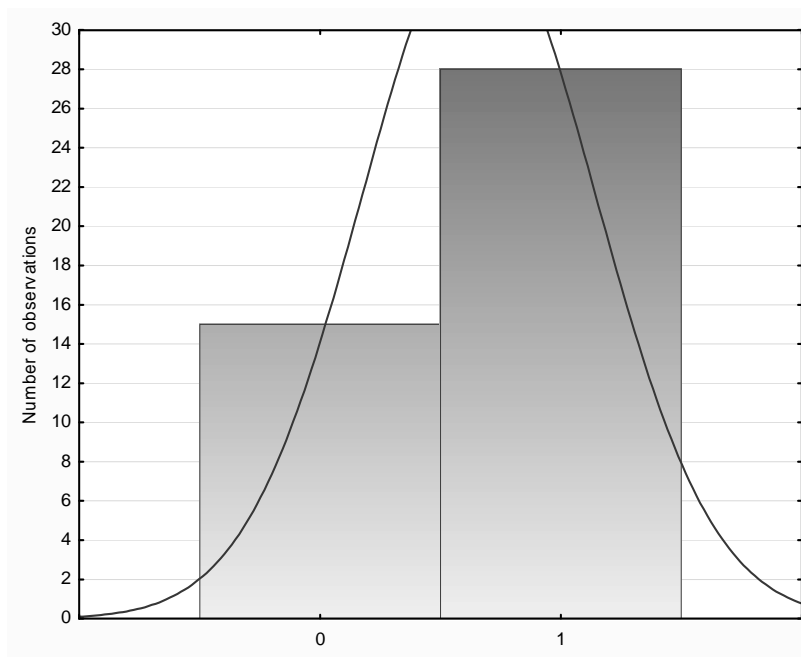
The majority of interviewed PhD students (65%) considered their working team as the factor that encourages them to higher performance. The observed significance level of the Pearson correlation coefficient did not confirm neither one of the observed correlations.

Summary

Doctoral studies in the context of the education system in the Slovak Republic is the third and the greatest possible degree of education. Its attractiveness is determined by the conditions that create each university or faculty alone. Through our research on the sample of 43 PhD students at the Faculty of Management at University of Prešov in Prešov, we can say that they evaluated their work team, positively. PhD students also considered the work team as a factor that encourages them to higher performance and more scientific work.

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Social Responsibility in Context of Business Performance and Competitiveness

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Abstract

The issue of social responsibility in terms of the current globalized market has become an increasingly important element of strategic management of the organization. The aim of this paper is to provide information and knowledge about business performance and determine the impact of the application of the concept of social responsibility on corporate performance and competitiveness. The authors point out that the effective combination of social responsibility with core business in the long run increases the competitiveness of the company.

Key words
Social responsibility, corporate performance, competitiveness, organization

Introduction

Society's expectations regarding the performance of organizations are constantly growing. As one of the trends of the 21st century competitiveness of firms regarding Gibson (2009) is management style associated with the so-called "fighting for a good thing." Competitive advantage is currently held in the hands of those businesses that are able to actively respond to ever-changing consumer expectations and involve socially responsible aspects to their business activities.

These expectations as well as a strong external pressure carries a strategic turn in the current business perception which has to be re-defined and the values that correspond to the activities of an organization has to be identified. Social responsibility should be - based on this shift in business thinking - embraced quite differently. It is necessary to effectively combine economic and social value undertaking socially responsible activities aligned with core business and transform social responsibility into a competitive advantage that increases performance and consequently competitiveness.

Competitive advantage, together with competitiveness is key factor of organizational performance. One of the goals of efficiency in terms of sustainable development should reflect the organization's responsibility towards the society in which it operates.

Materials and methods

Performance of the company is one of the most important indicators, which reflect the prosperity and success. Every business should strive to ensure its growth through various activities, one of which should be the application of the concept of social responsibility. Growth of performance can contribute to increase the value of the business, to ensure good and stable position in the market, more profits and finally the competitiveness.

Determine the impact of social responsibility on business performance is quite a complex process, which addressed several authors and critics of this concept.

A pioneer in research on the impact of social responsibility on the economic performance of organizations is the work of Milton Moskowitz Choosing Socially Responsible Stock of 1972. Detailed overview of methodologies, evaluation criteria, results and limits of significant works from the period 1972-1979 indicate Aupperle, Carroll and Hatfield (1985, p 445-451) Among contemporary authors working in this area can be included Greening and Turban (2000), McWiliams and Siegel (2000), Blowfield and Murray (2008), Kuldová (2012), Zadražilová (2010) and others.

Further research in this area conducted GlobeScan (2005), which has proved that belief in socially responsible behavior has a significant and positive impact on business performance. The above research shows that there is a relationship between social responsibility and business performance. Application of the concept of CSR has largely positive impact on the company. In addition to financial benefits, there are also non-financial ones, such as the reputation and image of the company, loyal and motivated employees who seek efficient and smooth running of the organization without financial loss, devoted customers seeking for the best meeting of their needs, etc. Many authors indicates also a negative impact, as rising

costs and thereby reducing profitability and company revenues, but it is important to note that many of them are aware that this is a momentary investment that over time will certainly bring its fruits.

The aim of our research was to determine whether social responsibility determines the overall business performance. In connection with this research problem, we set the hypothesis: We assume that there is a link between the application of corporate social responsibility at a strategic level and perception of social responsibility as a means of improving the economic and overall corporate results.

This hypothesis is based on the assumption that the majority of organizations of which has firmly established the concept of social responsibility in their strategy perceive implementation of social responsibility as an option to increase its overall performance and hence improve the overall efficiency of the company.

The target group was mainly companies which are members of BLF (Business Leaders Forum) and publicly advertised as socially responsible businesses. Survey involved 23 companies from 49 companies of our target group. It means that return of the questionnaire represented less than 47%. However, it is important to say that most of the organizations as members of BLF engaged in the survey are considered the representatives of social responsibility; therefore research on this sample can provide sufficient evidence.

Results and discussion

Set hypothesis assumes the existence of a correlation between strategic social responsibility and better economic and overall company results. It is determined be variables - strategy and results that have been created on the basis of the questions in the questionnaire. Both of these variables have the same opportunities of answer - definitely yes, rather yes, rather no, and certainly not. Respondents were offered in case of doubt the possibility "do not know", however it was not included in the analysis mainly due to its low explanatory power. Due to the low number of companies have been options "definitely yes" and "rather yes" merged together - under code 1, and the options "certainly not" and "rather not" under code 0. They were further processed as binary statistical variables using contingency table and statistics of detailed two-dimensional tables.

Table 1 and 2 show the observed and expected frequencies in the relation between variables "strategy" and "results". It is evident from the table of expected frequencies that it is not possible to use Pearson's chi-square test, whereas the presumption frequency > 5. Therefore other tests intended for binary variables, e.g. Fisher's exact test were used for the analysis.

Table 1. The observed frequency of variables "strategy" and "results"

Strategy	2-dimensional table: the observed frequency		
	Results Certainly not /	Results Definitely yes / Rather yes	Row sums
Certainly not / Rather not	3	0	3
Definitely yes / Rather yes	0	20	20
Overall	3	20	23

Source: own research

Table 2. The expected frequency of variables "strategy" and "results"

Strategy	2-dimensional table: the expected frequency		
	Results Certainly not /	Results Definitely yes / Rather yes	Row sums
Certainly not / Rather not	0,391304	2,60870	3,00000
Definitely yes / Rather yes	2,608696	17,39130	20,00000
Overall	3,000000	20,00000	23,00000

Source: own research

The following Table 3 shows the dependence between the variable "strategy" and "results" using Fisher's exact test, from which it is apparent probability p = 0.00056, which is less in comparison to the level of alpha test 0.05. In view of this result was the null hypothesis of independence of the variables rejected and the alternative hypothesis of the existence of relation between these variables was accepted. It can therefore be concluded that a relationship between the strategic application of Social Responsibility and the perception of Social Responsibility as a tool for improving economic, as well as the overall results of the company exists.

Table 3. Testing the relation between variables "strategy" and "results"

Statist.	Statist.: strategy x results		
	Chí-squar.	Sv	P
Yates' chi-squared test	15,02826	df=1	p=,00011
Fisher´s exact test 1-sided			p=,00056
Fisher´s exact test 2-sided			p=,00056
McNemar's test (A/D)	11,13043	df=1	p=,00085
McNemar's test (B/C)	-----	-----	-----

Source: own research

The link between variables strategy and results is also shown on figure 1, which illustrates the interaction between these variables.

Figure 1. Interaction between variables "strategy" and "results"

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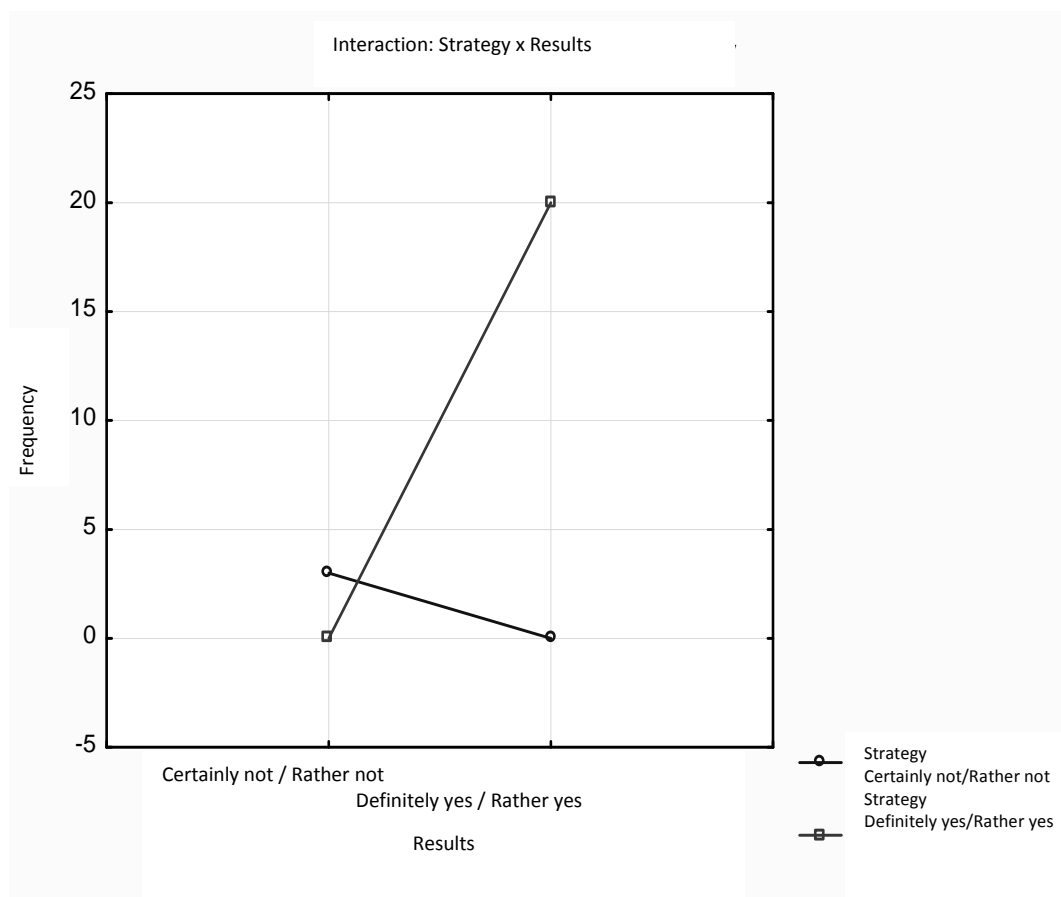
Conclusion

Recently, the scientific consensus on the impact of social responsibility on performance and competitiveness of the company was not achieved. Scientists as well as social responsibility managers dispute about the uncertain relationship between Social Responsibility and the performance of organizations. Biggest problem appears to separate the Social Responsibility as a soft factor from hard factors that have much more significant impact on business performance.

However, several investigations as well as a research realized between the Slovak enterprises point to the fact that the possibility of increasing the efficiency of organizations through effective linkage with the core business of Social Responsibility or transformation of Social Responsibility into a competitive advantage, which in the long run increases the competitiveness of the organization, is evident.

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The Influence of Study Length on Resolution Ability
of Students of Management

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Abstract

Dimensionc of regional culture by G. Hofstede. The variables of individual dimensions of regional culture. Resolution ability of students levels of significance and individual variables in dependence on their study length.

Key words

Power distance, individualism and collectivism, masculinity and feminity, certainty and uncertainty, time orientation, resolution ability, level of significance, variables of significance

Introduction

To determine the influence of study lenght on the resolution ability af management students was used Hofstede theory of regional culture. Geert Hofstede, who is considered the "father of modern cross-cultural research", says that "...nation and also regional culture are for management very important". (Hofstede, 1996, p. 244)

Hofstede points out,that national and regional cultures differ in 5 basic dimensions. The first dimension reflects the ways in which a given culture perceives inequality, respectively the extent to which inequality accepted as a natural part of social hierarchy. This dimension is called a power distance. The degree of integration of the individual to the group is a dimension named as individualism and collectivism. Different perceptions of the social roles of men and women called masculinity and femininity. The tolerance for new and unknown is the fourth dimension, which is called uncertainty avoidance. Willingness to satisfy own needs from different time perspectives is a fifth dimension called long-term and short-term orientation.

Dimensions of culture

1 Power distance
Index of power distance refers to the relationships and interdependencies respectively independence and emotional proximity respectively distance between subordinates and superiors in the national or regional culture.

2 Individualism and Collectivism
The index of individualism and collectivism story about the extent to which individual members of society prefer enforced their interests and needs before the needs and interests of the collective or the entire company.

3 Masculinity and Feminity
The index of masculinity and feminity speaks not only about the roles of men an dwomen, which the company prefers and supports, but also about the values that are seen as attributes to men and women are valued by companies.

4 Certainty and Uncertainty
The index Certainty and Uncertaity presents as in cultures tolerate uncertainty, respectively ambiguity as are perceived by new and unknown situations.

5 Time orientation
The index of time orientation indicates the degree of focus on traditional values, their implementation in terms of time.

The analysis of the influence of study length on the resolution ability of management students

In the context of the above was conducted the research at the research sample of 120 management students of selected universities in the Slovak Republic: University of Prešov in Prešov – 1.year study,The Catholic University of Ružomberk – 1. year of the study and Matej Bel University in Banská Bystrica- 5. th year study.

The main goal of research was to ascertain how the study lengh influence the resolution ability of students.

1 Variable dimensions of regional culture

For research purposes for each dimension of culture - in consultation with experts in the field - were selected following variables:

- 1. Power distance

X_1 - distance from the employees; X_2 - decisions consultation with subordinates; X_3 - duty to make decisions; X_4 - acceptance of participation the other team members in decision-making; X_5 - significant wage differentiation within the organization; X_6 - privileges and symbols include the performance of the managerial functions; X_7 - acceptance of dissenting opinions of the subordinates; X_8 - mutual trust among employees is normal; X_9 - adaptation to the interests of the team; X_{10} - hierarchy of the organization reflects the true existential and social inequality; X_{11}- informal influence on the others; X_{12} - willingness to listen to the employees at the deficit of your time.

- 2. Individualism and Collectivism

X_1 - willingness to submit to the higher interest despite internal disagreement; X_2 - creating space for new ideas and initiatives; X_3 - self-reflection is necessary for success; X_4 - fight against intrigue, envy, gossip; X_5 - need for self-realization of all team members; X_6 - willingness to observe the team rules; X_7 - within the employer-employee relationship should be created benefits to both sides; X_8 - recruitment and career development are determined entirely by abilities and rules; X_9 - self-management is the key to success; X_{10} - fulfillment of the task prevails over personal relationships; X_{11}- no need to stress success of individuals, important is the team result; X_{12}- willingness to share hidden knowledge for the benefit of the team.

- 3. Masculinity and Feminity

X_1 - women in managerial positions; X_2 - dominance of material profit and progress; X_3 - preference of higher income instead less working hours; X_4 - competition among colleagues and their performances; X_5 - harmonium and consensus in the interpersonal relationships; X_6 - the balance between work and private life; X_7 - willingness to accept changes; X_8 - assertivity, determination, ambition, tenacity; X_9 - loyalty to employer; X_{10} - problem-solving – compromise and negotiation; X_{11} - properly managed conflicts – constructive way of solving problems; X_{12} - material values (company car, mobile phone, note book...).

- 4. Certainty and Uncertainty

X_1 - harmony of family background where you grew up; X_2 - orderliness (integrity) of your own family; X_3 - clear identification (definition) of the tasks- directives, regulations, clear job descriptions; X_4 - subjective feeling of comfort, low noise level; X_5 - lower generational differences of team members; X_6 - ventilation of aggression and emotions; X_7 - internal motive still to work, emotional need to be busy; X_8 - distrust towards the foreign managers; X_9 - uncertainty- tolerated as the part of normal life; X_{10} - innovative ideas; X_{11} - fluctuation of labor force; X_{12} - nationality.

- 5. Time orientation

X_1 - rate of staying in the employment in 5 years; X_2 - rate of staying in the employment in 10 years; X_3 - vertical career progression; X_4 - working after working hours only for adequate reward; X_5 - realization of ambitions (specify how many steps); X_6 - willingness to lifelong education; X_7 - not to shorten the time allotted for the regeneration; X_8 - willingness to tolerate subsequent; performance of the tasks; X_9 - maximum duration of incorporation to the function; X_{10} - horizontal career growth; X_{11} - age of employees; X_{12} - continuity of self-education

2 Statistical evaluation of results

From a methodological point of view was observed value the significance of individual variables. To ensure a high validity of the results was elected Student's paired t-test comparison variables (Riečan et al.1992, p. 302).

Based on respondents assigned values (scale of 1-12, 1 – lowest importance) of twelve selected variables was calculated arithmetic average for each variable. Student's t-test was used to compare the difference between arithmetic average of pairs of the investigated variables (ranked by maximum for a minimum value), see (1), (2), (3), (4), (5), (6) and (7).

The difference between the variables:
$$d = \sum_{i=1}^{n} d_i \tag{1}$$

The squared difference:
$$d^2 = \sum_{i=1}^{n} d_i^2 \tag{2}$$

Average difference:
$$\bar{d} = \frac{1}{n}\sum_{i=1}^{n} d_i \tag{3}$$

The average value of the second squared differences:
$$d^2 = \frac{1}{n}\sum_{i=1}^{n} d_i^2 \tag{4}$$

Dispersion of differences:
$$\sigma^2 = \overline{d_i^2} - \overline{d_i}^2 \tag{5}$$

Unbiased estimate of the standard deviation:
$$s^2 = \frac{n\sigma^2}{n-1} \tag{6}$$

The test value:
$$t = \frac{\bar{d}\sqrt{n}}{s} \tag{7}$$

On the based on the results of tests we can identify variables which differ significantly and the refore respondents their values differently.

3 Analysis of research results

Calculated models are made up of different levels of significance, whic contain a different number of variables.

Eg. in the dimensionof "Power distance"(Table 1) at Prešov University variables model consists of three levels of significance- the first level contains the variables X_3, X_{12}, X_9, X_4 and X_2, the second level contains variables X_6, X_5, X_7, X_{11} and X_{10}, the third level contains variables X_1 and X_8, at the Catholic University of the model consists of four levels of significance - the first level contains the variable X_3, the second level contains the variables X_2, X_{12}, X_9, X_4 and X_7, the third level contains the variables X_5, X_6 and X_{10}, the fourth level contains variables X_1, X_{11} and X_8, at the University of Matej Bel, this model consists of five levels of significance - the first level contains the variables X_3 and X_{12}, the second level contains the variables X_4, X_2 and X_7, the third level contains the variables X_9, X_6, X_5, X_{11} and X_{10}; fourth level contains the variable X_1, the fifth level containsa variable X_8.

Analogical was ascertain structures of models of regional culture - the "Individualism and-Collectivism", "Masculinity and Femininity", "Certainty and Uncertainty " and "Time orientation".

Based on obtained the results (Tables 2, 3, Figure1 and Table 4), we can say that in terms of the level of resolution the best scores were achieve by students of the University of Matej Bel in Banská Bystrica , whenin the "ideal area" is16% of the variables in the"required field" is 42% ofthe variablesin the"unwanted area" is 42% of the variables. The worst results were achieved by students at the Catholic University when the"ideal area" are 3% of variables in the"required field" is 22% of variables in"undesirable area" is 75% of the variables.

Table 1. Models of variables cultural dimensions of "Power distance"

University of Prešov in Prešov			Catholic university in Ružomberok			University of Matej Bel in Banská Bystrica		
Variable; arithmetic average	Compared variables; value of test	Significance of variables	Variable; arithmetic average	Compared variables; value of test	Significance of variables	Variable; arithmetic average	Compared variables; value of test	Significance of variables
X_3; 8,18	X_3-X_2; 1,52		X_3; 9,18	X_3-X_2; 2,28	**1.LS-X_3**	X_3; 8,92	X_3-X_{12}; 1,41	
X_{12}; 8,06	X_3-X_6; 3,41		X_2; 7,86	X_2-X_7; 1,79		X_{12}; 8,00	X_3-X_4; 2,40	**1.LS-X_3,X_{12}**
X_9; 7,07			X_{12}; 7,84	X_2-X_5; 2,52		X_4; 7,66	X_4-X_9; 2,06	
X_4; 7,64			X_9; 7,76				X_2-X_7; 7,52	**2.LS-X_4,X_2,X_7**
X_2; 7,32		**1.LS-X_3,X_{12},X_9,X_4,X_2**	X_4, 7;12			X_9; 6,58	X_9-X_{10}; 1,76	
X_6; 6,10	X_6-X_{10}; 1,6		X_7; 6,71		**2.LS-X_2,X_{12},X_9,X_4,X_7**	X_6; 6,30	X_9-X_1; 3,05	
X_5; 5,98			X_5; 6,16	X_5-X_{10}; 1,00		X_5; 6,10		
X_7; 5,94			X_6; 5,69	X_5-X_1; 2,50		X_{11}; 5,68		
			X_{10}; 5,57		**3.LS-X_5,X_6,X_{10}**	X_{10}; 5,26	X_1-X_8; 2,47	**3.LS-X_9,X_6,X_5,X_{11},X_{10}**
X_{11}; 5,44			X_1; 4,73	X_1-X_8; 0,84		X_1; 4,76		**4.LS-X_1**
X_{10}; 4,80		**2.LS X_6,X_5,X_7,X_{11},X_{10}**	X_{11}; 4.47			X_8; 3,56		**5.LS-X_8**
X_8; 4,26	X_8-X_1; 1,00		X_8; 4,27		**4.LS-X_1,X_{11},X_8**			
X_1; 3,42		**3.LS-X_8,X_1**						

Source: Author
Note: LS – level of significance

Table 2. Number of levels and the number of variables depending on dimensions of regional culture

University	The number of occurrences/Number of occurrences of variables at each level				
	Power distance	Individualism and Collectivism	Masculinity and Feminity	Certainty and Uncertainty	Time orientation
University of Prešov in Prešov	**3/5,5,2**	**2/6,6**	**3/6,5,1**	**4/2,4,5,1**	**3/4,5,3**
Catholic university in Ružomberok	**4/1,5,3,3**	**3/6,5,1**	**2/7,5**	**3/5,3,4**	**2/7,5**
University of Matej Bel in Banská Bystrica	**5/2,3,5,1,1**	**3/3,5,4**	**3/5,4,3**	**4/5,4,1,2**	**4/2,5,4,1**

Source: Author

Table 3. Number of occurrences of variables at one level of importance depending on the dimensions of regional culture

University – year of study	The number of occurrences of variables at one level of importance (alle 5 dimensions)														Note
	1	%	2	%	3	%	4	%	5	%	6	%	7	%	1 variable = 1,67 %. Eg: University of Prešov
University of Prešov – 1. year of study	2	3	2	7	1	5	2	13	5	42	3	30	0	0	- 4 variables are on 1 level
Catholicuniversity in Ružomberok – 1. year of study	2	3	0	0	3	15	1	7	5	42	1	10	2	23	2 times – by calculation
Universityof Matej Bela in Banská Bystrica – 5. year of study	4	6	3	10	3	15	4	27	5	42	0	0	0	0	% weconsider 8 variables

Source: Author
Note:
1 -Ideal area -1 and 2 variables at one level of significance.
2 – Required area - 3 and 4 variables at one level of significance.
3 – Undesirable area -5, 6 and 7variables at one level of significance.

Figure 1. The number of occurrences of variables at one level of importance
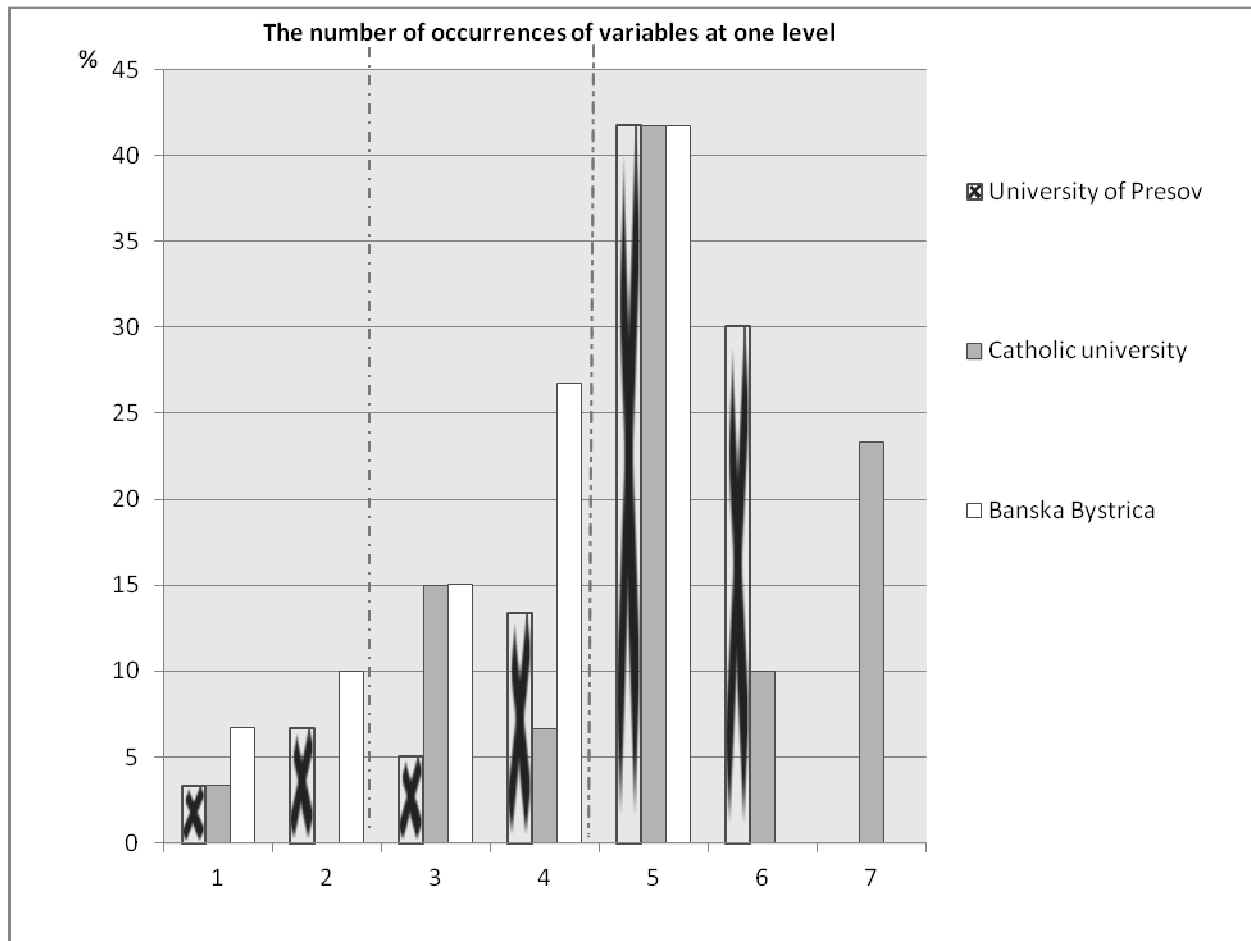
Source: Author

Table 4. Evaluation of the quality of distinctive ability of students of management

University – year of study	Ideal area (%) – (each % = 10 points)	Required area (%) – (each % = 5 points)	Undesirabl earea (%) – (each% = 3 points)	Ranking of universities
Catholic university in Ruzomberok – 1. yaer of study	**3**	**22**	**75**	3. (365 points)
University of Matej Bela in Banska Bystrica – 5. year of study	**16**	**42**	**42**	1. (496 points)
University of Prešov in Prešov – 1. yaer of study	**10**	**18**	**72**	2. (406 points)

Source: Author

Conclusion

Based on the obtained results we can conclude that the main goal of research has been achieved. The study length influences the quality of resolution ability of students. The longer duration of study the better quality of resolution ability of students – students differentiate more levels of significance in actual dimension Table 2. Students of University of Matej Bel in Banská Bystrica - 5th year of study, differentiate 19 levels of significance of variables in individual dimensions of regional culture. Students of Unversity of Prešov in Prešov – 1st year of study, differentiate 15 levels of significance of variables. Students of The Catholic University of Ružomberok – 1st year of study, differentiate 14 levels of significance of variables.

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Analysis of the Efficiency Measurement in Public Sector

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Abstract

„What gets measured gets done". It is perhaps the most famous aphorism of performance measurement. Performance measurement in public sector is much discussed and under development among many organizations. Because it is important to measure efficiency in business firms, it is a very important concept in the public sector because of the size of financial resources.

Performance measures can be used for multiple purposes. Moreover, different people have different purposes. The main reason for measuring performance is not only from the individual citizens but foremost from many institutions.

I will focus in my article on methods and possibilities how to measure the performance in the public sector and what problems can arise and I will try to answer the questions on why to measure the performance in public sector, what kind of performance to measure, how to measure it and what to do with the results.

Key words

Public sector, processes, effectiveness measurement, non-profit organization

Public administration management

Regarding the management of public sector, administration is the most often used term. According to Owen Hughes (Wright, G - Nemec, J. 2003, page 15) we cannot understand this two terms as synonyms. The term "administration" usually means something to administer, organize, provide, to solve the problems and other things.

The term management can mean also the public service, where officers follow a policy designed by someone else. The management includes not only administration but also the organization, planning and control with the effort to maximize efficiency and the responsibility of individual institutions and departments for the results. Individual officers in public organization should retrain into managers and, like in the private sector, take care of the rational use of the resources, met and a comprehensive use of the land potential.

Differences between public and private organizations

Between the management of public organizations and the management of private companies, there are obvious differences:

1. Different legal environment - decisions in state and local governments must be public, so that the people could know about it and tell their opinion.
2. Action based on political needs, there is no demand created by the market as it should be in the private sector.
3. The private companies are established because of the profit, but in the public organizations, there is any profit motive.

Public policy-making process

The public policy-making process consists of the steps and sequences that can be called the public policy-making process. According to K.Staroňová and E. Sičáková - Beblavá (2006) the process steps to follow each other and have their own internal logic, but it is not a linear process with a clear beginning and a clear ending. This means we can begin to work in whichever stage (for example, we can prepare a monitoring report at the beginning and start with the monitoring and evaluation phase, in which we find a problem to be solved, and then we can go back to the stage, where the objectives of public policy are set). Thus, we do not need to follow the scheme, but we should constantly review procedures and consider the interdependence of all activities.

Efficiency measurement

Measuring of organizations efficiency is in general terms about the relationship between the outputs it produces and the inputs it uses. An efficient organization would be one that produces the maximum possible outputs given its inputs, or one that produces a certain level of output with the minimum amount of inputs.

Worldwide and also in Slovakia many significant reform in the public sphere are going on in the last decades. Although the reforms are focused mostly in eGovernment without complete knowledge and improving processes and eliminating unnecessary processes.

The municipality can do everything that is not forbidden by the law and it can not be forced to do something that the law does not oblige it.

All activities of municipalities (officers and employees) should be performed according to the public interest, it means in the interest of all residents of the municipality or the state, not in private interest. This kind of interest is very difficult to define. Representatives of governments should actively seek opportunities for further development, improving the quality of services, attracting investment, and so on. This is a proactive approach to governance.

In carrying out the public services this performance should be the most effective, efficient and transparent with limited human and financial resources. These solutions are very difficult many times, because the most effective solution may not be the most transparent.

In principle, it should be the reform of the two major changes:

1. The change of administrative (bureaucratic) state to a modern state allowing increase the share of citizens in the management of public affairs,
2. The creating of conditions for continuous improvement of performance and effectiveness of public administration.

Author Ochrana (2002) uses regarding the measurement of the performance of public services terms like "performance in the public sector" or "productivity of public institutions". He is using indicators as 3E (Economy-Effectiveness-Efficiency). Nemec and Wright (2003) used the term "economy". In practice, however, quantification of measuring of real performance in the public sector can be very difficult.

Generally performance measurement involves four dimensions:

1. The efficiency- the relationship between inputs (resources) and outputs (services produced).
2. The effectiveness - how the objectives are achieved.
3. The legality - compliance with laws and standards relating to state administration.
4. The quality of service

Optimal solution

Effectiveness is generally based on the assumption of rational behavior of subjects in terms of scarcity resources. (Hamerníková, Kubátová 1999, Stiglitz, 1997 Presses, 2006). Many authors based on more specific definition of efficiency, ie. Pareto efficiency. In this sense, the certain decisions (eg. local government decision about the amount of the local taxes) are effective only in case when such change cannot be made unless citizen wins something without other losing their entities. (Peková, Pilný, 2002). In this sense the solution in public sector is effective, when the benefits to at least one citizen are increasing, while the benefits of other citizens are not changed, respectively, are not reduced. The optimal solution is then such solution, when the efficiency of at least one entity is can not be increased without reducing the benefit of other people. (Stiglitz, 1997).

At this stage, two questions can be asked: Is it feasible to achieve superior outputs, given the set of inputs being used? Is it feasible to use less inputs to achieve the same outputs? (Crawford, I. - Klemm, A. - Simpson, H.)

Key aspects of the public policy

According to Staroňová K. (2006) are the key aspects of the public policy:

1. The performance (considering to financial and human resources, information, data, material, equipment).
2. The effectiveness (policy-making process: preparing variants, impact valuation, decision making, monitoring, impact assessment).
3. The efficiency (outputs - programs, projects, plans, strategies, standardization and results - public services).
4. The relevance (impact on the objectives).

Evaluation criteria creating

Evaluation requires a comparison. To evaluate the performance of an agency, its managers have to compare that performance with some standard. Such a standard can come from past performance, from the performance of similar agencies, from a professional or industry standard, or from political expectations. But without such a basis for comparison, it is impossible to determine whether the agency is performing well or poorly. (Behn, R. D. 2003)

The criteria compare how the individual variants contribute to the solutions of the problem and to the achievement of the objectives. The criteria have to be done before preparing variants. So we can avoid the creation of such criteria, which would prefer the preferred solution. According to K. Staroňová and E. Sičáková - Beblavá (2006) there are two types of criteria:

1. Regarding to content public policy objectives - efficiency, relevance and quality (quality is associated with a service manner, with means of its providing and with the degree of the meeting the needs, requirements and expectations of consumers, namely the satisfaction of citizens).
2. Regarding to the general dimensions of public policy - the relevance, transparency, efficiency, equity, legality etc.

For example, when we measure the quality of services, we ask questions:

Does the providing service meet the expectations of citizens? Does the providing service accessible to them? What level of service is achieved? Are deadlines met? How the complaints are handle? Meets the providing services at least the minimum standards?

When we want to find out the relevance, we can follow this questions:

In which extent do the results solve the problem? Is the problem important for citizens? What are the priorities, needs and demands of citizens?

Effectiveness:
Does the public policy achieve the objectives? Has the public policy the required effect?

According to Mateidesa (1999) the results of providing services in public sphere can be evaluated according to the following criteria:
- The quality of the services provided to the customer and its timely availability,
- The performance of the public services,
- The Costs incurred for this services,
- Customer and employee satisfaction.

The customer satisfaction with the public services we can define according to ISO 9000 standards as "the perception of customer regarding the degree of fulfillment of their requirements."

According to Mateidesa and Závadský (2005) the satisfaction is the quality perceived. It means, it is necessary to increase the quality of services provided to citizens in the public service, but it is also important to take care and ensure that the citizens perceive the increasing quality and perceived, therefore and they are satisfied. An ordinary citizen is usually not interested about the performance of the office, rather perceive the so-called contact staff and he does not like their incompetence, slowness, unwillingness etc. He sees it as the poor quality.

In relation to the measurement of the efficiency of the public administration, it is necessary to point out to the soft and hard indicators. The before mentioned satisfaction belong to the soft indicator, because it is a subjective perception of customers (citizens). Conversely the objective facts reflect the hard indicators, if they are right chosen.

No comparison of a single outcome measured with a single performance standard will provide a definitive evaluation. Rather, to provide a conscientious and credible picture of the agency's performance, an evaluation requires multiple measures compared with multiple standards.

The problems connected with the measuring of the performance in the public sector

The measuring of the performance of the public services is connected with many problems in practice. For example:
- The costs of governments are usually measured globally for the whole office, not for the individual services,

- It is difficult to decide what evaluation criteria have to be used, because the criteria must be reliable and recognized. But there is not any consensus in public domain how to evaluate the reliability of the criteria. The problem is mainly in the quality indicators, which are based on subjective perception.
- It is necessary to think about the purpose and method of evaluation. E.g. the problem can be if the employees of the evaluated department answer the questionnaire questions about the effectiveness of their own department and they are interested in preserving their jobs. They may not answer accordance to their opinion.
- The most of the municipalities don't measure many criteria.
- In the most cases any process and any individual performance of the employees is measured. There are no goals set in many cases and the goals are not connected with the wage. The employees are constantly rewarding –according to the tabs.
- The quality is often seen as the accessibility of the services. It is a given fact that the quality characteristics of individual services are still not defined, for example: The time and place accessibility, reliability (evaluated for example with the number of the cancelled decision), the way of handling with the customers, communication, competence and understanding of the officers, suitability of environment , equipment etc. (Balážová, 2008)
- In the performance parameters there are often included such indicators as the number of operations per employee, the number of decisions per employee, the number of scientific documents per employee which is the major problem, because all operations are not the same and one parameter is not enough for comparison. It is necessary to compare comparable.
- It is important to determine right who should participate in the evaluation and to understand the importance of the contact officers.
- The financial control system is limited of the mandatory audit.
- It is suitable to combine the different data collection methods, for example questionnaires and statistical data with the comparing of the employees of the department. It is also important to monitor the quality by the supervisor.
- Usually it is evaluated under the pressure of the politicians who want to have the good results.

The possibilities of solution
- Benchmarking – to compare comparable
- It has to be evaluated what is important from the customer's point of view. For example, citizens elect characteristics of the services they consider for the important and they determine the weight of importance to each characteristic.
- The management accounting as the tool of the control of the cost of individual services, where the clear definition is required what information and in what time are required.
- The financial controlling derived from the strategy and the objectives and involving the relationship: Strategy - operability, cost - performance - quality – satisfaction, results - premise for the results, effectiveness - efficiency-performance (Balážová, 2008)
- The valuation and the measurement should be a regular part of the internal control system of the organization.
- The evaluation criteria can be changed in the long time period on the basis of technological change and according to changing customer needs.

Although the measurement and evaluation of the performance of public organizations is very difficult thing, we should try for it. The result should be to create the certain standards of the quality of the public services, but also the development of the whole business culture of the community.

Summary
Producing reliable and valid reports of government performance is no end in itself. All of the reliable and valid data about performance is of little use to public managers if they lack a clear idea about how to use them or if the data are not appropriate for the particular use.

Performance measures contain information that can be used not only to evaluate, but also to learn. Indeed, learning is more than evaluation. The objective of evaluation is to determine what is working and what isn't. The objective of learning is to determine why. (Behn, R. D. 2003)

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Project Manager in Educational Institutions

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Abstract

At present the idea "competitiveness" is declined in all cases and the educational institutions find it as a highly actual problem. What's the competitiveness, its classification and its factors are the questions, which we are not able to answer clearly, we can only discuss about this problem, and we can compare the answers and generalize particular ideas. But certainly we are able to say, that the enterprise is as able to compete and prosperous, as able its labor is in all levels of the enterprise's hierarchy.
This paper deals with the evaluation of the project manager's characteristics as one of the competitiveness's factor in educational institutions.

Key words

Project management, project manager, characteristic of project manager, educational institutions.

Introduction

Czech Republic passed through the process of rescheduling, for the privatization of state enterprises, for the modernization and creation of new strategic, economical and business units we started to use the projects. The projects became an entire part of scheduling and management not only in the field of industry, but in the sector of non-profit organizations as well. At present we can find the demand for the know-how of project management and for the project managers as an increasing factor.

In the frame of the competitiveness preservation the present educational institutions try to realize a style of management, which goal is to achieve an important change. This style of management uses various methods of the management theory; however the educational institutions do not find essential advantages in the implementation of project. The leader, who is charged with the implementation and management of such change, is in the theory and in a foreign praxis called **project manager**.

The project manager is responsible for the management of the visible and invisible team and for the reaching of the goals of the carrier of the competent interests. The skill to lead the team (and to participate in it) depends on the ability of certain individual to find, what happens under the surface and to active in the team as well.

Aim

The aim of this paper is defined in a following way:
- **Primary aim:** Analyze of the project manager's characteristics in educational institutions.
- **Secondary aims:**
  - Elaboration of theoretical outputs linked with the topic.
  - Elaboration of the analyze of project manager's characteristics from the viewpoint of:
    - self-evaluation,
    - colleagues´ evaluation.
  - Definition of the characteristics of ideal project manager in educational institutions.

Methodology

The paper deals with analyze of characteristics of project manager on the base of theories and praxis and on the base of analyze of present state of characteristics of project managers in the educational institutions.

These analyses are subjected with the questionnaire survey in 20 educational institutions in Czech Republic.

For the evaluation of the ideal characteristics of project manager of the educational institutions we chose the questionnaire of the scale type. The reason is that the questions with qualitative answer are presented with the quantitative form. The scale presents the level of the agreement expressed with the

evaluation graduation. Its particular levels are coded, so it is possible to summarize and to average them in final.

The questionnaires were given over to the top managers of institutions, who had the task to give the questionnaires to their teams, to elaborate them and to give them back. 7 questionnaires were surveyed in every institution. According to the refunded questionnaires we suppose, that there were no problems with their filling, because all questionnaires and questions were answered.

For the questionnaire's evaluation there was used the scale with the grade valuation 1 – 6. With the mark 1 is labeled the highest importance of each quality and with the mark 6 the lowest importance. This scale has the task to express, who and to which characteristics he attaches importance and how high is this importance. These values were after the evaluation worked up into the form of graphs; those clearly present which characteristics the managers have and how they are evaluated by their colleges.

Results

The characteristics of project managers in educational institutions are very general term, because every institution has different demands on his leader. Most of the educational institutions do not know yet, which from the lots of characteristics are the most important, which the institution should prefer. It is a big call to verify this theory and to practice it to be successful in the competition fight on the today's flooded market.

From the summary spider graphs, which present the evaluated characteristics from the viewpoint of colleagues (Figure 1) and self-evaluation (Figure 2) we can define the weaknesses and the strengthens in the particular institutions.

The done research in the educational institutions shows, that **the independence** is the most necessary quality of project manager at present time. According to the mentioned answers and from the comparison of the assessment splints this fact is very clear.

The second important quality is the **ability to work in team,** whence the fact results, that the managers are able to reach good performance as a separate units and as a team as well.

The quality **communication** is the third quality. Very interesting is the fact, that the quality **economical knowledge** is not felt by the managers of educational institutions actual right now.

Other characteristics placed in the middle of the valuation field, but we would like to note them. They placed in this order: **time independence, technical knowledge, ability to manage, aptitude** and finally the **flexibility.**

From the summary graph (Figure 3) of the characteristics of ideal project manager in the educational institutions is clear, that every quality has another importance for the institution. It means, that all surveyed institutions have another demands on their project manager.

Now we can see which characteristics are essential for the future project managers of surveyed educational institutions and which characteristics are found as less important at present.

Figure 1. Colleagues evaluation
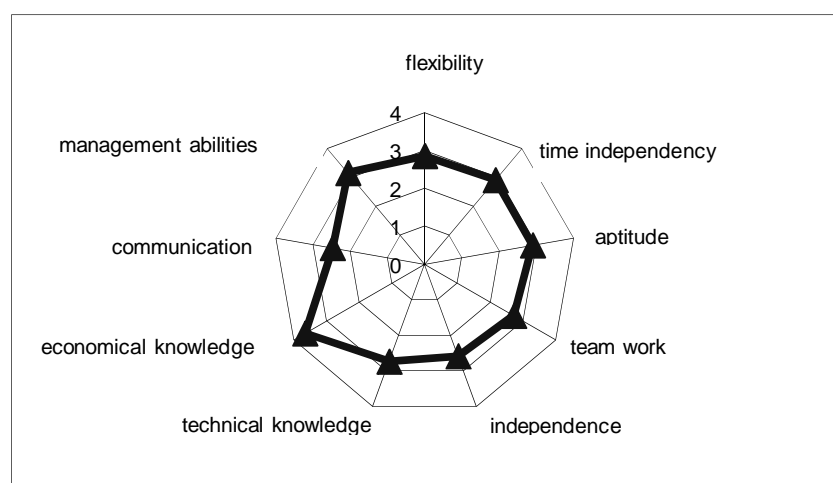
Figure 2. Self-evaluation
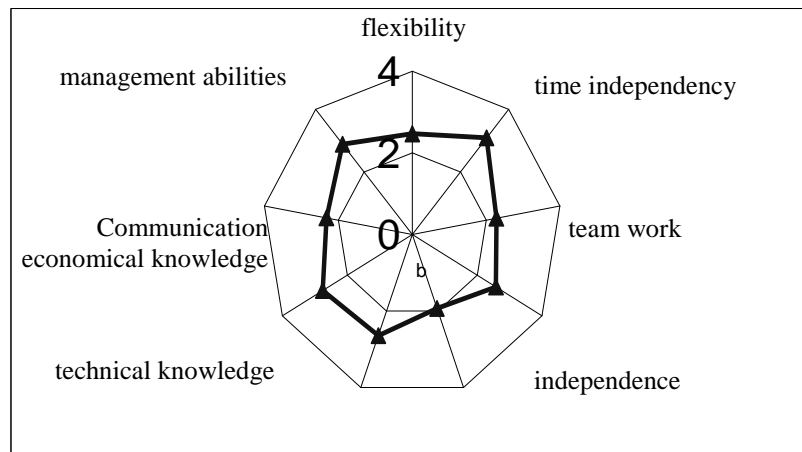
Discussion

The project manager works with the people, who he didn't choose alone, lots of them have various abilities and interests. In addition the project manager is a manager and isn't the executor of task. The project manager has to dedicate to work with people and to the planning of their work, so that he didn't look over anything and so that there were prepared the plans for the management of the extra events, if it is necessary.

Generally said, in praxis a person doesn't become a project manager because he was an excellent programmer or carpenter than because he studied this project management specification or he proved the ability to win this occupation.

Figure 3. Evaluation of ideal manager
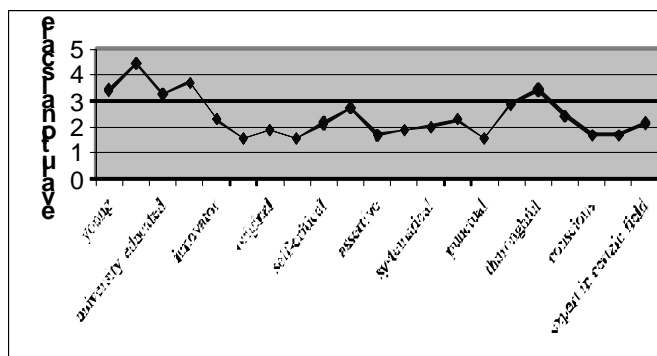
But the master of technical performance isn't the enough qualification for the management of the project team. The project managers as well as other managers have to be acquainted with the people than in the technical problems. For lots of technically educated people who became a project manager can be very difficult to deal with people. The behavior of the tangible systems usually repeats and it is possible to predict them, but it is impossible to predict the behavior of people.

We behave in another way, when everything goes right and in another way, when we knock against the protestation or we get into the conflict situation. And the people differ asunder. Some of them have the trend towards the disinterested help, in some people outbalances the effort to achieve and another have the analytic – autonomous orientation. To have this problem more complicated, it is necessary to realize, that the same thing told to the same person in various time calls different reactions. The extemporaneousness of the human reactions can become fateful to lots of fair project managers. The project managers must

deal with the expert and emotional questions. As far as they do not master the problems of the interpersonal relations, they should begin to study to theory of behavior.

Ideal project managers are sometimes called "the talents" or "the champions" and they are extremely asked, because in Czech republic is lack of such project managers. There is discussed very often, which characteristics have to dominate, the knowledge, talent or the innate assumptions and abilities for management. The assumptions for the work of project manager we can divide into the innate assumptions and into the assumptions that change with the practice, upbringing and education. The temper and intelligence belong to the innate assumptions. The ability to ask the questions, to discover and to solve the problems is inborn, we can partially change it with the upbringing and this ability belongs to the intellectual facility. On this facilities bear such characteristics as power of imagination, right opinion, the ability of effective communication.

Summary

The qualification and the personal assumptions of project managers are one of the important conditions of future firm's development. Right now it is clear, that the strategy of successful firm is based on the so called evolutional management, on the managers, who are oriented to the situation's solution and they have the ability to create and to develop the vision with the appropriate time horizon.

Very similar survey was made in frame of the Research Into the Competitive Abilities of Czech Industrial Producers in 2005, that is published in (Bočková, Ohnoutková, Kožíšková, Dupalová, Vráblík, 2005). This survey was aimed to the construction industry. Detailed research dealing with the characteristics of project manager linked with the motivation and motivation factors in construction industry is published in (Bočková, 2003) a (Valenta, Bočková, Vořechová, 2004).

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Project Manager and his Position in Educational Institution

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Abstract

*Qualifications and personal skills of project managers are one of the main conditions for further development of the educational institution. It is clear that successful business strategy is built on the so-called evolutionary management, the managers who are oriented to deal with situations and have the ability to reach the goals. **The essential** is to analyze the characteristics of project manager in the market section focused on education.*

Introduction

Project management is the magic word in business and public administration. While domestic companies often do not pay sufficient attention to project management, this area has been gaining a key role in corporate strategy abroad. Slovak top managers should therefore master the principles of project management.

At the moment, the personality is no longer seen as a labour force only to perform specific commands within the given time span, but it is treated in qualitatively higher form of leadership and human potential is utilized in more meaningful way. More space is devoted to professional as well as personal development of personality. Greater emphasis is placed on personal experience, skills, will and discretion of employees. Creative skills are becoming building stones to implement and solve changes, so much needed in this millennium. The value of the human factor increases significantly. If managers want to be successful, they must understand the staff not only as an entity with its intellectual capital, but also the adaptation to the group and sense of interpersonal relations. Human resource management is subject to very high new claims, which should ensure the company's competitiveness.

Methodology

A project manager should be equipped with comprehensive knowledge of the structure and dynamics of company systems, he should have an overview of the key causes and factors creating an innovative environment, both to be an expert in the field of processes for managing the entire life cycle of project and determination of their priorities, particularly in terms of value added and reusability (Hofbruckerová, 2010).

The main task of project managers should consist of managing and controlling changes in the organization based on the responses to internal and external stimuli of environment, in which the organization operates, familiarization with a new look at the organization from the perspective of the processes. The process view should enable to assure the flexibility and effectiveness of organization responding to changes and thus survive in this hyper-competitive information age, where success of both individuals and organizations depends on important measures such as availability, management and proper communication as well as information sharing. In entrepreneurship where an amount of knowledge and information needed to ensure business is increasing, the transition to a process-managed organization is essential for the coming millennium (Jaterková, 2008).

The primary aim of the paper is to analyze the characteristics of project manager in the market section focused on education.

Secondary aims are:
• analysis of the qualities of project manager from the perspective of his own personality assessment,
• definition of ideal qualities of project manager,
• definition of the position of project manager in company.

A questionnaire survey was used to explore the qualities of project manager working in educational institutions. A scale questionnaire was chosen for this purpose. The spectrum represents the degree of agreement expressed by the evaluation scale. Its various levels are coded and can be summarized and averaged in the end. The simplicity of filling scale questions and easy workability of results were decisive factors for selecting this form of data survey.

The selected questionnaire consists of evaluation scale ranging from 1 to 6. One indicates the highest and six the lowest (unimportance) importance of qualities. The evaluation is processed in a graphical form.

The assessment of qualities of project manager takes place in three steps:
- analysis of the qualities of present project managers,
- definition of ideal qualities of project manager,
- summary and synthesis of results.

The values acquired are evaluated by the arithmetic average rounding to two significant figures. The observed data is compiled into a spider graph for qualities of project manager, and a bar graph for an ideal project manager.

The questionnaires were sent to 30 representatives of companies operating in education in the Slovak Republic.

The representatives were asked to distribute the questionnaires to project managers and to send them back in sealed envelopes (to protect anonymity and evaluation views). There were 7 questionnaires distributed to define ideal qualities of project manager, and 3 questionnaires to determine the qualities of present project managers in each company.

To define the position of project manager in company, literature search was used, in particular web links. It was proposed to involve a project manager into the organizational structure of educational institutions.

Results

A high-quality project manager must have in his team greater specialists than he is. He has to be a good negotiator and leader, which is basically more demanding than being an expert. Several studies, e.g. (Newton, 2008), (Němec, 2002), (Gido, Clements, 2003), (Taylor, 2007), (McAvoy, 2008) and (Jaterková, 2008) have shown that many recognized experts have failed in this function. Their weakness is the excessive individualism, lack of interest in associates, lack of tact in the argumentation or hesitation. In other words, although they had the authority of an expert, they did not gain the authority of a leader. The project manager should have the following personal skills:

- Technical skills: These are technical skills, or the ability to use methods, knowledge and techniques of theoretical and practical disciplines, to use specialized personnel; a manager must have the specific skills of a technical nature the same as people he manages. Hence, he must be able to ensure the implementation of the work.
- Human skills: Ability to collaborate, understand and effectively communicate and motivate other staff.
- Conceptual skills: Ability to manage, integrate and mutually reconcile interests and activities taking place within the enterprise.
- Ability to empathize: To be able to feel with the position of the other, to know how to guess other person's needs. People are not machines. They have their opinions and concerns to be addressed. If we do not want to understand the other, nor we cannot wonder that he does not understand us. Even the busiest project manager should make the time to speak to his people. A manager who is able to lower from his boss position and follow his personnel into the field, shows his friendliness and is much better perceived. Communication with employees at such tour should not go without recognition. Praise, if justified, is not only a recognition of the preceding, but motivates to meet the next challenge.

The qualities of ideal project manager are a very generic concept, because each company has different requirements of their leader. Most of them are still unaware, which of many qualities are just the most essential, and which should be favoured in their managers.

The survey of companies showed that the **independence** was very closely followed by **teamwork**, which means that managers are both separate units and able to give good performance in teamwork as

well. **Communication with people** placed as next. **Economic knowledge** is not felt as actual by managers at the moment. Other qualities ranked in the middle of an evaluation field in the following order: **time independence, technical knowledge, management skills, readiness and flexibility in the end.**

It is now evident what qualities are for future project managers of addressed companies indispensable, and which, on the contrary, are currently considered to be less important. Now we can order values according to importance:

- organizational skills,
- communicative,
- punctual,
- decisive,
- flexible,
- systematic,
- thoughtful,
- expert in a given topic,
- optimistic,
- self-critical.

Graphic illustration of the ideal qualities of project manager (Figure 1) shows the necessary qualities of project managers in educational institutions. Qualities that should an ideal project manager has at this moment are primarily "higher education, flexibility, organizational skills, orderliness, diligence and punctuality". Qualities such as "optimism, gender, or marital status" are for educational institutions not so important.

Figure 1. Ideal qualities of project manager
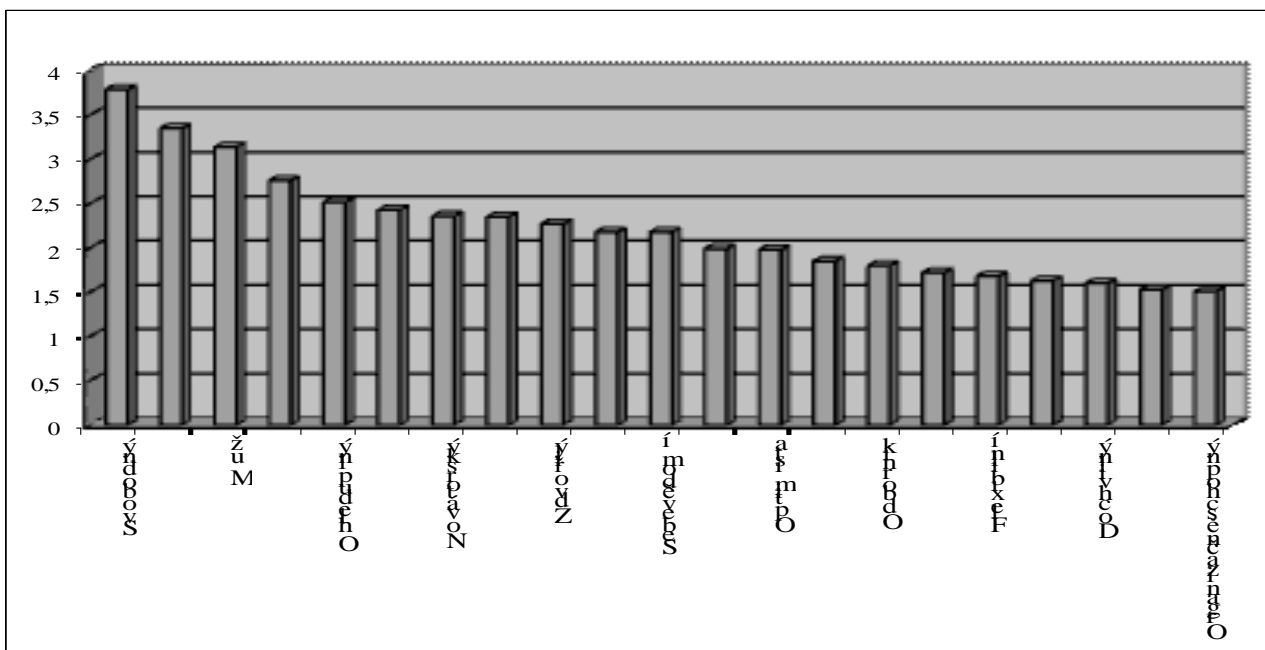
1= single,
2= male,
3= thoroughful,
4= innovative,
5= polite,
6 =confident,
7= optimistic,
8= professional,
9= flexible,
10= punctual,
11= organizational

Disscussion
Qualities of project manager
Whatever work a manager does, he is always viewed as a leader. A project manager has only different job content and skills from other managers, but the basis is always the same. Manager's greatest weapon is his intelligence and intellectual powers, through which he dominates and controls his subordinates.

Each project manager should have in his set of skills organizational and strategic thinking, must be able to plan several weeks in advance and must know what and how to plan. Must also be able to professionally and properly lead and motivate people in their work, so that all the objectives are met. He must properly organize his work as well as the work of others and not only work but also his time. Among the essential skills are also a high degree of communicability and negotiation skills.

A project manager is not just a person who invents something new, it's the person who leads a team of creative people, it is up to him to combine and lead his team. The creative process is very complicated and it is necessary that a person in a managerial position is able to understand the long path to the desired innovation.

A successful project manager, whom his subordinates respect and at the same time are not intimidated by him, should be an emotionally balanced person with a certain degree of empathy. He should be also responsible, persistent and consistent, able to lead his team without any undue problems.
A project manager should have a creative personality. But not everyone is the right to invent new and new ways. There are people who do not have such thinking at all.

The creative personality is characterized by qualities such as activity, intuition, finding associations, the art of working with metaphors and inspiration, logic, energy, knowledge of the area in which the person operates and many others. Creative people can often exceed the rules and limits and are willing to take risks. They tend to be stubborn and persistent if they feel that what cannot be achieved is actually achievable.

Position of project manager in educational institution
The fundamental prerequisite for successful project management is his anchoring in the organizational structure. From a mere glance at the nature of project is clear that while most of the tasks and roles in the institution has its exact recipient, projects are in this respect to some extent Cinderella who lacks her "assertor". Therefore, it is necessary to "artificially" create one. The question we must ask in such a thought is not "Create?" but "How to create it the most effectively?"

An interesting insight could be into the organizational structure of the ten largest innovative companies in global market, those realise tens projects every year. To compare them we will use a chart compiled by American magazine Fast Company, published in February 2014. The sequence is as follows (Fast Company, 2010): Facebook, Amazon, Apple, Google, Huawei, First Solar, PG&E, Novartis, Walmart, HP.

All these companies are highly project saturated in their field. Their organizational structure is certainly adapted to the projects. An interesting fact is that all the above mentioned companies have a line structure. Its advantage is undoubtedly a clear definition of superiority and subordination. Mostly it involves firms founded by one or a few people who have undergone a very dynamic growth within a few years. As the most illustrious example we can mention Facebook, founded only in 2004, or Amazon and Google, founded in 1995 (Amazon) or 1998 (Google).

We can therefore assume that the integration of project manager to company top management is not appropriate and desirable. On the other hand, he should be equipped with a wide variety of competences and opportunities to work with people on both higher and lower positions in the company.

As the most suitable seems to be the separation from the company structure, to avoid pressure from both above and beneath. He should have clear authority to require and reward or punish the performance or non-performance of projects or tasks that individual workers undertook (or which was imposed on them).

A project manager on the lowest level of management has a long way above to realize his job description. Suggestions for improvement will therefore have a long way to persons who will assess them and thus it will lead to their delay and lack of penetration in the onset of project, which could competitors due to bureaucratic process implement much faster.

As a good opportunity we see the location of a project team in educational institutions to the staff position. There is a clear possibility of integration into the structure and no need to worry about complex

organizational structures, or lengthy process of his proposals for changes, as well as separation from the reality of company operation. Unfortunately, this type is not used by any institution mentioned above.

Summary

As current trends indicate, the world of productivity will be gradually replaced by the world of creativity to support newly emerging professions such as innovative engineer, creativity and innovation manager, etc. It is also necessary to realize that the problems of today are completely different, and for their solution is usually far less time than in the past.

The field surveys during the last period among the top managers of educational institutions have shown that the position of project manager is offered by approximately a quarter of firms only. While the vast majority representatives of the companies in the survey confirmed that their company has a processed project management strategy. Quite logically, the question is who are the implementers, while project managers held accountable are in this direction a unique phenomenon indeed. In more than half of institutions, by contrast, are in charge of project management several departments at once. Most often it is top management and engineering department. Solutions must be realistically applicable, as short time for implementation as possible and multiplying effect of the expected benefits. The journey from a generated idea to project realization is not easy. Still, time is a crucial factor of market success.

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University Management: An Outline

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Abstract

The Slovak system of tertiary education is lagging not only behind the most developed countries but also its partners from V4. We specify the symptoms of the leeway and analyze its causes.

Then we describe a managerial model that could lead out of the gap. Our proposed change uses the principles of Knowledge management. When properly applied, it could transform universities into Learning Organizations and substantially modernize them.

Key words

Knowledge management, University management, Educational reform.

Introduction

Slovak education is in crisis. The PISA results worsen during each round, no Slovak university is among first 500 ones collected in the Shanghai ranking. The numbness is accepted not only by common population, it becomes recognized by official governmental bodies [1]. In this paper, the situation within the Slovak tertiary education system will be discussed. It does not mean that the lower levels are in a better situation. It only means that the author has studied the weaknesses of the university system much more systematically and intensively and it is capable of proposing several ways of its improvement. The proposals represent the core of our paper.

Current situation

The crisis of the Slovak university system did not appear suddenly. It is a result of unfortunate long-term policy and its first roots go back to early 90's [2]. There are several myths about its reasons. The most popular among them is "too big" number of universities – some add the adjective "private".

As shown in [3], the statement is incorrect. Table 1 aggregates some findings and expands them by calculating the number of the universities per 1 million inhabitants. The data show that compared to its population, Slovakia has the smallest number of universities among its V4 partners. Note that under "public" we included all universities financed from the state budget (i.e. public universities plus military and police academies)

Table 1. The number of universities per 1 million inhabitants

	Public	Private	Sum	Inhabitants (millions)	Universities per1 million
Czech Republic	28	45	73	10,5	6,95
Hungary	29	41	70	9,9	7,07
Poland	148	cca 250	400	38,2	10,47
Slovakia	23	13	36	5,4	6,67

Even more surprising is a comparison of proportion of public and private universities – see Table 2. It proves that the seemingly big number of Slovak universities is a result of the biggest number of public tertiary institutions, not private ones.

Table 2. The proportion of public and private universities in V4

	Public	Private	Inhabitants (millions)	Public per million	Private per million
Czech Republic	28	45	10,5	2,67	4,29
Hungary	29	41	9,9	2,93	4,14
Poland	148	250	38,2	3,87	6,54
Slovakia	23	13	5,4	4,26	2,41

In author's opinion, the number of universities can hardly be a reason of any leeway. Our presumed reasons are different: faulty-defined mission, historical heritage, legislative barriers, economic barriers, and absurd principles of management.

Faulty-defined mission

For unclear reasons, both higher education regulatory bodies and Accreditation Commission prioritize research to education. The preference reaches the extreme dimensions: the recent accreditation criteria [4] only assess research achievements – no educational processes. They even do not mention them!

One can ask: *There are many excellent research institutions which do not teach at all and do not plan to do so. Will we start calling them universities now?* Under the current criteria, institutions having no students and no educators but ensuring enough researchers with higher academic degrees would likely pass.

In its report [1], the Slovak government sets up a series of goals:

1. *A sufficiently financed and effectively functioning higher education system achieving for quality of its functions.*

2. *An educated, respectful, and adequately rewarded university educator and researcher.*

3. *The university system aiming for international standards – a part of the European Higher Education Area (EHEA).*

4. *The university educational system accessible by all citizens having interest and relevant capacity for its completion.*

5. *The universities as a core of Slovak research potential and a part of European research area (ERA).*

6. *The Higher Education system reacting to the needs of industry and society and representing the engine for the regional development.*

The aims are too general and foggy; very few practical steps are identified. The government apparently believes that everything is going to happen "by itself".

Historical heritage

First continental universities were connected to monasteries from very first days of their existence till the end of the Medieval Age. As explained in [5], this was the only way of protecting their academic freedom within the society hostile to knowledge and discovery.

In opposite, British and American universities were set up after accepting Magna Charta. This allowed them to experience more freedom and, consequently to become more opened to society and its needs. All this resulted to the tradition of building "ivory towers" at Slovak universities and quite strong isolation from our society. The universities are not mentally prepared for their role of engine of society. That's why the governing bodies have no problem to manipulate them.

For example, Borovský [6] points to the fact that the critical issues in student preparation are small language skills, low computer literacy, insufficient verbal and writing skills, and the absence of managerial education. In 2014, the list is factually identical – the universities still prefer "hard" to "soft" skills and enforce explicit knowledge to tacit one. Finding internship in factories for 150 students is seen as a great victory deserving a column in newspaper [7].

Another indicator of their isolation is the underestimation of lifelong learning. The universities do not build relevant strategies to develop it. Inversely, some of them cut their external study programs [8]. In such set-up, Item 4 of the above goals is unfeasible. All this can only widen the gap between universities and society.

Legislative barriers

The Slovak University Act [9] is long and complex. The EUA evaluators [10] conclude: "*(The fact that) … the Higher Education Act is a document of 86 pages in small print underlines its highly developed will to regulate even the smallest detail of institutional organization and decision-making procedures.*" For example, the public universities are established and abolished by an act of the Parliament. Also, the decision of the Accreditation Commission must be affirmed by the minister of education. As a result, its

proposal to abolish a public university due to its low quality of education and research must be approved by two political bodies. A professional problem is suddenly transformed to a political one. Such a transformation cannot result into anything positive.

The everlasting will to regulate can be demonstrated by another example. Among 28 EU member countries, 17 are full members of European Association for Quality Assurance in Higher Education ENQA, 3 are under review [11]. Slovakia is not considering entering it yet. Slovak tertiary institutions can apply for its ENQA accreditation to demonstrate their capacity. Still, such an accreditation has no validity for Slovak regulatory institutions. They might even take it as an attack to their authority.

Economic barriers

The proportion of the national budget allocated for education is very low. The government promises its increase for years but nothing happens. Recently, European funds became a potential source of income. Still, there are two substantial problems with them:

- *The regulations are too complicated and administration-intensive.* Some institutions are already considering ignoring them and saying: "*The money is not worth of the administrative workload.*"
- *The regulations are discriminatory.* The private universities are excluded from the most of them. Even in those few schemes they can apply for, the regulations are stricter for them than for public universities.

Absurd principles of management

The EUA report [10] criticizes another element of the Higher Education Act, too: "*… the law … provides a significant degree of detail, e.g. on the number of members, term of mandate, and composition of the academic senate, on not having deans as members in the senate; this is also true for the self-government structures of the faculties*". The report suggests its simplification and liberalization of its rules. Simply speaking, the Academic Senate has all decision power; the rector is in fact just an executor of its will. On the other hand, the Rector is the statutory body i.e. he bears his full responsibility for all university acts. The law is evidently chaotic and occasionally leads to "wars" between the university senate and the rector (or the faculty senate and the dean). Recently, such a war did run at the Catholic University in Ružomberok and ended by the rector's resignation [12].

Similar wars are a welcome material for tabloids. They damage not only the image of the particular university's but also of the entire higher education system. As the Higher Education Act includes the nucleus of the conflict, they will regularly abrupt at other places, too.

A knowledge-management-based way out

Universities are carriers of substantial amount of knowledge. To benefit of it, Knowledge Management principles must be observed. The theory considers as its ideal Learning Organization – a *company that facilitates the learning of its members and continuously transforms itself* [13]. In [14], there are 11 indicators exhibited by such an organization. Below we demonstrate items in which our higher education system substantially diverts from them. In [15], the reader finds a more detailed analysis.

A learning approach to strategy

No organization can keep with its present strategy forever. When discussing universities, [10] stresses that their substantial improvement in the countries with a flexible legislation. Such an environment enhances the use of trials and errors. Risk-taking approaches to education and university management lead to a healthier climate. They allow the best ones to prosper. They then serve as positive examples to the rest.

Releasing the strong regulations could also be a Slovak way to disrupting conservative traditions.

Participative policy making

Trials and errors approach is risky. To engage the employees, they should be involved into it. First, such behavior is more ethical. Secondly, people will become cautious, looking for symptoms of problems, and reporting them. At the same time, the implementation of the participative policy making via academic senates is wrong.

The participation means collaboration, not governing. The final decisions should be in hands of those who are responsible for their consequences i.e. in hands of rectors and deans. Such a change is impossible without accepting a new Higher Education Act.

Informative

Participation in the policy making is impossible without proper information. On the other hand, the information overflow is one of the greatest dangers to right decisions. Regrettably, the ministry of education is obsessed by collecting data. Its registers of universities and all their study programs, of all students, of all educators etc. are examples. Factually, the most data are irrelevant for strategic decision making (and probably are never used).

The Information Management theory recognizes a correlation between the managerial levels and sorts of needed information. The higher levels need more aggregated data (with a possibility of drilling down for details when necessary). The level of detail requested by Slovak statistics far exceeds these limits.

Formative accounting and control

Accounting, budgeting and reporting systems are designed to help people to understand the operations of organizational finance. This principle holds for all – profit and non-profit – organizations. From one side, accounting and control keep the organization "healthy" and functioning. On the other side, they also indicate which activities are more efficient than the others. In a transparent environment, people can start understanding when they perform well and when not. That's why EUA stresses the university full-funding [16]. The private universities follow the principle. The public ones mostly learn their budget for the current year and have no clue what will happen in the future. Under these conditions, forming long-term plans is an illusion. Again, a modified legislation would be a solution.

Internal exchange

This concept is a logical consequence of the previous one. Faculties and departments should think of themselves as customers and suppliers in an internal 'supply chain', learning from each other. If every department knows how "cheap" or "expensive" is their own production they can understand why their "customer" (the department processing their semi-products) makes its complaints.

Unfortunately, the most of academicians refuses to accept the idea of educational market. Their refusal is total and unqualified – there are always costs. Strange enough, some are ready to deny the existence of market with education – and simultaneously speak about underfinanced educational system. Without accepting (some and properly selected) principles of market economy in education, there will hardly be any progress.

Reward flexibility

Learning Organization should have a flexible and creative reward policy. Its financial and non-financial rewards should address individual needs and performance. At the same time, public universities use just one scheme with minimal ties to individual performance and achievements. Such an approach repels innovative and diligent individuals.

Another problem refers to promotions. Moving to positions Associate Professor and Full Professor requires a complex evaluation which can be not done by every university. As a result, to promote at the university A may mean to post your application to the university B. Can you imagine the Board of Governors of Coca-Cola selecting Pepsi-Cola directors?

Enabling structures

Learning organizations must develop among their employees the spirit of partnership instead of the sense of obedience. If the Slovak educational system would follow it, every university could select its associate and full professors by itself. In [1] one can find plenty statements showing that the ministry does not want to release leashes.

Boundary workers as environmental scanners

This concept refers to the sensitivity of institutions to needs of society. If all "front-desk" employees (basically all educators, researchers and administration) are properly trained in collecting data, they can transmit their observations to their higher managerial levels. The university should incorporate them into its strategy. Due to that, it would serve to its environment better.

Inter-company learning

Every organization can learn from other organizations' successes and faults. The ideas presented in this paper are derived from the author's experience with teaching with the "Anglo-American" university

model – at City University of Seattle, University of Liverpool, University of Papua New Guinea and elsewhere. The EU programs like Erasmus and Leonardo offer many opportunities to travel to distant partners, to observe and to absorb new experience. All universities can benefit of them.

A learning climate

This item expects the institution desire to be innovative and different from organizations of the same category. "Learning" here does not mean education or research but design and development of innovative approaches to them.

Facilitating experimentation and learning in others belongs among primary tasks of Learning Organization's managers. Unfortunately, our university top managers are not expected to experiment – and they do not guide their subordinates to it. For that reason, the most universities are simply surviving. To ask them to become proliferating usually exceed their wildest imagination.

Self-learning opportunities for all

People in Learning organizations are expected to take responsibility for their own development. Many educators and researchers take this duty seriously. Unfortunately, the current conditions does not allow them to be as intensive in this activity as they wish.

A story speaks about a Slovak university promising to its employees to cover their expanses to the conferences with contributions registered in SCOPUS or World of Science. Suddenly, they were capable to produce such amount of high-quality papers that the requests exceeded the university budget. And the promise was cancelled.

Conclusion

The last story indicates that despite rather hostile conditions there are still many excellent educators and researchers in the Slovak system of higher education. At the same time, there are many barriers that block the system and prevent it from the movement forward.

In our paper we have indicated several changes in our legislation. Unless they are implemented, one can hardly expect any substantial improvement. The next steps are upon universities. They have two options:

- *Remain passive* as they currently are. In such a case, the advantage will be on the side of the ministry of education. Logically, it will behave as it did up to now. No real change will be introduced.
- *Take their initiative*. It will require constant and continuing pressure upon ministry and accreditation commission to introduce desired changes.

Only the second alternative can lead to progress. Unfortunately, the organizational culture of Slovak public universities is not compatible with this sort of behavior.

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Management of Tax Reform in the Slovak Republic

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Abstract

The importance of tax administration and control is rising at the time of public finance consolidation. This article will point to certain negative trends in the tax collection management. We will also analyse the opinions of corporate entities and employees of the Financial Administration on the reform programme UNITAS.

Key words

Management, taxes, tax administration

Introduction

The current economic crisis imposes new demands on tax systems in the Eurozone countries, because the requirements on improving the efficiency and effectiveness of tax systems at the tax collection as the main income component of the state budget are rising.

The optimum tax system creation is based not only on economic and scientific presumptions, but it is also influenced by the social policy and tradition of the relevant state. That is why certain tax systems meet the requirements on solidarity, some tax systems do not recognise this feature (e.g. in the Slovak Republic).

To provide for good condition of public finance it is necessary to have a good-quality tax system. The importance of a tax system is even higher at the time of public finance consolidation. The Slovak tax system is undergoing major changes. A smaller part of reform processes has already taken place; a bigger part is still the subject of professional and political discussions.

A special place in the tax system belongs to the tax control which is one of the most efficient tools of the tax policy. The main objective of the tax control is to control in what way the corporate entities fulfil their tax and levy liabilities against the state, formal and material correctness of the accounting maintenance in the single-entry and double-entry accounting systems, compliance with relevant accounting procedures and standards and compliance with generally valid legal regulations in this area. The decrease in the quantity of controllers in the tax administration of the Slovak Republic at the parallel increase of the corporate entities at the low enforceability of tax arrears point to the necessity to analyse the issues and to propose measures to improve the current situation. The last but one position in the EU in the area of VAT collection only confirms the necessity of the Slovak financial administration reform including the tax control operation.

At present, the tax system reform is underway. It can be determined the biggest change in the public income management in recent 10 years. Major part of professionals and politicians agree on the need to unify the collection of taxes, custom duties and levies. In spite of that this reform has only been starting very slowly and with major problems. The article will present the opinions of respondents on certain aspects of the tax reform. By the analysis we would mainly like to present the different opinions of entities doing and being subject of the tax control.

Situation in tax administration before a collapse

In 2012 the tax administration of the Slovak Republic was paralysed. Wrong decisions of the responsible representatives of the tax administration about the implementation of a new but not yet prepared IS significantly contributed to the unwanted situation when the state ceased to be able to collect taxes. These decisions caused by lack of professionalism and/or unfair motives resulted in a collapse of one of the biggest IS of the state. We have to state at the same time that in our opinion which is based on the analysis provided below the tax administration collapse was unavoidable.

As it can be seen from the Table 1 below, the number of corporate entities in the period between 2004 and 2011 was rising continuously. The year-to-year increase was from 2.8 % up to 9.7 % according to chain indices. In recent ten years it was the whole 49 %. In absolute numbers the number of corporate entities increased from 495 thousand to 738 thousand, which is an increase by 243,405 corporate entities in absolute numbers. The values of year-to-year increases of corporate entities achieve quite high numbers, so it could be expected that competent managers of tax administration will decide about increasing the number of executive workers.

Table 1. Overall number of corporate entities growth dynamics

Position as at 30 June	2011	2010	2009	2008	2007	2006
No. of tax entities	748,973	738,297	718,153	693,52	656,76	627,29
Year-to-year increase coefficient	1.014	1.028	1.035	1.056	1.047	1.050

Position as at 30 June	2005	2004	2003	2002	$I_{2011/2002}$ (in %)
No. of tax entities	597,039	569,879	519,471	494,89	149
Year-to-year increase coefficient	1.047	1.097	1.049	-	1.491

Source: www.drsr.sk

It can be derived, however, from the tax administration resources (see Table 2) that in the period between 2005 and 2011 the number of tax administration workers was constantly falling, however, the amount of findings from the tax control was increasing at the same time. The amount of an average finding per a tax control and subsequently the increasing amount of the finding per a tax controller may indicate that the requirements on performance serve as a stress factor. We believe that this trend is counterproductive. We would like to point to the potential relation between the decreasing number of tax controllers and increasing requirements on their performance.

We can state that this method of tax collection and control management has its natural limits. The exhausting work and unattractive wages result in the loss of the best tax controllers which is subsequently showed in the poorer efficiency of such controls

Table 2. Numbers of tax controllers

	2005	2006	2007	2008	2009	2010	2011	$I_{2011/2005}$ (%)
No. of tax controllers	1,732	1,749	1,647	1,638	1,643	1,600	1,568	90
Findings from tax	261,865	289,523	278,815	380,868	435,549	556,278	707,097	270

Source: www.drsr.sk

"The Table 2 shows the data about the number of tax controllers and findings of tax controls in the period between 2005 and 2011. Although the number of corporate entities was going up at that time, the number of tax controllers was going down. Using the linear regression method we can get a very reliable model with the reliability of 80 %. It can be seen from the Chart 1 that the straight line has a falling tendency. An unfavourable prognosis about the number of tax controllers can be derived from this chart. The model we provided shows the presumptions about the continuous decrease of tax controllers in the coming years ". (Jakúbek, Guzoňová 2011, pg. 34)

Chart 1. Tax controllers growth dynamics
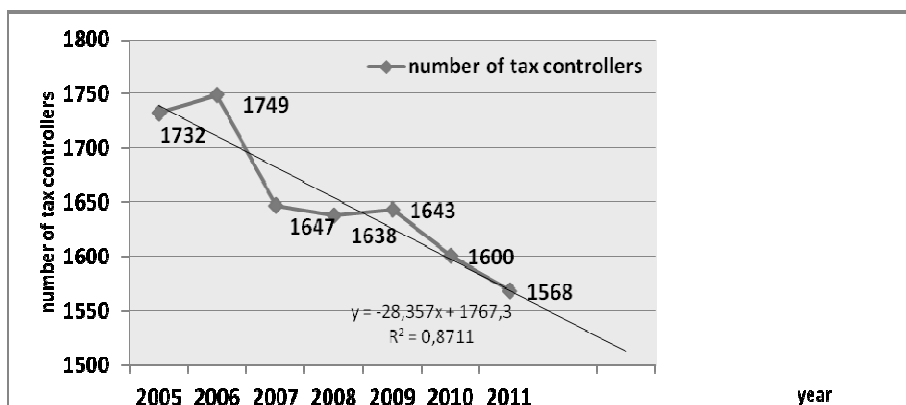
Source: Jakúbek, Guzoňová 2011, pg. 34

The trend that has been applied for long time by the tax administration management is incorrect in our opinion not only for the already mentioned reason of constant increase of the work load. In our opinion, the main reason is poor efficiency of the control work. It is true, that the amount of an average finding from a tax control is going up, however, at the same time the amount of enforced tax arrears is about 20% of the total number of arrears enforceable. A significant number of tax controls is done with the use of the tax assessment according to aids. This method may be used at tax entities not communicating with the tax administrator. Because these tax entities do not communicate, they usually do not exercise their rights at the tax controls. This results in high amounts of additional tax assessments against which usually nobody appeals, which brings "good results" for the tax administration. The bad aspect of this procedure is the fact that these additional tax assessments are usually unpaid because such tax entities usually do not report any actual work at that time i.e. have no assets.

Reform UNITAS = problems solution?

We believe that the drawbacks in the tax administration presented by us represent a sufficient reason for the tax administration reforms. Of course, with regard to the scope of this article we only pointed to some - from our point major problems. The actual life of a tax entity and tax administration in the Slovak Republic brings much more problems.

The recent tax reform in the Slovak Republic took place in 2003 and it focused mainly on changes in the tax system of the Slovak Republic. However, the practical experience has shown the need of reforming the institutions related to the tax administration and control and/or customs duty and levies collection. The reform programme UNITAS has been created with this aim – it can be divided into two parts - UNITAS I. and UNITAS II.

The first stage of UNITAS I. involved the reform of tax and customs administration as separate organisations with the deadline on 1 January 2012. The second stage of UNITAS I. was merging the Tax Directorate of the Slovak Republic and the Customs Directorate into the Financial Directorate of the Slovak Republic in 2012. Eight Financial Offices were to be created in 2013 in individual regional cities and these were to be created by the merger of tax and customs offices. The merger has not occurred due to the assessment of further steps in the UNITAS programme as at the date of work handover. A conclusion may be derived from the UNITAS I. programme concept that this programme should bring major changes mainly in two areas. The first one is the creation of a new institution with the name Financial Administration of the Slovak Republic which was created by the merger of tax and customs administration. In our opinion, however, the main contribution should not be the creation of a new institution, but mainly the creation of a new management system of the organisation and organising the state income s collection. These changes may only be fully performed after the complex adjustment of the financial administration´s organisational structure.

Unification of tax , customs and insurance levies collection should take place within the 2nd stage of the UNITAS programme which is called UNITAS II.. This stage should include the unification of all levies collection, namely insurance premiums for old-age pension, sickness, accident insurance, unemployment insurance, insurance for the reserve fund of solidarity and guarantee fund, contributions for old-age pension savings and insurance premium for health insurance in one collection point.

After the end of the UNITAS programme one newly created organisation should provide the unified collection of taxes and levies, by which it would take over certain competencies of the Social Insurance Company and Health Insurance Companies. This newly created organisation would subsequently distribute the incomes obtained to the state budget, budgets of higher territorial units and villages, to the European Union, Social Insurance Company, health insurance companies and pension administration companies. The course of UNITAS II. stage and/or performance of this stage depend, however, on the political team having the executive power in the upcoming years.

And how about the practice?

It is inevitable for a successful performance of the transformation process in our opinion to win the support of entities to which the process applies directly. Without the reform acceptation, without the agreement of entities with its objectives and specific steps at the performance it is not possible to achieve the reform success. Based on this opinion we prepared a questionnaire-based research, whereas the respondents were the representatives of corporate entities (an owner, a manager, an executive, an economist, a chief accountant) and the workers of tax administration (tax administrator, controller and

distrainer). We analysed the data obtained and prepared statistics. The result was the feedback about the reform programme UNITAS from the respondents. The below stated are the most important findings:

The financial administration reform is assessed negatively by the financial administration´s workers. This is caused by several issues accompanying the reform. These issues include repeated re-assessment of the reform from the side of new political elites, and also the fact that two different state institutions are merged in this part – namely the one wearing uniforms (customs administration) and not wearing uniforms (financial administration). The reform has been launched without providing the possibility to the financial administration´s workers to take active part at its creation or to comment on it. The timing and reform organisation are negatively viewed by the financial administration´s workers. The substantiation may be found in several responses of respondents to the open question: "What are in your opinion the biggest drawbacks of the tax system in the Slovak Republic?". These respondents point to the fact that this reform will not result in the saving of funds spent on the financial administration running. And it is due to the fact that quite many management positions ceased to exist in the cancelled tax offices, but many more new administrative and analytical positions were created in the newly created tax offices. They point to the fact that the number of executive workers has not been increased after the reform. A few employees of the financial administration stated that the reform impacted them by the fact that after the reform they get lunch tickets in the total value lower by 30 cents, i.e. the employer made savings on them. On contrary, the representatives of corporate entities see the reform slightly positively. The business public sees and accepts the necessity of the financial administration reform. More positive evaluation is also linked to the fact that at the time of the questionnaire-based research, the reform did not have any significant impact on them, because major part of the tax administration can be managed at original places. The change of tax offices to branches and contact points does not have any significant impact on the business sector.

Both groups of respondents assess negatively the restructuring of tax offices. The employees of tax offices see mainly increased travelling expenses on the way to work and also more time needed on trips linked to the control in the restructuring. Also business entities – but to a lower scope – see the time loss linked to arranging of matters at tax offices. The reason is the fact that part of the work can be done at branches and contact points.

Summary

Based on professional discussion and also practical experience with the new structure of the Financial Administration we propose that the management in charge prepares professional standpoint on the critical comments including the solution of problems created. We see the education about the tax reform as a key factor. The analysis done by us confirmed insufficient informing and poor preparedness of the parties involved (mainly the Financial Administration´s staff) about the meaning, objectives and individual steps of the reform process. Without the reform process support from the side of majority of the Financial Administration´s worker the reform cannot be a success. On the contrary, we believe that the consequence of disagreement with serious decisions made by the management may be lower work performance by the workers and lower tax collection.

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Quantified Modelling in Measurement of the Competition Phenomena as a Major Methodological Trend

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Abstract

The conditions of competitions which changed and became even more difficult nowadays. The importance of management by competing with results has become even more important for the enterprises.

This paper is devoded to building of Quantified Competitiveness Dimensional Models as a major methodological trend in the studies of contemporary management systems. It demonstrates chosen techniques and tools which can be used to evaluate the point of view of alternative strategic choices through a quantitative approach to modelling of performance measurement systems. In terms of measuring methods, special importance has been attached to building quantified dimensional models.

The article presents the main issues concerning to the use of improved chosen statistical and mathematical methods, many models and methods. They have been developed in measurement and assessment of performance with multiple criterions and multiple dimensions.

Key words

Quantified Models, Measurement, Dimensional Analysis, Competition

Introduction

Modelling of competition phenomena has a chance to be a major methodological trend in the studies of contemporary management systems. Models describing management system must be, first of all, of multi-aspect nature, meaning that they should entail economic, technical, sociological, psychological aspects on the one hand, and forecasting, planning, leading and controlling, on the other hand. Solving measuring problems by using many factors decisive for the model formulation must ensure dimensionality of the quatities applied in the modelling. A multiaspectual language of categories matching the selected reality segment is used. Cathegories may be measurable and immeasurable. Measuring of quantities, being measurable categories, requiers conscious application of the appropriate measuring principles and techniques (Rosłanowska-Plichcińska, Grudzewski, 2013,12).

Competition in quantitative and qualitative categories

Very often competitiveness is identified with price (Lombana, 2006,34). Using the contemporary market, both external and internal, one may arrive at such a measure that acquires particular importance from the perspective of the commonly applicable rules of economic reforming, namely the price category. Prices express the exchange relation between certain goods and other goods, on the one hand, being the characteristic property of value referred to as value in exchange, whereas on the other hand, by means of market verification, they confirm the socially indispensable expenditures incurred on production of goods as well as on recognition of their utility, i.e. the value in use. Hence money will be used as the measure of value. The problem of prices is more complex and depends on the envisaged format of price development based on cost principles, balance prices or transaction prices, as well as on the applicable base of constant prices, exchange ratios, price indices etc., which makes it even more difficult to use this quantity as a measure without having entailed additional and suplementary information into consideration. Despite all this obstacles, this quantity is commonly applied as a measure.

Since the concept of "competitiveness" became popular at the beginning of the 90s, a number of its definitions have appeared (Lubas, Piasny 2012,200). There are many points of view on competition. Very often competition is identified not only with price, but also with product quality, resource productivity, production, costs or competitive advantage itself (Lomban 2006, 34). These synthetic approaches to competitiveness based on single-factor considerations, such as the approach to company competitiveness as greater production efficiency (Ambastha, Momaya 2004, 26), supplying products and services at a more attractive price (Dwyer, Kim, 2003, 5), are rather fragmentary and difficult to apply in practice (Flak, Głód, 2012, 40).

John Kay rightly notices that competitive advantage does not result from outstanding capabilities of a company but from its domination or more favourable position in the market (Kay, 1996, 42), since in the market you can encounter enterprices which take advantage of natural monopoly, or benefit from certain market limitations. Competitive position on the market can be described by means of different quantities: in terms of stability- with the content of resources, in terms of dynamism - with a stream and a cycle, in terms of information content - with information amount, in terms of the speed of changes - with efficiency and productivity, in terms of the rate of changes - with intensity, and finally in terms of value - with price[1].

For such a system, a diagram for basic competitiveness quantieties has been proposed (see Diagram 1).

Diagram 1. Basic competitiveness quantieties
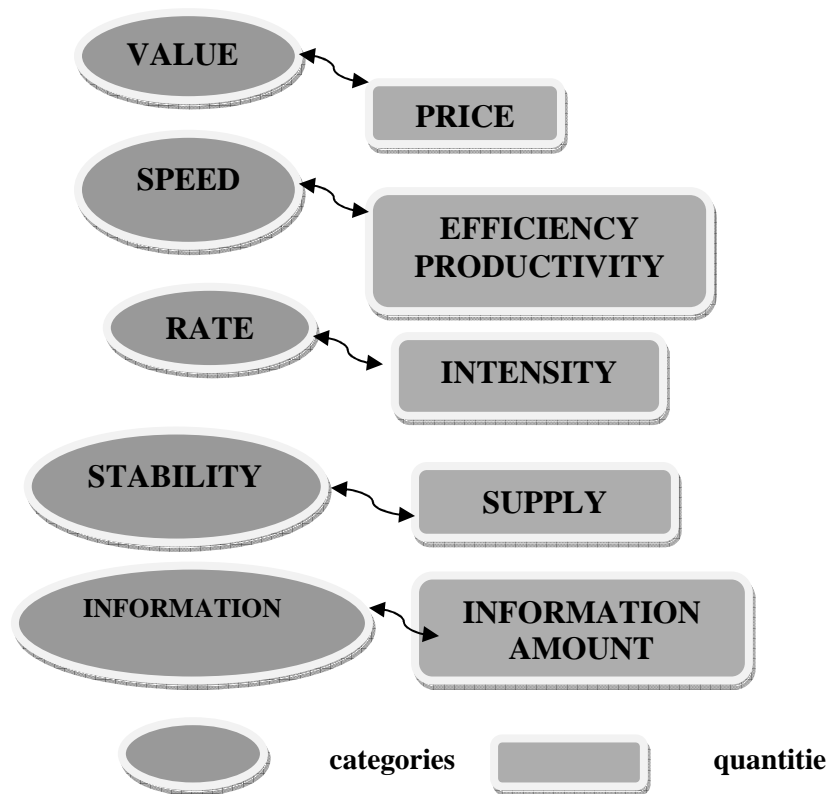
Source: Author's own study

We should remember that categories like an investement process, investor, manufacturing process, tangible services, intangible services, sales crisis etc. are not measurable, yet they feature certain characteristics being quantities which express their state and properties, for instance cycle of the said process.

Quantified modelling in management system

The undoubtedly is the fact that he phenomena of competition has changed dramatically over the last years. Measurable and non-measurable cathegories were not in balance. For example quality, speed, and flexibility, in addition to cost, have emerged as the three most important competitive attributes [Garwin, 1987,101; Stalk, 1988, 41-51, Gerwin, 1987, 38-49; Slack,35-45]. This situation has made the traditional financially-based performance measurement systems less relevant. Over many years much work has been

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[1] It could be used a uniform system of base and supplementary units of measure in accordance with international standards (SI). Some units have been provided in accordance with SI, whereas others constitude the project proposed by the authors as grounds for futher discussion. The detailed division and information enable selecting, combining and extending base and auxiliary units of measure into any chosen sequences of units (base units for measure of the SI-ETI system, Auxiliary units of quantity, of length, volume, mass, time, human work, work of machines and sets, mh (man-hour), mah (machine-hour) has been presented in: K. Rosłanowska-Plichcińska, W. M. Grudzewski, *Application of Dimensional Analysis in Economics*, IOS Press, Amsterdam 2013, p. 16-19.

done by practitioners and researchers to develop new performance measurement systems which try to take account of financial and non-financial measures in balance [Kaplan, 1996, Cross, 1988-1989, 23-24; Dixon 1990; Globerson, 1985, 639-646.]. It has opened a new view of measuring the competition phenomena.

A view of literature can be seen that the simulation and statistical methods are predominantly preferred. The reason for preferring economic methods are other than the fact that they are methods which are easily applicable, it can work with quantitative and qualitative data [Yildiz, Hotamisli, Eleren, 2011, 34-36]

Many economic and management studies which reasearch the competition phenomena and based on quantitative nature, consequently giving birth to quantified models[2].

Describing competition phenomena and processes in purely economic categories is not enough to use quantitative modelling. Economic categories perceived from quantitative modelling. But we should remember, that economic categories represent qualitative and quantitative properties. The qualitative categories may obviously describe properties and characteristics of phenomena as well quantitatively characterised processes, this depending solely on whether the characteristics or properties described by these categories are in fact measurable. In such a case, one may claim these categories to be quantities (Rosłanowska-Plichcińska, Grudzewski 2013, 5).

The development of economic theories has implied that there are economic categories which, first and foremost, constitute quantities, and that they only exist because they can be measured. In this respect, the relationships between primary and secondary categories may be described in a fairly explicit manner (Rosłanowska-Plichcińska, Grudzewski 2013, 5).

Mathematical modelling is particularly important for economic and management sciences. It may be used for various purposes including analysis of production developlment, analysing mutual corellations of production and consumption, studying problems of supply and demand. But they provide the appropriate means to make decisions pertaining to how they can be used to management.

Building of Quantified Competitiveness Dimensional Models[3]

As it was said above, the over many years much work has been done by practitioners and researchers to develop new performance measurement systems which try to take account of financial and non-financial, measurable and not measurable, tangible and intangible measures in balance. It has opened a new view of measuring the competition phenomena. Economic categories represent qualitative and quantitative properties

In the process of building econometric models, which are used to comprehensively assess the quality of the competitiveness in businesses or industries, the mathematical knowledge is used. Unfortunately, some econometric models, due to their complicated mathematical structure are not understandable on the one hand and defectively constructed on the another hand. This is due to the lack of respect for the mathematical rules at their construction, namely incorrectly mathematical action is performed on proper dimensional quantities.

What else is important in building of quantified dimensional models? The problems of dimensional constants are perceived from two completely different perspectives of the principles according to which they are created and the ways in which they are interpreted. The first one takes the nature of dimensionality into consideration and the second one is based of a philosophical principle claiming that if there are at least two dimensional quantities, then as a result of the calculations conducted upon them, one obtains constant quantities having the nature of a dimensional quantity, except for a quotient of two different quantities of the same dimension[4].

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[2] H. L. Moore apply mathematical statistic to set various curves to establish integral models related to a formalised form of demand.

[3] Creating quantified economic models is linked with the disciplines being developed since 1930s and having their origins in economics, namely those of econometrics and economic mathematics. Some authors do not make the distinction between those two fields of expertise, while others (J. Pen f.ex.) claim that they should be separated. Many economic studies of quantitative nature, consequently giving birth to quantified models (H.T. Davis, V. Pareto, H. L. Moore, H. Schultz, W. Leontief, M. Nasiłowski, J. Pajestka, Z. Pawłowski).

[4] This opinion has been assumed in the studies of W. Quade in F.J. de Jong in "Dimensional Analysis for Economics, North-Holland Publishing Company, Amsterdam, 1967.

Diagram 2. The process of building of Quantified Competitiveness Dimensional Models

I. Qualitative Description of the Problem

1. Description of the problem,
2. Distinguishing factors of the competitiveness,
3. Analysis, verification of observations and data
=
Create descriptive model using ethnic language
Non-measurable indicators
(qualitative properties)

II. Quantified Model

1. description with the quantities, using mathematical symbol and relations, mathematical functions
2. selection of dimensional constants and system of units of measure,
3. qualification of dimensional space,
4. selection of the dimensional model.
=
Create General Quantified Competitiveness Dimensional Models
Measurable indicators
(quantitative properties)

Formulation of a detailed model:

- general model verification,
- data analysis and verification,
- parameter estimation,
- interpretation of model parameters and constants, model verification

Source: Author's own study based on : K. Rosłanowska-Plichcińska, W. M. Grudzewski, *Application of Dimensional Analysis in Economics*, IOS Press, Amsterdam 2013, p. 67.

As we can see at the Diagram 2 , presented above, building of quantified Competitiveness Dimensional Models may be generally broken down into three stages:
- a qualitative process description - is based on the application of direct observation as well as analysis of data characterising the problems being modelled,
- formulation of a general quantified Competitiveness Dimensional Model - where one proceeds from the qualitative description previously obtained, through intentional consideration of measuring techniques for the quantities describing the process, what is refered to as general model,
- formulation of a detailed model, is the final stage of building of a quantified Competitiveness Dimensional Model.

Summary

Quantified modelling is particularly important for economic and management sciences.

Modelling is based on the application of measurable and non-measurable categories. The nature of reality representing models may be as follows:
- descriptive (they are created using ethnic languages),
- iconographic (they are created using graphical symbol),
- mathematical (they are created using mathematical symbol and relation),
- analytical models (those using one or several mathematical functions),
- network models (using the graph theory),
- simulation models (using the dynamics of systems).

In the process of building quantitive models, which are used to comprehensively assess the quality of the competitiveness in businesses or industries, the mathematical knowledge is used. . In somewhat concept math is the international language the understanding between societies the ways of communication in the business industries, making a commercial marketing branch in a global scale on the other hand people.

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Interrelations between Employee Satisfaction and Employee Loyalty

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Abstract

Nowadays, most companies are trying to find innovative ways to enhance their competitive advantages in the unstable global marketplace. Prospective companies focus on behavior and relationship with their employees, and primarily try to satisfy them. Satisfied employee stays with organization longer, gets motivated to enhance individual performance compliant with employer's goals and makes positive personal references to his social environment. Therefore, it is important to define, analyze, control and improve job satisfaction and be aware of its interrelations with employee loyalty. The purpose of the paper is to present research outcomes in the field of employee satisfaction and employee loyalty.

Introduction

Employee loyalty can be developed mostly on the basis of job satisfaction. To encourage employee loyalty, the company has to operate towards achieving employee satisfaction. (Antonic,Antonic, 2011) The following elements can be more important than a good for many employees: interpersonal relationships, organizational climate, positive communication, and the adequate flow of internal information. By giving sufficient attention to these employee satisfaction elements, the level of employee loyalty can increase. (Antonic, Antonic, 2011) Researchers have commented that certain factors must be considered in the organization to maintain employee loyalty: offering employee benefits related to financial and work care; providing professional and personal development, informal support such as supervisor support, providing good work environment, and so on. (Ali, Al-Kazemi, 2005)

Antonic and Antonic (2011) proposed that establishing loyalty achieves company long-term objectives. Therefore, it can be said that employee organizational loyalty plays an important role, because loyal employees believe in company objectives, work for the common welfare, and accept company objectives. Graham (1991, p.255) defined organizational loyalty *as "identification with and allegiance to organizational leaders and organization as a whole, transcending the parochial interests of individuals, work groups, and departments. Representative behaviours include defending the organization against threats; contributing to its good reputation; and cooperating with others to serve the interests of the whole."* Varona (2002) proposed that the attachment to the company is characterized by the identification of employees with the company's mission and work ethic. In addition, Niehoff, Moorman, Blakely, and Fuller (2001) stated that loyalty stands for active behaviors that demonstrate pride in and support for the organization. Moreover, the examples of such behaviors are defending the organization against criticism, emphasizing the positive aspects of the organization, and refraining from complaining about the organization. Bettencourt, Gwinner, Meuter (2001) presented that loyalty of employees represents demonstration of a employee's commitment and dedication to the organization strength of an individual's identification (organizational citizenship) with the organization and level of participation (personal contribution) in the organization based upon internalization and identification of employee and organization. A loyal employee is defined by Gronholdt and Martensen (2006, p.99) as follows:

a) is less likely to look for work elsewhere – expects to stay with the company both in the short- and long-term,
b) would recommend working for the company to others – proud to be working for the company,
c) is interested in doing her/his best, and make an extra effort when required – this relates to the individual employee's performance and contribution to the company value,
d) develops strong relations to the company – temporary dissatisfaction with the job is accepted,
e) is interested in improving her/his own performance – offers suggestions for improvement, interested in participating in various training and educational activities, etc.,
f) has an attitude and behaviour that match the company's values, visions and goals.

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Bruce and Blackburn (1992, p.6) stated that „*satisfied employees are more likely to experience high internal work motivation, to give high quality work performance, and to have low absenteeism and turnover"*. Willem, Buelens, De Jonghe (2007) presented the opinion that actually job satisfaction shows the relation between human expectations and advantages taken from job. In organizational behavior, it is focused on job satisfaction. It disappears as soon as it appears so need to be noticed continuously. (Tsigils,et.al, 2004) Spector (1997) believed that job satisfaction shows people emotion about their job generally or about some parts of it (i.e. organization, job, supervisory, coworkers, salary and income and promotions). Furthermore, Smith, Kendall and Hullin (1969) express five aspects that can be used to determine job satisfaction: being satisfied from job (i.e. interesting tasks and opportunities for learning and training), being satisfied from supervisor (i.e. technical and managing abilities and their considerations about employees), being satisfied from coworkers (technical qualification and support they show), being satisfied from promotion (achieving real opportunity to advance), being satisfied from income (amount of income, its equality and way of paying to stuffs).

Nowadays, the organizations have to be aware of the fact that employees have very high expectations to their jobs, and their demands are increasing. Gronholdt and Martensen (2006) stated that job satisfaction results from the interaction between the experience of the job and the expectations you have. Obviously, the experience of the job is important, but the expectations also play a role for job satisfaction. In relation to living up to employee expectations, an employee usually starts a job with certain expectations of her/his future employment. (Gronholdt and Martensen, 2006) Wanous (1992) said that thare is a relationship between living up to expectations and employee loyalty.

For number of organization, turnover can have number of serious consequences. Bevan, Barber, Robinson (1997, p.19-20) defined the negative side of the employee turnover as follows:
   a) It can mean incurring significant replacement costs, especially if the post is difficult to fill, or if new starters need a large amount of training, or if the 'opportunity costs' of having a les sexperienced replacement is high.
   b) It can cause significant operational disruption, particularly is aleaver has been involved in, or running, several projects or tasks.
   c) It can result in the loss of key skills, knowledge and experience to competitors. In some sectors, considerable resources may have been invested in developing products, technologies orprocesses. Losing people who can ensure that the organisationgets a healthy return on this investment can be very expensiveand commercially difficult.
   d) If the organisation is having difficulty recruiting key skills, the effects of losing employees who already have these skills can bedoubly troublesome.
   e) If a core reason for turnover is employee dissatisfaction, turnover can have serious 'knock-on' consequences for morale, especiallyamong those who might like to leave but, for a variety of reasons,are unable to.
   f) If staffing levels have been reduced, and if workload has increased, a number of leavers can increase the pressure on those who remain. This might, in turn, increase their own propensity to leave.
   g) In addition, the productivity and creativity of a workforce which can see turnover increasing, can also diminish.
   h) In some manufacturing or service contract businesses, staff turnover levels can be high enough to impede their ability totake on new work.

Interrelation between employee satisfaction and employee loyalty

Khuong, Tien (2013) identified the relationship between job satisfaction and organizational loyalty of employees who are working in banking industry. The findings of this study indicated that the higher levels of satisfaction, supervisor support, fringe benefits, teamwork, working environment, and training were positively associated with the higher level of organizational loyalty. The factors of satisfaction, supervisor support, teamwork, and working environment play crucial roles and significantly affect employees loyalty. Based on the results of the path analysis, the study argued that in order to achieve high employee loyalty, companies in banking industry should achieve high level of employee job satisfaction, enhance supervisor support and teamwork among employees, and provide good working environment.

Rahman et al. (2009) conducted the research on relationship between employee satisfaction and loyalty to an organization. The findings indicated the existence of a correlation between employee satisfaction and employee loyalty, which means that increase of employee satisfaction could actually result in increase of employee participation and loyalty to the company. Employment tenure, employee future plan with the company, and recommending employment in the company were taken as the 3 loyalty indicators in the study. Four of the thirteen satisfaction variables, namely, relationship with supervisor, recognition and rewards, working conditions, teamwork and cooperation showed the strongest correlation with the three loyalty variables afore mentioned. Basically employee satisfaction was dependant on benefits package, training and development, relationship with supervisor, working conditions, teamwork and cooperation, recognition and rewards, empowerment and communication. Whereas, employee loyalty was a result of the satisfaction that stems from satisfaction variables such as, recognition and rewards, working conditions, teamwork and cooperation, and relationship with supervisor. These four satisfaction variables correlated with all the three aspect of loyalty

According to Gronholdt and Martensen (2006) to have satisfied and loyal employees is not sufficient for a company. From a company's point of view, it is also important that the satisfied and loyal employees contribute to the value of the company.In their study it was stated that it is not sufficient to look at employee loyalty from a human resource management perspective, a more holistic and general company perspective is required. The model of employee loyalty was developed with three effect variables, i.e. job satisfaction, employee loyalty and perceived contribution to the company value. Six determinants were identified for these result areas. The presented approach to the loyalty area has not yet appeared. Looking beyond employee satisfaction and loyalty to include the employees' perception of their contribution to the company value is a new approach.

Figure 1. The model of employee loyalty
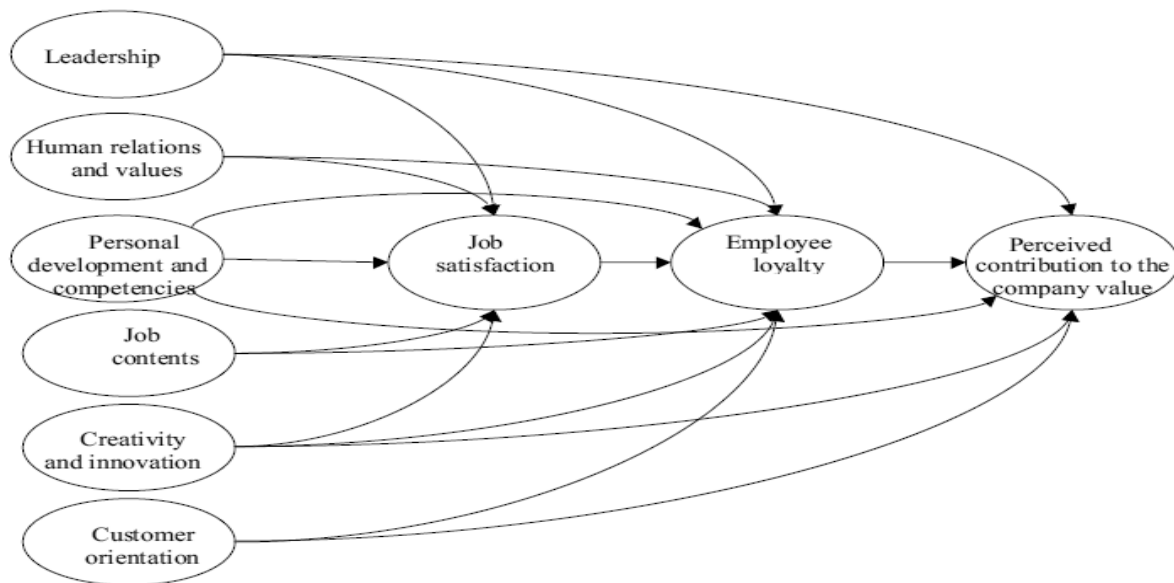
Source: Gronholdt and Martensen, 2006, p. 94

Koys (2003) suggested that employee satisfaction plays a primary role in helping companies achieve financial goals. If a company takes care of its employees, the employees will take care of the customers. It is true that customers tend to have a better experience with organizations that have higher levels of employee satisfaction and engagement. Satisfied employees are more likely to be motivated and harder working than dissatisfied ones. Rhian Silvestro (2002) in his paper reported some empirical findings that employee satisfaction and loyalty are key drivers of productivity, efficiency and profit. An empirical study of one of the UK's four large supermarket chains reveals an inverse correlation between employee satisfaction and the measures of productivity, efficiency and profitability, the most profitable stores being those in which employees are least satisfied. Employee loyalty, measured in terms of length of service,

also appears to be inversely correlated with productivity and profitability). Furthermore, Tortosa, Moliner, and Sa'nchez (2009) pointed out that within maintaining relationship with their stakeholders, the employees of an organization play the most crucial part. The employees take it as obligation to increase quality and profitability of the firm, when they are more satisfied and perceive their output more than their input. (Tortosa, Moliner, Sa'nchez, 2009).

Conclusion

The essential cornerstone for success of companies is represented by their employees. Companies have to be aware of the fact that the days of an employee spending their entire life working for the same company are long gone. It means that they have to do more to recruit and retain the best, moreover, to earn and keep their loyalty. Employees are the most significant and valuable asset of a company and lack of efficient ones can cause several problems to an organization. Satisfied employee stays with organization longer, gets motivated to achieve company' goals, as well as makes positive references for company. Moreover, loyal employee by her/his identification with involvement in and commitment to the company, and by being motivated to perform beyond expectations can help to finacial success of the organization. Therefore, it can be said that interrelation between employee satisfaction and employee loyalty respresent the key to enable company to remain in today's highly competitive marketplace for a long-term period.

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Application of BSC Model as a Method of Performance Management and Measurement in the Energy Industry

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Abstract

This contribution is dedicated to the issue of Balanced Scorecard method and its application in management and measurement of performance in selected businesses of the energy industry. It analyses inputs for the proposal and formation of the BSC model. Research sample analysis revealed that the processing of the financial perspective of the BSC model does not constitute a significant problem. More difficult is for a lot of businesses setting objectives in the other three perspectives of BSC. To process these perspectives it is important to understand impact of selected indicators on business performance. In BSC model formation and its subsequent application should be used only indicators which show a significant impact on business performance. The contribution of this paper is to point out the application of statistical methods in selecting key performance indicators, as well as demonstration of the practical application of BSC model in selected business of the energy industry.

Key words

Balanced Scorecard, Business performance, Strategic map, Key performance indicators, Perspectives.

Introduction

BSC - Balanced Scorecard is one of the modern methods for the evaluation of business performance. This method represents a balanced system of indicators, which in addition to traditional financial indicators, for the evaluation of performance uses also non-financial measures. Non-financial indicators are focused on customer reviews and their contribution to business performance, evaluation of processes and their effectiveness and assessment of employee's contribution to business performance.

Nowadays the conventional performance evaluation of enterprises with the use of financial indicators is inadequate. When evaluating the performance of the company, the need to use new methods, tools and indicators assessing the financial aspects as well as other functional areas of the company, emerges more frequently. Despite the criticism of excessive use of the financial indicators in enterprise performance evaluation these indicators continue to be the most important. The values of these indicators reflect the impact of other perspectives and indicators of the Balanced Scorecard method (BSC) (Kaplan, Norton, 2007). Financial perspective, as one of the four perspectives of BSC, represents the financial performance of the enterprise. But in this perspective, it is necessary to shift to new indicators and methods of performance evaluation too.

Perspectives of BSC system

The basic structure of BSC strategic map consists of four perspectives, their objectives, indicators, benchmarks and projects intended to achieve objectives. Kaplan and Norton (2007) within each perspective proposed fundamental objectives and indicators by which should be the business inspired in the assessment and management of its performance. These are the key performance indicators of majority of enterprises.

Financial perspective

Financial perspective focuses on the satisfaction of owners. The overarching goal of this perspective is the value of the company, which is expressed by EVA indicator. The owner is happier when the value of the company is higher. From the other indicators are important indicators of profitability, whether Total capital, Equity, or Cycle-to-turnover Assets, Cash, Turnover, but also Liquidity, Capital structure, and many other indicators.

Financial perspective processed as financial management map has 5 levels of objectives and also 4 levels of drivers. Each level of objectives represents drivers for the activation of higher-level objectives. The main drivers of business value are ROA – Return on Assets or Production Power and then indicators: Profit Margin – EBIT/Revenues and Assets Turnover Ratio - Revenues/Assets. Objectives of 5th level represent drivers of the indicators Profit Margin and Assets Turnover Ratio.

Figure 1. Financial perspective of BSC
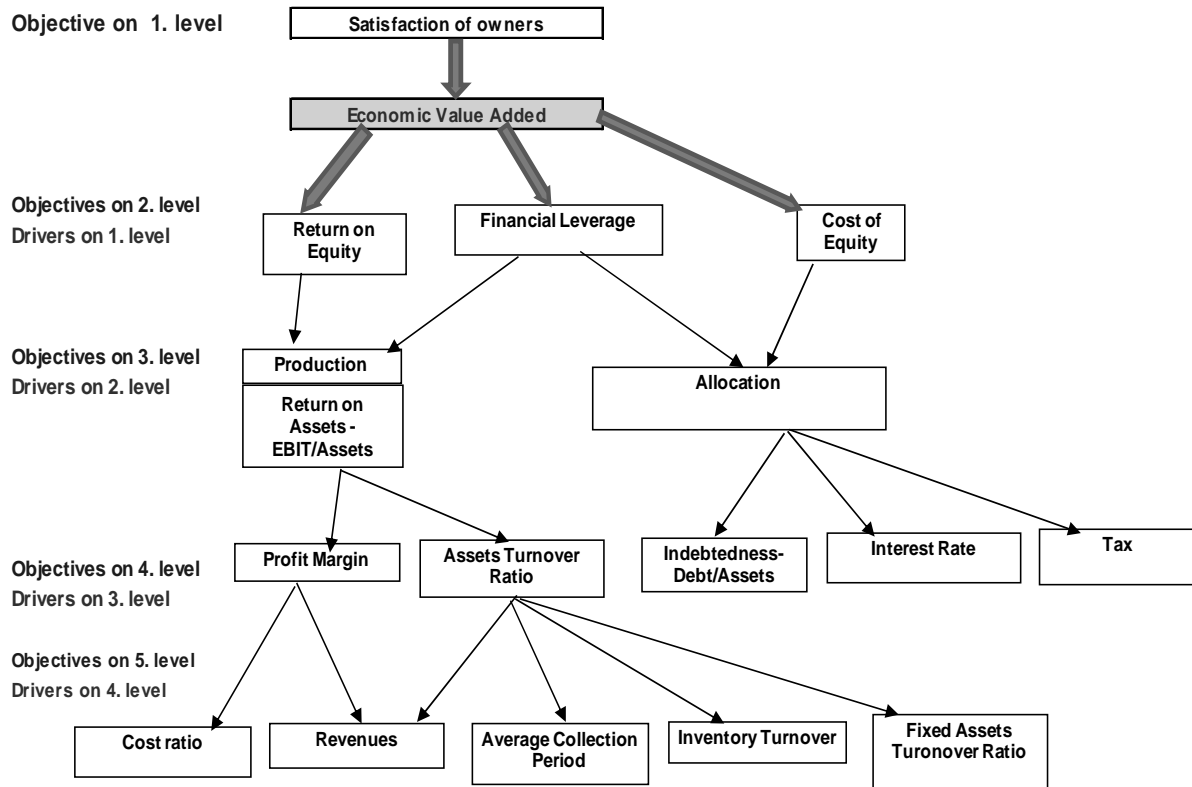
Source: Own processing

Customer perspective

Customer perspective is focused on creating value for the customers, in this perspective priority issues are focused on customer satisfaction, customer loyalty, customer sustainability and the acquisition of new customers.

The first of the key performance indicators within customer perspective is *customer satisfaction*; therefore sufficient attention must be given to measurement of this indicator. The second general criterion is *to maintain existing customers,* which may be more important than attracting new customers. Ensuring increase in customer's loyalty and repetitive customer purchases in a time when purchasing decisions are influenced mainly by price is quite demanding.

The third important performance criterion, on which BSC system should create databases and provide information, is *customer loyalty*. This criterion represents such level of customer acquisition when there is emotional customer alignment to the brand or company. There are several levels of emotional alignment, while the highest is a level when customer recommends product or service to others. Therefore, loyalty depends on customer satisfaction, his stability and the extent of his willingness to recommend supplier to other customers (Ittner, 2003).

The fourth criterion is *customer profitability*, measured by customer contribution to covering fixed costs in relation to revenues and fifth performance criterion is the *number of new customers and potential customers*.

Perspective of internal processes

The perspective of internal processes is focused on the processes that take place inside the business. Great emphasis is placed on processes of innovation and development, not on the production processes.

The basic general objectives of this perspective include: optimization activities, improving the structure of fixed assets, changing the range of production, growth in production capacity, increasing the proportion of IT projects.

Perspective of potentials, learning and development

The perspective of potentials is the most important one in the whole BSC system. It's the perspective of people, their potential, growth, development and satisfaction. The general objectives of this perspective include: increasing employee satisfaction, image processing of working day, improving employee motivation, increasing awareness of business objectives, improving rating system.

The advantage of this method of business performance evaluation is that it in addition to financial indicators takes into account also non-financial ones. Non-financial indicators create the infrastructure for achievement of financial objectives. Employees of the business create the performance of the company. The performance of the company depends on the performance of its employees.

The aim and the methods used

The aim of this contribution was to design strategic map for selected area of the energy industry based on BSC principles. Objectives and indicators of financial perspective were derived on the basis of mutual relationships between these indicators, factor analysis and INFA model, as well as results of the financial analysis of research sample. Objectives of the remaining three perspectives were determined with the use of correlation matrix, in which the correlations between the representative of financial perspective and selected group of indicators of non-financial perspectives were identified. As a research sample, the data of the selected companies running a business within the energy industry were used.

Results and discussion

To create strategic map we selected the following non-financial indicators as the key measures for given industry.

Table 1. Selection of non-financial indicators for performance assessment

Evaluated area	Indicators	Unit of measure	Rationale for the selection
Financial perspective	*Cost consumption (CC)*	€/ Point of supply	Key performance indicator in terms of the financial perspective
Financial perspective	*Return on investment (ROI)*	Ratio	Key performance indicator in terms of the financial perspective
Customer perspective	*Point of supply profitability (PSP)*	%	Key performance indicator in terms of the customer perspective
Customer perspective	*Tariff for electricity distribution without losses including electricity transmission - Voltage level Mv (TED)*	€/MWh	Key performance indicator in terms of the customer perspective
Internal perspective of BSC	*Energy efficiency of electricity distribution (EE)*	%	Key performance indicator in terms of the internal perspective of BSC
Internal perspective of BSC	*Share of losses in the electricity distribution (SL)*	%	Key performance indicator in terms of the internal perspective of BSC
Internal perspective of BSC	*Average interruption duration of electricity distribution to point of supply – Voltage level Mv (AID)*	Minutes/ Point of supply	Key performance indicator in terms of the internal perspective of BSC
Perspective of BSC potentials	*Number of failure to comply with standard of quality events to recorded events (NFRE)*	%	Key performance indicator in terms of the perspective of BSC potentials
Perspective of BSC potentials	*Number of failure to comply with standard of quality events to employee (NFE)*	Number/ Employee	Key performance indicator in terms of the perspective of BSC potentials
Perspective of BSC potentials	*Employee labour productivity (ELP)*	€/Employee	Key performance indicator in terms of the perspective of BSC potentials

Source: Own processing

Individual non-financial objectives applied in strategic management map were confirmed with the application of correlation matrix. The indicators selection was based on the condition that strategic management map should be formed by indicators among which the relationship of causality exists. Correlation matrix confirmed that there are statistically significant direct, resp. indirect linear relationships among the selected non-financial indicators. Statistically significant relationship is between the indicators *Cost consumption* and *Point of supply profitability*, *Cost consumption* and *Number of failure to comply with standard of quality events to recorded events*. Between the indicators *Point of supply profitability* and *Employee labour productivity* is the same relationship, while *Employee labour productivity* shows also dependence on *Tariff for electricity distribution without losses*. Statistically significant linear relationship is between the indicators *Energy efficiency of electricity distribution* and *Share of losses in the electricity distribution* - it stands to reason because the losses in the electricity distribution negatively influence energy efficiency. Selected indicators do not show statistically significant linear relationship with EVA indicator, but correlation coefficients are sufficiently high. It can be concluded that there is relationship, but non-linear.

Table 2. The correlation matrix for non-financial indicators

		CC	ROI	PSP	TED	EE	SL	AID	NFRE	NFE	ELP	EVA
		Correlation (non-financial indicators) Marked correlations are significant at the level p < ,05000 N=6										
CC		1.0000	-.2924	-.8774	.5158	.7553	-.7715	.2671	.8655	.2068	-.7940	.6889
		p= ---	p=.574	p=.022	p=.295	p=.082	p=.072	p=.609	p=.026	p=.694	p=.059	p=.130
ROI		-.2924	1.0000	-.1365	.0052	-.3720	.3788	.2917	-.2949	.2180	-.0600	-.4464
		p=.574	p= ---	p=.796	p=.992	p=.468	p=.459	p=.575	p=.570	p=.678	p=.910	p=.375
PSP		-.8774	-.1365	1.0000	-.6536	-.5175	.5334	-.5935	-.7632	-.4123	.8945	-.6318
		p=.022	p=.796	p= ---	p=.159	p=.293	p=.276	p=.214	p=.077	p=.417	p=.016	p=.178
TED		.5158	.0052	-.6536	1.0000	-.1272	.0989	.8647	.4740	-.0418	-.8977	.3512
		p=.295	p=.992	p=.159	p= ---	p=.810	p=.852	p=.026	p=.342	p=.937	p=.015	p=.495
EE		.7553	-.3720	-.5175	-.1272	1.0000	-.9995	-.2845	.5227	.1885	-.2525	.6126
		p=.082	p=.468	p=.293	p=.810	p= ---	p=.000	p=.585	p=.287	p=.721	p=.629	p=.196
SL		-.7715	.3788	.5334	.0989	-.9995	1.0000	.2642	-.5342	-.1777	.2779	-.6220
		p=.072	p=.459	p=.276	p=.852	p=.000	p= ---	p=.613	p=.275	p=.736	p=.594	p=.187
AID		.2671	.2917	-.5935	.8647	-.2845	.2642	1.0000	.2595	.2742	-.7208	.3860
		p=.609	p=.575	p=.214	p=.026	p=.585	p=.613	p= ---	p=.620	p=.599	p=.106	p=.450
NFRE		.8655	-.2949	-.7632	.4740	.5227	-.5342	.2595	1.0000	.4421	-.6723	.5952
		p=.026	p=.570	p=.077	p=.342	p=.287	p=.275	p=.620	p= ---	p=.380	p=.144	p=.213
NFE		.2068	.2180	-.4123	-.0418	.1885	-.1777	.2742	.4421	1.0000	-.0704	.5137
		p=.694	p=.678	p=.417	p=.937	p=.721	p=.736	p=.599	p=.380	p= ---	p=.895	p=.297
ELP		-.7940	-.0600	.8945	-.8977	-.2525	.2779	-.7208	-.6723	-.0704	1.0000	-.4598
		p=.059	p=.910	p=.016	p=.015	p=.629	p=.594	p=.106	p=.144	p=.895	p= ---	p=.359
EVA		.6889	-.4464	-.6318	.3512	.6126	-.6220	.3860	.5952	.5137	-.4598	1.0000
		p=.130	p=.375	p=.178	p=.495	p=.196	p=.187	p=.450	p=.213	p=.297	p=.359	p= ---

Source: Own processing

Based on our own experience with the implementation of BSC method, it can be concluded that business goals can be achieved by observance of principles and rules of BSC method as well as by connecting operational and strategic management of the company to create an orchestra to play one and the same song. This method makes it possible to link strategic and operational management of the company and create an organism, which has one common goal. With the use of this method is also possible to achieve set of goals in all areas of business management. At the same time it is a method of increasing the value of the company as the benefit for business owners. Its huge benefit is that the non-

financial objectives, the instruments and indicators are used and thus creates an environment for development and growth of the company and for development and training of business employees.

In terms of the theory of Ittner and Larcker (2003), who introduced the way of the selection and application of non-financial indicators, the selection and verification of the indicator`s choice is followed by the formation of the strategic map (see Figure 2).

Summary

The company that wants to survive in an ever increasing competitive environment must have a properly functioning process of strategic management. The business must be able to identify the factors determining its success and must control analytical tool which identifies the steps leading to growth of the company and its further development. Without the analytical process, the further development of the company would be disorganized and uncoordinated. Planned strategy may not remain only a consideration, since one of the key factors which differentiate successful companies from unsuccessful ones is the ability to implement business strategies to life. In this regard, BSC method is of great benefit and help.

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Figure 2. Strategic map

Strategic map

FINANCE

CUSTOMERS

PROCESSES

POTENTIALS

To be the best between enterprises in the given field of business

Shares for companions

To increase the Value of the company

To increase Return on assets

To increase Liquidity

To reduce Capital cost

To increase Margin

To accelerate Assets turnover

To increase Return on investment

To reduce Cost consumption

To obtain new points of supply

To increase Distribution volume

To increase Point of supply profitability

To increase Customer satisfaction

To raise Tariff for electricity distribution

To shorten Average interruption duration of electricity distribution

To optimize the Structure of Non-current assets

To optimize value-creating processes

To reduce Share of losses in the electricity distribution

To increase Energy security

To increase Energy efficiency

To increase Labor productivity

To reduce Number of failure to comply with standard of quality events

To increase Employee motivation

To reduce Number of failure to comply with standard of quality events to employee

To improve Employee evaluation system

Source: Own processing

The Competences Balancing Method

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Abstract

The changes within society on all its levels including the work sphere have undoubtedly had an impact on work organization. These changes require a suitable approach towards human resources, i.e. leadership strategies and also employee development. The theoretical frame of this article is based on a review of the competence structure model, or rather the application of the 'balance diagnostics' concept. This is a complex advisory method focused on helping people to realize their career potential in accordance with their endowments.

The role of competences within the framework of human life and society

The current society presents its members with various challenges. What skills are crucial and necessary? Provided we are able to define these skills we can estimate our readiness to face these social challenges. The problem of competences is in the background of social psychology of organizations or the relationship between a man (employee) and an organization. The term of competences is being used in various contexts. To make this clear we use this term for the purposes of our article as a synonym of skill, ability, eligibility or qualification. The set of competences (meaning not only "being entitled") covers the quaternity of "knowing what", "knowing how", "knowing why" and "knowing who". The person who is able to connect and use all the above mentioned entities or sources of what, how, why and who (or through who) is competent within the levels described.

Human and Social Capital

In 1997 the member countries of OECD established the PISA program (Programme for the International Student Assessment), which takes place in the OECD countries every 3 years and by which they wanted to evaluate to what extent the students after finishing the obligatory schools attendance are ready for the "real life". Thanks to the collected data the importance of skills and their specific classification, as e.g. key competencies which are the topic of this chapter, was described. Competence means much more than "just" knowledge and learning skills or competences. It is rather the ability to deal with various challenges and requirements when, depending on the particular situation, the personality as a whole is engaged, i.e. learning skills, attitudes, behavior, acting and so on. The skill of effective communication is a good example as it includes not only the knowledge of a language (communication competence) but very often also information literacy (professional skills) and it is influenced for example by the person's attitude to their communication partner.

The fact that people in the era of challenges and demands need various competences is not new. Sustainable development and social cohesiveness are based on the competences of the whole nation – here again the term competences covers knowledge, skills, attitudes and values. OECD defined the so-called "key competences" and their basic characteristics in connection with these assumptions:

- they support reaching crucial goals of not only individuals but the whole society;
- they help people to realize important tasks despite of complicated conditions;
- they are not just a term for the experts, but are a part of life of every person (OECD, 2013).

The key competences can be divided into three main categories. First of all people should be able to effectively use different tools and means (e.g. speech or information technologies). They should understand these well enough to be able to suitably use them for the most convenient purpose (interactivity). Considering the extent of globalization people should be able to cooperate with different cultures and function in socially heterogenous groups. The last important part of key competences is the area of social ethics. People should be able to accept responsibility for their own lives, their attitudes and the consequences of their actions. They should also be able to understand their individual lives within the context of the whole society regardless of time and space (in connection to responsibility). These three

categories are interconnected and related. In the background there is a philosophical appeal for the unconditionality of reflexive thinking and acting, i.e. always in relation to others, to the consequences of one's actions. Thanks to this background the key competences are a significant part of the puzzle of our article.

Reflexive thinking and acting is the basic element of the competence frame. Reflexivity requires wholesome processes of thinking and acting. The condition is for the subject (person) to become the object of thinking. That is the only way the reflexivity allows people who have learnt something, e.g. some technique, to think about this technique and the impact of its application or possibly even change it (or its application). Reflexively thinking people transform these thinking processes into reality and acting. Reflexivity supposes using metacognitive skills (thinking about thinking), creativity and critical approach. This applies not exclusively to thinking about oneself, but also about dealing with experience including thought, emotions and social connections. This requires from the individuals to reach such a level of social maturity that enables them to accept responsibility for various attitudes regardless of social pressure, their own judgements and actions. (OECD, 2005) It is obvious that responsibility, the moral appeal that permeates through the whole history of human community, is a very topical theme at the beginning of the 21st century even for a company as big as OECD. Thank God!

The summary of the key competences did not arise spontaneously. OECD documents state that many experts from all the member countries took part in the defining process. These experts were not only psychologists, but also economists and experts of other areas. The formulation of the key competences was carried out by answering questions such as: What skills does a person need and should develop to feel well within society? What competences are important in order to find a job and keep it? What do we need to endure in this era of fast change? The summary of the key competences does not take into account only a point of view of an individual. It was formulated also on the basis of the needs of society. Both individual goals and goals of society (and the respective competences) can be generalized in the following manner. Individual success can mean salary, health, safety, certainty, social activities engagement and social interconnection. Success of society can include economic productivity, democratic processes, social coherence, equality, human rights adherence. Both require competences of an individual (i.e. appropriate level of human capital). Competent institutions (social capital) and using individual competences to reach the common goal are also important. This is the ideal of not only every state, but of every organization (enterprise, company). The precondition of any development is people (members of society) who have the key competences available so that they can react to the surroundings that change, is not isolated and depends on countless other factors.

Since we have stated the significance of the connection of individual goals and society goals, it is obvious that the common key competences have to represent common values. If this is achieved, individuals can function on the basis of these values and thanks to the individuals the whole society does so as well.

Verification of the key competences level, especially the so-called soft skills, is quite complicated and there is no research providing solid data. This is not considered as devaluation. Some features of human personality are simply difficult to measure. We, however, believe that the importance of the above mentioned competences cannot be questioned and it is necessary to take these into consideration for any further theories and contemplations.

OECD continued in its research and at the end of the year 2013 it published a report based on testing of more than 150.000 adults from all over the world. Thie report describes not only the competences of citizens of the different countries that took part in the research, but also what competences are emphasized in different economic spheres. (OECD, 2013)

Within the context of this text we would like to further develop the consideration of the role the competences generally have in life. Competences can change life and support national economy. If we do not sufficiently invest into competences, it will lead to people languishing on the edge of society, technical advance not influencing economical growth and some countries not being able to compete in the society based more and more on knowledge. A person with a low level of competences has to face a high risk of being economically disadvantaged as well as a higher probability of losing their jobs and becoming dependent on social support. Simply put, competences are becoming global currency of economies of the 21st century. This "currency" can devaluate with time, be it because of changing demands of the labour market or because of competences not being useful and therefore lapsing. However, competences always have certain value and should therefore be developed throughout one's whole life. (OECD, 2012) The level of competences rises with the level of education, of course.

It seems the development is in accordance with the requirements of the so-called Bologna process. More and more young people will have a chance to improve their key competences during their university studies. However, as already mentioned, on the labour market there are more and more people who completed their studies without working on the key competences and it is therefore desirable to focus on these people as well. They are experienced; however, their level of necessary competences is low. Social capital can only be developed by developing human capital.

The concept of skills of the 21st century (21st-Century Skills) is based on the fact that the last major changes of the educational system took place at the end of the 19th century (related to industrial revolution). The differences between the 19th and the 21st centuries suggest themselves. Of course there have been changes in both the content and the form of studies, but it seems there is a strong need to change education fundamentally and take into account the needs of members of society, or the society as a whole. This would require not only adapting the educational process to the needs of the 21st century, but also a complete revision of the following dimensions (OECD, 2012):

- **Knowledge** – in this area there is an obvious lack of motivation and enthusiasm of students when it comes to the studying process. The reason is very often the clash, or inability to connect the theoretical with the practical. This connection is not only desired by the students, but also by employers. It is worth considering whether some rigidly recycled subjects still represent the value for the profiles of the graduates of the particular institutions, or for evaluation of human capital.
- **Competences** – the concept of 21st Century skills presents the "four Cs" – creativity, communication, critical thinking and cooperation. We believe it is possible to develop these regardless of the study program, field of interest, age, social status and so on.
- **Personality** (actions, attitudes, values) – value and meaning of the moral dimension of human life has never decreased or wavered. We only sometimes seem to forget about it. Personal characteristics such as the ability to adapt, endurance, justification of one's opinions, but also personal integrity, sympathy, respecting others. These qualities are a crucial precondition of functioning of human society on all its levels. Educational institutions are only one of the places where personality is being formed and where both desirable and undesirable personality features can be developed. The acculturation process of an individual is very complex.
- **Metalevel** – this level includes knowledge transmission, gaining and storing professional knowledge and experience, immanent requirement of creativity and complexity of perception. This is connected to a vast amount of questions – how to raise interest, how to support storing information and its usage, how to present the importance of these topics to the public?

The challenges of the modern society imply new approaches to leading human resources and utilizing their competences. One of the possible approaches is the concept of the so-called connatural management which is based on a complex perception of personality of every single individual.

Summary

A suitable tool connect soft skills and hard skills, or to describe the reached levels and directions the employees, managers and human resources in general should take, can be the tool of balance diagnostics, or competences balancing. This is based on balance diagnostics and it is a complex advisory method focused on helping people to build their careers accordingly to their talents. Experts try to help the client to optimally utilize their skills, talents, interests and motivation to realize their potential mainly within their professional lives. Both these methods, or approaches, are very similar. The basic difference lies in different understanding of competences as such: competences balancing emphasizes the importance of competences meaning specific professional knowledge and skills of the client; balance diagnostics focuses on competences meaning the client's individual characteristics, interpersonal tendencies and the ability to cope with demands of different environments. Balance diagnostics is therefore focused more on helping the client to get a good sense of their wide spectrum of individual talents in order to find their optimal job, whereas the competences balancing focuses more on educating the client in terms of using and presenting their professional competences (educational approach). Competences balancing is understood by some workplaces as a kind of education, because thanks to this method people can find answers to many "typical" questions: Who am I? What am I good at? What do I want? What do I need to do to reach my goals? The competences balancing method should allow the people who apply it to get a clear picture of their identity (through defining, or describing their current knowledge and skills, approaches, motivation, personality features and behavior). Based on the result of competences balancing which includes the

description of soft skills and subtle skills it is possible to plan further personal development or educational needs. The individual as such is always respected. Again, this is working with human resources, leading people naturally and ethically.

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The Impact of Globalization on Human Resource Management Practices

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Abstract

   Paper describes the main characteristics of globalization. Stated are stages of globalization, drivers of globalization and the impacts of globalization on individual human resource practice. Described are market changes, demographic changes, social changes. Analyzed are convergence and divergence tendencies resulting from globalization. Stated are suitable responses, how organizations have to react on impacts from globalization in field of human resource management.

Key words
Globalization, Human resource practices, Convergence, Globalization impact.

Introduction

   Globalization is having a tremendous influence on various aspects of business. The flow of information, knowledge and practices is accelerated. It means that , especially good practice, can be very fast implemented in other firm in various places of the world. It is generally accepted, that human resources are idiosyncratic source of competitive advantage. All other sources can be imitated. Multinational corporation (MNC) play significant role in many economies. Globalization and existence of MNC are contributing to transfer of human resource practices (HRMP) from mother countries to host countries. The question is if enterprises are still able to keep competitive advantage over their competitors, based on specific idiosyncratic human resource practices.Will globalization lead to universal adoption of human resource best practices? If answer is "yes", what it means for performance management? What shall do human resource department as the response on globalization impacts?
The aim of this paper is:
   - to specify characteristics of globalization,
   - to introduce the implications from globalization for human resource practices.

The state of art of globalization

   Globalization is the fact that is continuing independently if we consider it as a positive or negative. Also impact of globalization on HRM practices must be taken into consideration, if we want to reach and keep competitive position. Decision factor for reaching and keeping of competitive position are employees and implemented human resource practices. According to the convergence view of globalization, organization are structured similarly in form and perhaps have similar outcomes (Gulien 2001).

   Globalization is the process of denationalization of markets, politics and legal systems, i.e. the rise of the so-called global economy. Globalization refers to an extension beyond national borders of the same market forces that have operated for centuries.

   Globalization occurs when companies decide to take part in the emerging global economy and establish themselves in foreign markets. They will adapt their products or services to the customer's linguistic and cultural requirements. They take advantage of the Internet and establish an effective presence on the international marketplace with multilingual corporate web site or even as an e-business. Overall, globalization requires a combination of linguistic, engineering and marketing knowledge that is not easily available.

Drivers of globalization
Driving factors of globalization can be divided in four groups:
   1. Market drivers, has a convergence of per capita income and of life styles.
   2. Cost drivers, push for economies of scale, advances in transportation and lower labor costs.
   3. Competitive drivers, new competitor's intent on becoming global competitors.
   4. Government drivers, reduction on tariffs and other trade barriers, creating of trading blocks such as NAFTA.

Degree of globalization.

In this case is usually used the perspective as used by Gupta and Gdovirjan (2001), to fit multidimensional nature of globalization. The concept of corporate globality can be viewed as three-dimensional construct based on premise that an enterprise can be more or less global along each of three major characteristics as follows: globalization of market presence, globalization of supply chain, globalization of corporate mindset.

The role of human resource practices

The idea of human capital as a factor in a firm's financial performance has also gained the interest of researchers and is consistent with Barney's (1991) Resource-Based View of organization. When looking at organizations through a Resource-Based View (Barney, 1991), firms utilize their resources and capabilities to create a competitive advantage that ultimately results in superior value creation. Firm resources and skills are considered valuable when they aid the firm in formulating and implementing strategies that improve firm efficiency and/or the effectiveness. Barney and Wright (1998) argue that the firm's most important asset in the race to achieve competitive advantage is the firm's human resources. Barney's (1991) Resource- Based View of the firm provides an economic foundation for examining the role of human resources in firm competitive advantage. This view focuses on firm resources that can be sources of competitive advantage within the industry. Specifically, Barney (1991) suggests that the firm's structure; human capital including the skills, judgment, and intelligence of the firm's employees; and human resource management systems are sources of competitive advantage. Human resources can provide a source of sustainable competitive advantage for the firm only in the case if it is hard for other firm to replicate them. Using the resource - based theory of the firm, HR can be a source of competitive advantage when:

1. adds value to firm;
2. the skills of its employees are rare;
3. combined human investments are not easily substituted;
4. such investment are also not easily substituted(Barney,1991; Wright and McMahan,1992; Huselid 1995).

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In following capitols will be analyzed individual issues and challenges and corresponding measures which should be adopted in human resource management as the response to globalization´s impact

Market changes

Current markets is more complex and more competitive than they were before. To date we are facing the globalization process. Many organizations try to conquer foreign markets. National protections were abolished. Organization are facing global competition. exist a big needs for managers which are able to work in host countries in totally other condition than they are in domestic condition. This situation causes the resurgence of nationalism. This is the case especially in underdeveloped countries. Other trend in public sector is to implement some market mechanism into public sector based on the assumption, that public sector can achieve it utmost efficiency by running it like a business. Many service delivery areas were privatized, or commercialized carried out through the outsourcing. The result of this process is that many work position were eliminated in pursuit of economic efficiency.

Internationalization and the advent of new information and communications technologies are dominating current thinking on HR management. In this area better management is now characterized by improving access to information within and between organizations.

In this period is typical transition from restricted market to global market. The new demand is think globally and act locally. We used to deal with restricted and contented markets. Now we need to become accustomed to deal with new global perspective.

Job security in many countries was or will be abolished in the next future. Payment level in public sector is lower, also many OECD countries have the problem to attract high qualified persons.

Demographic changes

We face the trend of an aging of population. This will continue until 2040(Lipiec 2001), when 21,9 percent of the total population will be over 65. People aged 21 or younger will constitute only 20% of population. The population proportion is an important indicator, because the cost of welfare benefits for aging worker will grow, which affects the competitiveness of many companies. Younger worker change the employers very quickly, the payoff young workers is higher ,shortage of young worker will lead to aggressive recruitment.

Shortage of employees will led to employ more women and immigrants. In case of women it means for HR manager to balance their carrier with family duties. In case immigrants special programs should be created for cultural integration.

Social changes

The role of trade union is changing. The employee-employer relationship today is depending on mutual cooperation. The role of trade unions in the future will be weaker. Attitudes toward work have changed. People now want job in which will be guaranteed work life balance, quality of work life. The work should to be more autonomous, meaningful with possibilities of individual development.

Management changes

Main aspects that touch HR today are decentralization, IT development and flexibility. Decentralization means that decision will be made on the lower levels of organization. HR must react on this challenge. Implementing of IT has impact on all a departments of organization and will create new work positions. Telework will be extended. This is a chance for women , because they can work in house and fulfill family roles.

Strategic approach

HRM must be more strategic, than it is today. Human resource strategy and business strategy, must be interlinked. HR strategy should be a part of business strategy, must underpin the business strategy.

Organizational structures changing.

The rigid organizational hierarchy is replace by flexible organizational structures - business units and profits centers that change rapidly. We used to work in mechanical beurocratic, vertical and pyramid organizations. We need to become accustomed to working in organizations that grow and change as if they were alive. HRM must react on this trend by changing of work duties, new training programs in order to provide employee´s competences.

New competencies creation

In context of globalization, employees who will be poses as expatriates, must obtain new competencies regarding culture of country destination, language knowledge, technical skills, etc. New training and retraining programs should be offered.

External environment's changes.

We accustomed to work in stabile predictable environment. Today nothing is stable, all is changing. Maintaining the status quo is less important than a vision of future and organization's destiny. We need to become accustomed to work with uncertainty and ambiguity.

Increasing of part time work

Work carried out for one employer, is coming to end. Instead of full time work for one employer, employee can work simultaneously for more employer carried out for various activity, and at any place. The old concept of a job with a single schedule, and formal job description, dating back to industrial revolution and the main feature of industrial age, is being replaced by new concept of work that typifies the digital age. Part- time work, remote work ,and virtual work, constitute these new forms of human activities. From the HRM department it will requires new form of performance recording, personal presentation and contacting with a company.

Leadership and Human resource management

Old concept based on vertical linear hierarchy, with boos who is giving the orders and instruction to subordinates is continuously replaced by leader who motivates, who works with employees, who solves their problems, who is good communicator and visionary (Dobrovč, 2009).

New employee position and new relation employee-employer

The old concept is based on the assumption, that employees hold certain position according fixed schedules, an following internal rules and regulations. Performance evaluation is based on such indicator like absenteeism, punctuality, and personal discipline. This is continuously replaced by new criterion like goals and results, and especially the personal contribution to organizational objectives. Attitude to Work based on following rules and regulations, external control and standards, will be replaced by attitude to work which is goal oriented, and mission driven.

Now we are speaking about knowledge economy, or knowledge driven economy. This fact has the impact on relation between employee and employer. Employee is owner of knowledge. Implementation of knowledge is creating the intellectual capital. Also the employee is owner of intellectual capital. Employee is transformed into entrepreneur, also as the partner. In the past employee were considered as the passive agent of the company. Now employees are considered as the active and proactive agents of business thy manage together. Now they manage company´s resources. But a resource is thing. People are human beings with mind, talent, decision making. They can be no longer consider only as the objects.

Quality of working life and work life balance.

In recent years the Quality of Work Life (QWL) become an important tool in fight for best employees. Organizations are seeking the ways for increasing the QWL in order to retain their best employees and attract the best talented employees. Traditionally used transaction rewards are simply imitable and have lost their power, especially in knowledge-based economy. This is the main reason why many corporation try to find appropriate methods for increasing the QWL (Sojka, 2007).

Talent management

Talent management become one of the important challenges facing organizations in today´s globalizing environment. Global demand for talent is becoming increasingly competitive, because changing demographics, rapid growth economy like China, India and other similar countries. Some organizations have implemented talent management or as a minimum some components of talent managements. Many organizations in today´s crisis period are satisfied with a surplus of workforce and don't devote any effort to this problem. One of the main problems in this area is that it is a new area of HRM activities.

Companies are now competing on the basis of skills and talents of their employees and are discovering that by attracting and retaining the best employees company can achieve the higher than average profit and market share.

Summary

A company ´s effectiveness is based on its employees. This is what HRM is all about (Chiavenato, 2001). Economical environment is still changing HRM practices should be also continuously changed. But HRM professionals should take more active and proactive position. Main implication for next future is going out from globalization processes, new technology implementation, demography, shortage of high skilled employees, and guaranty of quality of working life and work life balance.

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Networking of Elements in Educational Environment with an Emphasis on Requirements of Practice

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Abstract

Cooperation of subjects, that make not only own but as well as joint activities in order to achieve a common objective, may be in the institutional sense designated by the term networking. The benefit of networking is not only cooperation, but also possible benefits resulting from it for all involved, including target groups of cooperative entities. Networking processes at universities lead to solution of many educational problems in the internal environment, but also to solution of problems arising from communication with external subjects, especially in order to satisfy their demands for graduates entering the labor market. Such networking facilitates communication and processes mainly in terms of operability, time, formalization and institutionalization.

Key words

networking, organizational unit, informal approach, practice

Introduction

In the institutional sense, the term networking refers to the cooperation of entities that make not only own, but as well as joint activities to achieve the objective. The result of such cooperation is the joint benefit and also with regard to reaching the target groups of cooperating entities. The concept of networking occurs both in management as well as in marketing and for cooperating entities under common bonds always mean follow-up, as well as maintaining long-term positive relationships with target groups, improving and maintaining a positive image and competitive advantage.

Networks and networking of elements in educational environment

Networks can be defined as associations of independent individuals or institutions that share a common interest or goal. The members of these networks contribute with specific resources to the functioning networks and participate in two-way communication and exchange of resources (Plucknett, Ozgediz 1990). Networks can also be seen as a set of work units strung together with one communication channel, pursuing a common goal, while its members are self-sustaining units (organizations, individuals, institutions). In the marketing sense is the creation of network an opportunity to break through the market at a low initial investment. Networking can be understood as a business model in which the creation of a network of cooperating entities is precondition for any success. Networking completes the image of communicating entities and has positive impact on relationships with their target audiences (Kotler, Keller 2012). Network from a regional perspective means the implementation of the same feature by members of the network in different regions, while the aspect of function is more important than the aspect of the locality (Kulcsar 2014). The problem of networking is also addressed in the context of local development (Papcunová, Gecíková 2012). In this context, networking is building of formal or informal networks, collecting and securing the exchange of relevant information within the network, that are interesting for the network as such or for its members, for its elements.

For academic field and its specific educational environment is networking characterized by cooperation of members of departments and departments between each other - network members often carry only certain same / similar activity within their organizational units (departments). Aspect of the function is accentuated over aspect of locality, i.e. Department.

Covering organization is the faculty composed of several departments. Its members are teachers, researchers and administrative staff. Individual department of the faculty mutually participate in the education of faculty study programs and try together with other organizational units deal with the quality of education and its problems; they itself undergo a process of self-assessment and evaluation (Taha Ali, Sirková 2013). Informal networking initiative is to participate in its network and its activities transferred to

the faculty level where they want to use for their educational activities for the benefit of students. Therefore, there are informal meetings between members of those units in the form of an informal platform to define their goals for a certain period. Their initiators may include representatives of departments, but for example the vice-dean for education. Faculty often solves problems with teaching accredited study programs, for example for objects organized by multiple organizational units - departments with regard to the marginal topics overlapping in individual subjects all departments. Clarification of responsibilities to themes ensures greater efficiency, eliminate duplication and allow greater scope unlearn planned materials. Since networks and networking as such has no direct support in the organizational structure of the institution (faculty) solution offers informal networking, divided into three phases, with emphasis on application of an institutional approach to networking application for the needs of the faculty.

Subjects, actors in the process of networking faculty structures

Besides differences in the initial conditions of the existence organizational units and their members in the environment of the Faculty, there exist excesses of conformity interests (Fedorko, 2013). Regardless of whether we operate in an environment of faculties or university, their interest must be in accordance with a concept, for example long-term development plan of the University / Faculty, i.e. a concept developed with the participation of academic actors. Most often is this participation achieved by developing a long-term plan, for example in the context of strategic planning.

Strategic planning can be seen as a tool for creating development strategy of organizationally structured academic environment, which sets out the main directions of development and objectives for a specific time horizon. It is a formal document that covers all areas critical to the implementation of changes to network operators in the term (e.g. horizon of introducing new programs and others) Planning in the short term is generally enclosed by meetings such as Approval boards the Scientific Council, Dean board, Department meeting that solve mentioned problems and approve changes. If the strategy document framework is document, the decisions of board may be presented by the Dean measures or accurate and detailed minutes, projects if necessary (Sirat, 2013), which usually contain time-critical elements of the strategic document, especially partially implemented during the period (Šutáková, Ferencová, 2013). On departmental as well as on faculty level are these documents, and maintaining of their content, key and binding.

For the processes of faculty structures networking it is possible to draw individual phases: 1. initiation, 2. planning, 3. realization.

If the concept of networking structures explains how the implementation of the different areas and forms of cooperation that take place at different times and at a certain level of expertise (resulting from different orientation departments) than the level of implementation of communication activities depends on many factors (Ferencová, 2013). Its framework usually consists and identifies some of the strategic document, which is institutionalized approval of the relevant board. Pulse to trigger a process is based on the external environment (from former students or employers' organizations), or internal environment (the initiator is teaching staff, academics, etc.). It can also be a social requirement. Initiation is advised based on a thorough analysis of study programs or teaching subjects (Adamišin, Huttmanová, 2010; Sepešiová, 2012; Birknerová, Frankovský, 2013).

Initiating actors in the planning are supposed to ensure that there was required number of entities in the process of networking involved. Except those who are directly affected by networking, it is necessary to watch the views of everyone who has expressed interest. The involvement of other actors depends on the conditions created by academic and institutional culture preferred. The best way is usually the direct involvement of when candidates can preparatory meetings to submit their proposals and lobby for it to make their ideas "embodied" in the objectives given to one of institutionalized documents. Unless there are suitable conditions, it is possible to organize separate activities for the purpose of generating further ideas networking faculty structures. It is important that there is a need for approval and further the objectives of networking, which cannot ignore the needs of the various stakeholders and their requirements. This is particularly true if the concrete process of networking is carried out for external funding (projects). Separate informal meetings can be beneficial for direct submission of proposals, respectively adopting measures which are directly related to planning (a planning phase) in the process of networking faculty structures. Generally, between different actors in the process of networking has come to accept an agreement that will copy key areas and priorities (Pasternáková, Sláviková, 2013; Lačný, 2013), and which often takes the form of networking plan processes. After planning phase, the realization phase starts.

In the realization phase the actors have different options for participation: from monitoring through the implementation of their own projects and partnerships cooperation to management of process. Monitoring involves following performance of scheduled tasks, may reveal deficiencies in time and enables the more efficient alignment. Implemented mostly by a one unit, but it can also carry other actors. Monitoring results are a valuable information base for launching new initiation process. Regarding the implementation of their own projects, the radical case means that the organizational entity as actors in the process of networking faculty structures manage to assert their interests. This means that its intentions are brought to monitored activities and tear out participants out of the comfort zone (Taha Ali, Tej, 2012; Šíra, 2013). Often actors promoting the interests fail to allocate the necessary resources, respectively nor there exist no need for funds. An important mission of networking as strategic process is the mobilization and efficient use of human resources in the context of partnership, cooperation and the use of actors whose relationships are informal in nature (classmates, colleagues, work on one program, research) (Tej, 2012).

In the outlined context enter the process of networking faculty structures several subjects, actors. **Recently is at the forefront of networking mostly cooperation with professionals from practice, not only in the context of ranking and rating agencies evaluation (eg. ARRA), but as well as in connection with the Ministry of Education philosophy of the upcoming period.** Establishing contacts with entities from practice, identifying their requirements to universities and their faculties, as well as graduates and seeking forms of cooperation in promoting the interests of involved is supported not only by internal but also by external environment of universities, faculties.

Results and Discussion

In identifying of practice subjects requirements for graduates of economic and managerial focus schools was to monitor, select, analyze and evaluate which managerial competences required by employers are crucial for recruitment into employment.

The survey was conducted in May 2014 on selected web portals (profesia.sk, topjobs.sk, praca.sk), while in the period there were selected and analyzed 35 ads on each of the web portals (total of 105 advertisements). Considering the large number of requirements about managerial skills formulated in selected advertisements on web portals, we selected for the purposes of this paper only those capabilities, which were required most frequently. Namely there were communication skills, responsibility, self-reliance, creativity, flexibility, teamwork, orientation on results and goals, customer orientation, stress resistance, organizational skills and a proactive approach (capabilities are listed as in advertisements). The survey results are shown in Table 1 and in Figures n. 1-4.

Table 1. Overview of the most common managerial skills required by employers in selected web portals

	web portals				
skills required	profesia.sk	topjobs.sk	praca.sk	total	% total
communication skills	30	35	41	106	33,13%
responsibility	19	3	7	29	9,06%
self-reliance	18	10	12	40	12,50%
creativity	7	15	0	22	6,88%
flexibility	15	15	8	38	11,88%
teamwork	10	11	7	28	8,75%
orientation on results, goals	8	0	0	8	2,50%
customer orientation	6	0	0	6	1,88%
stress resistance	8	9	0	17	5,31%
organizational skills	0	7	9	16	5,00%
proactive approach	0	7	3	10	3,13%
total	121	112	87	320	100,00%

Source: Own

Overview of the most common managerial skills required by employers for graduates of economic and managerial schools into employment from the point of ads published on the individual selected web portals are illustrated in Figure 1-3.
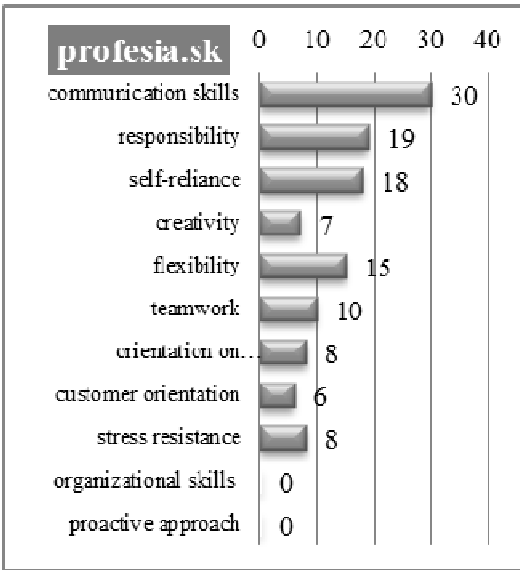
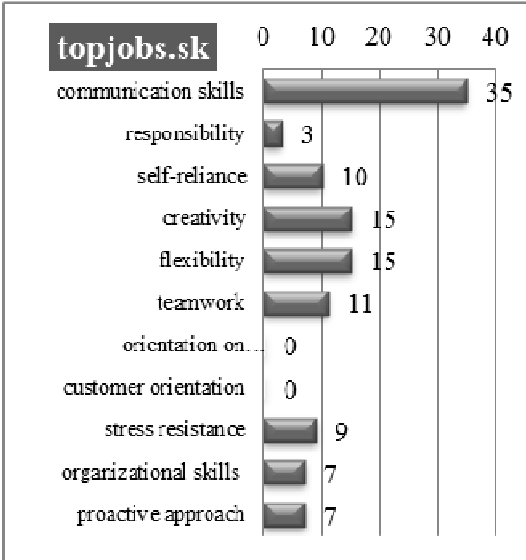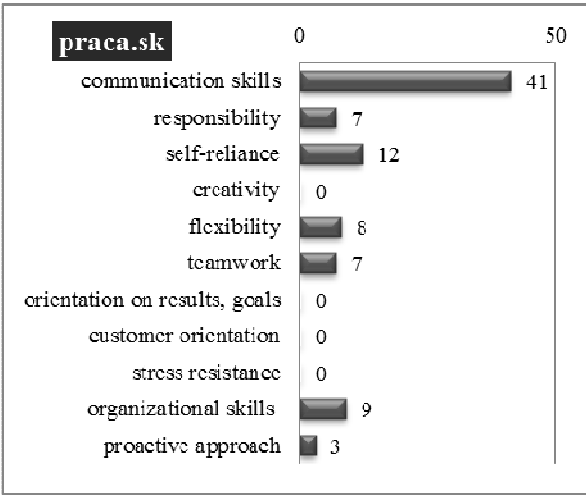Figure 1. Required skills

Figure 2 Required skills

Figure 3. Required skills

Source: Own

Overview of the most common managerial skills required by employers in percentage, formulated in all three selected portals is shown in Figure 4.

Figure 4. Overview of the most common managerial skills required by employers in selected web portals in% after rounding
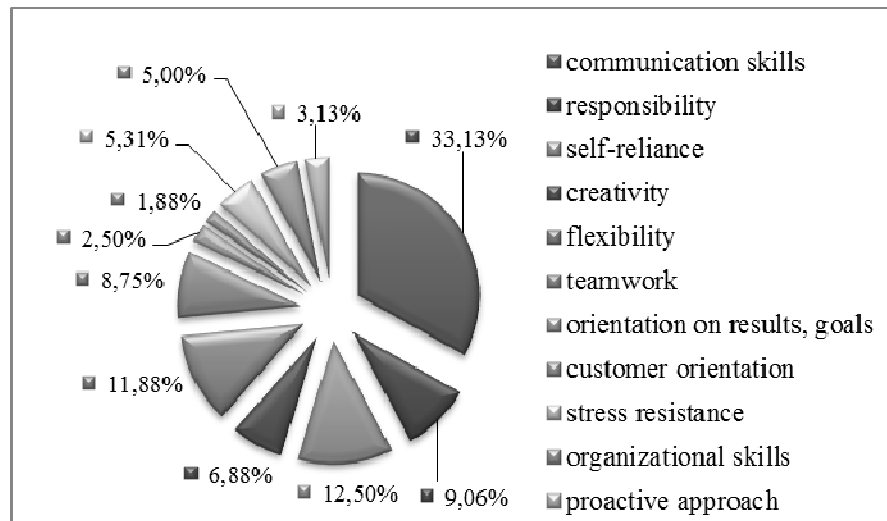
Source: Own

From the data in figure 4 we can see that the most frequently required managerial skill is communication (over 33%), the second place self-reliance (12.50%) and flexibility in third place (11.88%). Employers focus than to responsibility (9.06%), ability to work in a team (8.75%), creativity (6.88%), stress resistance (5.31%) and organizational skills (5.00 %). After them there are proactive approach (3.13%), results and goals orientation (2.50%) and customer orientation (1.88%).

Managerial skills required by practice can be, thanks to ads, identified and in educational process develop in sense of potential employers needs. To prepare graduates of universities for selected employment (copm. Ferencová, 2012). Networking of Faculty organizational structure can play and plays an important role. It brings incentives for creation of new fields of study, the content of subjects taught, innovation and encouraging the use of interactive teaching methods with new techniques and learning technologies based on feedback with aim to improve the selected capabilities of students. In a marketing sense, it is actually increasing of procesual pedagogical approaches and the intensification of encouraging the active participation of students in teaching (copm. Štefko, 2012, 2013), in terms of increasing the competitive advantage of the faculty and its graduates. Networking of faculty structures with regard to streamlining processes and communication with target also ensures prompt response to the practical requirements imposed on graduates and their direct impact on the labor market (copm. Want, Constantin, 2013).

Summary

The need for clear articulation of demands of networking entities and the resulting expected target raises the need for further cooperation in order to implement the tasks, which would not have enough capacity alone. In the case of common projects it raises the chance on allocating of resources (human, financial, etc.) for this purpose and the chances of obtaining benefits in the form of above standard, long-term, positive and mutually beneficial relationship. Networking of elements in the educational environment of universities and faculties with an emphasis on practical requirements becomes a unique possibility of involvement of actors involved in implementing changes. From monitoring the opportunities of networking initiation through implementation common projects, partnerships to management processes, it creates a network for making the possibility of progress at local and global level.

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LMS Moodle as a Communication Tool of the Teachers of Faculty of Management, University of Presov in Presov

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Abstract

In this paper, we describe some possibilities of using information and communication technology in the teaching process at the college. We present an e-learning system Moodle, which is the most widely used LMS system within the university environment in Slovakia. We also analyze the results of survey conducted among educators of Faculty of Management of University of Presov in Presov, which focused on the use of individual means of communication with a focus on LMS Moodle.

Key words

Information and Communication Technologies, education, e-learning, LMS Moodle

Introduction

The information and communication technologies significantly affect and change not only our lives but also the image of the whole society. They open for us new possibilities, dimensions and methods of seeking information, education, communication and work. Information and communication technologies (ICT) have become ubiquitous element and is no exception the sector of university and higher education. Today's students generally understood the computers, Internet, e-mail, social networks and technology as part of everyday life. ICT penetrate into the sphere of education slower than in other sectors, but in recent years the situation has changed. ICT are faster integrated in education and 21st century is a yet will be a witness of major changes in education, for which it is responsible the action of of ICT tools (Oliver, 2003, Zhao, 2011).

Information and communication technologies and the educational process

In the educational process at universities, the teachers present to students the information frequently by informative teaching. A new element, which is increasingly incorporated into the educational process is also a form of e-learning. Many schools use e-learning and teachers looking for a way to use it in the educational process as efficient as possible. There is retreated from conventional learning, which focuses on content, to education focused on competence and performance. The current time places the greater emphasis on skills, how the information is used, as opposed to examining this information (Oliver, 2003).

This is related to the transition from learning where the teacher is the center of attention (teacher - centered) to learning aimed at students. Therefore the teachers are moved from the role of "the content expert" to "the role of mentor". The learning has changed since just passive receiving knowledge to active constructivism and knowledge building (to design and creation of knowledge instead of acquiring knowledge). ICT also enable the social interaction and cooperation with other learners, which is fundamental to the principles of constructivism (Zhao, 2011).

The movement away from passive learning with one channel of receiving information (listening, watching and taking notes in a lecture) to interactivity and multiple channel of acquiring information helps to achieve better results in education (Zhao, 2011). The students have much more possibilities to obtain information or to learn the issue. A further impact of ICT on teaching is that learning does not have to bind to the physical environment and time. Education thus becomes more accessible to a larger group of persons.

E-learning as a method or form of teaching

According to Khan (2006), e-learning is understood as a new approach to teaching. This approach represents open, flexible and distributed learning. The educational process is carried out by means of electronic media, such as internet, intranet, interactive television and so on. This is a relatively flexible tool for education and learning, but is largely limited, so it is advisable to combine it with the traditional form of education. E-learning in comparison with the traditional method of teaching has the advantages as well as disadvantages that are listed in the following table.

Table 1. Comparison of e-learning and system of traditional education

Criterion	E-learning	Traditional education
Interactions	The authorization for student to use multimedia for development and use of presentations and to discuss their content through interactive discussions via the web.	It does not rely on interaction only between instructor and pupils, but also (not always) between the student and the book.
Expandability	Easily reachable.	Difficult reachable, requires more time and expenses.
Availability	Available at any time, at any place where is access to the internet, so chance for education is available worldwide.	Time and place is specified and so educational opportunities are limited to a certain area or region.
Responsibility for learning	It is a form of self-education when pupils learn according to their abilities and interests, according to a suitable speed and time.	It depends on the lecturers who are not available at any time.
Realization	It requires experience and knowledge of the lecturers.	Simpler realizable.

Source: Alraddadi, Almistarihi, (2013)

LMS Moodle - Teaching management system

Learning management systém (LMS) is a system for managing of teaching using web applications, where study materials are available on the servers via the Internet. Teacher contracts specific tasks to the preparation and evaluates them together with the students. The communication takes place between teacher and student but also among students each other. LMS should be able to integrate various online tools for communication and management of study, such as discussion forum and also to make available teaching materials according to plan of teaching or commands of teacher to students. "LMS is probably the most common virtual environment to support electronic forms of education that is based on the work of well-defined online courses" (Zounek - Sudický, 2012, p. 98).

The most widely used LMS system in the world is system Moodle (Modular Object-Oriented Dynamic Learning Environment). This is a software package designed to promote the presence and distance forms of learning through online courses available on the website. Among the characteristic features of Moodle include modules from which we can compile its content. LMS Moodle provides a very wide range of options in work with different types of study materials as well as in knowledge testing. The aim of the project Moodle is to deliver to educators the best tools to manage and promote learning, while the virtual environment allows other potential uses in education. The main advantage is the possibility of free propagation, which significantly reduces the costs of e-learning portals at the schools.

Methodology

The aim of this paper is to evaluate the use of individual communication tools of Faculty of Management of University of Presov in Presov with a focus on LMS Moodle. Primary data were obtained during the winter semester of the academic year 2013/2014 in the form of a questionnaire, that allowed quick and easy data collection. The questionnaire included 12 questions relating to the issue. The questionnaire was personally delivered to respondents through members of the research team.

The target group was represented by educators of Faculty of Management of University of Presov in Presov. There was approached the entire basic file consisting of 78 educators, while subject of this paper represents the analysis of delivered questionnaires in a number of 32 (reliability 95%, confidence interval 13.39 %). The obtained data were processed in an environment of MS Office Excel and Statistica 12. In the evaluation process, the standard mathematical and statistical relationships and numerical calculations were used.

Results and Discussion

Within the realized survey, the contribution focuses on the question 1, which identified the active use of selected communication tools of educators of Faculty of Management.

Question: Which means of communication do you actively use in your work and study?

Table 1. The structure of the responses - question No. 1 (1A)

	MAIS	E-mail	Bulletin boards – web	Bulletin boards	LMS Moodle	Dig. docum.	Web-sites	Social network
	(1A1)	(1A2)	(1A3)	(1A4)	(1A5)	(1A6)	(1A7)	(1A8)
often use	22	30	3	2	1	3	16	3
less fre-quently	4	2	2	5	3	10	11	3
rarely use	4	0	8	13	3	10	1	7
never use	2	0	19	12	25	9	4	19
Total	32	32	32	32	32	32	32	32

Source: Own research

The educators use in their work mainly e-mail, academic information system MAIS and the websites. The using of other means of communication is less. The educators use for at least LMS Moodle, which is a consequence of its absence at the Faculty of Management as well as at the University of Presov in Presov.

Figure 1. Average, the lower and upper quartile of the distribution of responses – question No. 1
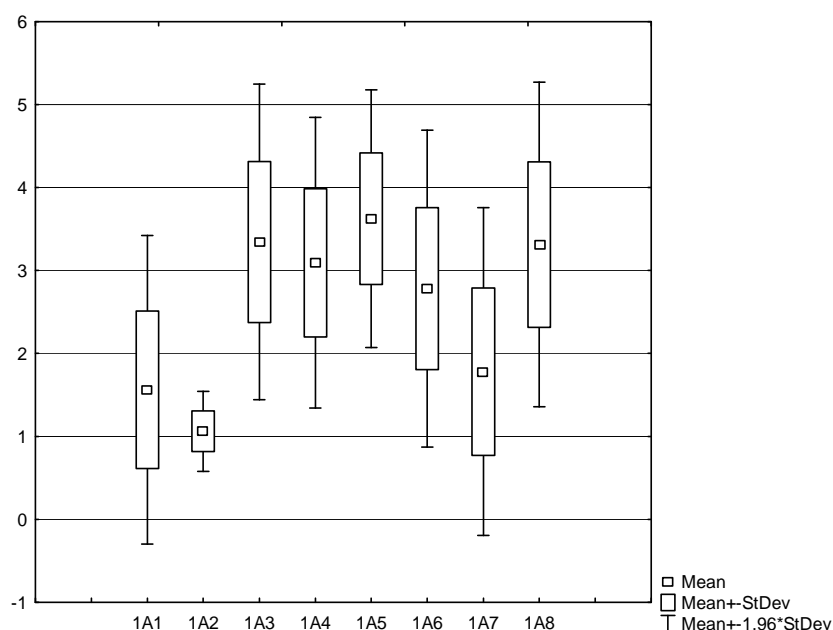
Source: Own research

Box plot describes the average values of preferences of individual communication tools, where the averages for unused communication tools are higher, with respect to the used methodology (1 – often use, 2 - less frequently use, 3 - rarely use, 4 – never use). This is documented by comparison of the email (like most frequently used communication tool - 1A2) and web bulletin boards (1A3), as a tool that frequency distribution of the responses was one of the more evenly.

Figure 2. The structure of responses by departments – question No. 1
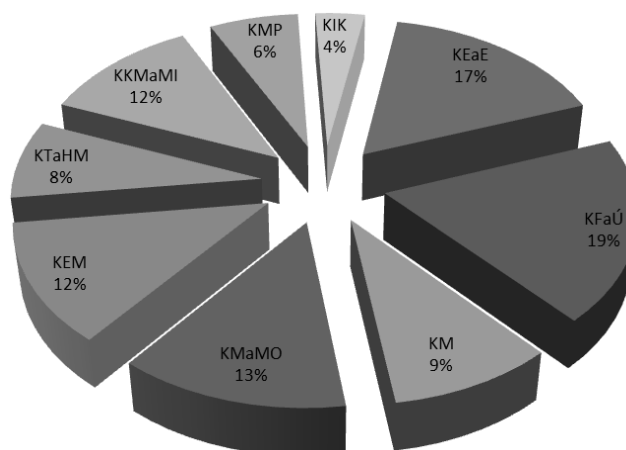
Source: Own research

The use of individual communication tools by individual departments is shown in Figure 2, which captures the positive answer to the first question. From the 10 departments that operate within the Faculty of Management, Department of Finance and Accounting and Department of Economic Sciences and Economy the most use the communication tools. On the contrary, the communication tools are the least monitored and used by the Department of Intercultural Communication respectively Department of Managerial Psychology. Department of Law was not represented by any educator in this survey.

All three most used communication tools (MAIS, e-mail, websites) are less used by the subject guarantor like educators, who guaranteed no subject during the winter semester of the academic year 2013/2014.

Summary
There is already a number of supporting multimedia tools for use in education. The creation and implementation of modules into LMS Moodle environment represents the ability to implement fully interactive virtual learning environment. Its most important feature is the ability to manage teaching such from the student perspective as well as from the perspective of the teacher.

Based on the survey, which was conducted among the educators of Faculty of Management of University of Presov in Presov during the winter semester of the academic year 2013/2014, we can conclude the use mainly of time verified and the best available communication tools - MAIS, e-mail and websites.

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3. Marketing and Innovations

Facebook Content Analysis of Furniture Stores Operating on Slovak Market

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Abstract

The purpose of this article is to describe the specific aspects of social networking sites as a tool of marketing communication in furniture retail stores enviroment. Regarding evaluation of the direction of the given topic, the article summarises the theoretical outcomes of a social networking site Facebook. It describes the current state of using Facebook as a tool of communication based on the performed analyses, with its attention being focused on the Facebook pages of the largest furniture stores operating in Slovakia. Another aim of the article is to evaluate the options that this topic offers to the marketers and also point out possible issues.

Key words
social media, social networks, furniture stores, social engagement, Facebook

Introduction

Last few years, social networks have been in a significant way indicating trends in communication and online marketing almost worldwide. This system which is with the use of technologies and human thinking continously 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 such as Facebook which became a global communication platform form a part of the modern social media. These days are characterised by the fast development of technologies and communication tools, which means new issues arising in marketing field as the reaction to the changes in the ways of communication or activities done during the free time of the target groups in relation to the new communication channels.

Though social media is still a rather recent phenomenon, an increasing body of marketing research has already focused on this subject. But even if there is an evergrowing number of books, articles and studies, disagreement still exists regarding the definition and use of the term (Kaplan - Haenlein 2010; Scott - Jacka 2011). What is accepted by the majority in research, though, is the fact that social media enables, facilitates and supports the communication and interaction between users and the creation and exchange of user generated content. At the core of social media is a shift from the traditional broadcast mechanism to a many-to-many conversational model: Content is no longer (exclusively) created and published by organizations, but is instead continuously created, modified and disseminated by all kinds of users in a participatory and collaborative fashion (Weinberg 2009; Kaplan - Haenlein 2010).

Social networking sites like Facebook 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 (Van Dijk, 2006). Another point of view related to the topic of social networks has Blanchard (2011), he states that social networking sites represent a communication tool such as a phone or email, which serves to fulfil the essential corporate functions including public relations, marketing, management, customer service and market research. Social networking sites as a part of social media generally represent services based on websites that enable individuals to create public or semi-public profile within a closed system, create a list of other users with whom they are connected, see and explore connections that were created by other users within the system. The character and distribution of these connections may vary from website to website (Boyd - Ellison 2007).

According to Pring (2012), there are now over 2.8 billion social media profiles, representing around half of all internet users worldwide. Online SNS present themselves as a platform for such profiles. Not only can people present themselves, but can present their social network as well. Since 2004, when Facebook, currently the most popular SNS, came into being, there has been a lot of research on how people form friendships and interact over it, e.g. Dekker (2007), Lewis et al. (2008).

The magnitude of the data present in the online SNS is enormous, and presents itself as a rich source of social information for analysis. According to studies, most of the online social networks act as a representation of the offline, or real social networks (Boyd - Ellison 2007; Ellison et al. 2007). So it could be assumed as an approximation or a proxy of a real world social network. Not only does an SNS capture

the social network, but also the activity between users. Mainly due to privacy concerns and also due to its vast commercial value, this data even by the research community is quite difficult to acquire. So we are left with either a snapshot with limited information, or an activity log without any social network. A huge data set of longitudinal nature of Facebook has been collected, but is available with a limited access (Lewis et al. 2008). The aim of this paper is to reconstruct the development of the social network with the help of an agent-based methodology, so that a possible history of the social network and an understanding of it could be developed.

Amongst users, social media are widely regarded as an opportunity for self-presentation and interaction with other participants around the globe. Due to the wide circulation and growing popularity of social media sites, even for-profit organizations, such as companies, and non-profit organizations have gained interest in presenting themselves and reaching potential customers. A presence on Facebook is nearly taken for granted. These values offers companies 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 (Krombholz et al. 2012; Dunda 2011).

Methodology

Our article analyzes the Facebook pages of furniture retail stores operating in Slovakia. Facebook is a popular free social networking website that allows registered users to create profiles, upload photos and video, send messages and keep in touch with friends, family and colleagues. Within each member's personal profile, there are several key networking components. The most popular is arguably the Wall, which is essentially a virtual bulletin board. Messages left on a member's Wall can be text, video or photos. Another popular component is the virtual Photo Album. Facebook offers a range of privacy options to its members. A member can make all his communications visible to everyone, he can block specific connections or he can keep all his communications private. A Facebook page is a public profile specifically created for businesses, brands, celebrities, causes, and other organizations. Unlike personal profiles, pages do not gain "friends," but "fans" - which are people who choose to "like" a page. Pages can change their position and influence through other forms of commercial promotion or strengthen post's visibility to the relevant audience. This fact makes Facebook a very powerful marketing tool. High number of active users, willingness to share personal data and the possibility of targeted marketing campaigns based on demographic and social preferences are the factors that make Facebook a popular tool for the implementation of marketing strategies.

Our study analyzes the Facebook pages of furniture companies operating in Slovakia, with more than 1,000 likes, while in the month of July 2014 recorded at least 10 posts. Selected sample consisted of the following companies: IKEA Bratislava, ASKO nábytok, Decodom, KIKA nábytok. We verified all four furniture companies by finding a link on their home websites. The next step in the analysis was the identification of entities on Facebook for subsequent data collection. This step was implemented through various stages during July 2014. We used automatic data collection using a script in the programming language PHP 5.4.25, MySQL 5.5.36 database and Apache Web Server 2.4.7. We have created five individual scripts adaptable to Facebook's source code. Their task was to identify and subsequently record different database variables within the source code of the selected sections that summarized companies posts.

Table 1. An overview of the analyzed Facebook pages

Facebook Name	Fans	Local Fans	Fan Growth
IKEABratislava	27829	26536	1213 (4,56%)
ASKO Nábytok SK	20330	18372	1218 (6,37%)
Decodom	10843	10420	632 (6,19%)
KIKA Nábytok	5369	4492	20 (0,37%)
Total	**64371**	**59820**	**3083**

Results

Facebook Fans in Graph 1 means the total number Fans on the last day of a selected time range. As we could see at the detailed statistics of furniture companies most fans on Facebook have IKEA, next is ASKO with about twice as many fans as the Slovak furniture manufacturer Decodom. Highest growth of

the fans for the month of July recorded ASKO with an overall increase of 6,37%. The following company is Decodom with an increase of 632 fans what representing 6,19%. On the third place was places IKEA with an increase of 4,56%. KIKA had a minimal increase in the number of fans.

Graph 1. An overview of the Facebook Fans
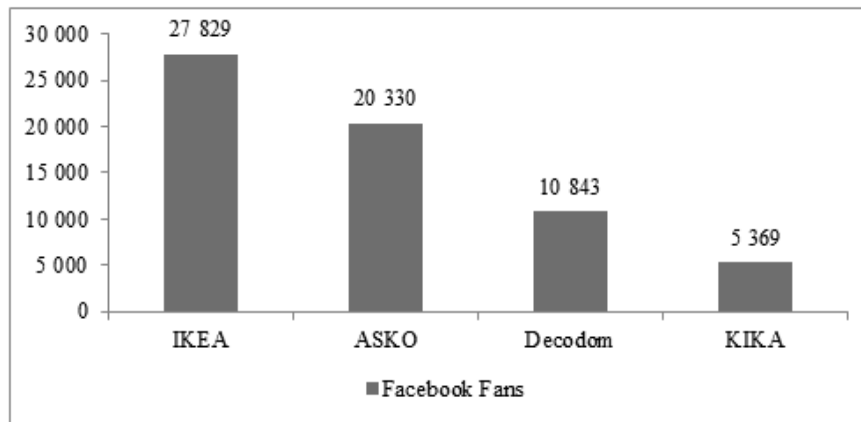
The posts metrics (Table 2) shows the number of posts made by the page's administrators each day during a selected time range. Total Interactions shows the total number of interactions (Likes, comments and shares) during a selected time range. Engagement rate is the percentage of people who saw a post that liked, shared, clicked or commented on it.

Table 2. An overview of the analyzed Facebook pages

Name	Posts	Interactions	Likes	Comments	Shares	Average engagement rate in %
IKEA	16	1429	1308	80	41	0,328248
ASKO	23	429	414	5	10	0,095363
Decodom	19	628	579	8	41	0,318189
KIKA	26	229	219	7	3	0,162740

From the results we can see that although the ASKO had the highest increase of fans and has the second highest number of posts, the engagement rate is the lowest, which means that posts are unattractive for fans. Highest engagement rate recorded IKEA, which published 16 posts with average engagement rate of 0.328248%. Followed by Decodom with 19 contributions and 0.318189% engagement rate. Kika published in the followed period most contributions with 0.162740% engagement rate, which is an interesting fact in relation to its lowest increase in fans.

Graph 2. Average engagement rate in %
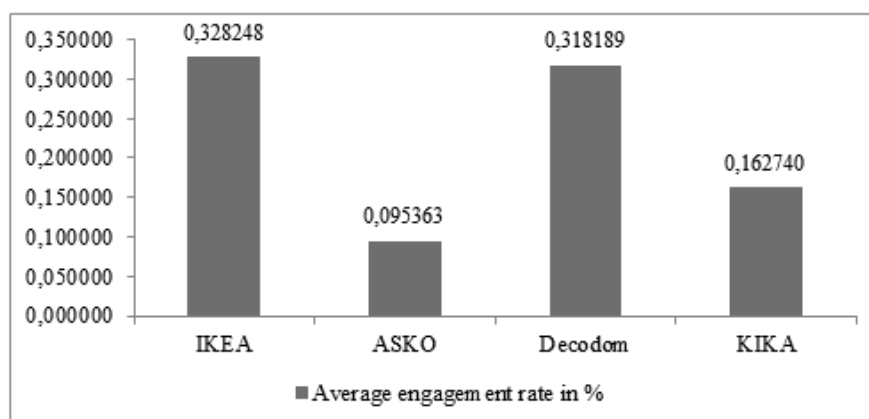
Summary

Generally, it applies that through the profiles and pages on social networking sites as Facebook in order to build relationships with customers is possible to get and create a community of fans of the given brand. Page or profile of the brand in turn creates a space which enables users to effectively and immediately communicate all relevant activities. Therefore, it is possible apply a system of functioning social networks within the customer support on the model of public management, where the target group is not formed by potential and existing clients but the population of the region itself.

The results of our research show that the frequency of publication of posts does not guarantee an fan growth on Facebook page. According to the results of our analysis, on fan growth also affects neither low enagement rate of the posts. Our further research on this topic will lead to analysis of individual posts and their impact on engagement rate and fan growth.

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Determinants of Innovative Activities of Polish SMEs

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Abstract

  This paper is aimed at evaluating standards of innovation of Polish small and medium-sized enterprise and at identifying factors determining growth of innovativeness. The paper consists of a literature review and an empirical part. To begin with, definitions and concepts associated with enterprise innovation are reviewed and a classification of factors determining growth of enterprise innovativeness is presented. The empirical section introduces results of surveys during which entrepreneurs indicated factors fostering innovativeness as well as difficulties with realisation of investment decisions. These results confirm poor levels of innovativeness among Polish SMEs and help to identify factors restricting implementation of innovations in the enterprise sector under analysis.

Key words
Polish SMEs, innovations, determinants of innovation, investments.

Introduction

  Innovation is a key element determining economic policies. Together with competitiveness and entrepreneurship, it builds a set of factors driving economic and social development and ultimately conditioning growth of states and enterprises.

  Innovation should be treated as a continuous process. Progress is ongoing, dependent on the rate of assimilation of new technological ideas. A single improvement will not bring effects for ever. Further innovations and new changes are needed to keep up to date and not diminish one's market share.

  Economic transformations and the process of globalisation force enterprises to explore new trends in the theory and practice of management and to introduce changes. In the circumstances, sticking to traditional management methods may jeopardise market standing of an enterprise. Its competitiveness, strategic advantages and profits are but partly dependent on skilful and responsible day-to-day management. Innovative and development activities are essential as well. Financing of innovative activities can assure long-term growth.

  The goal of the paper is to assess innovation standards of Polish small and medium-sized enterprises and identify factors determining improvement of these standards.

  Innovativeness is pushed by continuing developments of engineering and technology which provide for and stimulate emergence of new solutions. This in turn translates into new products or services and opportunities for diversification. Innovative activities of enterprises are responses to these changes.

  A review of specialist literature and empirical research by the Ministry of Economy, Department of Market Forecasting and Analysis and by *Agencja Rozwoju Innowacji* (Innovation Development Agency) have been taken advantage of to attain this objective, as well as statistics from the National Office for Statistics GUS and a report by the Polish Confederation of Private Employers *Lewiatan*.

Nature of innovation

  Innovation is a common term in press articles and book publications, in the mouths of politicians and entrepreneurs. Literature concerning innovation is produced by authors of diverse approaches and professional backgrounds who come up with plenty of definitions. It is universally believed to determine development of enterprises and whole states in their socio-economic dimension.

  The word 'innovation' comes from the Latin '*innovare'*, which denotes creation of something new. Experts debate the question how new and original something has to be to be considered an innovation. Establishing for whom this 'thing' must be new to qualify as innovation.

  Schumpeter, who sees innovation in terms of transferring an invention into material realities, is regarded as the pioneer of this discipline. It means practical application of new ideas, specific usage of discoveries or inventions which stem from creative thinking. Schumpeter offers a very broad view of

innovation without restricting it to merely technical solutions, and claims innovation encompasses economic undertakings, e.g. acquisition of a new market or application of a new raw material, is apparent in areas of organisation, management, marketing, interpersonal relations. In parallel, discoveries or innovations are not only products in themselves but also procedures or patterns of behaviour provided they are novel, that is, have never been known to or employed by any enterprise in a given sector (Skawińska, Zalewski, 2009, pp. 9-10). Schumpeter introduced the notion of innovation to the economic literature.

He understood innovation as (Schumpeter, 1939, p.84):
- introduction of new or improvement of existing products,
- introduction of a new or improvement of an existing production process,
- application of a new method of selling or buying,
- opening of a new market,
- application of new raw materials or intermediate products,
- introduction of a new organisation to manufacturing.

In turn, Drucker defines innovation from the perspective of changes. Change is the foundation of innovation as it leads to creation of new products or services. As these products are new without copying available solutions but introducing something novel, distinctive, they display characteristics of innovativeness. By taking advantage of change, innovation changes productivity of resources, value of and consumer satisfaction with administration of resources (Drucker, 2004, p.29).

Innovation also denotes introduction of a new or markedly improved solution to process or product (commodities or services) practices of an enterprise by launching the solution in the market, or application of a new or improved marketing or organisation solution to operations of an enterprise (Dworecka, 2011, p.10).

These definitions imply innovation may be seen as an instrument or process of creating or using new ideas. Besides, innovation may also be regarded as a certain organisational capability. This approach concentrates on innovativeness or innovative abilities. It can be said, therefore, that innovativeness is an ability or tendency of an enterprise to create and introduce, and thus to realise new or improved products, processes, methods of marketing, organisation and management.

Some authors broaden the concept of innovativeness to include not only use of an invention in business operations but also a series of earlier actions, such as: the very act of invention, design, implementation and manufacturing methods of an innovation. Other specialists treat innovation as an idea which is new and different to previous ideas, or as a pre-existing idea which begins to be perceived as an innovation and utilised by a given enterprise in certain circumstances. These are minor, insignificant shifts to some and great, breakthrough inventions for others.

Conditions of innovative activities of enterprises

Specialist literature proposes two types of classifications of innovation determinants, based on different criteria (Janasz, Kozioł, 2007, p.8):
- division into external and internal determinants
- division into materialised and non-materialised determinants.

Internal (endogenous) factors are situated inside an enterprise and related to its tangible and intangible resources. Views differ, however, concerning detailed composition of internal determinants of innovativeness (Bozic, Radas, 2009, pp. 438-450). Beside those listed below, they include, for instance, innovation strategy of a firm, planning for innovation, leadership skills of management, degree of involvement of marketing actions in planning of innovative activities. These factors are not taken into account by specialists from economic backgrounds.

Internal innovation factors are divided into those which:
- directly affect innovation – referred to as innovation resources,
- indirect influences which condition innovation activities by enterprises.

Classification of these factors is summarised in Table 1.

Table 1. Internal factors of enterprise innovation

Direct factors	Indirect factors
• Accumulated human capital resources • Accumulated knowledge resources, measured as spending on research and staffing with research personnel • Materialised knowledge resources in the form of plant and equipment purchased and buildings • Non-materialised knowledge resources in the form of licences and patents acquired • External knowledge resources assimilated as positive knowledge externalities from the environment and via cooperation with external organisations • Commercial resources • Organisational resources	• Financial resources of an enterprise • Debt of an enterprise • Size of an enterprise

Source: the authors' own compilation based on: (A. Wziątek-Kubiak, E. Balcerowicz, *Determinanty innowacyjności firm w kontekście poziomu wykształcenia pracowników*, PARP, Warszawa 2009, pp.18-19)

Internal determinants of innovation accompany the process of developing and implementing innovation in manufacturing and placement of a new product in the market (marketing measures). They are also associated with organisational changes in an enterprise, namely, development and innovation of organisational innovations. This means that initiating innovation processes creates conditions for developing and implementing of successive forms of innovation, for example, marketing or organisational innovations. It is suggested that effectiveness of technical innovation depends on an enterprise's ability to introduce diverse types of innovation, adapted to those already introduced. Faster rate of implementing various innovations of a business furthers competitiveness of an enterprise.

In turn, external determinants of innovation come from national and international environment of an enterprise and its resources. These determinants are therefore defined by an environment in which an enterprise operates, including (Wziątek-Kubiak, Balcerowicz, 2009, p.19):
- broadly defined institutional conditions (thus, not only entities but also rules determined by the existing legislation and inherited principles of operation), including policies of states and local authorities;
- actions of other entities (including foreign suppliers and joint ventures) in the same geographical area and sector as an enterprise;
- cooperation with market players – enterprises, research institutions, state and private, local and central institutions, etc.;
- behaviour of consumers and other market players.

Innovation potential of other players in the same market with which an enterprise is linked (e.g. as part of product lifecycle) also affects innovation activities of an enterprise. Market structure, that is, shares of particular enterprises, plays a major role as well. It affects the nature of market competition by means of pricing and other factors (product diversification) and thus the choice of a type (product, process) and strategy of innovation. Therefore, innovativeness of an enterprise is determined by development level of an economy in which the enterprise functions and with whose entities it cooperates, opening of an enterprise to global economic influences, as well as involvement in international trade and manufacturing.

Innovation determinants are also divided according to the criterion of their materialisation. Non-material determinants are known as knowledge or intellectual resources (Table 2)

Table 2. Determinants of innovation according to the criterion of materialisation

Materialised factors of innovation	Non-materialised factors of innovation
• Machinery and equipment used in the production process • Materials and intermediate products • Telecommunications and IT infrastructure	• Patents, licence • Databases • Research • Human capital • Commercial resources reflecting perception of a firm • All organisational processes integrating units engaged in innovative activities and other parts of an enterprise

Source: the authors' own compilation based on: (A. Wziątek-Kubiak, E. Balcerowicz, *Determinanty innowacyjności firm w kontekście poziomu wykształcenia pracowników*, PARP, Warszawa 2009, pp. 20-21.)

These classifications of innovation process conditioning do not exhaust all possible solutions yet present a broad view of those determinants. Factors may be divided into external and internal, yet they jointly influence innovativeness of a business. Internal innovation potential of a firm cannot be isolated as it depends on the immediate and more extensive environment. An enterprise is unable to affect its macro-environment, however. These conditions must therefore be monitored, changes in the economy should be adapted to or anticipated.

Innovativeness of Polish SMEs - an empirical view

The varied range of definitions of innovation and factors determining innovativeness of enterprises have already been addressed. Methodological approaches to assessments of enterprise innovativeness vary as well.

Oslo Manual recommends the share of sales revenue from new or markedly improved products launched during the last three years in total revenue as a measure of innovation effects.

The figures in Table 3 indicate that the share of sales of new or markedly improved products fluctuated in 2010-2012, though it was low and never more than 11.3% throughout the period of analysis.

Table 3. Share of sales revenue from new or markedly improved products in total revenue (%)

Item	2010	2011	2012
Total	11.3	8.9	9.2
New to the market	7.1	5.2	3.8
New to the enterprise only	4.3	3.7	5.4

Source: the authors' own compilation based on the raport: (*Działalność innowacyjna przedsiębiorstw w latach 2006-2009, GUS*, Warszawa 2010, p. 15*; Działalność innowacyjna przedsiębiorstw w latach 2009-2011*, GUS, Warszawa 2012, p.49; *Działalność innowacyjna przedsiębiorstw w latach 2010-2012*, GUS, Warszawa 2013, p. 61)

Sales revenue of products new to the market prevailed in the revenue structure in 2010 whereas, regrettably, sales revenue of products new to the enterprise only, not to the market as a whole, constituted more than 60% of sales in 2012, which adversely affects innovativeness of Polish enterprises (Table 4)

Table 4. Structure of sales revenue from new or markedly improved products of enterprises in 2009-2012

Item	2010	2011	2012
Total	100.0	100.0	100.0
Products new to the market	62.5	58.4	41.4
Products new to the enterprise only	37.5	41.6	58.6

Source: the authors' own compilation based on the raport: (*Działalność innowacyjna przedsiębiorstw w latach 2006-2009,* GUS, Warszawa 2010, p. 16; *Działalność innowacyjna przedsiębiorstw w latach 2009-2011*, GUS, Warszawa 2012, p.51; *Działalność innowacyjna przedsiębiorstw w latach 2010-2012*, GUS, Warszawa 2013, p.63)

The survey conducted by the Ministry of Economy, Department of Market Forecasting and Analysis in 2013[1] implies the tendency towards innovation rises in line with a company size. Most pro-innovative firms are in the group of medium-sized enterprises and the fewest among micro-entrepreneurs. Analysis of figures in Table 5 indicates that product investments prevailed in all enterprise groupings in 2010 and 2013; except for 2011, most enterprises (13%) invested in other than technological innovations. These data also point to a relatively low percentage of those investing in innovations. It ranged from 10% in 2010 to 18% in 2013 in the class of micro-entrepreneurs. Among the medium-sized enterprises, the same proportion was minimum (13%) in 2011 and maximum in 2013 (24%).

As far as the grouping of medium-sized enterprises is concerned, fewer, 10%, invested in 2011, and most (31%) in 2013. A clear rise in innovative investments can also be observed between 2010 and 2013, reaching as much as 80% (product investments) among micro-enterprises, more than 100% compared to 2011 among small enterprises and by nearly 100% in the group of medium-sized enterprises - when 2010 and 2013 are compared.

Table 3. Innovativeness of Polish SMEs according to company size in 2010-2013

Size of enterprise	Type of innovation	Percentage of enterprises investing in the particular types of innovations			
		2013	2012	2011	2010
Micro	Other than technological	4	2	4	3
	process	3	10	2	3
	product	18	17	10	10
Small	Other than technological	10	10	1	8
	process	9	9	4	2
	product	24	23	11	15
Medium-sized	Other than technological	17	17	13	7
	process	21	21	22	14
	product	31	32	10	16

Source: the authors' own compilation based on reports (*Trendy rozwojowe sektora MSP w ocenie przedsiębiorców w drugiej połowie 2012 roku*, MG DPiA, nr 1/2013, Warszawa 2013, *Trendy rozwojowe sektora MSP w ocenie przedsiębiorców w drugiej połowie 2012 roku*, MG DPiA, nr 1/2012, Warszawa 2012, *Trendy rozwojowe sektora MSP w ocenie przedsiębiorców w drugiej połowie 2010 roku*, MG DPiA, nr 1/2011, Warszawa 2011, *Trendy rozwojowe sektora MSP w ocenie przedsiębiorców w pierwszej połowie 2013 roku*, MG DPiA, nr 1/2013, Warszawa 2011)

In January 2013, *Agencja Rozwoju Innowacji* (Innovation Development Agency) conducted a survey[2] where Polish entrepreneurs specified factors that would be of assistance with realising more

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[1] The survey has been conducted by the Ministry of Economy on a regular basis since 1998. It is a questionnaire survey. The survey sample consisted of 6000 SMEs selected by their statistical REGON identifiers.

[2] The survey was carried out in January 2013 in a sample of 613 micro, small and medium-sized enterprises. The query used CAWI (Computer-Aided Web Interview) method. A quota sample was applied to te survey.

investment processes. The most respondents, 42%, pointed to financial support with EU funding, thereby highlighting the issue of investment financing to be discussed in more depth below. Tax reliefs or exemptions were ranked second, followed by another financial question, namely, preferential loans and credits. The research also demonstrated that factors such as information campaigns, creation of business parks or accelerated depreciation of fixed assets were of little significance. The results are presented in Table 4.

Table 4. Type of assistance key to investment implementation in the opinion of entrepreneurs

Item	Percentage of entrepreneurs
Financial subsidies, e.g. by the EU	42
Tax reliefs or exemptions	18
Preferential credit/ loan	14
Guarantees of bank credit repayment	5
Advice supporting innovation activities	4
Preferential and information pro-innovation activities	3
Creation of special business parks	1
Accelerated depreciation of fixed assets	1

Source: the authors' own compilation based on: (*Finansowanie MSP w Polsce w 2012 roku*, Agencja Rozwoju Innowacji, Warszawa, 2013)

Polish SME entrepreneurs also defined a group of factors which would, in their view, improve their innovativeness. The most, i.e. more than 65%, respondents claimed higher demand in the Polish market would contribute to improved innovativeness of their enterprises. Polish entrepreneurs have for years complained against poor demand for innovative products and services. Simplification of procedures of application for EU funding and, more generally, simplified access to EU funds, was ranked second. Knowledge about innovative solutions introduced in a sector and about results of Polish research centres were of importance as well. The results are provided in Table 5.

Table 5. Factors improving innovativeness of Polish SMEs, according to entrepreneurs' opinions, in 2011

Factors improving innovativeness of Polish SMEs	Percentage of entrepreneurs
Knowledge about research undertaken by centres in Poland	21.8
Knowledge about innovative solutions introduced by competitors in a sector	40.4
Access to preferential innovation crediting	42.8
Simplified access to EU funding in the EU	47.7
Competition of other, more competitive businesses	50.0
Simplified access to EU funding in Poland	56.7
Demand in the Polish market	65.4

Source: the authors' own compilation based on the report: (*Monitoring kondycji sektora,* PKPP Lewiatan, 2011)

The entrepreneurs also determined obstacles that in their view impede or restrict implementation of innovation. The results in Table 6 reaffirm those in Table 5 by showing that the difficulty finding capital required to pursue costly innovation processes is the principal barrier to implementation of innovation. As many as almost 80% of the entrepreneurs queried indicated complicated procedures of awarding financing (including EU funding and bank crediting). The issue of required collateral and the complicated procedures applied by banks in connection with enterprise crediting in Poland is also emphasised by A Sołoma [Sołoma, 2013].

In addition, 30% of SME entrepreneurs found the risk of project realisation high. More than ¼ believed the risk of implementing innovations in Poland is high, chiefly due to low purchasing power and the resultant low demand for innovative products and services. The entrepreneurs found the capital market in Poland is poorly developed, particularly with regard to requirements of small and medium-sized entrepreneurs. They also criticised scant numbers of institutions financing innovative undertakings and unavailability of business partners. The strategy of intense competition rather than cooperation is peculiar to Polish SMEs and may be a cause of problems finding business partners. The results are summarised in Table 7.

Table 7. Difficulties with implementing innovation

Item	Percentage of entrepreneurs
Complicated procedures of finance awarding	79
Unclear criteria of awarding applications	51
High risk of project failure	30
High costs of implementing innovation	26
Many firms competing for financing	23
Few institutions financing innovations	23
Lack of business partners	16
Other	2

Source: the authors' own compilation based on report: (*Finansowanie MSP w Polsce w 2012 roku*, Agencja Rozwoju Innowacji, Warszawa, 2013)

The fact that the financial barrier is the key obstacle to implementing innovation is also confirmed by the figures in Table 8. More than 30% entrepreneurs asked saw the difficulty of securing finance for innovative investments as very high, with a little more than 4% perceiving it as very low.

Table 8. Degree of difficulties with financing investments

Degree of difficulties	Percentage of entrepreneurs
Very low	4.3
Low	2.9
Neither low nor high	17.1
High	35.7
Very high	33.6

Source: the authors' own compilation based on report: (*Finansowanie MSP w Polsce w 2012 roku*, Agencja Rozwoju Innowacji, Warszawa, 2013)

A report published by the Polish Confederation of Private Employers *Lewiatan* implies owner capital derived from retained profits and capital contributions by owners has remained the main source of financing for investments by Polish SMEs, which is of particular importance in view of the fact that self-employment is the legal status prevailing in Poland, with the capital contributed by shareholders limited to assets and wealth of single individuals. Bank crediting and leasing were the subsequent sources of financing in respect of numbers of enterprise users. The structure of investment financing in the Polish SME sector in 1999-2011 is presented in Table 9. This table proposes a longer time frame in order to demonstrate that Polish enterprises have faced problems obtaining capital to finance their investments not only in recent years but since the very beginning of the market transformations in Poland. The figures in Table 9 also show that Poland's joining of the European Union did not affect the structure of financing, though some entrepreneurs had expected access to external capitals, especially bank crediting, to improve.

Table 9. Financing sources of activities in Polish SME sector in 1999-2011

Specification	Percentage of enterprises								
	1999/ 2000	2004	2005	2006	2007	2008	2009	2010	2011
Owner capital including retained profits	76	86	69.1	73.1	72.6	74.1	64.8	64	65
Bank credit	38	14.2	16.6	12.7	17.4	12,8	17.7	10	12
Leasing	24	12.6	10.5	9.0	6.9	-	8.3	8	11
EU funds	0	3.6	1.4	1.9	1.9	6.5	7.3	-	2
Other	0	0	2.4	3.3	1.2	2.9	1.9	-	-

Source: authors' own study based on the reports: (*Monitoring kondycji sektora MSP*, PKPP Lewiatan, Warszawa 2004, 2005,2006, 2007, 2009, 2010, 2011, 2012, *Trendy rozwojowe sektora MSP w ocenie przedsiębiorców w pierwszej połowie 2011 roku*, MG DPiA, nr 2/2011, Warszawa 2011)

The data in Table 9 indicate a declining share of entrepreneurs who have resorted to bank crediting or leasing in the last eight years. Restricted availability of bank credits commonly results from absence of crediting histories, of collateral, and from stricter bank policies regarding crediting of SMEs, which have already been mentioned.

Comparing the percentage of entrepreneurs who took bank credits in 2011 and 2013, a growing interest of firm owners in this source of funding can be noticed. Nevertheless, it should be stressed that Table 10 shows the percentage of entrepreneurs potentially interested in taking bank credits. On the contrary, Table 9 shows the percentage of entrepreneurs who have actually been granted credits. Statistical data show that about 50% of firm owners apply for credits but are refused mainly because they have been running their business for a short time and hence lack adequate safeguards.

Table 10. Funding sources used by entrepreneurs in 2013

Funding source	Percentage of entrepreneurs
EU grant	37
Credit	35
Loan	8
Leasing	7
Government grant	4
Attracting outside investor	3
Factoring	2
Other	3

Source: the authors' own compilation based on the report: (Finansowanie MSP w Polsce w 2012 roku, Agencja Rozwoju Innowacji, Warszawa, 2013)

Entrepreneurs cited the following reasons for limited access to external sources of financing: complicated procedures of securing third-party capital including bank crediting – 53% respondents; followed by high costs of obtaining capital (43% indications), and levels of required collateral (38%). This affirms the earlier proposition that a majority of Polish SMEs do not have fixed assets of their own that could serve as collateral in the process of securing external capital. Fixed assets are leased as a rule. 19% entrepreneurs said they had no credit worthiness (Table 11.).

Table 11. Reasons for Polish SMEs not resorting to external capitals

Reasons for failing to use external financing	Percentage of entrepreneurs
Complicated procedures of securing external capital	53
High costs of obtaining capital	43
Levels of collateral required	38
Fear of debt	29
Absence of information about financing opportunities	20
Lack of credit worthiness	19
Lack of such need	15
Few financial institutions dedicated to SMEs	10
Other	11

Source: the authors' own compilation based on the report: (*Finansowanie MSP w Polsce w 2012 roku*, Agencja Rozwoju Innowacji, Warszawa, 2013)

A 2013 survey by Innovation Development Agency indicates that the enterprises that secured external financing assigned the funding to restoration of their financial liquidity (38%) and purchase of new production plant and machinery (37%). More than 30% respondents invested in means of transport, equipment and tools. Only 10% described their investments as innovative. The results are summarised in Table 12.

Table 12. Objectives to which financing was assigned by enterprises

Objectives	Percentage of entrepreneurs
Restoration of financial liquidity	38
New production plant and machinery	37
Means of transport	32
Equipment and tools	30
Innovations	10
Intangible assets	9
Land	6
Buildings	3
Takeovers of new businesses	1
Other	7

Source: the authors' own compilation based on the report: (*Finansowanie MSP w Polsce w 2012 roku*, Agencja Rozwoju Innowacji, Warszawa, 2013)

Summary

Analysis of data presented in this paper indicates a poor standard of innovativeness of Polish SMEs, as proven by a low share of sales revenue from new or markedly improved products in total revenue and the fact that this revenue is mainly generated on sales of products that are new to an enterprise only, not to the market as a whole, evidence of poor innovativeness of these products and services.

Research results also suggest that the tendency to innovate is in direct proportion to size of an enterprise. This means that micro enterprises (which constitute as much as 70% of all businesses) are weakly innovative, due chiefly to insufficiency of both capital, fixed and human resources.

A 2013 survey by Innovation Development Agency points to financing as the key barrier restricting innovation of SMEs. The financial motive is recurrent in all the research discussed. Entrepreneurs complain against restricted access to external sources of financing, including bank credits, and expect easier procedures of EU applications. They stress ignorance of innovative solutions introduced by competitors in a sector and ignorance of research results generated by scientific centres. Poor demand in the Polish market appears to entrepreneurs as a major factor restricting innovative undertakings. This may be due to the fact that 70% of Polish SMEs operate only in local or regional markets – also due to limited financial, tangible and human resources and lack of knowledge.

The low innovation standard of Polish SMEs is demonstrated by the structure of investments realised by this sector as well. Financing is mainly required to restore financial liquidity, purchase production machinery and equipment, with merely 10% entrepreneurs surveyed naming the innovative dimension of their investments.

It must be concluded that research conducted by a range of scientific centres and business environment institutions presented in this article clearly implies that such internal factors as financial, capital and knowledge resources are the key barrier to innovativeness of Polish SMEs.

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Customer Flow Management

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Abstract

Waiting lines easily become the source of tension between customers and businesses and even cause the loss of revenue. Both research and experience suggest that a customer's evaluation of quality of service strongly depends on the time spent waiting in line: the longer the wait, the less the quality of service. Thus, minimizing the time a customer spends in line is crucial to the customer's perception of quality of service.

Waiting time can be perceived differently in different contexts. In all cases, businesses must also be able to influence the customer's perception of the waiting experience.

Minimizing the actual waiting time is achieved by using an efficient queuing configuration to reduce the variation in waiting time of the customer, hence improving the overall customer experience.

Improving the customer's waiting experience depends on a company's ability to influence customer perception of the length of time spent while in line. This can be achieved through in-line entertainment or advertising, information about the wait itself, and fairness of the wait.

Key words

Customer Flow Management, flow, waiting time, queue, reserve system, Customer Management Systems, effective customer service.

Introduction

History – the reserve systems from their beginning when they were developed and from their first time used in Sweden by a company called Q-MATIC AB´s establisher Rune Shaline was gradually spread to the banks of Central Europe. They enabled a simple solution of managing waiting clients in queues. The management meant a client got its number and on the basis of this he was called up. He did not have to wait; he could comfortably sit in a bank outlet or paid attention to the information which was publicly offered by a bank outlet. Clients were not stressed because of queuing and at the same time a complementary alternative for marketing activities was offered.

Customer Flow Management[1] - What Is It?

Customer Flow Management – management of client's flow is a methodology to ensure the best delivery of service solution. A solution is required whenever there is a problem or challenge to be solved. CFM is all about managing the flow of company customers and their experiences from their initial contact with the company through to the service delivery. A customer management system works by eliminating the need for customers to stand in a line. CFM is motivated towards a better customer flow without disturbing basic retail or banking transactions whilst maximizing customer satisfaction at the same time. Customer Flow Management is a central server solution that provides all company's branches with advanced customer reception, routing and interaction management tools, as well as with optional appointment scheduling and staff planning applications.

The system ensures an optimal customer experience across all company's walk-in centres, which may be tuned towards either sale / service level goals, or cost saving and process streamlining. Real time monitoring alerts and reports ensure managers at all levels stay on top of their KPIs.[2]

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[1] Customer Flow Management - CFM

[2] Carol Taylor Fitz-Gibbon (1990), "Performance indicators", BERA Dialogues (2), ISBN 978-1-85359-092-4

A performance indicator or key performance indicator (KPI) is a type of performance measurement. An organization may use KPIs to evaluate its success, or to evaluate the success of a particular activity in which it is engaged. Sometimes success is defined in terms of making progress toward strategic goals, but often success is simply the repeated, periodic achievement of some levels of operational goal (e.g. zero defects, 10/10 customer satisfaction, etc.). Accordingly, choosing the right KPIs relies upon a good understanding of what is important to the organization. 'What is important' often depends on the department measuring the performance - e.g. the KPIs useful to finance will be quite different from the KPIs assigned to sales. Since there is a need to understand well what is important (to an organization), various techniques to assess the present state of the business, and its key activities, are associated with the selection of performance indicators. These assessments often lead to the identification of potential improvements, so performance indicators are routinely associated with 'performance improvement' initiatives. A very common way to choose KPIs is to apply a management framework such as the balanced scorecard.

Customer Flow Management - How Does It Work?

First company needs to understand their customer flow and how it affects their customers, staff and operations. CFM will help company turn this understanding into real business value.

The improvement in customer flow often needs assistance from a CFM system, implemented to meet improvement targets and Key Performance Indicators (KPIs). If a system is implemented without CFM knowledge is often worse than no system at all. Moreover, the four step CFM methodology helps users understand their challenges and the possibilities of their service operations.

Figure 1. Customer Flow Management
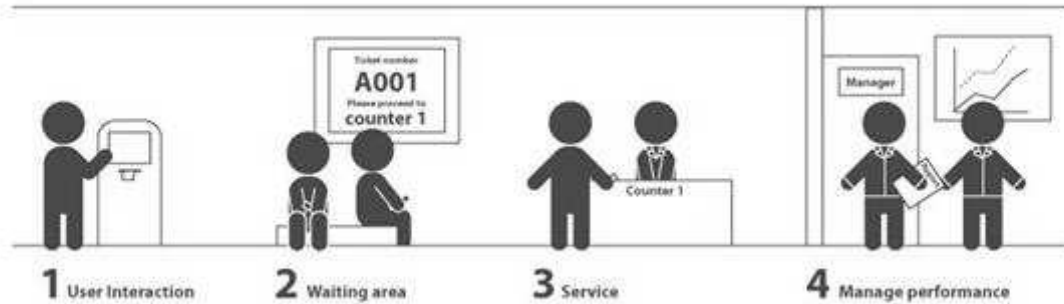
1. User Interaction

Upon entering the premise, the customer requests a service type which automatically enlists the customer into the queuing list.

At this stage, customer needs can be pre-determined. When a customer selects a transaction, the service provider can send the appropriate staff (with the correct level of expertise) to attend the customer. This results in a more effective customer service, recognizing customer needs before the actual transaction. The customer will then be directed to the waiting area.

Customers can also be asked to enter their transaction or personal details for a faster process of transaction. Entering this data will be useful as staff is equipped with their customer details for a more efficient customer service.

2. Waiting Area

After service selections, most often the customer will be asked to wait in a provided area, or to browse around the service provider's premises. The multimedia display makes waiting a more comfortable experience for customers as they can watch marketing, informational and entertainment materials through the display monitors.

Customers are more aware of services that are provided which can lead to greater sales for the service provider. This effect reduces customer's perception of waiting time, which leads to a happier, more receptive customer.

3. Service

If customer details are entered during the service selection process, the staffs of the service provider (both at front and back counters) can start their preparations before the customer arrives at the counter. This may include customer's previous transactions, enquiries, etc.

At this stage, counter staff can monitor their performance through a threshold function installed at their counter computers. Customer waiting times and staff serving times is recorded in real-time format. This function encourages staff to work more efficiently for a faster customer service.

4. Manage Performance

All front counter activities are recorded in the system administration module installed at the back office. Reports can be generated for branch managers to analyse their branch performances. This includes customer behaviour, waiting times, serving times as well as peak times at the premise. Branch managers can now organise their human resources and staff rostering through analysing transaction reports. Branch managers can also recognise additional training and support the required to prevent organisational inefficiencies.

A centralised branch report can be generated if CFM is installed in all branches. All data can be generated based on trend analysis, to provide a branch-to-branch comparison. This is extremely handy for top managements to analyse their branch performances.

Areas of use CFM

The experience in designing and manufacturing Queue and Customer Management Systems as well as the feedback from the growing circle of distributors and users (healthcare, government offices, financial institutions, telecommunication companies, public utility companies, etc.) pushed the producers to develop a system with the most up-to-date features, elements of the latest design and technical parameters with a wide range of special features to satisfy all the commonest demands.

Financial Institutions

In recent years more and more financial institutions have started using Customer Flow Management Systems in their nationwide branch networks. Among many other benefits the management will find the following:

- Sales become more finely measurable (by country / region / branch / clerk / time-period / services, etc.)
- Customer services become measurable (administration time / back-office work time, etc.)
- Success rate of customer services becomes measurable (successful / unsuccessful sales)
- Cross-sales become measurable.

All these allow marketing to be more efficient and more closely targeted.
Among the elements of customer service where companies can increase measurement, it is possible to support and individualise services as follows:

- Address customers before they enter the branch,
- VIP customer service (card identification, clerk selection),
- Customer identification before they get to the clerk (by card),
- Integration with CRM / Front-end Systems (full customer image based on card identification),
- On-line management information,
- Branch sales measurement, optimisation and reorganisation.

Telecommunication companies

This sector is characterised in almost every country by a battle fought for customer loyalty and retention. In customer service it is important to link a priority and an adequate clerk to specific services and to have tasks done smoothly within a well-organised system. Out of these goals, systems supplied offer the following:

- More sales efficiency,
- More cross-sales,
- Segmented customer service, VIP customer management (customer identification by code, card),
- Supply of digital signage solutions,
- Data sharing with CRM systems,
- On-line, general overview of operations for senior managers,
- Consultancy for increased retail sales.

Governmental institutions

The most important aims among government institutions are to serve customers well and keep people informed while queuing.
It can support aims as follows:

- Installation of Queue and Customer Management Services,
- Supply of Digital Signage solutions,
- Installation of Information/Self-Service Kiosks.

Public utility companies

In some countries, public utility firms are the sector with the biggest daily visitor flow in their customer-service offices.

Consider the systems provided a basic tool in customer management. A sophisticated queuing system creates the background for a positive customer experience. It also allows clerks and managers to see up-to-date information on workflows. In more detail it enables features as follows:

- Provides statistical data (daily number of customers, waiting, administration, back-office work time, etc.),
- Allows monitoring and oversight (monitoring work by branch or by clerk, special alerts for management),
- Gives general overview of on-line of operations for senior management,
- Supports consultancy for branch optimisation.

Conclusion

The implementation of reserve systems and CFM to an outlet net of commercial companies comes to the launching modern systems of application of information technologies. Customer Flow Management is a system which makes a client stay in an outlet more comfortable but on the other hand it optimises either the communication of the bank staff with a client or greatly contributes to the optimisation of outlet costs and helps to increase the efficiency of management and outlet

An efficient and well-managed queue is one of the quickest and most cost-effective ways a business can increase its operational efficiencies and squeeze additional revenues from existing real estate. Moving customers in, through, and out of waiting lines with effective queue management is proven to prevent the customer from walking away, increase revenues per square foot, stimulate impulse sales, and enhance the overall customer experience. It pays to do it right.

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Audio Branding

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Abstract

From a strategic perspective, brands play an important role. They can be used as a means of defending market share or group brands, protecting established positions; they can be used to attack competitor brands and provide a means of deterring market entry by others. There are three broad aspects of branding that enable these strategic roles to be accomplished, namely integration, which can lead to differentiation, and finally added value. All brands consist of a mixture of intrinsic and extrinsic attributes and management's task is to decide on the balance between them. Like visual branding, audio branding helps create a powerful brand influence. It gives a brand a chance to be distinctive and remarkable at every point of contact. By adding meaning and personality to the brand, audio branding connects with people on a profound level and acts as a relationship builder.

Key words

brand, branding, audio branding, sonic branding,

Branding

The images and associations that customers make with brands and the brand identities which managers seek to create need to be closely related if long-run brand purchasing behaviour is to be achieved.

Successful brands create strong, positive and lasting impressions, all of which are perceived by audiences to be of value to them personally.

In general, the notion of brand understanding visible or otherwise perceptible identification sign. (Sklenčár, Sláviková, 2011, 40)

Assael (1990) define brand as the name, symbol, packaging and service reputation. The differentiation approach is typified by Kotler (2000), who argues that brand is a name, term, sign, symbol or design or a combination of these intended to identify the goods or services of one seller or group of sellers, and to differentiate them from those of competitors. What these researchers identified was that brands are a product of the work of managers who attempt to augment their products with values and associations that are recognised by and are meaningful to their customers. (Fill, 2005, 393)

Brand names provide information about content, taste, durability, quality, price and performance, without requiring the buyer to undertake time-consuming comparison test with similar offerings or other risk-reduction approaches to purchase decisions. (Fill, 2005, 393)

Branding is a task that requires a significant contribution from marketing communications and is a long-term exercise.

The process of defining brand's requires a willingness to probe its structure and tease out those distinguishing qualities and identifiers making it unique.

Brand characteristics

Brassington and Pettitt (2004) refer to a brand's function as the creation and communication of multidimensional character for a product, one which is not easily copied or damaged by competitors´ efforts´. Brands consist of two main types of attributes: intrinsic and extrinsic. Intrinsic attributes refer to the functional characteristics of the product such as its shape, performance and physical capacity. If any of these intrinsic attributes were changed, it would directly alter the product. Extrinsic attributes refer to those elements that are not intrinsic and if changed do not alter the material functioning and performance of the product itself: device such as the brand name, marketing communications, packaging, price and mechanisms which enable consumers to form associations which give meaning to the brand. Buyers often use the extrinsic attributes to help them distinguish one brand from another because in certain categories it is difficult for them to make decisions based on the intrinsic attributes alone. (Fill, 2005, 394)

Audio Branding

We live in a state of continuous partial attention. We pay attention to a handful of sources of information at the same time but only at a superficial level.

As consumers tune out the excess stimulation delivered through the multitude of media channels, the competitive advantage goes to businesses that use multisensory approaches to emphasize and position the role of the brand in the customer's life. (Fahey, 2014)

One part of the multisensory approach is sound. When used correctly, sound has the ability to deliver a distinct branding message.

A brand must also identify its touchpoints so that each one serves to enhance customer relationships. As traditional media keeps getting replaced with digital media, brands have more opportunities to strengthen their contact points with both motion and sound. (Fahey, 2014)

Instead of an afterthought to the visual and written parts of a branding campaign, sound has become central.

However, a growing body of academic research attests to the powerful emotional and psychological bonds between music and listener.

Much of it is from Europe, where sonic branding is better established partly because music surmounts the challenges of marketing to a multilingual continent. (McFadden, 2014)

For example, 2008 research at Leicester University in the United Kingdom found companies that match their brand to music are 96 percent more likely to be remembered, and that 24 percent of customers are more likely to buy from a store that plays music they liked hearing.(McFadden, 2014)

In the United States, Dr. James Kellaris of the University of Cincinnati has popularized the term "earworm" to describe those hooky little tunes you can't get out of your head. Ongoing surveys show many earworms include company themes and jingles, which has excited marketers no end.

Goldsmiths University in London currently is in the midst of a project to isolate what makes earworms effective. (McFadden, 2014)

Like visual branding, audio branding helps create a powerful brand influence. It gives a brand a chance to be distinctive and remarkable at every point of contact. By adding meaning and personality to the brand, audio branding connects with people on a profound level and acts as a relationship builder. (Fahey, 2014)

Audio branding is the discipline of using unique proprietary sound and music to create a brand's distinct audio identity, expressing its values at all necessary customer touchpoints. (Fahey, 2014)

Audio branding simplifies and brings coherence to the diverse communication touchpoints that surround customers every day.

The audio branding industry is still focused on Europe and USA.

Sound branding (also known as audio branding, music branding, sonic branding) is the strategic use of sound in positively differentiating a product or service, enhancing recall, creating preference, building trust, and even increasing sales. Audio branding can tell you whether the brand is romantic and sensual, family-friendly and everyday, indulgent and luxurious without every hearing word or seeing a picture. And it gives a brand an additional way to break through audiences' shortened attention spans. (wikipedia)

Vijaykumar Krishnan sonic branding specialist from Northern Illinois University business school defines sonic branding as "The strategic development of a brand's attributes through sound and its deployment across a multitude of touchpoints to create a seamless, cohesive and authentic sonic presence." (McFadden, 2014)

Benefits of branding

As a brand becomes established with a buyer, so the psychological benefits of ownership are preferred to competing offerings, and form of relationship emerges. Brands are said to develop personalities and encapsulate the core values of a product. They are a strong means by which a product can be identified, understood and appreciated. Just a brands can provide benefits for buyers, so important direct benefits for manufacturers or sellers also exist. Brand provide a means by which a manufacturer can augment its

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product in such a way that buyers can differentiate the product, recognize it quickly and make purchase decisions that exclude competitive products in the consideration set. Premium pricing is permissible, as perceived risk is reduced and high quality is conveyed through trust and experience formed through an association with the brand. This in turn allows for loyalty to be developed, which in turn allow for cross-product promotions and brand extensions. Integrated marketing communications becomes more feasible as buyers perceive thematic ideas and messages, which in turn can reinforce positioning and values associated with the brand. (Fill, 2005, 398)

Table 1. Benefits of branding

Customer benefits	Supplier benefits
• Assist the identification of preferred products • Can reduce levels of perceived risk and so improve the quality of the shopping experience • Easier to gauge the level of product quality • Can reduce the time spent making product-based decisions and in turn reduce the time spent shopping • Can provide psychological reassurance or reward • Provides cues about the nature of the source of the product and any associated values	• Permits premium pricing • Helps differentiate the product from competitors • Enhances cross-product promotion and brand • Encourages customer loyalty /retention and repeat purchase buyer bahaviour • Assists the development and use of integrated marketing communications • Contributes to corporate identity programmes • Provide for some legal protection • Provides for greater thematic consistency and uniform messages and communications

Source: Fill, 2005, 398

Summary

Branding provides customers with a quick and easy way of understanding what a product is, what value it represents and can represent a measure of psychosocial reassurance. Branding provides manufacturers and distributors with a means of differentiating their products in order to gain competitive advantage in such a way that customers perceive added value.

Current generations have grown up completely immersed in music. Many academic researches examine emotional and psychological bonds between music and listener.

Many are from Europe and USA, where audio branding is better established. Sound has become central part of a branding campaign because sound can convey meaning and build brand equity at many underused points of contact.

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Analysis of Selected Brands Value and Their Performance in the On-Line Media and Virtual Social Networks

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Abstract

This article examines the issue of brand management with a focus on online social networking environment. It offers analysis of the theoretical basis for this area, as well as survey results for selected global brands, their value and presence in the Slovak online environment. The article highlights the value of the brands selected for the analysis for the period of last three years and their actual performance in the online social networking environment which is presented in comparison table following several attributes. The final section provides a summary of findings and offers recommendations.

Key words
Branding, social network, social media, marketing, brand value

Introduction

In the literature we can find a lot of definitions for brands and their management. Ultimately we can say that the brand represents the name of a company. The trend of branded products increasingly gaining in importance and companies that lag in care about their brand lose on multiple fronts. This is also one of the reasons why this issue is current and appropriate to accompany her more attention. Having regard to the digital time and speed of information dissemination it is necessary in addition to classic presentation take care about the virtual presentation as well. Branding is an important part of e-commerce and thereby enables companies to build their reputation. Its negligible hallmarks should be trust, involvement, ownership, influence and warranty. Whole article offers possibility to draw conclusions that support the importance of branding and that he should receive enough attention.

The brand is represented by a particular symbol, image, word or slogan and its main and most essential task is to facilitate product identification and differentiation of products, services, organizations from the competition. By branding products company gives its customers a clear message who the owner is (Wolfe, 2012).

According to American marketing association (2009) a brand represents name, term, symbol, design or a combination of these elements that identify products and services of a particular supplier and differentiate them from competitors. Healey (2008) defines a brand as a promise of satisfaction, also as a sign or metaphor acting as an unwritten contract between the manufacturer and the customer, seller and buyer, performers and audience. There exist many more definitions for brands but anyway we can say that the brand creates the name of the company.

Value of a brand is often many times higher than capital or number on a bank statement. But it was not always like that. Forty years ago a company value was deposited in cash while nowadays situation has changed dramatically. In present a value of a brand lies in a market brand value (Sasko, 2010).

Branding

The word "branding" is derived from its primary word appear in the Germanic or Norwegian expression "burn". It was used for labeling animals and wines to make it clear who is the owner. The branding can be thus speak in the meaning of a markup (Healey, 2008). Branding in its present shape combines five elements:
- *positioning*
- *story*
- *design*
- *price*
- *customer relationship*

Positioning element covers brand definition and its comparison with competition from the perspective of customer. It is essential for the manufacturers to focus on customers desires and be able to respond to them (Kotler, 2007). Story element of buying process metaphorically creates a new world in which customer can enter. A good emotional one can attract much more attention. This goes hand in hand with the design which supports visual stimuli of the customer (Weinshenk, 2012). Last two elements are price and relationship with customers. Both are crucial in maintaining positive relationship between buyer and seller and also in keeping positive image of a brand.

Branding as a process of building a brand changes general commodities into a specific demanded products. It adds value in the minds of consumers for which they are willing to pay more (Kotler, 2007). It covers much more than just a marketing communication and advertising. It includes customer relations, internal communication and corporate philosophy. All this must be consistent and must broadcast a consistent message. If employees of a certain company do not cope with such philosophy of a company, they hardly persuade any customer about the strength of a brand (Kotler, 2007).

Branding praxis is distillate of actions that appeared during nineteen and twentieth century for the first time: marketing, propagation, public relation, graphic design and company identity. Those interconnected areas deal with sale, awareness, reputation, loyalty and last but not least visual aesthetics. Given that all these areas relate to brand their aim is to create and support this brand and therefore we can consider them as parts of particular discipline: branding (Healey 2008, 26). Branding serves the purpose that any ordinary object is performed as advertising object thus logo and company message. Important part of branding is therefore creation of logo, name and product.

Social network and social media

The literature offers multiple definitions of the terms "social network" of "social media". According to Sterne (2011) social networks are defined as user-generated content distributed via easily accessible internet tools. Blanchard (2011) defines it as a communication tool serving for the purposes of ordinary business functions including public relations, marketing, customer services and performing and managing of a market research. It is important to stress that essence of social networks and social media is speed of information dissemination among users and visitors of these networks and media. From the marketing perspective another great advantage is mass coverage of target audience (Dorčák, Pollák, 2010).

„Social media allow people to interchange their ideas and thoughts, collectively discuss site content and make new contacts online. Social media differ from traditional mainstream types in content, which can be created or commented by any person. It can have text, audio, video, image or other form, that connects communities and fulfill their need to associate" (Meerman Scott, 2010, 38).

Between two terms, social media and social networks, there is a fine line in their differentiation. Social media is superior term that covers various media which are used by people for online communication and meeting or for developing sociability (Delina, Dorčák, 2011). These are blogs, wiki pages, web sites for downloading media and many others. Creation of social networks belongs under social media and we use this term when it is in position of method for mutual interaction of people. Social network creation is happening when people are creating their own profiles and enter into a mutual interaction pursuing the goal of becoming a part of such community of friends and people that have similar interests and wish to communicate and change information (Meerman, Scott, 2010).

Building a customer's tribe via social networks

Important part of branding process is building a customer's tribe which is related to creation, development and maintenance of highest standards possible for relations with customers. Such relation building requires various marketing and promotional techniques and practices (Godin, 2008). Some promotional actions enhance the reputation of product or service or raise its value. These actions create „customers bound". All this is related to brand and its image in the eyes of public (Smith, 2000, 263).

In specific cases of building a customer's tribe it could involve vouchers, taste events, competitions, gifts, free samples and many others. Such sale support is also present on social networks. Some may argue this is a growing trend. This option is nowadays used by almost every company to promote their offer into a conscious of countless potential customers.

„Via social media you can tell others what you want them to know about you" (Meerman Scott 2010, 167).

Methodology

In the context of this article a survey has been made on ten popular brands chosen from the list of top 100 brands presented by Interbrand. Selected brands were namely Coca-Cola, Apple, Mercedes, Nescafé, Nokia, McDonald´s, Avon, IKEA, Adidas and BMW. Comparison of selected brands according to their value was made on the basis of data from the website interbrand.com within the time period of last three years. Same brands were analysed according to their social network activites which is presented in the comparison table.

Findings

In the following text there is successively presented the comparison of selected brand values (in billions of dollars) in years 2011 to 2013 as well as there are described major shifts that have occurred in every period. Graph 1 shows the value of the brands in 2011.

Graph 1. Brand value in billions of dollars (2011)
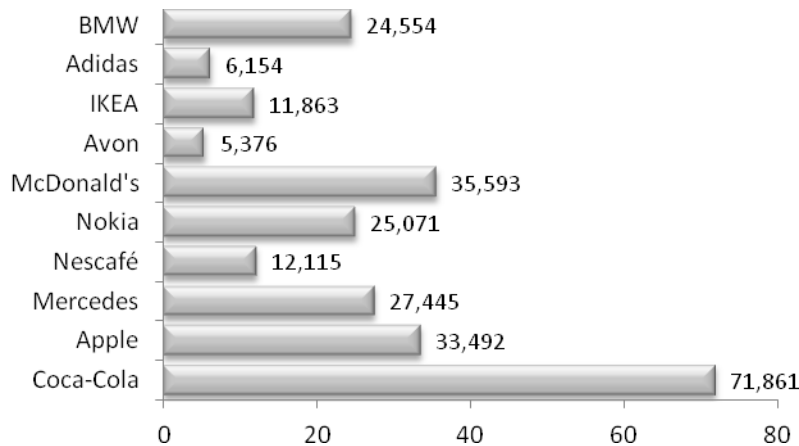
Source: own elaboration according to Interbrand

Coca-Cola brand appeared as the strongest and most valuable one in the year of 2011, second place belonged to the bradn of McDonald´s. Top 3 was filled with the brand of Apple figuring on the third place (there has been 12 billion dollar value raise over the previous year). Brand of Adidas and Avon closed top ten for the year of 2011 with the value over 5 billion dollars.

Graph 2. Brand value in billions of dollars (2012)
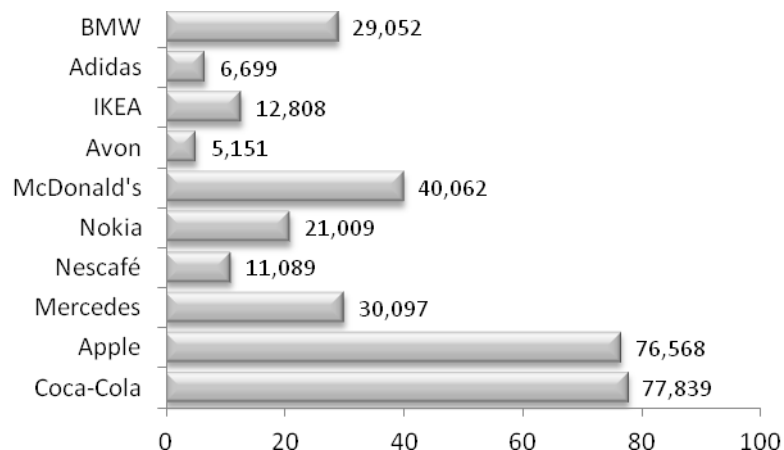
Source: own elaboration according to Interbrand

As well as in 2011 the leadership for the 2012 belonged to the brad of Coca-Cola but only with a minimum lead over Apple brand which during the last year has seen record growth (about 43 billion dollar), which more than doubled its value. McDonald´s brand has been therefore pushed to third place despite the fact that they also recorded an increase (almost 5 billion dollars). Last positions remained unchanged.

Graph 3. Brand value in billions of dollars (2013)

Brand	Value
BMW	31,839
Adidas	7,535
IKEA	13,818
Avon	4,61
McDonald's	41,992
Nokia	7,444
Nescafé	10,651
Mercedes	31,904
Apple	98,316
Coca-Cola	79,213
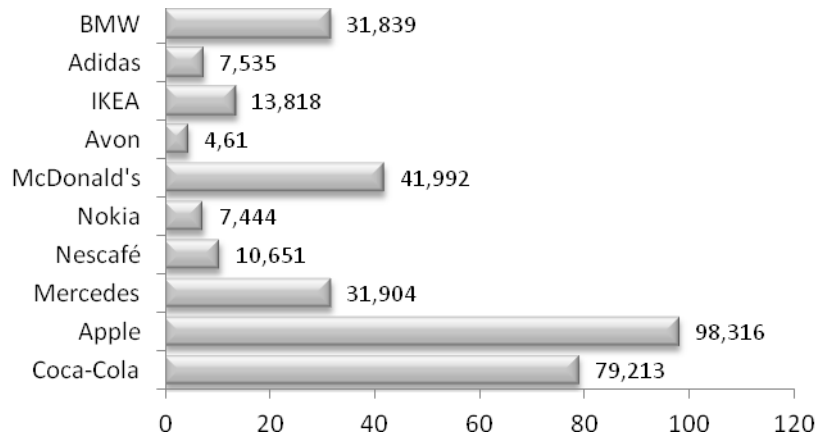
Source: own elaboration according to Interbrand

During the year 2013, the Apple brand has moved on the first place and has seen a rise in its value by almost another $ 22 billion dollars. Although the value of Coca-Cola also recorded the raise the gap between number one and two enlarged significantly. McDonald´s brand remained on the third place. There has been the change on last positions where Nokia brand lost its value and droped on the ninth place. Brand with a lowest value of our sample remained Avon.

From the data presented it is obvious that the value of a brand is capable of raising its value several times as well as it can lose its value. This statement is supported through Apple brand, which in the period of three years trippled its value and acquired the title of most valuable brand for the year 2013. (In the period of last 5 years Apple shifted from sixth to first place and recorded value raise from 15,4 billion to 98,3 billion of dollars which is more than six times greater) In cotrast, there is Nokia brand which dropped from 25 billion to little over 7 billion of dollars in 2013.

Table 1. Brand value versus social network performance

	Interbrand value	**FB - Like**	**FB - Comment**
1.	Apple	Coca-Cola	Coca-Cola
2.	Coca-Cola	McDonald´s	Nescafé
3.	McDonald´s	Nescafé	BMW
4.	Mercedes	BMW	Adidas
5.	BMW	Adidas	IKEA
6.	IKEA	Mercedes	McDonald´s
7.	Nescafé	Nokia	Mercedes
8.	Adidas	Apple	Avon
9.	Nokia	Avon	Apple
10.	Avon	IKEA	Nokia

Source: own elaboration

Table 1 shows that only Coca-Cola brand is placed in top positions according to all attributes. Present top brand Apple lag in social performance and figures in bottom positions but it is probably only because of limitation of Slovak dimensions. Although ranking of brand values does not correspond with social network performance, those two attributes solely exhibit similar ranking to large extent.

Summary

The issue of branding is quite difficult and success of failure is result of multiple factors. In any case it is necessary to follow new trends and try to stick to them. Competition is great and every hesitation can cause serial consequences in present highly competitive environment. Importance of branding is best

shown in the following quote: „Branding is fundamental. Branding is basic. Branding is essential. Building brands builds incredible value for companies and corporations" (Goodson, 2012).

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Analytical View on Using Blog as a Tool of Marketing Communication on Slovak Virtual Market

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Abstract

This paper discusses the issue of the use of blog as a modern marketing tool on the virtual market of the Slovak Internet. The paper defines basic concepts and context with the subsequent analysis of major players operating on this market. In the context of findings based on the analysis, recommendations for subjects - organizations and individuals planning to use or using blogs as a modern tool of marketing communication to increase their visibility and improve their reputation on the virtual market - are then drawn.

Key words

Buzz marketing, Word of mouth, Blog

Buzz and WOM marketing

Kotler and Keller define noise marketing as a support of opinion leaders and their reasoning to spread information on products within their community (Kotler, Keller, 2007). In literature the word of mouth marketing tends to be described as whispering or giving cues and it basically is sharing of information orally between two people often in the form of a story. Impression of a personal message that shows characteristics of a personal recommendation is typical for this communication scheme. Given the apparent authenticity of a message, this form of promotion maintains a high level of credibility (Kelly, 2007). Based on the literature it is clear, that the concepts of noise marketing and word of mouth marketing have a lot in common. Some authors even argue that it is the same form of communication. Authors Mikeš and Vysekalová argue that it is possible to give both of these forms of promotion either of the names (Vysekalová, Mikeš, 2010). If we look into history we will find out that neither of these two forms (or one common form) is a matter of modern trends. Although this form of promotion is included among modern, non-traditional, trendy and other forms of promotion in literature, its existence is noted since time immemorial. Without people realizing they disseminated promotional messages by word of mouth to a greater or lesser extent long before the trade developed into its current form. Given its nature, this method of dissemination of messages (even promotional) is one of the best forms of promotion and raising awareness of brands, or individual products. Mark Hudges describes this method of marketing as a promotional form that catches the attention of the target audience to such an extent that talking or writing about a product or a brand suddenly becomes fun and fascinating at the same time (for both customers and the media) (Hudges, 2006).

In literature as well as in marketing practice various kinds of this type of promotion can be encountered, namely:
- referential programmes
- community marketing
- marketing through opinion leaders (Tertel, 2010).

In the virtual world of the Internet WOM and Buzz marketing can have several forms. For the purpose of this paper we shall draw our attention to one of these forms - Webcast.

Webcast and Weblog

Webcast can be defined as a media presentation distributed over the Internet through a single channel to a number of potential listeners, readers, or viewers. The most common formats include audio blog

(podcast), video blog (vlog), or Internet radio stations. For the purpose of this paper, the simplest form of dissemination of marketing messages within webcast - weblog - shall be presented. Blood (2000) defines the weblog or blog, as it is often referred to, as a web application that contains chronically ordered posts. An author of blog is called blogger, blogging community is called blogosphere (Blood, 2000, In: Wikipedia, 2012). The word blog was created in 1990s, but came into use in 2000. Advantages of blog as a form of promotion acknowledge not only Internet users but also organizations. Blogs provide invaluable opportunities for organizations from the perspective of non-violent forms of promotion of their products. According to Byron and Broback (2008), organizations can offer or sell products, promote brands and remain in constant contact with customers via blogs.

Blogging as a form of so-called "e-communication" can be described by the following:
- unconventional source of information
- new phenomenon
- tool for the news reporting balance
- challenge to traditional means of mass communication

Byron and Broback note that almost every major company spends considerable funds on marketing promotions in the form of disseminating positive information about itself or its products. The more successful ones have been using blog as a very effective means of disseminating positive information of a more complex nature about the organization.

Byron and Broback (2008) further define four types of blogs focused on marketing, in particular:
- weblogs helping companies to achieve better market orientation
- weblogs promoting visibility of companies
- weblogs focusing directly on the sale of goods and services
- weblogs focusing on promotion of business websites

Objectives and methods

The main aim of the paper is to map the usage of blog as a modern marketing tool on the virtual market of the Slovak Internet. Based on the analysis of main players - blog servers blog.sme.sk and blog.pravda.sk - operating on the selected market, we try formulate basic recommendations for subjects - organizations and individuals planning to or currently using blog as a modern tool of marketing communication to increase their visibility and improve their reputation on the virtual market.

Evaluation and discussion

Internet users perceive blogging as a non-violent form of content distribution. It is often difficult to detect commercial purpose of a presented message, provided that this form of presentation is implemented correctly. The analysis includes the possibilities offered by virtual Slovak market. Blogging is so widespread on the analysed market as it is in the developed world, but over time blogging is becoming more and more popular. Blog portals of Slovak dailies Pravda.sk and sme.sk. are the most well known in Slovakia. Blogging systems on the portals of the dailies Pravda and SME are almost identical in terms of functionality. In terms of coding they are pre-built and include only a few modifiable options (in terms of personalization) comparing to global platforms.

However, the biggest advantage is relative simplicity and accessibility of the whole solution. Also, comparing to the global blogging platforms (e.g. blogger.com) there is a higher chance that content will be easily accessible to the community of Slovak users. From the perspective of tradition blogging portal SME is more successful on the selected market for it is operating almost 10 years on the Internet. Thanks to tens of thousands of bloggers and a broad community of readers it ranks number one in Slovakia. The following graph shows the actual number of visits of blogs on the online version of the daily SME between 1st and 7th May 2014:

Chart 1. Visits of blog.sme.sk
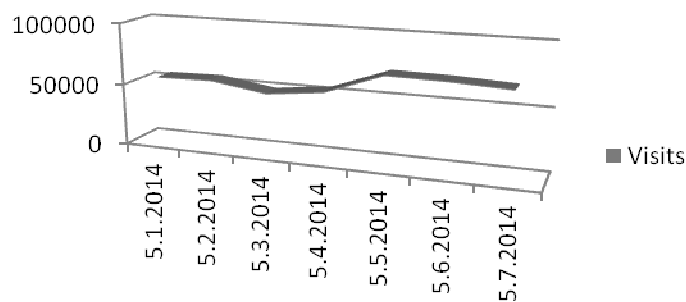
Based on the graph, the number of visits of blogs on the SME.sk portal during an average week averaged to 60,000 per day. Taking into account that this is a free service (if it is a prima facie non-commercial message), only the sheer number of visits encourages to use this platform.

In terms of a direct competitor blog.pravda.sk, the situation is a little different: Pravda launched its blogs in 2010. They have a more intimate atmosphere, less authors and readers, however, this can be an advantage. A new author can succeed faster on blogs of Pravda portal. The following graph shows the actual number of visits of blogs on the online version of the daily Pravda between 1st and 7th May 2014:

Chart 2. Visits of blog.pravda.sk
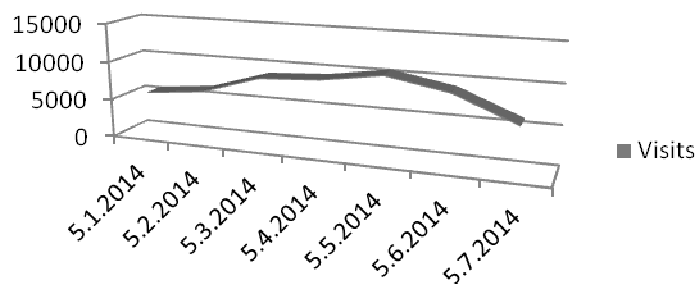
Based on the graph, the number of visits of blogs on the Pravda portal during an average week averaged to 8,000 per day. Compared with 60,000 daily visits of its competitor, blog.sme.sk, it represents only a fraction of the visitors. As mentioned above, this may not necessarily be a disadvantage, as with a lower number of contributors and readers the opportunity for a newly registered contributor to succeed is theoretically much greater.

Evaluation and discussion

Users perceive weblogs, or blogs, in short, as an authentic way of communicating. Nevertheless, they are not particularly used by the organizations on the analyzed market. We consider creating a blog to be a unique opportunity to differentiate from competitors. Non-violently served information with the essence of added value for readers is something that can help to build the already mentioned "online" customer-organization relationship. An excellent example of such a blogging is an online airline ticket seller www.pelikan.sk. By creating a blog and regular publication of witty observations and experiences from trips around Europe's capital cities, the website operator ensured sufficient awareness of its products among its target audience represented by web users / readers of the blog. Based on the conduced researches, it is clear that more than half of the readers trust the information presented through "commercial" blogging. Furthermore, it is clear that more than half of these readers will be influenced by the discussion arising from a published blog. Blog readers will perceive the content in a more positive way, if the blog will regularly feature new articles. Therefore, quality blogs should regularly bring new

content so that the blog give the impression of activity. Posts within the blog should be clear and concise, as readers find extensive contributions less attractive. An important part of promotion through blogging is feedback. We consider comments to form an essential part of a blog. Readers / customers (potential / actual) can complement blog with immensely valuable information through discussion. By dealing with the reactions of their actual or potential customers, their target audience, organizations and individuals will gain an extremely valuable source of primary information in the form of feedback.

Summary

Slovak market is specific, whether in relation to external markets within Europe and the world, or within the internal markets. There are considerable regional differences between the West and the East of the republic (area of less than 500 kilometres). Companies active on the market are confronted with a relatively low purchasing power on the part of potential customers, while on the supply side (represented by potential competitors) the companies find themselves in a hyper-competitive environment. Analysed market on the supply side can be characterised by a high number of small businesses. Given their limitations, especially due to limited resources (human, financial, time ...), they must operate as efficiently as possible, if they want to maintain their presence on the turbulent and hyper-competitive market. The issue of the use of e-marketing instruments in business is relatively little known in our geographical area. Organizations and individuals are only gradually beginning to use the Internet and to profit from the opportunities it offers. Whereas this is a relatively little studied issue, we found important looking for answers to basic questions formulated within the framework of the conducted analysis as one of the subsets of selected links related to e-marketing as a whole.

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Methodological Problems of Accounting Innovation in Enterprises

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Abstract

The transition to an innovative way of development leads to all sectors of the economy, particularly in large, medium and small enterprises in their new form and content innovation. Scope of the manifestations of this activity will expand rapidly. The existing literature is not sufficiently disclosed innovation activities of enterprises, and legal documents relating to accounting, does not disclose a conceptual framework and the accounting innovation. Given this article discusses methodological issues related to this activity.

Key words
Innovation activity, innovative product, expenses for innovative products

Introduction

After gaining independence, Uzbekistan has chosen the path of innovative development. Since then, the country has made great strides in innovation development, in particular:

♦ *Completely abandoned the use of the planned economic system;*
♦ *Systematically was the transition to an economy based on market relations;*
♦ *From a backward agrarian country has turned the state into a developed industrial-agrarian state;*
♦ *Was carried out radical reform of the subjects of the real economy;*
♦ *In engineering, heavy and light, chemical, pharmaceutical and other industries are having the most modern production;*
♦ *Enterprises increases the amount of competitive and export of manufactured products;*
♦ *Widely used localization program and implemented investment projects;*
♦ *Despite the still ongoing global financial crisis in the country annually observed a steady increase in the runway at 8%.*

Much importance of innovation, expansion of its manifestations poses accounting that collects, records, accumulates and delivers a wealth of information to consumers, problem solving urgent methodological problems. In particular such urgent tasks include:

♦ Creating indices expressing quantitatively innovative activities and the system of their assessments;
♦ Business processes that make up the innovation, the creation of the methodological foundations of the recognition, measurement, documentation and accounting for innovative products derived from innovation activities;
♦ Expense relating to innovation, developing the methodology of their capitalization and debt.

A small amount of research problems related to accounting innovation, insufficient justification for their scientifically demonstrates the need for the creation of modern scientific and methodological developments associated with the measurement, evaluation, documentation and record keeping of this activity.

Lack of innovation in the study of the scientific literature, which is an important object of accounting, not research into practice in the legal documents conceptual accounting principles shows the relevance of methodological problems.

Below we discuss some methodological problems of accounting innovation in enterprises, organizations and institutions.

The first actual problem is to create a system of indicators that reflect the quantitative aspect of innovation and its evaluation system.

Innovative activities carried out in time and space has its priority results. Such priority results can be innovative products.

Innovative Products is the tangible and intangible products resulting from innovation.

Innovative products obtained in the form of tangible property can be considered as new technology, new products and new goods.

Intangible property in the form of innovative products can serve a new idea, new technologies, new services, new software, new projects, etc.

Based on the above, as the indices expressing quantitative terms innovation, it is appropriate to recognize the number of each type of innovative products and its costs, expressed in national currency

Innovative products (new equipment and technology, new products, new product samples, new projects, scientific ideas, etc.), which is a priority of innovation in the future when using it will bring economic benefits. In other words, in the future innovative products will provide an opportunity to increase economic resources and use them revenue in their implementation.

Innovation requires certain costs as each activity. For example, to create a new product required material, labor and other costs. Complex costs associated with the creation of innovative products are its cost. Hence, the cost can be considered as an indication of quantitatively expressing innovative products.

Inability to implement instant scientific development, the presence of a disability, objective and subjective factors indicates more risk in innovation than in other areas. Therefore, in the absence of tangible and intangible costs incurred results should be considered as resulting harm.

So, this feature requires the recognition of innovation resulting harm as one of the indicators.

The second urgent problem is to improve the methodology of reflection of innovation in accounting and reporting.

In our opinion, the methodology of reflection on the account and the accounts of innovation will enable them to formulate the information based on the content, direction, species, sources of funding, organizational forms, and other indicators.

It must be emphasized that the current practice NAS number 21 "Accounting plan of financial and economic activities of businesses and guidance on its use"[1] does not meet the above requirements imposed on the production of information on innovation, its direction, types, sources of funding, organizational forms and other parties. For example, the accounting system provided it either in composition or in the name does not reflect the process of innovation, its direction, the resulting types of innovative products, the costs associated with these activities, which is very important for businesses nowadays.

For example, in 0100 the composition of "Fixed Assets", 0400 "Intangible Assets", 0700 "Uninstalled equipment", 0800, "Capital investment" accounts reflecting material goods (1000, "Materials", 2800 "Finished goods", 2900, "Goods") provided for in IAS 21 number does not exist accounts intended for the reporting of assets derived from innovation.

In our opinion, in all of the accounting system it is advisable to open the account, calculated on the account of individual types of innovative products.

The existence of such accounts and reflected in these assets derived from innovation makes it possible to obtain system information about the innovative development of the enterprise directly to the accounting records.

In our opinion, textbooks and manuals relating to accounting theory, the introduction of innovative activity in the accounting objects, as well as the recognition and evaluation of the contents of this object accounting and reporting should be disclosed on the basis of valid principles.

It must be emphasized that the current practice NAS number 21 "Accounting plan of financial and economic activities of businesses and recommendations for its support" for the maintenance of the account expenses related to innovation, it is necessary to provide a special account. Based on the content innovation activities of enterprises, the probabilities of obtaining results as well as the future direction make cost of inventories and services process for this activity due to the "3120" The costs associated with innovation expenses" in the standard, which has been mentioned above.

According to this account, taking into account the specific types of Activity of the innovative, analytical account is appropriate to maintain the following analytical accounts:

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[1] Registered №1181 by the Ministry of Justice of Republic of Uzbekistan on 23.10.2002

- ♦ scientific (research) work;
- ♦ fundamental research;
- ♦ practical research;
- ♦ scientific and technical work;
- ♦ Experimental design and development work.

Costs associated with the types of innovation should be accumulated throughout the activities of the debit account 3120 "Costs related to innovation." Costs of innovation that were conducted during the year and did not find its completion in the end of the year should be reflected in the account balance and, accordingly, as shall be specified in the balance sheet.

Innovative activity can give and not give results. Preparation of innovative products enables capitalization related to innovation otherwise their debit on the balance sheet as an asset types.

Not getting these products leads to the recognition of costs as damages and the cancellation of his account due to the profit resulting from general economic activity of the enterprise.

Write-off costs related to innovation, should be reflected on the credit account 3120 "Costs related to innovation" and, accordingly, on the debit of accounts expressing recognition of the final result.

Summing up, we can emphasize that the modernization of the economy accounts maintenance enterprise innovation, cost, and results obtained from this activity is useful to consider the following methodological consistency (See: Table 1).

Table 1. Order reflection on the accounts of costs and benefits of innovation enterprises (recommendation)

№	Substance of the transaction	Correspondent account		Base (Showing articles)
		Debit	Credit	
1	Material costs on innovation	3120	1010 - 1090	Minutes, reports, materials
2	Costs for staff salaries, with innovative	3120	6710	Payrolls
3	Costs for common social payments payroll employees involved in innovative activity	3120	6520	Calculation Journal-order number 10
4	Depreciation costs of the means of labor relating to the conduct of innovation	3120	0210 - 0290	Calculation Journal-order number 10 Account-facture
5	Other costs related to innovation	3120	2300 2500 6010 6910	Calculations Invoice Journal-order number 10
6	Adding to the costs associated with innovation in the capital construction	0810	3120	Judgment, order, protocol, account Journal-order number 10
7	Adding to the costs associated with innovation in the capital costs associated with the reconstruction, expansion and modernization	0890	3120	Judgment, order, protocol, account Journal-order number 10
8	Adding the costs of the innovation in the value of fixed assets	0110 - 0190	0890	Judgment, order, protocol, account Journal-order number 10
9	Recognition of the costs associated with innovation as intangible assets (licenses, patents, invention, design, trademark, trademark, etc.)	0410 - 0490	3120	Judgment, order, protocol, account Journal-order number 10
10	Recognition of the costs associated with innovation as damage	9430	3120	Judgment, order, protocol, account Journal-order number 10

In our opinion, the method of recording and reporting feature of innovation financing should give a chance of generating information about them on the basis of the characteristics and classification of types

of sources of funding for this activity. Innovative activities carried out at enterprises, institutions organizations mainly financed from two sources groups (Fg. 1).

Summary

It must be emphasized that the current practice NAS number 21 "accounting plan of financial and economic activity of economic entities" does not meet the requirements for the formation of groups on the basis of information contained in the picture regarding the financing of innovation activities at enterprises organizations and institutions. For example, the accounting system provided it either in composition or in the name does not reflect directly the sources of financing for innovation, which is very important for businesses nowadays. For example, the number provided in the 21 NAS account "Short-term bank loans," 7810 "Long-term bank loans"; 7820 "Long-term loans"; 8800 "account of target revenue" to its name does not directly reflect the sources of financing of innovative activities at the plant.

Figure 1. Financing source of innovation in enterprises
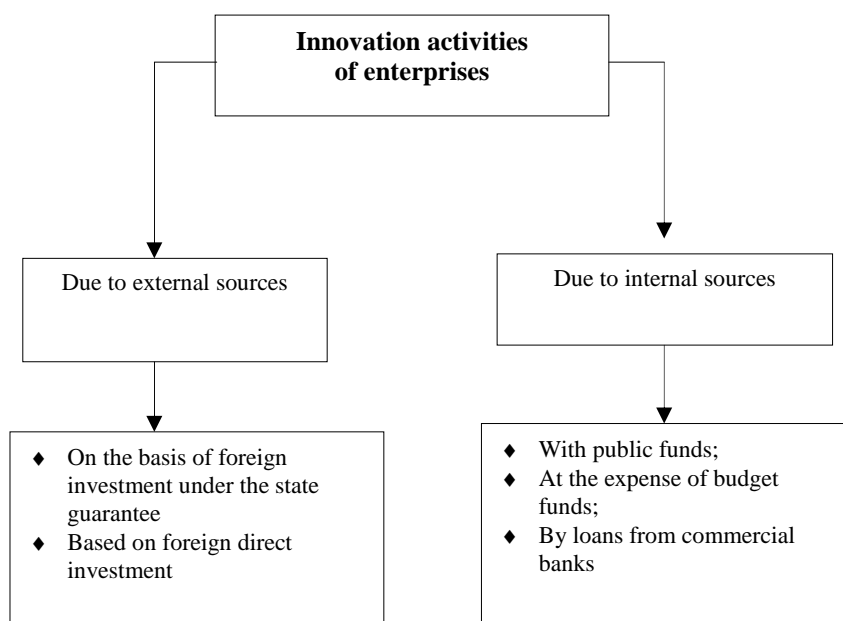
In our opinion, this accounting system should provide the following special accounts showing the sources of financing for innovation.

* 6811 "Short-term bank loans obtained for innovation";
* 6821 "Short-term loans obtained for innovation";
* 7811 "Long-term bank loans obtained for innovation";
* 7821 "Long-term loans obtained for innovation";
* 8811 "Grants received for innovation";
* 8821 "Subsidies received for innovation";
* 8841 "Tax breaks left in charge of the enterprise for innovation";
* 8891 "Other targeted revenue received for innovation."

Using these accounts in practice gives the opportunity to get the book directly from the main sources of information on the financing of innovation activities carried out now.

We offer suggestions and recommendations, in our opinion, will enable further improvement of the methodological foundations of accounting innovation, the scope of which is currently expanding.

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Socio-economic Situation of Women and the Development of Marketing to Women

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Abstract

There is a growing interest in marketing directed to women. This article attempts to identify the factors that contributed to the emergence and development of marketing to women. As a basis the outline of the socio-economic situation of women over the centuries in Western Europe and the USA was adopted. It was also necessary to describe the social roles of women; the key analysis of these roles was based on the situation in Poland. As the method the descriptive analysis was applied. The article outlines the relationship between marketing and sex. It seems that the reasons for the development of marketing to women should be sought in the changing roles of women today, and the consequence of the difficult and complicated situation of women over the centuries is a stereotypical approach and persistent underestimation of this market segment.

Key words

gender marketing, marketing to women

Introduction

Sexual identity is an important aspect in the thinking and behavior of people. In various communities people have opinions and beliefs about the expectations of each sex. Differences between a man and a woman are important in the process of market behavior, as they affect the decision-making process. Women represent more than half of the people living on the Earth, they control the majority of household expenditure, so they are an important subject of research. This article attempts to identify the factors that led to the development of marketing to women. It was assumed that a huge impact on the way women - female consumers are seen had a socio-economic factors and that some ways of how companies and institutions reach to the segment of women are likely to be a consequence of the situation of women which took place over the centuries.

The outline of the socio-economic situation of women over the centuries in Western Europe and the U.S.

The most obvious division of society consists of two groups: women and men. The views on them tended to develop over time, which influenced the perception and treatment of these two groups.

One can say that the women community did not generate any money for a long time. The situation began to change when traditional society began to be transformed into a modern society. This happened thanks to the modernization, which is conceived as complex social, political, economic, cultural and mental transformations taking place in the West since the sixteenth century, reaching its apogee in the nineteenth and twentieth centuries. It includes the processes of industrialization, urbanization, rationalization, bureaucratization, democratization, capitalism development, promoting individualism (Sztompka, 2005, 78). These processes were the reason of the slow change of the socio-economic situation of women. The labor market opened up for women but very slowly. Early capitalism, however, limited the position of women in the labor market. Areas of production, which in the Middle Ages were the domain of the female population (e.g. weaving, beer brewing) were moved from their homes to the plants in which only men worked (Bogucka, 2005, 19).

Women began to work professionally as a result of the industrial revolution, and with the development of capitalist factories. It was the unskilled and low-paid work. Factories employed women from the lowest social strata; as they were cheap labor force. The work gave the women material benefits, but they were minor and they were of marginal importance in the household budget.

An important aspect of having a relevant impact on the economic situation was education. In capitalism, education was an important factor on the way to social and economic advancement. However, the level and style of education that was offered to women was that of the Renaissance humanism, women were allowed to acquire reading and writing skills (Millet, 1982, 81). Only in the twentieth

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century, most universities stopped accepting only men students. Until that time women were excluded from academic education. Until the mid-nineteenth century, the dominant view was that the cause of lower participation of women in science were their biological and mental health characteristics (biological determinism), which were a cause of their lower ability to deal with scientific activities(Millet, 1982, 81).

The frustration caused by poor economic and political situation of women was the cause of the women's movement. Its origins date back to the second half of the eighteenth century, and it developed in the nineteenth century. The most important demands were: women's access to education, the right of women to education, especially higher education; reform of family law (the abolition of the dependence of married women from the men, the equal rights of spouses to decide about children, their upbringing and future); women's economic equality (the right to work, equal pay, the right of married women to dispose of the earnings and assets); voting rights for women. [1]

The women's movement broadened the possibilities of gaining economic independence for women, but still social strength of beliefs was large and the woman was identified with the family values and housework.

In the first half of the twentieth century the employment of women was very low, but the situation changed with the outbreak of the First World War. The works considered men became the domain of women. Despite the fact that after the war the male part of the population returned to their positions and women had to work at home, the scheme of dividing the work into masculine and feminine was broken (Giddens, 2012, 890-892). With the start of The Second World War, the situation repeated - the men went to the front, while the women took their jobs. After the war all countries were forced to rebuild their human potential. So the female model dealing with home, children, cleaning and cooking started to be promoted. All emancipatory aspirations were suppressed; the society criticized working mothers, accusing them of negligence and being selfish. The statistics in many countries recorded a decline in the number of female students (Pacześniak, 2007, 70-92.

In the U.S., the wars forced on women taking jobs as men. In the 50s there was the post-war baby boom; women left their current jobs and the age of marriage went down to the lowest possible level. It turned out, however, that American women giving birth and bringing up children were not quite happy, often fell into depression, lost the motivation and joy of life.

In the first half of the twentieth century women were involved in public life. In addition to being mothers, wives, housewives they became the female employees, heads of families and holders of earned money. The development of factories and mechanization, technological advances, regulatory changes meant that the working time became regulated, shorter than before. There was a time off and technical progress also created mass products. As a result, free time became the time of consumption.

In the second half of the twentieth century, the level of activity of women rose sharply. Probable causes of this increase were (Giddens, 2012, 891):
  - mechanization of many household works, which generates free time,
  - women bear fewer children and much later; many of them take a job at an early age, children are born and then mothers return to work,
  - changes in the scope and type of activities traditionally regarded as feminine,
  - an economic basis - for many families dual income is necessary to maintain a desired standard of living,
  - increase in the number of single mothers,
  - evolution of work - it became the fulfillment of personal ambition, the key to self-realization.

In the second half of the twentieth century, more and more attention began to be given to education. The end of the 60s education became a very appreciated value; the girly boom started in education. Women began to be more aware of their roles. Their focus on success and a career became increasingly important motifs in achieving self-realization. The result of all of the described changes was the emergence of a new woman - independent and educated. Disparities in pay between men and women contributed to the feminist movement. This movement proclaims the program of equal participation of women and men in public and private life, and elimination of legal, economic, cultural barriers and

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[1] http://encyklopedia.pwn.pl/haslo.php?id=3923389, more: P. Antrobus, *Globalny ruch kobiet*, [in]: Nalini Visvanathan, Lynn Duggan, Nan Wiegersma i Laurie Nisonoff (ed.), *Kobiety, gender i globalny rozwój, Wybór tekstów,* Polska Akcja Humanitarna, Warszawa 2012, pp. 438-440.

related with them thinking stereotypes which limit the participation of women and the exercise their leadership roles in industry, science, culture[2].

Socio-economic situation of women was improving.

Some selected social roles of women in Poland

Many anthropologists have studied the division of social tasks based on sex. The conclusions of these studies distinguish three general patterns in this regard (Marszałek):

1) sex is the key of assigning social roles - women and men are designated different social roles,

2) a specific set of tasks is consistently assigned to only one sex - mostly women are responsible for the home and the upbringing of children, men perform tasks requiring physical exertion and absence from home,

3) next to a small number of tasks attributed to biological sexes, there is a large variation in the cultural assigning of roles for both of the sexes - what one society considers as feminine behavior, in others it may be specific to men.

In Poland, the most important is the social role of a woman in the family. The patriarchal family model dominated the Polish lands from pagan times. Women were assigned the roles of wives and mothers, giving them an obligation to care for the house. That is how the stereotype of the "Polish mother" emerged limiting its activities to housework and child upbringing. This formula has survived to modern times, although in the late twentieth century numerous other patterns of behavior of modern women developed. In the activities of companies this pattern is often over-used, especially if one examines marketing communication with segment of women.

Polish women are better educated than men, more women than men have higher education. Already in the 70s of the twentieth century, women often had secondary education, and since 2000 more often than men they hold a university degree. Research shows that active women definitely better organize their private and social time, they are able to combine family responsibilities and professional ones. First of all, they want to work professionally, irrespective of income of their husbands and life partners. The image of an educated woman, professionally active, however, is still rarely used in marketing activities of companies and institutions, which probably is related to functioning stereotypes in society.

The first years of transformation clearly expanded the area of activity of Polish women by compensatory actions which redressed the existing deficits. Polish women expanded the catalog of the housewife by new roles such as the role of coordinator of indoor activities, a supplier, financial controller, logistics, distributor of material goods and financial advisor (Kotlarska-Michalska, 2010, 512–515). Women also took actions to support their partners and husbands. The difficulties associated with the transformation, the need for changes in the organization of domestic life, the problems associated with unemployment were solved mainly by women, which showed a greater flexibility in the operation. Starting work in difficult circumstances (prolonged unemployment of husband) contributed to widening the scope of women's power in the family and to raise her social status (Kotlarska-Michalska, 2011). It can be considered that professional work outside the home affects the growth of power as the woman receives financial sources and confidence, and can cater to more personal needs in dealing with the wider community, which also contributes to building greater independence from her husband (Duch-Krzystoszek, 2011).

The roles performed by women include the role of female consumer as well as a person who makes consumer decisions and has a different impact on them.

Marketing vs. Sex

The ability to make an offer based on sex is very old. Customer segmentation is in fact one of the main criteria when choosing a target market. However, only the socio-economic transformations drew attention to the huge market, which is the women market. For many years, marketing efforts were directed mainly to men, because they earned and decided on the expenditure. Changing the social status of women meant that their purchasing power increased and they were no longer ignored by marketers. Therefore, the term marketing gender emerged.

Sex of a man can be considered in two orders: biological and social, hence in the literature the distinction between biological sex (sex) and psychological one (gender) appears. Biological sex is treated

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[2] http://encyklopedia.pwn.pl/haslo.php?id=3900320 [access: 15.12.2013]

as a category determined by heredity, and psychological gender is more diffuse, and its genesis is associated with the process of socialization (Mandal, 2007,14). In the literature of the subject one can distinguish three positions on the origins of sex differences. According to the first sex is seen primarily in biological and deterministic terms. According to the second position biological conditions have no influence on what the person feels and how it works. Sex in this dimension is primarily a social construct. The third position is the integration of the two previous terms and it indicates at the simultaneous effect of the aforementioned factors. Psychological research on sex differences are based primarily on the second and third approach which show the influence of: the social environment (social learning theory), the dominant culture (social constructivism), cognitive activity units (role of schemas) and relationships with significant people (psychoanalytic theories) (Mandal, 2007,15).

In the dictionary definitions the most commonly used the term is - cultural gender which means "socially constructed attitudes and behavior, usually organized dichotomously – as masculinity and femininity" (Renzetti, Curran, 2005, 583). Gender is a culturally conditioned and shaped way of understanding, perception and expression of characteristics and behaviors attributed to men and women by society and culture.

Socio-cultural gender entered into the canon of concepts, which in research use not only the representatives of the social sciences and humanities, but it is more often used by economists. Gender is a challenge to build a new democratic order, which balances the current asymmetrical relationship between the public and private spheres, thus allowing to draw attention to those groups who may feel marginalized (Gładys-Jakóbik, A. Kozłowska, 2013, 5).

Gender marketing (Zatwarnicka-Madura, 2012, 341-348) involves a conscious focus on the male or female group of consumers. This means that both the product and the price, distribution and communication with the market should be tailored to a particular gender, bearing in mind its actual needs, not the common stereotypes. Gender marketing refers to how women and men think, what they feel, how they make purchase decisions.

Marketing to women began to develop in the late 90s of last century, mainly in the U.S. and Scandinavia. Still, it is becoming increasingly important, as evidenced by the emerging new marketing models, such as the Gender Trends (more: Barletta, 2003, 66).

The data from the report *"Women Want More"* by Boston Consulting Group from 2009 confirm that women have a tremendous purchasing power. A survey conducted on 12 000 women from 21 countries shows that in 2028, women in the U.S. will earn on average more than men. The results of the U.S. market shows that women make over 80% of purchasing decisions, including:
− 94% of the expenditure on house / apartment equipment,
− 92% of holiday spending,
− 91% of the expenditure on the purchase of a house or apartment,
− 60% of spending on cars,
− 51% of the expenditure on the purchase of electronic equipment.

In Poland [3], a study conducted in 2012 showed that 88% of women take decisions about food purchases for their home, including 66% doing it completely alone. About the choice of cosmetics and household chemistry for his family decides 87% of Polish women (of which 71% were fully own women's decisions). In addition, nearly 40% of Polish women buy for their husbands or partners all or most of the clothes and cosmetics (Pawlikowska).

It should be noted that in making purchasing decisions a woman can play different roles: the initiator of the purchase, a consultant, a decision maker, a supplier, a use. In the women's and men's decision-making process it is emphasized that (Kieżel, 2012, 99):
- women begin this process - asking around, gathering information;
- women look for a specific, satisfactory solution (option)
- women need more information and more options to consider;
- satisfied with the purchase usually rebuy the product.

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[3] Research entitled "Polki same o sobie" ("Polish women about themselves") was done within a joint project of Garden of Words agency and the Maison research house. The survey was conducted in July and August 201, on a representative sample of Polish women aged from 18 to 70 years. The aim of the study was to learn and understand modern Poles, their beliefs, motives of their decisions, expectations, daily life and related aspects, such as the perception of themselves and the world, values, family, education of children, health and beauty, sex, work, politics, economy, business, http://www.wirtualnemedia.pl/artykul/polki-konsumentki-jakie-sa [access: 12/17/2013].

According to M. Barletta (2003) conducting extensive research on gender differences in behavior, women need closeness in the relationship with the other party, they are people-oriented and they establish ties. They can perform several tasks at one time and, at the same time, they consider all a priority. They like extensive information about a product, pay attention to details – they are perfectionists. They are interested primarily in benefits they can derive from product features and service features. Women invest more time in shopping, they like to have time to think, and their biggest problem is the lack of proper support needed when making purchasing decisions. Shopping is the need for them to establish ties.

There are different approaches to reach out to women - consumers. According to one of them the most important are the four codes that relate to the attitudes and behaviors characteristic to women: the code of altruism (referring to the natural tendency for women to focus on the others), the aesthetics code (related to aesthetics, fashion, beauty and trends), the order code (attention to detail, planning), the ties code (building relationships) (more: Cunningham, Roberts, 2012, 90).

Women are not a homogenous group. They are affected by both demographic variables (age, education, place of residence, income) and performed roles (mother, single girl, boss, etc.) and many other social and psychological factors.

Summary

The analysis of the data presented in the article suggests that women stimulate the economy, they are responsible for the majority of purchases by households. The dominant participation of women in purchasing and purchasing co-decision is undoubtedly one of the many causes of the development of marketing to women. An increase in activity and an increase in the level of women's education are other factors affecting the development of this type of marketing. Women are becoming more aware of their needs and increasingly wealthy, which is of direct relevance to companies. In addition, the demand for goods, which for many years were purchased primarily by men, is increasing. Sectors considered so far as almost entirely male, such as finance, banking, investment, insurance, automotive must take into account in their marketing decisions the characteristics of the women market. Undoubtedly, the development of sex-oriented marketing is also associated with the knowledge of the differences in the structure and functioning of the brain affecting, among others, the process of decision-making.

In 2011, the first conference entirely devoted to marketing to women was held in Chicago, which is a symptom of the growing interest in this subject matter. This interest is also noticeable in Poland and it is likely to develop.

In spite of the changes in the social position of women, in the process of companies communication a stereotypical image of a woman is still visible. Social expectations of women are linked very strongly with beliefs about the role of women about a stereotypical vision of their place in the family and society. Young women in many environments are subjected to the dictates of realization of the traditional scenario which is "love, marrying the beloved man and the role of the mother" (Titkow, 2003, 8). The development of marketing to women, however, will have to take into account the changes in the perception of the roles held by them in the society.

The complicated situation of women over the centuries and the roles performed by them play a big role in marketing activities targeted at women. On the one hand a lot of interest in this subject is visible, on the other hand one can see the persistent underestimation of this segment probably due to negative past.

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4. Management of Tourism, Hotel and Spa Industry

The Development of Tourism in Slovakia in 2008-2012

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Abstract

The paper deals with the development of tourism in Slovakia in the period of years 2008-2012. The development is followed on the base of statistical data from the statistic portal in Slovakia. Author points out on the development indicators such as number of beds, overnight stays and much more in Slovakia, in regions of Slovakia and also in chosen cities, which are important centres of tourism.

The paper is divided into four chapters. The first chapter deals with tourism, it´s definitions, importance, types and conditions in Slovakia. The second chapter represents the development of tourism in Slovakia from the national view. Third chapter is dedicated to the development of tourism on the regional level and the fourth part shows important centres of tourism in our country and their statistical indicators. All indicators are followed in the period of years 2008 to 2012, so it is to see the impact of economic crisis on the tourism too.

Key words

Tourism, development of tourism, reginal tourism, centres of tourism

Introduction

Tourism as is known is a part of tertiary economical sector in every country. It belongs to the part of economics where big variety of services is provided. By the number and quality of provided services is often the quality of life in many countries measured.

In general is tourism bounded with the movement of people with the purpose of leisure, recreation, business, etc. This movement we can see everywhere, in every time and in every group of citizens. Whether the travel for leisure depends from the financial situation in each coutry, the travel for business is needed without any restriction from the finance state.

In last years it is to see the growing tendency of tourism because of the lack of people for knowing new countries, for escaping the daily routine, for new adventure or for business, too. Every country has its own specific features, natural conditions and beauties, historical and political development with its marks as well as temperament of inhabitants influenced by customs and traditions. The tourism industry includes everything that a traveller does on a trip – eat, sleep, party, attend a conference, rent a car, take a taxi, shop, change foreign currency etc. It means that all of the economic activities of farmers, fishermen, cooks, shopkeepers, bartenders, tour guides, banks, hotels, carnival bands, entertainers, electricians, customs, immigration and literally every job that impacts directly or indirectly on tourism are all part of the tourism value chain. It is clear that the tourism industry is far-reaching and is indeed everybody's business.

Tourism in Slovakia, natural conditions for tourism

Slovakia is a small country with the area of 49 035 km^2. In spite of the small area, our coutry includes high variety of natural beauties. From international accepted "natural attractiveness" in tourism in Slovakia we cannot find only one: the sea.

The dominant feature in the surface of Slovakia is the mountain range High Tatras. The Tatras are considered the gem of the West Carpathian Arch, which occupies a great part of the Slovak territory. They consist of the Western and Eastern parts and their most visited and most popular range is that of the High Tatras. It is also the tallest mountain range in Slovakia (25 of its tops are taller than 2,500 m). The High Tatras were modelled by glacier and represent a wonderful set of natural beauties with glacier valleys, cirques, lakes, waterfalls and peaks. The Carpathian Arch falls into several more or less parallel mountain ranges (for instance Nízke Tatry, Malá Fatra and Veľká Fatra, so popular among trippers), which are separated by brief depressions. The depressed areas form a belt of valleys sometimes connected by narrow passes and sometimes by wider river valleys. The varied surface of Slovakia also displays three lowlands: Záhorská nížina in the west, Podunajská nížina in the south-west and the Východoslovenská nížina- lowland in the south-east of Slovakia. (1)

Slovak nature is a big attraction for visitors from close and distant counties. Not only because more than the third of its territory is occupied by forests, but also because in a relatively small area you can find many different species of plants and vestures, out of which many of them are world unique. Forests are a big natural treasure of Slovakia and they take up 36 % of its total territory. Only Sweden and Austria are woodier in Europe. Owing to the vivid ecological conditions, Slovakia is very rich in flora and fauna. An estimate of 2,400 original species of vascular plants and even more species of grasses, mushrooms, mosses and lichens can be found here, which is more than for example in the six times bigger territory of Poland. Many species evolved and remained only in Slovakia.(2)

Big importance is given to various water sources. It is to find in Slovakia many mineral and thermal sources of water. In small area we can find many thermal water sources that are used in healing procedures and give high importance and support to the spa tourism.

Types of tourism

Although in actual practice we very often face different combinations of forms of tourism within a single product (tour), we can define these four structural forms of tourism mostly used in Slovakia:
- Cultural-cognitive tourism
- Sports-tourist tourism
- Spa and health tourism
- Rural tourism and agritourism.

Cultural-cognitive tourism

Through cultural-cognitive tourism, participants are introduced to important and unique architectural and architectural monuments of secular and sacred art at home and abroad (castles, manor houses, castles, cathedrals, churches, theatres, museums), the art of famous masters (gallery, picture gallery, interiors of buildings), with cultural attractions and facilities (historic urban cores), with natural wonders (caves, mountains, waterfalls, and other natural formations), with important social events (festivals, celebrations, exhibitions). The basic prerequisite for the development of cultural-cognitive tourism is the existence of cultural heritage. Conservation, protection and development of tangible cultural heritage (listed structures) and intangible cultural heritage (customs, traditions, folklore, language, dialect) is extremely important and constantly up to date. Recently we have:
- 5 sites in the World Heritage List,
- 28 conservation areas
- 83 monument zones.

In Slovakia is very high number of cultural heritage units. In every village we can find church, historical houses of majors and much more. Every city has its own history and buildings to show it, too.

Sports-tourist tourism

Sports and tourist tourism is geared to meet the needs of sports through:
- Active participation (skiing, rafting, surfing, paragliding, flying on a balloon or hang-glider, horse riding, climbing, cycling, hiking, etc.) Most of these sport activities represent the possibility of returning to nature. These environmentally friendly sports activities are typical motives of so called "green"- soft tourism,
- Passive participation of the client (sporting event).

In our country many people treat walking and hiking as the head form of sports and tourism and major potential of the country in the terms of tourism at all. It is preferred in summer time, in winter most performed type of sport is skiing and ski-walking. Slovakia has many areas where can people do this kind of sport. There are many possibilities for water sports in our country as well.

Rural tourism and agritourism

Very special form of tourism is agri-tourism. Slovakia still has places very little touched with industry. Especially marginal areas have good conditions for agri-tourism, because of the predominantly rural character of the landscape. People in villages still live with their customs, traditions, still work on the fields on their own, keep, feed and take care of domestic animals. Visitors can spend in these places vacations that look like life in "past times".

Spa and health tourism

Currently, health care, physical recovery and psychological well-being becomes to participation in tourism, which places claims on the supply of related services. It is the health tourism asserted, which is not only for spa towns typical. The cause of the development of health tourism is particularly environment, lifestyle and fast pace of life. Still more significant is the lack of movement, errors in lifestyle, especially in the way of nutrition. Entrepreneurs in the tourism industry respond to these requirements with the offer of specific products for health related with professional care and rehabilitation.

The trend of the new century became well-being, body care and beauty (so-called wellness, fitness, beauty). Offer of health tourism is ensured by spa with the extension of its offer, and also by offers from recreation center. The basic element of the offer are sports and recreational activities and programs to increase physical activity, incentives for mental activity, offer of a healthy diet and physical beauty to feel the joy of life. For example, to managers are offered stints that include training and rehabilitation activities.

Importance of tourism

Direct share of tourism in gross domestic product (GDP) reflects the consumption of local residents, foreign visitors and government offices in the country for the purpose of recreation and business trips to total consumption. The overall share including indirect effects also takes into account the induced effects, such as investment in tourism, government support and share of sectors with tourism stakeholders together.

In spite of the fact, that in many countries economic results in the tourism have growing tendency, in Slovakia it is some kind of stability to seen. In the period of years 2008-2011 due to statistical portal of Slovakia, the direct share of tourism on the GDP of Slovakia is app. 2,6% all time long. For comparison in Croatia this share is about 11% and Malta 14%. These countries depend more on tourism like our country as it is to seen on the economic results.

Development of tourism from national view

In this part are pointed out some statistical data, which represent the situation in Slovakia in the tourism in past years. There is number of accommodation facilities (a. f.) followed, number of beds in them, number of visitors and number of overnight stays. All data are processed from the official site of statistical office of Slovakia.

Table 1. Selected data from national view

Data from nat. view	2008	2009	2010	2011	2012	Aver.
N.of a.f.	3 434	3 292	3 126	3 011	3643	3 301
N. of beds in a.f.	187 698	187 050	183 898	186 156	201 398	189 240
N. of visitors in a.f.	4082645	3381354	3392361	3571093	3774062	3640303
N. of overnight stays	12 464 104	10 391 069	10 367 330	10 524 738	10 908 200	10 931 088

Source of data: www.statistics.sk

As it is to see from the table, number of accommodation facilities in Slovakia is decreasing each year, except the last one. In the time period of years 2008-2011 423 accommodation facilities stopped their activity. But in the last followed year, there are 632 new ones. Descending tendency is to see in years 2008-2010 in all indicators except of the number of visitors, that is growing from the year 2010. In years 2011, 2012 are all indicators growing. That promises better situation in tourism for next years and it is to hope, that the economic crisis is going to end.

Development of tourism from regional view

All this indicators, which are followed from national view, are mentioned from the regional data as well. Slovakia has three main regions, where can be divided to. It is the west-Slovakia (W-S), middle-Slovakia (M-S) and east-Slovakia (E-S) region. Each of them has own specifications.

First mentioned region is the region in the west part of Slovakia together with Bratislava region, because of the capital of Slovakia. Bratislava region is the one with most developed industry, infrastructure, etc. It is to say, that this region is the one with the highest life level.

Table 2. Selected data from W-S region

WS+Bratislava	2008	2009	2010	2011	2012	Aver.
N. of a. f.	959	963	928	909	1105	973
N. of beds in a.f.	65521	67460	67434	71832	76628	69775
N. of visitors in a.f.	1766460	1494380	1478865	1579165	1667529	1597280
N.of overnight s.	5031058	4243008	4231157	4288854	4586347	4476085

Source of data: www.statistics.sk

From selected indicators in the years of 2008-2012 we can see decreasing tendency during first three years almost everywhere. Years 2011, 2012 are considered as a breakthrough. Every indicator is growing similarly like the situation with data from national view. The lowest number of a. f. was reached in year 2011, after the lowest number of visitors and overnight stays in 2010. Paradoxically, the increase in the number of a. f. decreases the number of beds per one a. f. from 79 beds per a. f. in year 2011 to 69 beds per a. f. in 2012. In average there are 973 accommodation facilities in this region, 69 775 beds in a. f. and there are 4 476 085 overnight stays every year in average in the period of years 2008 – 2012.

The other region represents the area of middle Slovakia. The county has from the nature almost everything. Mountains in this area are a paradise for hikers and cyclists. The most common magnet for visitors of the region includes several publicly accessible caves, water tanks and water parks. The southern part stands out above all the numerous ruins of castles.

Table 3. Selected data from M-S region

Data from m-s r.	2008	2009	2010	2011	2012	Aver.
N. of a. f.	1 471	1 368	1 262	1 205	1 457	1 353
N. of beds in a.f.	61410	60267	58177	56641	63843	60068
N. of visitors in a.f.	1223188	1009412	1020628	1084023	1158490	1099148
N. of overnight s.	4160445	3477778	3493048	3587899	3612752	3666384

Source of data: www.statistics.sk

The middle-Slovakia region disposes with higher number of a. f. as a w-s region + Bratislava. This number is 1353 in average. In accommodation facilities are in average 45 beds. In spite of the fact of number of a. f., the number of visitors and overnight stays is lower than the number in previous region. Similarly we can see the breakthrough in first two indicators in year 2012, and the other two indicators in year 2011.

The last region is the east-Slovakia region. Part of this region is most attractive tourist area of Slovakia - High Tatras. Tourists like them especially for possibilities of hiking and skiing, and there are in addition to the Tatra National Park several climatic spa. Metropolis of the region and the whole of eastern Slovakia are Košice - center of trade, crafts, culture and education throughout the region. Košice is the second largest city in Slovakia and has an array of historical sites.

Table 4. Selected data from E-S region

Data from e-s r.	2008	2009	2010	2011	2012	Aver.
N. of a. f.	1 004	961	936	897	1081	976
N. of beds in a.f.	60 767	59 323	58 287	57 683	60927	59397
N. of visitors in a.f.	1092997	877562	892868	907905	948043	943875
N. of overnight s.	3272601	2670283	2643125	2647985	2709101	2788619

Source of data: www.statistics.sk

As in the other regions of Slovakia, in this region, selected indicators of tourism show mostly decreasing tendency in the years 2008-2010. In average there are 976 accommodation facilities, 59 397 beds in a. f. – both with growing tendency from 2011. The one indicator that shows decrease only in year 2009 is the number of visitors. Every other indicator has a breakthrough in year 2010 or 2011.

So from regional view, it is to say that most of accommodation facilities are in middle-Slovakia region, most visitors come to west-Slovakia region and in this region are also most overnight stays.

Development of tourism in selected cities

In last three tables are mentioned some indicators of tourism in selected cities. The first one is Bratislava, the capital of Slovakia as a representative of tourism oriented on business and culture. The second one is Piešťany – famous town of thermal spa – for spa tourism. And the last one is the "city" of Vysoké Tatry, the entrance to same called mountain range, for sport-tourist tourism.

Table 5. Selected data from Bratislava

Bratislava	2008	2009	2010	2011	2012
accomodation facilities	96	109	113	118	136
number of beds	12 297	14 180	15 116	17 578	17 579
overnight stays	1 549 094	1 331 361	1 381 024	1 526 549	1 722 958
use of perm. beds in %	34,8	27	26	27,1	29,6

Source of data: www.statistics.sk

Table 6. Selected data from Piešťany

Piešťany	2008	2009	2010	2011	2012
accomodation facilities	43	41	39	35	38
number of beds	5 317	5 359	4 999	4 818	4303
overnight stays	662 185	565 309	573 746	557 715	559 089
use of perm. beds in %	41,8	36	37	34,7	40,9

Source of data: www.statistics.sk

Table 7. Selected data from Vysoké Tatry

Vysoké Tatry	2008	2009	2010	2011	2012
accomodation facilities	302	296	291	271	362
number of beds	16 000	15 767	15 615	15 635	15 449
overnight stays	1 471 120	1 255 746	1 281 015	1 333 916	1 449 157
use of perm. beds in %	37,1	33	34	35,4	35,2

Source of data: www.statistics.sk

As the tables show, every city has different development of indicators. The number of a. f. and the number of beds in Bratislava are continually growing. In other two cities the number of a. f. has decreasing tendency till year 2011. In spite of the growing tendency in number of a. f. in 2012, there are fewer beds in a. f. in 2012 than in 2011 in Piešťany and Vysoké Tatry.

In Piešťany we can see least a. f. but the highest use of permanent beds. This leads to conclusion, that spa tourism is one of the most stable. By the comparison of Bratislava and Vysoké Tatry, we can see, that in Bratislava there are not so many a. f., but the number of beds is approximately the same. This leads to conclusion, that in Bratislava we have big hotels and accommodation facilities which dispose with higher number of beds. But the usage of permanent beds is higher in Vysoké Tatry despite the number of beds and overnight stays.

Summary

Many statistical indicators followed in the paper show the impact of economical crisis in the tourism. Almost every indicator – from national view, from regional view or from view of the selected cities has a breakthrough in year 2010 or 2011. In the last followed year – 2012 are all indicators growing. Some of them exceed the values of indicators in the year 2008. In spite of this fact it is courageous to claim that the crisis is finally over. There is lot of space in the field of tourism, what can be fulfilled.

In the paper is shortly shown the development of indicators of tourism, but it is not a deep analysis of tourism at all.

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Theoretical Foundations of Planning and Management of Tourist Places

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Abstract

This paper discusses some key aspects of the theory of tourist places, based on the concept of "new geography." Tourist places are central spatial and socio-cultural categories of research in the context of regional systematic approach to analyzing the effects of tourism development. In the introductory parts, the definition and typology of space is given and then the conceptualization of place and some of its key features are discussed. Special attention is paid to the theory of tourist places. In this context, we explore some new types, dimensions and features of resorts in the postmodern consumer society: moment in space, imaginary and actual topography, a tourist destination as a total institution, a tourist place as a form of heterotopia, tourist places and non-places, a tourist place as a solipsistic spatial and cultural cocoon, a tourist place as a point of glocal implosion, and a tourist place as a producer of events and sights (the phenomenology of experience). According to the theory of tourist places, and the presented typology, some key forms of transformation of space and places under the influence of tourism are presented. In the final part, the system of planning tourist destinations according to the spatial frame: national, regional and local, as well as different kinds of planning: master, continuous and systematic planning, are in the focus of research.

Key words

concept and typology of space, theory of tourist places, transformation, planning

Introduction

Every place, or landscape, as pointed out by Lynch (1982:30), is a field of communication. The messages which it contains may be explicit or implicit, simple or complex. They can be transferred by means of objects or people. Numerous messages sent by the environment influence people's behavior, their development, feelings and the intensity of aesthetic and emotional satisfaction. A place does not only affect the emotions and behavior of individuals, but also interpersonal communication; in this case, it implies the communication between tourists and hosts, and between tourists themselves. A tourist place is, therefore, an attractive geographic area that attracts tourists with its inherent properties and appropriate arrangements. In it, tourism is the dominant economic and social activity that transforms the place to meet the needs of tourists.

A place is a specific geographical concept, which is materialized and localized in space (city, territory, monument). It is subject to appropriation, has its borders, and carries a certain name (toponym). A place is a space that is being thought about, that is bordered and named; it is a product of culture, in the same way in which a landscape is a form of space perception, which man chooses from a set of undifferentiated whole. A place is a spatial whole, in which a certain human community lives, and that community is inseparable from the space (symbolism, history, language, culture). Today, in the era of global tourism, places are increasingly branded, and they are in competition with one another internationally. They are differentiated on the basis of diversity of urban landscapes, geographical location, climate, culture, language, cuisine, etc. Considering the passing of time and constant changes in the geographical area, every place is just a temporary result of the transformation of a space, because it is always in the process of development.

Some key characteristics of tourist places

A tourist place is a concept that includes identification of a localized set of attractive tourist phenomena in space. It is a temporary result of the creation of a specific location (*lieu*) by tourism, as well as the transformation of an existing place to a place with new characteristics. A tourist place condenses powerful imaginary charge, while incarnating activities and functions as a model for other tourist places, and tourists all over the world fantasize about it and visit it. A place reflects both the geographical location (relative) and the specific socio-cultural content: it is also an aggregation of material objects and ideas,

which were previously separated, and which now interact, and whose arrangement is in turn transmitted to other places. In this regard, the place is localized and delocalized at the same time.

A moment in space (*moment de lieu*), according to Ceriani (2005), includes more or less indefinite duration, a decisive moment in the continuous flow of time, in which the given place radically changes its qualitative properties. This "reversal" occurs as a result of the impact of social innovations that come from outside. At a moment in space, a meeting of the social practices of external factors, which is accepted and implemented by internal factors, occurs. All this takes place in a specific spatial coverage (inherent socio-cultural, bio-physical, symbolic, and other characteristics, i.e. *genius loci* of the given place) and time context (the spirit of the time or epoch, which produces a specific view of the world and appropriate needs and values) that give it content and meaning. Therefore, the moment in space leads to interaction and mutual intersection of the specific place in space with the specific moment in time, where, also, at the same time, the external influence must intersect with the adequate internal response. Only when this multiple convergence of complementary forces occurs on the historical scene, new tourist places emerge, whether it is a case of a transformation of existing non-tourist places in tourist places, or a creation of new tourist places *ex nihilo*. Finally, the emergence and duration of a certain tourist place is of a temporary character, i.e. "limited shelf life." Like every product on the market and every living being on the planet, tourist places have their lifetime and successive development stages: birth, growth, maturity, declination and death. This means that, in the same way that tourism at one "moment in space" replaced a previously defunct economic activity, dying tourism can be replaced by a new type of tourism or a completely different activity.

Places are nodes of various hierarchical levels, where the arms of transport networks within a specific spatial frame intersect. The subsystem of nodes and their gravity zones, together with networks and domains (areas), make the internal structure of the tourism region, designed as an open space system, in which *inputs* (tourist flows) are transformed in accordance with the needs and expectations of the target market segments in *outputs* (transformed tourists). The degree of tourist satisfaction, as well as possible loyalty to a particular destination (branded tourist place), i.e. the number of repeat visits, depend on the intensity of positive transformations.

Places are the basis and reference for the construction of individual and collective identity, and religious (Rome, Jerusalem, Mecca), national (Dublin, Barcelona, Bilbao) and transnational cultural identity (Brussels, London, New York, Toronto), and to this end, memory backgrounds and cultural references are used, such as: political symbols, events, monuments, temples, institutions, etc. These places, being strong support and a source of identity of local people, can be, for this reason, very attractive for tourists at the same time. Tourists are most commonly in the role of outside observers, and rarely accept active participation and identification with the local identity and culture of the population. However, there are those who, under the influence of a strong local identity of the place, strive to fully permeate with it, to abandon their previous identity and receive a new one.

Places, within different spatial coverage (planet, continent, country, region), can have a central or peripheral position and status. The inequality of spatial distribution of attractive tourist places in Europe (north – south, center, east - west), for example, affects the uneven distribution of tourist flows within the continent. In addition, there is a planetary delocalization of European places, within the globalization process. The European culture, architecture and urban planning concepts are often present outside Europe, on other continents, and in the context of "Westward expansion" throughout history (conquests, colonialism, imperialism). It is therefore not surprising that many distant places on other continents are copies, simulacra or compilations of European styles from different countries and historical epochs (Washington, Montreal, Buenos Aires, Rio de Janeiro, Mexico City, San Francisco, Brasilia, etc.). However, there is a postmodern dislocation of Venice in Las Vegas and Disneyland, for example. Regardless of how paradoxical it may sound, contrary to the mentioned principle of diversity, the major tourist attraction of these places lies in the fact that they are copies of well-known European originals (the theory of simulacra).

Places can have an alternatively or simultaneously actual topography and imaginary-mental topography (as a part of collective beliefs and memories, i.e. what is found in literary, artistic, historical and scientific works). For example, Dublin can thank Joyce's works for its European influence, Prague can thank the works of Franz Kafka, Lisbon can thank the poetry of Fernando Pessoa, Barcelona can thank Gaudi's works, etc. It happens that there is a discrepancy between the actual and imaginary topography. Brussels is, for example, in the actual topography, especially today (the EU and NATO headquarters), much more important than Venice. However, in the mental topography and tourist imagination, it is the other way

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around. Venice is located at the top of the tourist universe, while Brussels is far below. Finally, there are cities, such as Paris, which are simultaneously located in both categories, both in the actual and mental topography (as the city of *The Human Comedy*, and *In Search of Lost Time*), not to mention a vast number of works, not only literary, that describe it in all European languages, including the works of fine art, architecture, and cinema, inspired by the spirit of Paris (the same goes for some other big cities, such as London, Rome, New York, Berlin, etc.). From the tourist point of view, the places where the imaginary (mental representations) and the actual (reality seen at the place) overlap have comparative advantage, compared to places where there is a gap between these dimensions, but it is not necessary, as you can see from the above example of Venice.

Tourist places, centers, settlements, as well as hotels, and also luxury cruise ships, have numerous characteristics of the "total institution," according to Goffman (1961). These institutions are places of residence and work, where a large number of individuals, cut off from the wider society during a specific period of time, lead common, closed and formally driven lifecycles. Travel and hotel complexes perfectly fit into the concept of total institutions. In addition, they are total institutions because they tend to meet literally all tourists' needs (sleep, food, drink, recreation, sports, entertainment, shopping, etc.) in one place, so that guests would have less need to leave the complex, which therefore increases consumption within the facility. However, there are significant differences, compared to Goffman's prisons and mental hospitals. Stays are voluntary, comfortable, entertaining and much shorter, and the control that takes place is not violent, visible, or brutal. Here, we have a case of post-modern, invisible, subtle and soft control, unlike modern control, which is visible, intrusive and robust. In this sense, Foucault, in his "Panopticon" concept, emphasizes gentle and subtle forms of control, which may cause more disturbance than open and brutal control. People do not even know that they are controlled (omnipresent security cameras), or that their behavior is pre-programmed and limited by an invisible mechanism of postmodern total institutions. Without this awareness, it is difficult, if not impossible, to question or revolt against this kind of subtle control of tourist places.

In the context of search for ontologically radically different places, Foucault's (1990:227-286) concept of heterotopias is significant, and those are places that "represent something absolutely different," and that are ontologically very different places than those where tourists spend their everyday existence (homotopy). Compared to the emitting society, the goal of studying heterotopias would be a description, an analysis and "reading" these different spaces, these different places in a kind of mythical, and at the same time actual antithetical competition with the place in which we live. The author distinguishes between *heterotopias of crisis*, as privileged, sacred or forbidden places, intended for individuals who are in a state of crisis in relation to the environment and society in which they live (tourists can also be seen as people who are in crisis of everyday existence), and *heterotopias of deviation* (tourist behavior is, in a way, a departure from the norms of everyday existence at home) where individuals, whose behavior deviates from the usual average and standards, go to (psychiatric clinics, prisons, nursing homes). Tourism is also a form of intermittent search for different places – heterotopia for a temporary stay, where the starting point is the place of residence – here. In this context, one can speak of heterotopias of low or high intensity, depending on the degree of diversity in relation to the emissive, source country, i.e. the place of residence. Certain elements of these heterotopias can be found in tourist resorts and hotels, but a more preferable term to describe them would be "heterotopia of hedonism," because preference is given to meeting the guests' needs, their satisfaction, that is, enjoying everything at their disposal, from the local architecture, cultural and historical monuments and natural beauty, to animation, and enjoying the sensory characteristics of food and beverages.

Starting from Augé's (2006:101) theory of *non-places*, a place (castle, church, monastery, temple, town center, palace, mausoleum) can be defined as an identity-based, symbolic, relational and historical, as well as mythical (cult) place that has a specific spirit (*genius loci*) and is an important determinant of local culture. In contrast, a space that cannot be characterized as either identity-based, or relational, or historical, can be defined as a non-place. The postmodern era and consumer society, as the author believes, increasingly produce impersonal non-places. It is a world where human beings are serially born in birth centers, they collectively grow up in kindergartens, are raised and educated in schools in a standardized way, work in factories and collective offices in an alienated way, spend their holidays in standardized rooms of hotel chains and, finally, usually die in cold, gray wards. Certain types of transit places, which have an extraterritorial, solipsistic relation to the environment, have an increasing importance to modern tourism. Typical examples of this are international airports, train stations and gas stations (with restaurants, and/or motels) on highways. These are points where the passengers of different

nationalities meet the local population. Those are cosmopolitan oases, globalist ghettos in the middle of the local, and they have a specific atmosphere, where the spatial compression of the global in the midst of the local is followed by time compression, that is, a very short period of time in which these people are together, randomly mixed with one another, because in a few minutes or hours, those people will not be there, and some new people will replace them. This category of places includes hypermarkets, large shopping centers, amusement parks, tourist complexes, hotels and hotel complexes, as well as other artificial cosmopolitan areas. Simultaneous accumulations of individuals occur at those places, and the individuals are similar, but indifferent to one another (passengers at the airport, guests in the hotel lobby, etc.), so there are no organic social relationships between them and those relationships are not developing. It is the consciousness of an alienated group, lonely individuality, temporality and transience.

However, places and non-places never exist in pure form; they are flexible antipodes: a place never gets erased completely, and a non-place is never fully a non-place, since it repeatedly leaves an unclear footprint of the local identity and relation. Therefore, practically, the symbolized space of a place can be confronted to the unsymbolized space of a non-place. The question is, whether tourist heterotopias, by definition, can be places or non-places. Tourist destinations and sites may have the character of a place or non-place, but they can have a hybrid character, as well. A tourist attraction – a place, has a clearly constructed identity, which has an architectural, historic, cultural or other value that individualizes and differentiates it. The Taj Mahal in India represents an exclusive, unique and superb tourist destination, while a ski run on a slope of any mountain in the world, or a sandy beach on a shore of a warm sea, are many times repeated models for tourist attraction with all the features of standardization, so that is what makes them typical non-places. The non-place paradox is that foreign tourists, psychologically "lost and vulnerable," in a country they are not familiar with (threatening local environment), feel safe only at "well-known, recognizable and standardized non-places," in the anonymity of airports, highways, gas stations, supermarkets and hotel chains, which are identical or very similar to those at home.

Hybrid tourist attractions, in different proportions, combine the characteristics of places and non-places. Typical examples of "non-places in places" are standardized, architecturally insignificant hotels, located near attractive tourist locations, from which, a part of the attractiveness and identity is transferred to the hotels nearby (dozens of impersonal, international hotels in the town of Siem Reap in Cambodia are extreme non-places in the vicinity of one of the largest global tourist attractions – the Temple of Angkor Wat). In contrast, typical examples of "places in non-places" are themed hotels – places in Las Vegas, which, in the middle of the desert, as the archetype of a non-place, have created an attractive tourist destination. There is also a situation where a hotel place and tourist place overlap (for example, the famous *Hotel Negresco* and *Carlton* on the Cote d'Azur, *Ritz* hotel in Paris, *Sveti Stefan* in Montenegro, etc.).

Finally, there is a situation in which a non-place hotel is located at a non-place (an impersonal motel on an empty field along the highway). In practice, of course, completely "pure" situations are rare, because there is always certain overlapping and crossing between places and non-places.

A tourist place is a local cultural product that is sold on the international tourism market. However, striving to meet the needs and high demands of guests, in terms of comfort and entertainment, tourist places include numerous standardized elements of the global civilization, with which the process of space homogenization begins, and that is contrary to the very nature of tourism, which is based on diversity. Every hotel is a certain "cultural cocoon." On the one hand, for tourists, it is a safe cocoon of their own culture in the midst of the unknown and threatening environment (for example, a Hilton Hotel as "miniature America" for American tourists in third world countries). On the other hand, for the local population, every hotel is an oasis of a distant world, a ghetto where foreigners are concentrated. For the local population, entering a hotel has the effect of a pseudo-travel abroad to another, more beautiful and richer world, about which they dream. For the majority of local population, luxury hotels are financially, formally, and even physically inaccessible (prohibition of entry, unless they are employed as staff), while the local elite has the opportunity to contact with foreigners, and in this case, the hotel becomes a place of mixing the imported, tourist and local culture (acculturation). Finally, it is often the case that luxury hotels strive to integrate a part of the local culture to the hotel, by means of architecture, interior design, crafts and artistic decorative elements, and restaurants with local specialties. In this way, the hotel product is differentiated; a part of local exoticism is entered into public areas and rooms, which allows for an easier appropriation of the traditional culture by tourists.

A tourist place is a stage on which different cultures collide: the local culture (the local population, different social groups, and staff), imported cultures of guests from different countries (which can be

mutually complementary, indifferent or opposing), as well as a specific tourist culture (which also varies, but it can be a kind of a common denominator). In addition, numerous interpersonal, group and inter-cultural relations between tourists and the local population intersect there (the main relation category from the point of view of intercultural communication), between tourists and tourists (the degree of complementarity and non-complementarity of certain categories of tourists, taking into account the national, racial and religious background) and the relations between different groups of local people, regarding tourism and the presence of tourists (different interests and attitudes towards tourists can generate conflicts among the local population regarding tourism). All these cultures and groups intersect and engage in interaction, but neither one of them is homogeneous, so there are complex relations within each of them regarding communication with other cultures. With that in mind, a tourist place can be conceptualized as a specific "global stage," as a place of intercultural communication, as a point of implosion of the global to the local. In this sense, a tourist place is a challenging field of socio-psychological and cultural research. Finally, a tourist place is not only a place of collective events and relations, but it also may be a place of personal relationships, intimate human destinies and dramas. In reality, as well as in novels and films, tourist places and resorts are ideal stages for love meetings and romance, for encounters with celebrities, movie stars, models, politicians, businessmen, agents, adventurers, seductresses, rich people, swindlers, policemen in plain clothes, but they are also places in which suicides and murders occur, and all that mythologizes tourist centers and hotels as special places, suitable for dramatic twists and plot unraveling.

Experiences are the main goal of tourist travels, its psychological essence, because tourists embark on a journey, constantly looking for new and different experiences that cannot be achieved at home. In this context, a tourism product can also be defined as an experience. In fact, all kinds of tourism products are perceived by users as experiences. Experiences are produced, organized and offered by a tourist place (event management) to meet the identified needs of target market segments. An experience begins by visual identification of an attraction, that is, the first in the chain of experiences is related to the aesthetic experience of the place. This is the case of an inseparable bond between the architecture of the place, on the one hand, and the attractiveness of the immediate environment in which it is located, and which may be natural or anthropogenic. The relationship between attraction and environment can be harmonious, but it can be in random or intentional disharmony. An experience source is also the "interior" of the attraction (castle, church, monastery, pyramid, cave), i.e. the entire inner content. However, since all that is not enough, especially for guests at sea resorts, spas or mountains, tourist places often organize various forms of animation. In fact, it has been empirically determined that the majority of guests does not know how to have fun on vacation (alienated work disabled them for creative leisure, collectively and individually), so they are in a situation where they are bored, and this may be an important cause of dissatisfaction and "escape from travelling" in the future. Therefore, tourist place managers pay more and more attention to organizing collective forms of entertainment, ranging from sports and recreation, through field trips and stays in local communities, to infantile forms of entertainment, linked to amusement parks and popular game shows on television. Given the above, tourist places are increasingly emerging as producers of a wide range of experiences in order to satisfy all heterogeneous groups of tourists who stay there.

Summary
Tourist places, however, have a number of practical dimensions that need to be addressed in a rational manner. In fact, bearing in mind the mentioned conceptualization of a tourist place in the context of the place theory, as well as their most important characteristics, in practice there is a need for planning tourist places, and broader spatial frameworks, in which tourism develops, and where places are the mainstay of tourism development In this context, planning provides an important framework for the coordination of public and private sector in tourism development and management of visitors. The main objectives of the tourism development strategy include: identification of key issues of tourism development; improving the quality of tourism offers and increasing profits in order to obtain social support and perform resource allocation; an analysis of existing tourism resources (natural and man-made attractions, accommodation facilities); market segmentation, market profiles of visitors, the analysis of the main trends of target market segments (long and short stays, business travel, special interests, etc.); an analysis of the strengths and weaknesses of tourism products; even distribution of tourism development, both in physical terms and in terms of time (season extension); creating new products and tourist places; improving satisfaction of users (tourists) by focusing on quality (accommodation, food and other services) and the corresponding value for money, with simultaneous solving of traffic congestion problems; creating events and attractions

to stimulate out-of-season visits; developing links with the tourist attractions in the hinterland; environmental aspects of the offer with a special emphasis on cleanliness and attractive buildings, urban and natural landscapes that could be the "core" (on which public and private investors should be focused, with the goal to improve the quality and character of the place) and finally, more efficient management of visitors with a special emphasis on increasing the capacity and improving the location of parking space, visibility and functionality of informative tourist spots, tourist signalization and pedestrian crossing signs, street cleanliness, public hygiene, etc.

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Service Guarantees in Tourism

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Abstract

It is very important for a business that customers should be satisfied with the service received and they should be willing to retake the same service the next time. Tourism is an exceptionally sensitive sector in this regard as it provides chances of recreation, treatments or scientific development depending on the type of the trip. Careful development may maintain the interest of tourists and visitors for a particular region in the long run. Besides thematic tours, there are many trips that attract tourists but services should remain attractive in the long term. The quality of the services provided can be ensured through the application of service guarantees. This study attempts to explore this new area of development.

"The 20th century was the century of productivity and the 21st century will be the century of quality." (Joseph M. Juran)

Introduction

Is globalization a new process? Is learning a new demand? Is a high level of quality a new demand? These questions can be answered through a careful analysis of tourist trips for which new types of consumer demand may mark the new paths of development in a world of changing conditions.

Globalization is not a new phenomenon, but the result of a long process. Globalization was induced by the fact that various regions, cities and other areas recognized their common interests and develop cooperation to avoid the negative effects of fierce competition. The development of global economy did not lead to the formation of a global society, which means that the differences in interests are still an important factor in their cooperation. In tourism, however, this is a favourable process because each region can preserve their own character which is supported by the local community. This offers the opportunity to the citizens of foreign countries to learn about other cultures and other lifestyles that have been formed as a result of natural processes. Learning about other culture is not a new phenomenon either, since it was always considered very important to travel and to trade as reflected in the ancient saying: "Navigare necesse est" (One has to navigate). Diversity in global economy enhances the opportunities in tourism while tourist trips, with any kind of motivations, influence other people's way of thinking and develop tolerance toward the living conditions and traditions of people living in foreign countries.

Trips and tourism affect the attitude of people in many ways. People involved will develop a different approach to a number of things:

- risks including natural risks arising from the flora and fauna, or risks of human activities such as terrorism or simply the difference between the expectations and reality, which may deter people from travelling more,
- travels that may foster other travels when the traveller has good memories of a pleasant flight, a bus ride in a spectacular scenery or a bicycle ride in the countryside,
- forms of liaison when people contact each other or cultivate their traditions on the internet,
- forms and characteristics of cooperation that may change a lot although they still have to respect international and regional contracts and agreements.

People can obtain information very fast in a globalizing world. People browsing the internet experience all kinds of impacts and they can see astonishing pictures and read shocking news. The system enables people to gather information about the world from the comfort of their armchair. There are some downsizes, too that might be manifested in this situation. Globalization made it obvious to everybody that nations might not be able to overcome considerable hardships while they easily settle minor problems. There is a shift in wealth and poverty (regarding average incomes and demands of the population of various countries) where an increasing amount of wealth is concentrated in a decreasing segment of society with poverty dynamically spreading in the middle class and the underclassed people. The problem

is further deteriorated by the fluctuations of financial markets where speculations lead to tremendous money flow at the international stage.

The following table displays how the world's wealth is distributed and it reveals the gigantic gap between the rich and the poor. (Source: Business Insider Oct 9, 2013) 32 million people, representing 0.7 % of the world's adult population, control $98.7 trillion or about 41 % of the world's wealth, and 3.2 billion people, representing 68.7 % of the world's adult population, control just 3 % of the world's wealth, or about $7.3 trillion. The number of super rich is on the increase globally. The number of people possessing a net wealth of more than USD 30m increased by 6.3 % and their accumulated wealth increased by 7.7 % on from 2012 to 2013. Algeria, Lithuania, Tanzania, Uganda and Nigeria joined the club of countries where people with a wealth of more than USD 1 billion lived for the first time in history in 2013.

Global Wealth Distribution		
wealth	adults (% of world population)	total wealth (% of world)
USD > 1m	0.7	41.0
USD 100,000 to 1m	7.7	42.3
USD 10,000 to 100,000	22.9	13.7
USD < 10,000	68.7	3.0

Tourism types and the role of tourism

Tourism is a kind of invisible export. This term is widely used for tourism that generates revenues in foreign currencies through offering services in the host country. There are two major types of tourism. One of them is business tourism also called convention tourism where participants intend to do business or attend conferences, meeting and negotiations. This type of tourism is characterized by a demand for organization since participants do not want to lose precious time. There are many agencies and organizations specialized in this type of tourism. The other type is recreational tourism embracing holiday on the seaside or in the mountains, city visits, pilgrimages, spa tourism, shopping or gastronomic tourism or different trips organized for the elderly people, families or young people.

Recreational tourism also includes soft or eco-tourism which is organized around natural beauties and the so-called aggressive tourism which targets events such as football matches that may be accompanied by vandalism and graffiti or aggression against other people. A relatively new form is disaster tourism when tourists intend to see the landscape after a natural disaster (an earthquake or a tsunami) or a human-made disaster such as the explosion of the nuclear plant in Chernobyl.

The traveller buys a touristic product including one or several services or a package of services. Most travellers prefer packages of services because they do not wish to spend time and energy on organizing their own trips.

Another important type is thematic tours which usually do not feature a particular itinerary but include all the venues that are relevant to a particular topic. Sights and services might be demanded in different combinations here. Such trips include the following, just to mention a few:
- trips organized on the basis of geographic factors, e.g. the Silk Road, the Hungarian Blue Path, etc.
- trips organized around various themes: natural conditions, pilgrimages, arts, pub visits, etc.
- trips categorized on the basis of the means of transport used, e.g. bike rides, motorbike rides, trips in a car, a boat, etc.

The popular forms of today are mainly classified as good quality opportunities within the domain of tourism. After a tiring day it is a good idea to have a massage, or have a swim in a pool in the evening. Quality is a key here since this is what most guests search the most.

The increased demand for quality and the related attention has many reasons without being complete:
- guests demand an increasing level of standards and they only return when their requirements are completely met,
- market competition where competitiveness plays a key role as the earlier comparative solutions have been surpassed by complex development and services but actors still aim to retain their customers,

- the shift from quantity to quality is regarded as an investment with a lot of benefits since research findings show that a better quality results in higher revenues compared to lower prices as guests do not consider the price to be the primer risk but the quality of service (the difference between the expected and received standard of service, that is) and
- development of tourism with reference to the evaluation of a country or a region.

Services are intangible. As a consequence, it is not possible to obtain a sample product. Buyers have to inform on the whole purchasing process since services are products for which only experience counts! Assets are important only in case the shortage of them jeopardizes the high standards of services (normally no one would expect any failure of means of transport such as a passenger coach, a jet or some bicycles). With respect to service marketing, Vargo et al. emphasize the importance of the services being interpreted as a process with a highlight on the skills and expertise which gain importance in the cooperation between service providers and customers (this is very competition becomes important too). For any service there are a few things that are crucial: clients must have trust to choose an organized trip; employees must be committed to the company to sort out unexpected problems; and word of mouth is very important since it delivers a positive or a negative image of the company.

Tourism is a special service for each party involved. This industry has the following implications for every participant:

a.) The organization or the travel agency works under the conditions of market competition; it makes efforts to expand or at least retain the market segment; it is generally privately owned; customers only check the services offered at given intervals; age and financial circumstances of customers play an important role; investment only yields returns in the long run for resorts, spas or centres of medical treatment (when they are operated abroad, the regulations of the host country must be respected); and for rented services there is a risk inherent in the standards of services which completely depend on the foreign partner.

b.) Agencies can easily substitute each other (there are plenty of agencies on the market); and as a result of seasonality, there is fierce competition (seaside resorts or resorts at lakes and rivers in the summer and ski tours in the winter). Customer satisfaction is crucial to agencies as most customers are not regular customers, except for some agencies specialized in thematic tours such as pilgrimages or ski tours. Customers have abstract expectations regarding accommodation, catering, prices or insurance services, etc.).

This short review shows that conflicts may emerge between the expectations of service providers and consumers since there might be differences between the standards of services they visualize. To mitigate such conflicts, it is important that the companies should adjust their services to quality trends, which can lead to the formation of long-term cooperation and the retention of market segments.

Defining quality

It is very difficult to define quality for services, since measurement standards cannot be used or they can only be used in a restricted way for these fields. Quality is represented in various forms depicting different approaches. One approach says that quality is represented by meeting certain requirements while the other approach states that services should meet certain conditions required by the customers. Service quality is understood to mean the difference between the perceived and the expected standards (Grönroos 1984, Parasuraman-Zeithaml-Berry 1985) in a widely accepted approach. When standards lag behind expectations, customers will be dissatisfied.

Berry et al. defined a quality determinant system of 10 parameters in 1985. This can only be used as a guideline in tourism but they can be interpreted well together with the profession-based determinants. Such determinants are: authenticity, security, accessibility, communication, understanding, tangible factors, reliability, response, skills and politeness.

Consumer/guest satisfaction is the measurement of service quality. Johnson (1999) made the following two categories of the determinants listed above:

- basic determinants which are absolutely necessary for the customer to feel satisfaction such as reliability, skills, accessibility, security and tangibility and

- distinguished determinants which serve as additional factors such as predisposition, courtesy, communication, generating trust and information on customers.

Customer satisfaction is always a process which reveals the standards received measured against expectations. Service guarantees can help to ensure meeting the required standards.

Service guarantees

Service providers are prompted to complete their services with a service guarantee. This means that they monitor customer requirements to fulfil them and make clear standards for both customers and employees of the company including management. No one can put up with poor performance, not even the employees can do so since the company may suffer considerable financial losses due to compensation to customers. Defects must be eliminated to deliver better results. Good performance would reduce risks for each party involved, it would help to form a clientele of regular customers and advise potential customers on new trips and new favourable conditions of trips.

Service guarantee is quite complex, it has very important elements though they sometimes stay in a contradiction. The following aspects must be considered:

- "it is a declaration which specifies the standards customers may demand (promised by the company) and what companies should do when they cannot meet the expectations" Hart, Schlesinger and Maher (1992);

- "Service guarantees are promises toward the customers and they are advertised as such in most cases" (Callan and Moore 1998).

Wutz et al. prepared a synthesizing study of the literature in service guarantee including a service model as well. The model reveals that a well designed guarantee not only addresses the satisfied customers but the dissatisfied customers as well. This helps the company to make corrections to the standards by following the instructions of a feedback. If the problem is sorted out in a fair way, the company will suffer a lower amount of loss of trust. Customer satisfaction can be measured in money-related terms, so it is very important to constantly monitor it with the participation of many experts. The quality attributes of a product/service is evaluated in the most common procedure measured as a subjective value of satisfaction (Mittal-Kumar-Tsiros 1999). What matters is the gap between the expectation of quality of a service and the actual performance that has been experienced for the service.

Service guarantee is related to company activities on the field of tourism as well. The introduction of service guarantees can help the company retain customers and have good financial results in the long run. Such guarantees are extremely important in the areas of spa tourism, wellness and fitness services since treatments are meant to help people in preserving their good health or keeping fit. Service guarantees increase turnover and help to develop a regular circle of clients. Guests are asked to assess services at the end of their stay. The standard of services can be further improved when guests' remarks are duly dealt with. Assessment is an important source of information about the elements of a service guarantee.

Summary

This study is aimed to map a special area within tourism which is difficult to explore since it lacks measurable parameters. Service guarantees should be elaborated and defined differently for each profession with respect to the special underlying conditions. Guarantee is used to build trust for the customer and help to establish fruitful cooperation with many regular customers in the long term.

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Logistics View on Religious Tourism

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Abstract

Tourist industry is characterized by the wide range of activities connected with the service of tourist attendance also of that associated with places of worship. Its appropriate planning and realization refer to basic logistics actions, i.e.: organization of transport, accommodation, food and admission to religious centers. These actions require coordination within the supply chain similarly as in case of business entities. This article shows relations between religious tourism and widely comprehended logistics.

Key words

religious tourism, pilgrimages, religious tourism's supply chain, places of worship

Introduction

Tourism and tourist trails associated with it play the major part in the economic development. In general, tourism is treated as a social phenomenon consisting in the migration in various purposes, including that associated with religious cult (Kowalski, Ruszkowski, 2011). Religious tourism means religious-cognitive departures, in which "holy place does not constitute the purpose of visit or tourist travel in general, but it is on route or in the destination of the journey held in other purposes than religious" (Kowalski, Ruszkowski, 2011, p.72).

Religious tourism takes special place in contemporary tourist migrations in the world and has a significant effect on the economic development of the country (Orzechowska-Kowalska, 2012). Both the great amount of pilgrims and the diversity of aspects of religious tourism decides about it. It is estimated, that to year 2014 almost 300 million people participated in it, amongst which two-thirds are Christians constitute. The straightest division of religious tourism distinguishes three basic kinds:

- pilgrimage,
- pilgrimage tourism,
- cognitive tourism to holy places (Różycki, 2009, p.4).

Tourism carried out in religious purposes is being called also pilgrimage tourism. It is the special type of religious tourism, in which religious motives for the travel dominate (Wrona, 2012). The purpose of journey and visit it the arrival to the holy place, to the centre of religious cult and devotion to different forms of piety.

The most often visited places of religious cult abroad and in Poland

From data mapped out by Institute of Catholic Church Statistics results, that every year in Poland almost 7 million people pilgrimage, but Polish pilgrims constitute 20 % of all persons pilgrimaging in Europe and 5 % in the world amongst Christians (Gmyz, Krzyżak, 2005; Co szósty Polak…). While pilgrimaging abroad such centers as the Holy Land, Rome, Assisi, San Giovani Rotondo, Fatima and Lourdes are most often visited.

In Poland are over 500 sanctuaries, to which the faithful from over 100 countries in the world arrive every year. To most often visited and simultaneously the most important centers of pilgrimaging belong:

- Cracow - Wawel, numerous historic churches,
- Divine Mercy Sanctuary in Łagiewniki,
- John Paul II Centre „Do not be afraid",
- Jasna Góra Monastery in Czestochowa and other (Wrona, 2012).

Table 1 shows the number of pilgrims visiting the most important religious cult centers in Poland in year 2012.

Table 1. The most often visited sanctuaries in Poland in year 2012 (Jackowski, Sołjan, 2007)

Place	Numer of pilgrims
Jasna Góra Monastery (Częstochowa)	4,5 million
Sanctuary of Our Lady of Sorrows, Queen of Poland (Licheń)	2 million
Divine Mercy Sancturary (Łagiewniki)	2 million
Pasyjno-Maryjne Sanctuary (Kalwaria Zebrzydowska)	ok. 1,5-2 million
Sanctuary of Our Mother of Justice and Social Charity (Piekary Śląskie)	1 million

Tourism of places of worship is connected to a large extent with political, economic and social situation of the country, therefore economic factors and spiritual factors affect tourist-pilgrimage activity. Many of Polish objects of religious cult are monuments financed by governmental and non-governmental organizations, they are also subsidized by visitors. Moreover, in these places the development of infrastructure, crucial for courses of religious tourism, is supported. Religious cult centres gathers thousands of pilgrims served by local gastronomic and relaxational points.
The example of religious cult centre – Jasna Góra Monastery

The important religious cult centre in Poland is Jasna Góra Monastery in Czestochowa, situated in the area of the Cracow-Czestochowa Upland. It is international pilgrimage centre visited by 5 million pilgrims annually (Jackowski, Sołjan, 2006).

In 2013 Jasna Góra Monastery was visited by pilgrims and tourists from 77 countries of the world, amongst which Germans, Italians and Americans dominated (fig. 1).

Figure 1. The summary of foreign tourists in Jasna Góra Monastery in year 2013 (Jasna Góra press office, December 31th, 2013)
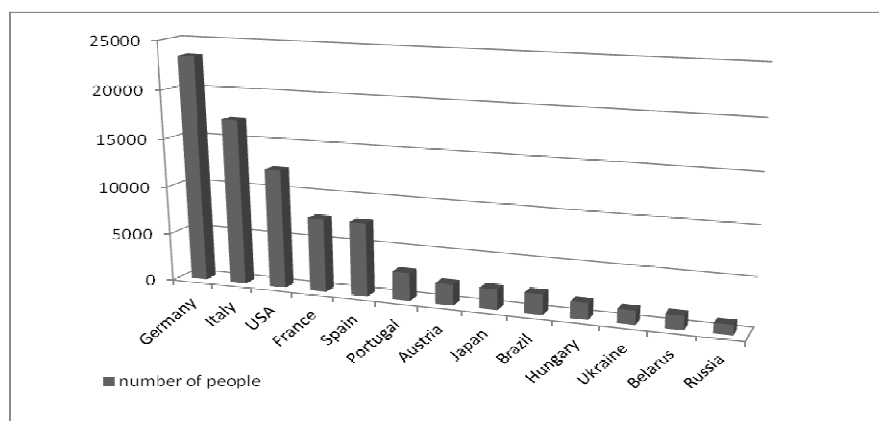
Table 2 presents directions of domestic pilgrims arrived in largest numbers in years 2013 and 2010.

Table 2. Najliczniejsze pielgrzymki do Częstochowy w roku 2013 i w roku 2012 (Jasna Góra press office, December 31th, 2013)

Pilgrimage's poinf of departure	Number of participants 2013	Pilgrimage's poinf of departure	Number of participants 2013
Tarnów	8 760	Tarnów	9 650
Kraków	8 500	Opole	2 700
Radom	7 133	Łódź	2 700
Warszawa	7 000	Gliwice	1 739
Rybnik	4 200		
Metropolital Pilgrimage	3 500		
Podlasie	3 500		

Pilgrims from Tarnów dominated both in year 2010 and 2013. In addition, since May to August 2013 at Jasna Góra arrived:

- 242 hiking pilgrimage - 129 388 people,
- 80 bicycle pilgrimages - 4 661 people,
- 12 racing pilgrimages - 360 people,
- 1 horse pilgrimage - 16 people (Jasna Góra press office, December 31th, 2013).

Almost 4 million Polish pilgrims going towards Jasna Góra have 50 different routes to choose, which coincide with domestic road infrastructure. It is essential because the largest number of pilgrims arrive to Czestochowa in organized pilgrimages by coaches. About 20 coaches arrive in Czestochowa averagely 15 times a year (Jatkowska, June 8th, 2014).

Logistics aspects

Tourism is one of areas, where actions having logistic character which refer to the linear and spot infrastructure and the information exchange between individual points with the help of the telephone communications and the Internet, are being observed. What is more, availability of appropriate infrastructure - grounds, objects and trails is one of the most important development factors of religious tourism.

In religious tourism people moving around use, similarly to other tourists, the same elements of infrastructure (mainly accommodations and food) and means of transport. Pilgrimages are often carried out by coach and train, their number is very similar to oneself (about 30% of the participation in the total number of all pilgrimages in the year). Journeys to the place of worship are more rarely executed with using means of transport i.e.: cars, bicycles or roller skates. About 7 % of pilgrimaging decide for driving a car, which enables individual, independent transport. Especially heavy pilgrimage traffic is being watched during main celebrations connected usually with the most important church fetes, which are over 450 during the calendar year (Jackowski, Sołjan, 2007).

Religious tourism supply chain

The process of pilgrimaging is usually accompanied by tourism infrastructure, i.e. elements usually corresponding to road infrastructure, bunkhouses and catering points, as well as changeable intensity of the migration from the point of departure to the place of worship. Therefore, in order to manage the pilgrimage traffic efficiently it is essential to use widely comprehended logistics, which include processes of planning, organizing and controlling actions similarly as in the company.

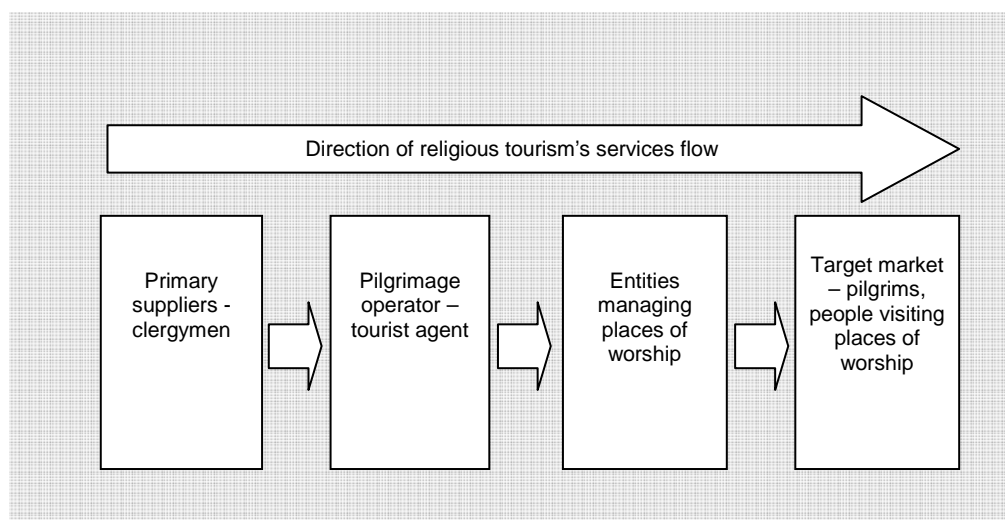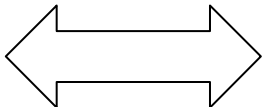Figure 2. Religious tourism supply chain (Song, 2012)

Figure 2 presents the way of planning pilgrimages, which is similar to the functioning of the supply chain, in which parishes, offices managing the transport, centers of worship and target customers i.e. pilgrims are key elements.

The process of canvassing has its beginning at the church, therefore tourist offices are willingly undertaking cooperation with parishes. Clergymen constitute the first link in the supply chain, on which the number of pilgrims and the place of choice of the religious centre depend. The clergyman keeps in touch with entities offering tourist services and supporting pilgrimages. These are usually offices and tourist centres which ensure access to places of worship and have the task of meeting requirements of pilgrims. Pilgrims answer final customers of the supply chain and constitute the target market both for organizers as well as religious centers (Nowak, Štefko, Ulfik, 2014).

Connections in the supply chain of religious tourism enable the effective coordination of the service of pilgrims and the maximization of individual targets of his links. However, the coordination of cooperation of individual links requires applying adequate tools, which task is to lower the cost of pilgrimaging with the assumption of the relation of the financial and immaterial purpose of each of chain links at simultaneous maintaining the expected level of customer service (Bentyn, 2013). In their identification features of the religious tourism with reference to features of the supply chain should be used (table 3).

Table 3. Areas of the coordination of the supply chain of religious tourism (Song, 2012)

Features of religious tourism		Managing of the supply chain of religious tourism
Need of control		Transport management
Itineracy	⟷	Supplies management
Fluctuation of demand		Reserves management zapasami
Complexity of the product/service		Information management
		Relations between chain links

Areas of the coordination required for ensuring the appropriate level of customer service concern mainly different character of tourist service, the fluctuation of demand and seasonal character of pilgrimage associated with it, as well as needs of organizations and control of relocation process. Due to these features managing the supply chain of religious tourism refers to transport management, supplies, resources and information with simultaneous guarantee of correct relations between individual participants in the whole process.

Concept of logistic operator in religious tourism

Especially planning the several days' pilgrimage requires due coordinating action. As in the company, the same during the pilgrimage, the control and back up of someone, who in logistics is called the logistic operator, is needed (Bendkowski, Stallholder, 2006). Appointing the manager of the pilgrimage as the logistic operator coordinating the appropriate flow of information and things gains special meaning in planning several days' pilgrimages, both hiking and motorized. His tasks are ensuring food, transport of equipment used during the pilgrimage and providing access to medicines and dressings. In case of the coach pilgrimage his tasks is also to ensure the appropriate transport of people.

In case of hiking pilgrimages lasting at least two days the operator must also provide the accommodation. At this stage the lack of appropriate flow of information can cause delays, and in exceptional situations also the lack of accommodation for pilgrims. For earlier planning of accommodation it is possible to choose methods of telephone and the Internet communications.

Summary

The tradition of pilgrimaging is deep-rooted in the awareness of Poles. Therefore, importance of religious tourism in the national economy is and will be significant. The increasing demand and people's requirements concerning the level of providing tourist religious services cause the increase of the demand for accommodation services and dietary points. Also management of individual departures with using own means of communication gains more and more significance. From the other side high costs of building the

night shelter cause, that the appropriate tourist accommodation is being built only at the pilgrimage largest centres.

These factors determine strong emphasis on appropriate planning and organizing of the process of pilgrimaging according to closely imposed order, which finds its source in logistics. Logistic organization of the service of pilgrimages is aimed at the correct identification of the demand and planning the course of pilgrimages according to the establishment of spiritual and economical using of organizational potential of each of links. After all, logistics directed at services of the religious tourism means the coordination process of all action required for conducting of the service, which is the journey towards the place of worship executed in the effective way in terms of costs and according to requirements of the customer.

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The Assessment of Tourist Destinations Competitiveness Using a Synthetic Measure

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Abstract

The competitiveness of enterprises is broadly discussed and covered in literature references, whereas the problems referring to both, analysis and assessment of tourist destinations competitiveness, receive relatively little coverage. It results from the complexity of this phenomenon and the fact that competitiveness can be understood in many ways. The application of the commonly used indicators of regional competitiveness is burdened with numerous imperfections. Synthetic measures, based on many variables having impact on a given phenomenon, can represent one of the more effective methods to be applied for the purposes of competitiveness assessment. They are based on various variable types and can serve for the construction of regional competitiveness rankings. The objective of the article is to present practical applications of a synthetic measure for the assessment of the selected Polish tourist destinations competitiveness.

Key words

competitiveness of tourist destinations, synthetic measure, competitiveness indicator.

Introduction

The competitiveness of tourist destinations is both, a complex and an ambiguous concept. The literature references are abundant in various definitions of this phenomenon, which proves the lack of consent among researchers in this subject matter, as well as the highly problematic nature of this phenomenon. The author discusses tourist destinations' competitiveness, in greater detail, in the second article included in the hereby publication and also in his previous studies. Among Slovak researchers the problems of tourist destinations are discussed, among others, by L. Šmardová who broadly presents its theoretical background (Gůčik, 2012, pp. 130 – 142). However, the most popular studies covering these problems were published by G. Crouch and J. Ritchie as well as L. Dwyer and C. Kim (Crouch, Ritchie 1999, Dwyer, Kim 2003).

For the purposes of further discussion clarity it has to be emphasized that the competitiveness of tourist destinations is understood as the combination of comparative and competitive advantages. A comparative advantage of a destination results from its ambient conditions, ingrained in it, which cannot be changed, e.g. natural advantages, anthropogenic environment, the climate, or such conditions which can be changed, however, it requires extensive effort and time, e.g. educating the society (workers' qualifications), legislation. Competitive advantage, on the other hand, refers to the methods for utilizing the existing resources, i.e. comparative advantages. It consists, among others, in taking advantage of the life cycle typical for a given location or a tourist destination in implementing innovative solutions, infrastructure construction, current management of a tourist destination (vide Ritchie, Crouch, 2005, p. 20). All of the above mentioned factors are supposed to improve, in consequence, the living standards of tourist destination residents.

The assessment of such a complex problem requires the application of taxonomic methods and a synthetic development measure.

The purpose of the article is, therefore, the assessment of tourist competitiveness in tourist municipalities located in the Polish part of The Sudeten Mountains, by means of applying D. Strahl's synthetic measure.

For pragmatic reasons, e.g. statistical data availability a municipality is considered as a tourist destination. There is a justification to it, since in Poland the system of territorial government functioning offers numerous competencies and tools to municipalities which can be used to construct competitiveness. Besides, they frequently cover large enough area to be considered destinations and they usually compete at the tourist market with other municipalities, both the neighbouring and more distant ones.

1. Synthetic measure and its characteristics in the assessment of tourist destinations competitiveness

In the process of tourist destinations competitiveness the comparison of multivariate objects is of particular significance. One of them is the synthetic measure suggested by D. Strahl. In spite of the differences the initial task, adequate for all taxonomic methods, is the specification of matrix components for observations including all variables.

It is not easy to define the set of variables, which are good enough to assess tourist competitiveness of an object, nevertheless it is the fundamental task to be performed. Such selection is, to a great extent, determined by the availability of statistical data. In some studies the problem of diagnostic variables evaluation, covered by the study, is raised. Each of them is of different weight, whereas the impact power is the same.

Multivariate objects can be compared in terms of each property individually (analytical comparison) or with regard to a specifically constructed aggregate property constituting the function of diagnostic characteristics (synthetic comparison). An aggregate variable contains information offered by all primary diagnostic variables accepted in the analysis, it is referred to as the synthetic measure of the level obtained by the analysed objects. Applying a synthetic measure, i.e. the transition from a multivariate system of characteristics into a univariate one allows using a conceptually relatively easy methodology in the form of linear ordering methods, which also offers wide possibilities for conducting comparative analyses. The synthetic measure facilities comparing and assigning destinations, in terms of their tourist competitiveness level, which may seem immeasurable.

The methods of linear ordering are broadly applied in economic research. They are used for the purposes of orderly arrangement, i.e. determining the sequence of objects in accordance with a particular criterion. Therefore, these methods can be applied when a certain overriding criterion is assumed, following which it is possible to arrange objects from the "best" to the "worst" one (e.g. the level of tourist competitiveness of municipalities). The synthetic development measure (SDM) represents the tool of linear ordering methods as certain function aggregating fragmentary information included in particular variables and defined for each object from a set of objects.

In case of studies using metric data (all variables describing measured objects are then placed on either an interval or a ratio scale) the need arises to make variables comparable by the normalization of variable values. It results from the fact that primary variables are expressed in different titres and also have different orders of magnitude. Synthetic non-model measures additionally require changing the variable destimulants and nominats into stimulants.

The synthetic measure suggested by D. Strahl (Strahl 1978), using arithmetic mean for the aggregation of variable values, was applied to analyse tourist destination competitiveness in the Polish part of The Sudeten Mountains.

The essence of this measure consists in the simultaneously occurring processes of variable values normalization and changing destimulants and nominats into stimulants, using the following formulas:
- for stimulants (variables which value increase confirms the desirable development of the analysed complex phenomenon):

$$z_{ij} = \frac{x_{ij}}{\max_i \{x_{ij}\}} \text{, where } \max_i \{x_{ij}\} > 0, \qquad (1)$$

- for destimulants (variables which drop in value confirms the desirable development of the studied phenomenon):

$$z_{ij} = \frac{\min_i \{x_{ij}\}}{x_{ij}} \text{, where } x_{ij} > 0, \qquad (2)$$

- for nominats (variables presenting the level of saturation – i.e. nominal value the deviation of which stands for incorrect development of a given phenomenon)

$$z_{ij} = \frac{x_{ij}}{nom_j} \text{ , where } x_{ij} \leq nom_j, \qquad (3)$$

$$z_{ij} = \frac{nom_j}{x_{ij}} \text{ , where } x_{ij} > nom_j, \qquad (4)$$

where: nom_j – nominal level of j-th variable.

Formulas (1)-(3) have a limited range of application for variables measured only on the ratio scale (the set of possible variable values is covered by the set of positive real numbers).

The values used in normalization: $\max_i\{x_{ij}\}$, $\min_i\{x_{ij}\}$ and nom_j determine the coordinates of the so-called "model", i.e. an object presenting the most favourable values of the discussed variables.

The synthetic variable takes the form of an arithmetic mean:

$$z_i = \sum_{j=1}^{m} z_{ij} = TDCSM. \qquad (5)$$

2. The application of synthetic measure in competitiveness assessment of tourist municipalities in the Polish part of The Sudeten Mountains

Based on statistical data availability, the particular municipalities, as tourist destinations located in The Sudeten mountain range, were covered by the study. There are 169 municipalities in Lower Silesia region. The conducted analysis focused on the assessment of tourist destination competitiveness of the so-called Sudeten municipalities (29) located in the geographical area of The Sudeten. These municipalities are simultaneously regarded as the ones presenting the most valuable tourist advantages, in which the tourist function is the dominating one, or is of great importance among other economic functions in a municipality (based on Defert's tourist function rate).

The assessment of tourist competitiveness for The Sudeten municipalities was performed using 12 metric variables. These variables were selected in the way to characterize the factors of tourist destination competitiveness. Based on data availability for municipalities in the Local Data Bank the following variables were adopted:

x1 – beds in hotels per 1 km^2 area of a municipality,
x2 – beds in other accommodation facilities per 1 km^2 area of a municipality,
x3 – number or resident tourists' nights (Poles) per 1000 inhabitants of a municipality,
x4 – number or foreign tourists' nights per 1000 inhabitants of a municipality,
x5 – share of all protected areas (national parks, nature reserves, landscape parks and others) in a municipality area in %,
x6 – municipal expenditure on tourism per 1000 inhabitants in PLN,
x7 – means obtained from the European Union and the state budget for financing EU programs and projects per 1 inhabitant in PLN,
x8 – number of tourism economy entities per 1000 inhabitants of a municipality (natural persons),
x9 – number of tourism economy entities per 1000 inhabitants of a municipality (legal persons),
x10 – emissions of particulate matter and gaseous pollutants in t/year per 1 km^2 area of a municipality,
x11 – municipal revenues from tourism and services per 1000 inhabitants of a municipality,
x12 – municipal revenues from legal persons, from natural persons and other units without legal status (including local changes and share in income tax).

x10 variable is a destimulant. The remaining variables represent stimulants. x5 variable is referred to as a stimulant even though it should actually be a nominate. It is, however, difficult to define a nominal value for this variable. It can be adopted that the share of protected area in the total municipal area should

have the nature of a nominat, since till a certain moment it has major impact on a tourist destination attractiveness improvement. Having crossed an optimum level an over extensive protected area in a municipality may constitute one of the barriers for making investments in a municipality. The statistical data used originate from the Local Data Bank (LDB) collected for 2012.

The purpose of the study was to perform the linear ordering of municipalities located in The Sudeten in terms of tourist competitiveness level by applying D. Strahl's synthetic measure which can be regarded as the Tourist Destination Competitiveness Synthetic Measure (TDCSM). The results of linear ordering performed for The Sudeten municipalities, with regard to the level of tourism competitiveness and the division into municipal typological classes, similar in terms of tourism competitiveness, are presented in table 1.

Table 1. The results of linear ordering of The Sudeten municipalities in terms of the general tourist destinations competitiveness (based on all variables) - Tourist Destination Competitiveness Synthetic Measure (TDCSM).

Municipality	*TDCSM* total	Class	Municipality	*TDCSM* total	Class
Karpacz	0,76489	I	Bystrzyca Kłodzka	0,20987	III
Świeradów-Zdrój	0,45392		Kamienna Góra	0,20908	
Duszniki-Zdrój	0,45338		Jeżów Sudecki	0,20503	
Jedlina-Zdrój	0,39429		Stara Kamienica	0,19073	
Szklarska Poręba	0,38070		Mysłakowice	0,18782	
Lądek-Zdrój	0,31865		Podgórzyn	0,17429	
Polanica-Zdrój	0,26450	II	Lubawka	0,15464	
Kudowa-Zdrój	0,25476		Szczytna	0,14832	
Szczawno-Zdrój	0,24685		Piechowice	0,11911	
Stronie Śląskie	0,23983		Radków	0,10869	
Janowice Wielkie	0,22203		Głuszyca	0,10829	
Walim	0,22140		Wałbrzych	0,10462	
Jelenia Góra	0,21817		Kłodzko	0,09220	
Kowary	0,21578		Nowa Ruda	0,08201	IV
Międzylesie	0,21268				

med = 0,21268; *mad* =0,051820.
Source: author's calculations based on the conducted analyses.

Typological classes in tab. 1 were decided in line with the positional approach:

Class I: $Measure \geq med + 2,5 \cdot mad$	Class III: $med - 2,5 \cdot mad \leq Measure < med$
Class II: $med \leq Measure < med + 2,5 \cdot mad$	Class IV: $Measure < med - 2,5 \cdot mad$

Source: Lira, Wagner, Wysocki [2000], p. 93.

6 analyzed municipalities were included in the first typological class presenting the highest level of tourist competitiveness. The second typological class covers 9 municipalities featuring average tourist competitiveness level, whereas the third one lists 13 municipalities presenting low level of tourism competitiveness. The fourth class, characterized by a very low level of tourist competitiveness, includes just one class.

The suggested synthetic measure also facilitates distinguishing TDCSM for competitiveness in terms of basic tourist infrastructure, its usage and the rendered tourist services, calculated based on x1, x2, x3, x4, x8, x9 variables (infrastructural TDCSM), as well as TDCSM for competitiveness with regard to financial aspects based on x6, x7, x11, x12 variables. The results of the above procedure are presented on picture 1 and in tab. 2.

Picture 1. TDCSM value in the perspective of total, infrastructural and service, and also financial competitiveness
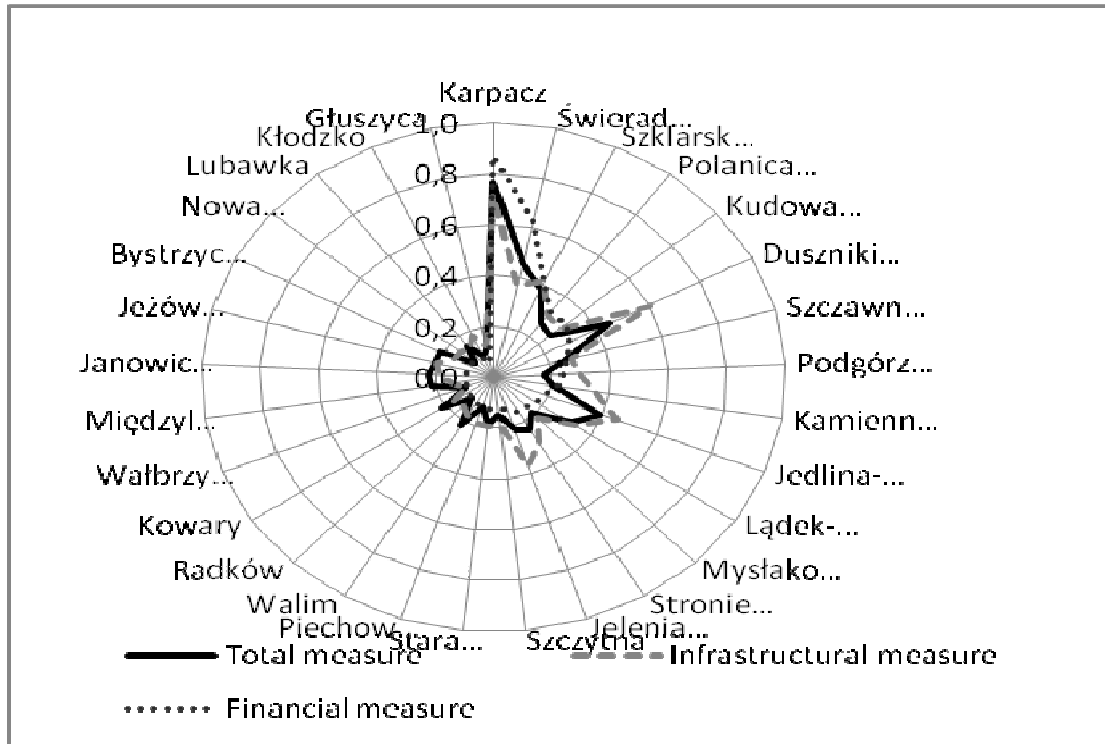
Source: author's calculations based on the conducted analyses.

Table 2. The results of linear ordering for The Sudeten municipalities regarding tourist competitiveness of destinations in terms of TDCSM (I) infrastructural variables and TDCSM (F) financial variables.

Municipality	TDCSM (I)	Class	Municipality	TDCSM (F)	Class
Karpacz	0,7159	II	Karpacz	0,86591	I
Duszniki-Zdrój	0,6028		Świeradów-Zdrój	0,62701	II
Jedlina-Zdrój	0,4528		Szklarska Poręba	0,40796	
Szklarska Poręba	0,4134		Polanica-Zdrój	0,32565	
Świeradów-Zdrój	0,3682		Kudowa-Zdrój	0,32421	
Jelenia Góra	0,3622		Duszniki-Zdrój	0,28868	
Kamienna Góra	0,3506		Szczawno-Zdrój	0,25793	
Lądek-Zdrój	0,3367		Podgórzyn	0,23290	
Polanica-Zdrój	0,3087		Kamienna Góra	0,21817	
Stronie Śląskie	0,3011		Jedlina-Zdrój	0,18759	
Kudowa-Zdrój	0,2981		Lądek-Zdrój	0,17795	
Podgórzyn	0,2904		Mysłakowice	0,15889	
Szczawno-Zdrój	0,2729		Stronie Śląskie	0,15745	
Mysłakowice	0,2199		Jelenia Góra	0,13405	
Jeżów Sudecki	0,2017		Szczytna	0,12684	
Stara Kamienica	0,1921	III	Stara Kamienica	0,12479	III
Piechowice	0,1887		Piechowice	0,12067	
Szczytna	0,1883		Walim	0,11942	
Janowice Wielkie	0,1816		Radków	0,10796	
Kłodzko	0,1777		Kowary	0,10574	
Kowary	0,1768		Wałbrzych	0,10271	
Walim	0,1744		Międzylesie	0,09859	

281

Bystrzyca Kłodzka	0,1553		Janowice Wielkie	0,09772	
Radków	0,1538		Jeżów Sudecki	0,09665	
Nowa Ruda	0,1514		Bystrzyca Kłodzka	0,09571	
Międzylesie	0,1443		Nowa Ruda	0,09031	
Lubawka	0,1375		Lubawka	0,08231	
Głuszyca	0,1280		Kłodzko	0,08107	
Wałbrzych	0,1046		Głuszyca	0,07272	

med1 = 0,2017; *mad1* = 0,0712; *med2* = 0,12684; *mad2* =0,036530.
Source: author's calculations based on the conducted analysis.

Taking into account the size of hotel accommodation facilities in a municipality and their occupancy by domestic and foreign tourists, as well as the tourist service potential expressed by the number of economic entities (businesses), TDCSM can be used to distinguish only two classes of similar municipalities. None of the municipalities were included in class I featuring the highest competitiveness and class IV presenting the lowest competitiveness. However, if financial variables are adopted in the assessment, i.e. the value of expenditure on tourism in a municipality, the obtained EU means and tax revenues collected by a municipality, TDCSM was applied to distinguished three classes of municipalities similar in terms of competitiveness. Karpacz municipality is the leading one each time in all TDCSM cross-sections, which confirms that it is the leader of competitiveness in all respects. Moreover, the top ranking positions are taken by the municipalities of Świeradów-Zdrój and Szklarska Poręba, as well as the resort type of municipalities: Kudowa-Zdrój, Duszniki-Zdrój, Lądek Zdrój, Polanica-Zdrój. It is confirmed by the fact that having a resort status extensively upgrades a particular municipality competitiveness on the tourism market.

Final remarks

The presented discussion illustrates that such a complex phenomenon as competitiveness of tourist destinations can, indeed, be measured, but it requires the application of the relatively complex taxonomic measures. These measures offer credible enough results and are cheap to apply, because they are based on metric variables published by the statistical offices. They do not require time-consuming and expensive surveys, which usually carry a certain error burden. Collecting statistical data, covering small territorial units NUTS 5 type, can be a problem. Doubts may also be raised regarding the selection of analysed characteristics, which is determined by the availability of statistical data. It can, however, be definitely stated that the synthetic measure based on statistical data offers one of the best results, which do not carry the error burden resulting from both, recognisability and non-measurability of explanatory variables.

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Middle East and its Potential for Future Development of Tourism

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Abstract

The paper aims to map and characterize the main facts and factors affecting the development and current status of tourism industry in the Middle East. The region Middle East has been the fastest growing in the world over the past decade but unfortunately these positive results were interrupted by the Arab Spring. But on the other hand the Middle East region is full of natural and cultural heritage, offers the prerequisites for medical and religious tourism.

Introduction

The Middle East as a whole attracts comparatively few visitors, and political events in the current century have generated new uncertainties and tensions which seem likely to further discourage tourists. Additional barriers relate to poor accessibility, a perceived lack of conventional attractions and limited promotion. Despite these apparently unfavourable circumstances, international tourism has been adopted by the authorities of the Middle eastern countries as a core element in a programme of economic diversification.

Middle East consists of the following countries: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Palestina, Qatar, Saudi Arabia, Syria, United Arab Emirates, Yemen (presented by UNWTO).

Part of this region are on the one hand, countries that benefit from the exploitation of mineral raw materials (especially oil) and tourism is for them marginal issue (Kuwait, Qatar, Saudi Arabia etc.). And on the other hand, we can find states that excel in any mineral wealth, but rather excel in cultural-historical and natural tourism potential and for them tourism currently represents a major source of income (eg Egypt) or countries that are in tourism gradually involved (eg Lebanon or Jordan).

1. An overview of tourism in the Middle East

The region Middle East recorded only 4,7 % (51,6 million) of the world´s total arrivals and 4,1 % (47,3 billion US$) of receipts in 2013, despite having a rich array of natural and cultural assets.

The region Middle East that has been one of the fastest growing region in the world over the past decade, lost an estimated 3,2 million international tourist arrivals in 2011 (- 0,9 %), totaling almost 55 million. Most destinations in the Middle East suffered, directly and indirectly, from the impact of the social and political development and changes in the region (so-called Arab Spring). Syria (- 41 %), Egypt (- 32 %), Lebanon (- 24 %), Palestine (- 15 %) and Jordan (- 6 %) saw significant decrease in tourist arrivals. Nevertheless, some destinations sustained steady growth. Saudi Arabia recorded an impressive 61% growth in international arrivals in a major rebound from 2009 and 2010 thanks to important efforts by the authorities to increase the role of tourism in the country´s economy. The emirate Dubai reported an increase of 9% over 2010.

As the table 1 shows, international tourist arrivals amounted to 51,986 million in 2012. The region experienced a 5 % drop in arrivals due to continued tensions in some of its destinations, while its largest destination Saudi Arabia (- 22 %) also reported a considerable decline in arrivals as it could not consolidate its bumper increase of 2011 (+ 61 %). Receipts in the Middle East were still down (- 2%) in 2012 due to the continuing political turbulence in the region, but still experienced a relative improvement compared to the decline in 2011. The region showed some very mixed results by destination. Egypt experienced a sustained rebound (+ 18 %) after the decline of 2011. Palestine (+ 9 %) and Jordan (+ 5 %) rebounded as well. The United Arab Emirate of Dubai (+ 10 %) continued to grow at a sustained pace, while Oman and Qatar also reportedly benefited from strong demand. Lebanon (- 18 %) is still suffering from the conflict in neighboring Syria.

Table 1. International Tourist Arrivals (million)

Middle East	2010	2011	2012	2013
Bahrain	-	-	-	-
Egypt	14,051	9,497	11,196	9,174
Iraq	1,518	-	-	-
Jordan	4,207	3,960	4,162	3,945
Kuwait	207	269	-	-
Lebanon	2,168	1,655	1,365	1,274
Libya	-	-	-	-
Oman	-	-	-	-
Palestine	0, 522	0, 449	0, 488	0,545
Qatar	1,519	2,527	-	-
Saudi Arabia	10,850	17,798	13,664	13,213
Syria	8,546	5,070	-	-
UAE (only Dubai)	7,432	8,129	8,977	9,990
Yemen	1,025	829	-	-
Total	**58,181**	**54,936**	**51,986**	**51, 571**

The Middle East continued to show some mixed trends in 2013 due to the ongoing tension in some destinations. International tourist arrivals remained at 52 million (0 % growth) whereas receipts decreased by 2 % to USD 47 billion.

Results varied across individual destinations. The United Arab Emirate of Dubai grew a robust pace of 11 %, as well as Palestina (+ 11 %) and Oman (+ 8 %) also reported healthy growth. Other destinations faced declines. The region´s top destination Saudi Arabia reported 7 % less tourist arrivals than in 2012. Egypt posted double-digit growth in the first half, but saw a significant drop in arrivals in the second half due to renewed political tension in the country, leading to an overall decrease of 18 %. Lebanon (- 7 %) and Jordan (- 5 %) continued to suffer from the conflict in neighbouring Syria.

Tourism in the Middle East is forecast to grow at 4,6 % per year up to 2030, compared to the world average of 3,3 %. According to the UNWTO Tourism Towards 2030, the number of international tourist arrivals to the Middle East is expected to achieve 149 million by the year 2030.

These promising forecasts encouraged the Arab countries to change their economic view of switching to the strategy of diversification of their national income sources in an attempt to reduce their reliance on natural resources. Currently, tourism is regarded in many Middle Eastern countries as one of the major sources of foreign exchange earnings and essential for balance of trade purposes.

These countries have invested in upgrading infrastructure in order to attract and host different types of tourism and different types of tourists.

2. Destination development

Among selected key of tourism development belong stability, government policy, accessibility, amenities, attractions and promotion form. [11]

Stability in economic, social and political domains is essential for tourism as severe disturbance and volatility will deter many tourists. The situation in the Middle East is unstable and has a negative effect on arrivals and receipts in tourism (see above).

Tourism may thrive in destinations under the control of political regimes that have no clearly defined tourism agenda and restricted interest and resources, but governments have a crucial part to play in initiating and sustaining development and this is especially the case where the private sector is weak. In some Middle Eastern countries tourism had been identified by the governmental authorities as a possible growth industry by that time and government accordingly intervened and began to spend on infrastructure

for example. Countries started to invest substantially in tourism, which began to be a significant pillar of the economies. Tourism was positioned at the centre of the diversification programme in some Middle Eastern countries. Saudi Commission for Tourism and Antiquities Department of Tourism and Commerce Marketing in Dubai, Jordan Tourism Board, *Lebanon* County *Tourism* Promotion Agency – here are a few examples of institutions that are responsible for tourism planning, development and marketing.

Accessibility in tourism is how easy it is for the tourist to access or get to the desired destination. The history of tourism is closely tied to advances in transport and easy access by air is a prerequisite for any country seeking to be a leading international destination. For example Dubai aspires to be an air transport hub for the Middle and Far East and authorities are building an appropriate communications infrastructures also in others Middle Eastern countries.

The crucial amenity demanded by all tourists is accommodation and hotel construction has been officially encouraged. Hospitality development has been facilitated by a relaxation of rules on land leasing and ownership and a large number of accommodation facilities will be opening within the next few years in the Middle East. Most global hotel groups are represented, either in the city or on the coast, and seem eager to extend their portfolios.

Middle East boasts facilities for sailing, water skiing, windsurfing, diving, fishing, golfing on grass or sand and skiing. Guests can join excursions into the desert, which is the scene for camel safaris, dune driving, sand skiing, exploring wadis in four wheel drive vehicles, sunset barbeques and visits to isolated Bedouin villages.

With the responsibility of promoting the Middle East brand, the corporations/institutions establish and will establish and operate representative offices in key markets around the world, taking responsibility for the commercial marketing of the countries and their tourist facilities, resorts, products and services through advertising, event organisation, festivals, exhibitions, entertainment and commercial shows, social media, digital marketing and other means of communications.

Tourism potential

There are two main trends in defining tourism potential. Tourism potential can be defined as "the sum of possibilities that the natural and social environment puts at disposal of tourism activities". [6] It is in according with Hall C.M "basic condition of the development"[7], or with Muntele I., Iaţu, C. "sum of objective or subjective conditions"[17]. This immaterial approach emphasizes on the fact that tourism potential is preliminary and precedes certainty, as "potential" or "possible" expresses only the capability of occurring. There is also a "material" trend which considers tourism potential as "a sum of natural and human resources" [13].

Tourism development is conditioned by the existence of a suitable potential, which has a strong territorial dimension and is linked to the landscape system. The potential of tourism can thus be defined as a set of terms and conditions for the development of various forms of tourism in the area. (see Figure 1).

Figure 1. Various forms of tourism
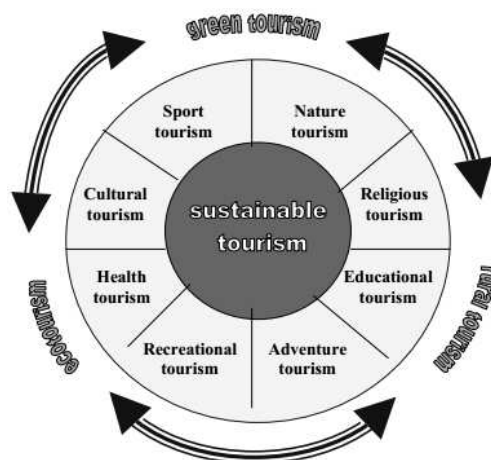
Source: European Commission (2013). Attitudes of European towards tourism. [online]. [2014-01-07]. Available from: http://ec.europa.eu/public_opinion/flash/fl_370_en.pdf.

Sustainable tourism can be defined by UNWTO 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"*. Sustainable (and responsible) tourism development requires the informed participation of all relevant stakeholders, as well as strong political leadership to ensure wide participation and consensus building. Achieving sustainable tourism is a continuous process and it requires constant monitoring of impacts, introducing the necessary preventive and/or corrective measures whenever necessary.

Sustainable tourism should also maintain a high level of tourist satisfaction and ensure a meaningful experience to the tourists, raising their awareness about sustainability issues and promoting sustainable tourism practices amongst them.

In recent years, new and improved sustainable-tourism initiatives are spreading throughout the Middle East. These initiatives propound responsible travel that helps to conserve the environment and improve the well being of the local people living there. In the past, an influx of tourists to destinations like Petra (Jordan) and the Sinai (in Egypt) led to degradation of the surrounding resources and exploitation of the indigenous people. Recently however certain initiatives aim to correct some of these adverse impacts. Responsible and sustainable tourism development policies and practices are further promoted trough a Technical Cooperation project, the MDG-F project and the two ST-EP projects being carried out in 2012 (see Table 2).

Table 2. Technical Cooperation projects

Country	Project title	Main sources of funding
Yemen	Handicrafts, Heritage and Employment in the	ST-EP Foundation
Jordan	Youth Career Initiative project	ST-EP Foundation

Source: ST-EP Project Portfolio. [online]. [2014-01-07]. Available from:
http://step.unwto.org/stepprojects?field_region_omt_value_many_to_one=CMO&field_civicrm_reference_contact_id=.

Heritage and cultural tourism is drawn to historic villages for their lure of authentic rural experiences, tourists seek contact with living communities next to ancient sites all over the Middle East where local communities have lived in between such ancient ruins or next to them for ages such as the cases of Luxor in Egypt, Petra or Mkies in Jordan or Bosra in Syria. The combination of an ancient site that dates back thousands of years intertwined with a traditional living community is extremely attractive from the heritage industry´s point of view. Historic urban areas in the Middle East have also attracted tourists seeking a cultural heritage; they seek historic urban neighborhoods for a taste of urban historic life with its exoticness, diversity, and vitality such as historic cores of Cairo, Damascus or Amman.

As one of the fastest growing tourism form, the sport industry was prioritized in many tourism development strategies in the Middle Eastern countries, in particular the Arab Gulf countries such as The United Arab of Emirates, Bahrain and Qatar, as a tool to enhance their reputation in the world, as sport has billions of fans and spectators. A further aim is to increase the number of visiting tourists by analyzing the motivational synergies that might encourage people to visit a given destination, which combines collective motives, whether cultural, natural or recreational, with the hosted sports events. Qatar is ranked among the top sports tourism destinations in the region, due to its massive investment in developing sports infrastructure and for the prominent international competitions it has hosted during the last few years, with average of 28 sports events every year. UAE is another good example of the synergy between tourism and sport. Dubai and Abu Dhabi took the lion´s share of the number of tourist arrivals in the country as well as the number of sports tourism events held. The Middle Eastern countries have supported soft sport tourism, such as golf (Egypt, UAE), skiing (UAE, Lebanon), hiking (Dana to Petra in Jordan, Lebanon Mountain Trail, Oman´s Grand Canyon trail), diving (Egypt, Jordan, Saudi Arabia, UAE, Oman).

It is important for Middle East governments to continue creating an increased role for the private healthcare sector as it has the skill set and resources to help build more hospitals, implement high levels of quality care and establish infrastructure much faster than the public sector. This is the key factor in the region becoming a sought after destination for medical tourists. Jordan is the leader in the medical tourism industry in the Middle East region. The country serves medical tourists from Iraq, Syria, Yemen and other

countries in and out of the region. The UAE is currently witnessing progress in the global medical tourism industry. TheUAE government is very keen on boosting the Medical Tourism industry and has in turn facilitated for medical businesses to not only be established, but also flourish in the country. We see that the medical businesses in UAE largely benefit from the tax free set-up, 100% foreign ownership, and absolutely no restrictions on investment and the availability of the finest state-of-the-art facilities to offer high quality treatments and services in the UAE. The private medical sector in the United Arab Emirates is an integral part of the medical tourism industry, and has contributed to the advancement of the country's medical sector. Private medical businesses have the advantage of being in 'competition' which pushes them ten strides ahead in the market.

Yoga holidays are offered almost anywhere in the world, but increasingly in the Middle East and North Africa (for example in Dahab on the Red Sea in Egypt).

The Dead Sea has attracted visitors for thousands of years, in modern times offering plentiful tourist facilities and excursions. The name alone evokes ancient and biblical images, making it a major cultural site as well as a natural one. The purported therapeutic properties of the water, salts and thick black mud from the sea bed warrant a prominent sector of the Dead Sea tourism industry. The Dead Sea Spa and Resort on the Dead Sea in Jordan is the first in the region to focus on using the minerals and the botanicals from the Dead Sea to restore immune systems and heal skin disorders. Today it is the largest Medical Spa using it's locations as the premiere location for salt, mud, oxygen levels and other natural products to attract patients from foreign countries to the Dead Sea Spa and Resort for many years.

The Middle East's religious tourism sector – valued at $18 billion per year - can play a decisive role in driving the region's short term industry revenues. Saudi Arabia is the market's primary driver, with the Islamic Hajj and Umrah pilgrimages seeing the Kingdom receive over six million worshipers annually. The region defined as the "Arab States" contains 44 UNESCO World Heritage Sites, and the region is densely packed with holy sites for several religions.

Selected Middle Eastern countries as a potential destinations for the Czech tourists

Jordan as a potential destination to the Czech Republic is the title of the research which was carried out in January and February 2013. A total of 299 respondents responded to the questionnaire.

United Arab Emirates (UAE) as a potential destination to the Czech Republic is the title of the research which was carried out in March 2014. A total of 269 respondents responded to the questionnaire.

Purpose of the researches was especially to answer the following questions:

Q1: Have you already visited Muslim countries?
Q2: Do you plan to repeat the visit of Muslim countries?
Q3: Have you already visited Jordan/UAE?
Q4: Do you plan to visit Jordan/UAE in the future?
Q5: Do you see Jordan/UAE as a safe destination?

The main results of the survey are as follows: [9], [10]

The most respondents (54,85 %, resp. 60,97 %) has not visited Muslim countries. But the number of respondents who have visited Muslim countries was quite high (45,15 %, resp. 39,03 %). This result corresponds to the fact that Czech tourists like to visit Muslim countries (for example Egypt, Turkey and Tunisia) and the most of respondents would like to repeat their visit of Muslim countries (see table 4).

Table 3. Question 1 – results

Q1	% (Jordan)	% (UAE)
NO	54,85	60,97
YES	45,15	39,03

Table 4. Question 2 – results

Q2	% (Jordan)	% (UAE)
YES	64,64	69,23
I DON´T KNOW	28,79	24,04
NO	7,58	6,73

Only 35 respondents (11,71 %) have already visited Jordan and 21 (7,81 %) have already visited UAE. The main reason was visiting friends and relatives in Jordan (which is in connection to the fact that Jordanian students could study at the universities during communist period in the Czechoslovakia). UAE were mainly visited for recreation and sightseeing stay (history, culture, folklore).

Table 5. Question 3 – results

Q3	% (Jordan)	% (UAE)
NO	88,29	92,19
YES	11,71	7,81

Table 6 Question 4 – results

Q4	% (Jordan)	% (UAE)
YES	50,41	18,39
I DON´T KNOW	34,55	46,82
NO	15,04	20,74

The most respondents (50,41 %) plan to visit Jordan in the future but only 18,39 % plan to visit UAE. Attendance UAE in the future may support the fact that since March 22, 2014 Czech citizens do not need visa to the country.

As the table 7 shows the most of respondents perceives Jordan and UAE as a safe destination, as a positive result we can take also 33,11 % (resp. 22,3 %) of respondents who don´t know. Jordan and UAE belong among the safest countries in the Middle East (according to Global Peace Index, Tourism and Travel Competitiveness Index and Terrorism a nd Political Violence Map).

Table 7. Question 5 – results

Q5	% (Jordan)	% (UAE)
rather YES	34,78	41,64
I don´t know	33,11	22,3
rather NO	23,08	17,84
definitely YES	7,69	15,24
definitely NO	1,34	2,97

Summary

The evolution that the tourism industry had witnessed in the Middle Eastern countries triggered competition between them (and also between the countries of the other tourist regions) to showcase their products around the world by launching creative initiatives that can draw attention.

The Middle East has a great opportunity in attracting more sport-oriented tourists. Increasingly, the Middle East, is gaining a reputation for medical tourism, especially in the United Arab Emirates and Jordan, which is trying to position itself as the "mecca" of medical tourism in the Middle East.

Tourism industry is changing and tour operators and travel companies need to examine alternative business avenues to increase profits during these challenging times. The religious tourism market is one such possibility and remains extremely relevant to Middle East based operations.

Investments in tourism in the Middle East are primarily in transportation infrastructure, tourism equipment and technological innovation. Government priorities relate for example to the reinforcement of regulations in terms of the quality of service, safety, land planning and the environment as well as the introduction of a legal and institutional framework conducive to private initiatives and the development of foreign investment.

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Modern Management Systems of Hotel Group on the Example of the Orbis Group

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Abstract

Orbis is one of the oldest Polish corporate brands. For more than 90 years has become synonymous with hospitality and positive emotions related to travel. Orbis hotels operate under well-known global brands belonging to the Accor: Sofitel, Novotel, Mercure, ibis, also under the name Orbis Hotels. Hotels belonging to the Group are attractively situated in the centers of large cities or holiday resorts and offer services with a particular standard of one to five stars. Standardization of services and access to modern management systems, hotel chains, obtained through a combination of the Accor Group, is currently the greatest competitive advantage of the Company, significantly distinguishing the brand among the other players on the Polish market. Orbis is a company whose bold vision and consistency in complying with the requirements of the environment determine the directions of development of Polish hospitality industry. In November 1997, Orbis SA debuted on the Warsaw Stock Exchange in Warsaw and since 2000 is a strategic partner of the Company's international Accor Group. Today, Orbis is the largest hotel operator, is developing a network of hotels in Poland and the Baltic States through franchise agreements and management, offers resellers their knowledge, experience and support in achieving business success.

Key words

management systems, hotel group, business model

Orbis History

Orbis Polish Travel Agency was founded in Lviv in 1920. The founders of the office, the directors of the bank Ernest Adam, Maximilian Joseph Liptay and Radoszewski, Members: Dr. Wladyslaw Kesłowicz and Count Alexander Skarbek and Uzziah Wasser lawyer, wanted to create a travel agency of international standard service, an institution that would be a window to the world for the citizens of the newly reborn Polish.

Soon Orbis was among the top 10 travel agencies in the world, and in 1933, following the purchase of shares by state-owned bank, PKO, the headquarters of the company was moved to Warsaw. Orbis quickly developing activity: in 1939, the Company had 136 branches in Poland and 19 abroad, employing 500 people, and four hotels offering a total of 360 rooms. In 1939, Orbis has served more than 5 million customers.

The war interrupted the activities office, and the majority of the company's assets were destroyed. After the war, survived offices in Brussels, New York, Tel Aviv and London. In 1944, Poland founded Orbis State Enterprise, which purchased the shares of the company's pre-war. By the end of the 40's, the company served by intercity bus connections in Poland and possessed few hotels offering accommodation Polish traveling around the country.

In the years 1946-1959 the company managed network B offering 5 000 beds and served by sleeping cars and restaurant on board. In 1951 the nine best hotels in Poland have been included to Orbis, to prepare them to serve guests from abroad. For 1956 years the basis of activity Orbis, typical of that period, was the service runs laborers and farmers as well as the youth organization of conventions, meetings for civil servants and the like.

Orbis also organized trips abroad: stays on the Black Sea, Lake Balaton and in the Yugoslav Adriatic coast and trips to Western Europe and wellloved cruises Batorym or hired Soviet ships. In 1979, he served 1.5 million visitors in Poland, and the number of customers using the services of travel agencies reached 12.2 million people. The hotel part of Orbis has developed in the years 1960-1980 - created 34 new hotels. Poland, becoming more open to the world, needed a large hotel chain, in 1980, Orbis owned 60% of hotel rooms in Poland. Turnout in hotels was 65.1%, half of which assured importing foreign guests to Polish hard currency. In the 70's, during the implementation of the first post-war Polish investments in international standards hotel networks, built six Novotel hotels, four of which exist today.

With the development of hotel and travel service, Orbis developed an offer passenger transport increased in the period 1960-1980, the number of buses from 35 to 555, and the car from 31 to 373. In the

80's in the changing political and economic realities with the decline in revenues from inbound tourism, trips to the Eastern bloc countries became the basis of activity Orbis. At the end of 1990 the network consisted of 53 hotels Orbis objects. In 1991, the State Enterprise Orbis transformed into a company wholly owned by the Treasury. In July 1993, from the existing structure were extracted two companies: Orbis Travel and Orbis Transport, in which Orbis SA holds majority shareholdings. On 27 June 1997, the General Meeting of Shareholders decided to go public with shares of Orbis SA since November 15, 1997 shares of Orbis SA are listed on the Warsaw Stock Exchange.

In 1999, the State Treasury in the Company's shareholding fell below 50%. In August 2000 saw the final stage of privatization, Orbis SA acquired a strategic partner - Accor, one of the largest international groups in the field of tourism, travel agents and services for businesses; European leader in the hotel market. Orbis SA, together with its subsidiaries Hekon-Hotels Economical and Orbis Transport forms the largest in Poland and Central Europe Group operating in the field of hotel services and transport.

Orbis Hotel Group provides comprehensive services for business and tourist traffic. It is the largest hotel chain in Poland and Central Europe, which offers 10.5 thousand rooms in almost 60 hotels that are located in 24 cities in Poland and in Vilnius, Lithuania. The Group consists of Orbis SA and Hekon Hotels Economical SA, UAB Hekon and Orbis Contracts sp.

Orbis SA is a member of the IH & RA - the International Association of Hotels and Restaurants and partner of many Polish social and economic organizations. Orbis Group, on the threshold of the third millennium is a modern and dynamic company hospitality that consistently implements its plan: opens a new and upgrading existing hotels, introduces international standards activities to better meet the needs of the people. Be a leader in the development of the hotel market in Poland. Being home to travel for Poles and visitors from around the world.[1]

Orbis Hotel Group - the leader of the hotel market in Poland.

Orbis is Poland's largest hotel chain. The main companies included in the Orbis Group, led by Orbis SA, Hekon Hotels Economical SA, Orbis Contracts sp., UAB Hekon. Orbis SA was founded in 1991 with the transformation of the State Orbis shareholder company of the State Treasury. In 1997, shares of the company were made public, and has since been listed on the Warsaw Stock Exchange. Orbis is a strategic partner Accor, the world's leading hotel operator and market leader in Europe, is present in 92 countries where it has 3 500 hotels of 440 thousand. rooms. Broad portfolio of Accor hotel brands - Sofitel, Pullman, MGallery, Novotel, Suite Novotel, Mercure, Adagio, ibis, ibis Styles, Etap Hotel, hotelF1 ensures a diverse range of services and products from luxury to economy. Accor employs more than 160 thousand. employees around the world, offers its clients and partners nearly 45 years of knowledge and experience.[2]

Investor Relations - Orbis SA is the largest hotel group in Poland since 1997 and listed on the Stock Exchange in Warsaw. Currently belongs to the index and segment mWIG Hotels and Restaurants. Orbis enjoys the confidence of financial investors and individuals. Partner and a strategic investor in the Company is Accor - one of the largest groups in the field of hospitality and services companies in the world (www.accor.com). Open communication Financial occupies an important place in corporate policy Orbis. It is developed based on stock market reports, good practices of the companies listed on the stock recommendations of analysts, corporate governance and the present service. It serves her well as cooperation with the Association of Individual Investors and the Association of Stock Exchange Issuers.

Brands

Make Sofitel and its Ambassadors link the world with French elegance with a collection of unique hotels, offering guests and partners to support tailored to their individual needs ("Cousu main"), enriched with emotion, efficiency and commitment to excellence. *sofitel.com*

Designer and time, the Pullman brand is positioned in the segment of high-end international hotels. Pullman hotels and resorts are located in major metropolitan areas and most attractive tourist destinations that season visiting businessmen and tourists from all over the world.

Friendly and knowledgeable staff and personalized service ensures a unique experience. *pullmanhotels.com*

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[1] http://www.orbis.pl/firma/o-firmie/historia-orbis
[2] developed on the basis of the information booklet of Orbis Group

MGallery is a collection of hotels located in different parts of the world with those on offer for the discerning guest. Each hotel is unique in its climate, has its own history and enchants guests architecture, decor and service. Each hotel is inspired by one of the three climates collection: " Heritage "(Tradition) - a place of history," Signature "(Character) - that is, aesthetic or" Serenity "(Peace) - a place conducive to relaxation. *mgallery.com*

Novotel hotels are objects of the middle class located in large cities, business districts and tourist destinations. Comprehensive range and high standard of service make it feel good in them both business travelers and tourists.*novotel.com*

Mercure is the only middle-class hotel brand combines the advantages of an international network which guarantees high quality with a casual atmosphere typical of hotels of individual character, integrated with the local community and managed by enthusiastic staff. Mercury Hotels are located both in urban centers and in coastal or mountain resorts. Stop them both businessmen and tourists from around the world. *mercure.com*

Ibis, the European leader in the segment of economy-class hotels, offers guests the highest level of service and maximum comfort in this category in the most attractive on the market price. Mark ensures customers worldwide coherent offer: modern, well communicated and soundproofed rooms with innovative and extremely comfortable beds, breakfast hours spent 4: 00-12: 00 and a wide choice of restaurants in different styles. *ibishotel.com*

Ibis Styles is a custom brand of economic objects in various styles and cheerful character. Most of them are managed under franchise license. Ibis Styles offer is directed both single travelers and business and for families and tourists. Friendly, and above all comprehensive offer in addition to the room includes breakfast, access to Wi-Fi and a number of minor additional services. *ibisstyles.com*

Ibis budget (formerly Etap Hotel) is a worldwide synonym for budget class hotels. It's uncomplicated style brand attributes Accor, with its emphasis on simplicity, modernity and well-being of guests. The hotels offer comfortable rooms Cocoon with super soft duvets, new, fluffy pillows, large walk-in showers, flat-screen TVs, Wi-Fi and breakfast with no restrictions on self-service buffet. *ibisbudget.com*

Franchise and Management - Orbis Group currently numbering more than 60 hotels is planning to expand the network to 90 hotels by the end of 2015. Since 2000, Orbis is a strategic partner of Accor - the world's leading hotel operator and market leader in Europe. Accor, as one of the world's largest hotel operators working under well-known brands in all market segments, offers an attractive loyalty program leclub Accorhotels (9 million program participants), also has a strong platform for the reservation accorhotels.com (visited each year by 100 million users) and effective distribution systems. With these tools it is possible to increase the number of visitors to the hotels.

Network of more than 3 500 hotels around the world, gives a strong position when negotiating the best terms of trade with suppliers of products and services of a hotel and operating on a global scale travel agencies and OTA (Online Travel Agents) Accor offers a partnership based on a franchise agreement or management - business models adapted to the requirements of today's hotel market.

1. A strong, recognizable brand on an international scale
2. Increasing the availability of offers by the presence of one million web pages at the same time Global reach through an extensive network of sales and marketing
3. Economies of scale when negotiating with suppliers
4. Access to best practices and standards

Network expansion through franchising and hotel management
The increase in EBITDA by 9.5% to 14.8 million PLN in comparable terms;
The solid operating results in both segments: an increase in RevPAR of 4.4% in hotels category average and higher and by 1.6% in the economy hotel segment in terms of "like-for-like"; Increase in the share market Orbis with new franchise agreements and management and the introduction of Accor brands in the Latvian market; Orbis promotes women and implements the Waag in Poland (network of Women Accor Group: "Women at Accor Generation - Waag"). The positive economic trend, which marked-up on the market in the second half of 2013, also maintained in 2014 Orbis Revenue in the first quarter of 2014 years rose to 126.4 million zł, ie. 1.3% compared to the previous year. Profit from operating activities amounted to 14.8 million zł, which represents an increase of 9.5% in comparable terms. in Q1 2014.

Table 1. Summary of financial and operating data

Like-for-like*	1kw 2013	1kw 2014	% zmiany
Przychody (m PLN)	124,8	126,4	+1,3%
EBITDA operacyjna (m PLN)	13,5	14,8	+9,5%
Frekwencja (%)	45,3	45,5	+0,2 pp
Średnia cena za pokój (PLN)	190,6	196,6	+3,1%
Przychód na jeden dostępny pokój (PLN)	86,4	89,6	+3,7%

Source: published report on the Orbis Group: orbis.pl[3]

Strategic partner - Orbis is a strategic partner Accor, the world's leading hotel operator and market leader in Europe. Accor is present in 92 countries where it has 3 500 hotels of 440 thousand. rooms. Broad portfolio of Accor hotel brands - Sofitel, Pullman, MGallery, Grand Mercure, Novotel, Suite Novotel, Mercure, Adagio, ibis, ibis Styles, Etap Hotel, and Hotel F1 ensures a diverse range of services and products from luxury to economy. Accor employs more than 160 thousand. employees around the world, offers its customers and partners with 45 years of knowledge and experience.

Business Model - In line with the strategy of "asset light" Orbis seeks to restructure part of the portfolio of assets, with a focus on hotel operations and delivering services based on the ownership of know - how in the hotel industry. Consequently, part of the property will be gradually refinanced and will belong to long-term investors. In accordance with the priorities of the strategy of "asset light", a network of hotels will be developed through management contracts and franchise, depending on the location of the hotel and the requirements of the brand. The medium-term strategic goal of the Company includes 90 hotels, of whom 60-70% are active within the model "asset light".

Asset light model:
• Allows for smaller capital commitment
• Increases flexibility
• Increases resistance to economic cycles

The benefits of this partnership are:
• Strong recognizable brand
• Access to the hospitality know-how
• Global distribution of hotel
• Full support for all stages of cooperation

Orbis Group's strategy - Orbis has consistently pursued a strategy begun in 2010. Consisting in increasing the efficiency and total concentration on the hotel business, by:
• sale of non-strategic activities
• restructuring the current hotel base

These activities aim to organize the structure of assets, allowing you to make better use of the potential of the Company and its hospitality know-how. The priority is growth through franchising and management contracts.

The priority for the Orbis hotel chain is expanding through franchise agreements and management. Medium-term plan for the company assumes 90 hotels by the end of 2015. At the same time the company is upgrading their hotels and invests in new distribution channels.

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[3] The financial report data posted on the official website of the Orbis Group

Corporate Governance - In today's rapidly changing world of corporate governance (ang. Corporate governance) are becoming increasingly important. The business world needs to be more transparent, facilitating investment decisions, as well as respecting the expectations of social and environmental standards. Orbis SA attaches great importance to the principles of corporate governance. This section contains information about General Meetings of the Company and government regulations in its statutes. Orbis SA also uses Good Practices of Companies Listed on the Stock Exchange in Warsaw.

Know-how

1. *Partnership and Development*
- Diverse opportunities for cooperation
- Management agreement
- The franchise agreement
- Refinancing of real estate
- Partnerships with customers

2. *Marketing*

Local and international promotional campaigns carried out in all types of media (mainly the Internet and in the press) contribute to sales growth and build positive awareness and perception of the brand. Enhance the effectiveness of marketing campaigns and distribution systems loyalty program Le Club Accorhotels. Important role in communicating with customers are actively managed profiles of all of our hotel brands in social media. - Strong global brands
- Hotels from economy to luxury
- Numerous marketing campaigns
- Le Club Accorhotels – international
- Multi-brand loyalty program for guests

3. *Distribution Channels*

Central System Database and Distribution TARS, provides connectivity with integrated, global reservation systems. Online sales currently plays a key role in the distribution systems of hotel services. Accor is constantly improving and expanding belonging to Group bookings portal accorhotels.com. This portal offers a wide range of features to help customers search and book hotel accommodation.
- Integrated international reservation - Direct bookings:
- Online at orbis.pl / accorhotels.pl or any of the sites hotel brands
- By calling the call center
- Polish version of the mobile application for Accorhotels.com
- Cooperation with strategic partners and distribution portals)
- The use of social media in the distribution

Accor and Tripadvisor

Accor is the first international hotel group, which included the popular TripAdvisor website to your website, so that customers have the ability to view ratings and comments about hotels.

Accor in Internet

28% of sales are made online
- • accorhotels.com
  - Multibrand hotel portal (14 brands owned by Accor)
  - 28 versions
  - 13 languages
  - 8 million hits per month
- • 14 sites each brand Accor
  - Sofitel.com, MGallery.com, ibishotel.com
- • 4 websites for professional users (B2B)
  - Business, conferences, travel agencies, tourism

Accor on Smartphones

Geolocation, online accessibility, access to negotiated rates - all of these features are currently available in the iPhone and Blackberry smartphones.

- More than 650,000 monthly inputs
- More than 1 million downloads Application

CALL CENTERS

They are an essential tool for supporting sales. Nine call center Accor centers in cities such as Paris, Bangalore, Sao Paulo, Sydney and Wroclaw manages over 3 million contacts, 300 000 phone calls and of email messages in 16 languages.

Cooperation with travel and Bureaux Tour Operators - greater visibility hotel and optimization of commissions.

Accor selects the best partners and negotiate the best commissions in order to maximize the revenue hotels and increase their visibility. 34 sales offices and 700 specialists. Selling works of 600 strategic customers and more than 20 000 travel agents around the world

4. *Orders and shopping*
   - A centrally managed system purchases
   - Selection of the best offers (equipment, products and services)
   - Effective and innovative solutions
   - Adherence to the principles of sustainable development

5. *Management of hotels*
   - Business models based on benchmarking
   - Widely recognized management standards
   - Integrated Management Systems (reporting human resource management, revenue management, cost control, etc..)
   - Quality control program tailored to each brand

6. *Employees*
   - Active mobility policy careers
   - Developing skills through training and educational programs:
     • Top Talent Hotel Management
     • Talent Development Program
     • Accor Academy
   - Integration and promoting diversity policy
   - Adapting training programs to individual brands and standards

7. *Design, construction, renovation and maintenance of the property*
   - Know-how of international professionals
   - Maintaining the highest standards
   - Promoting the latest solutions
   - Effective management of property maintenance costs
   - Comprehensive technical support
   - Implementation of solutions with respect to the environment and natural resources
   - Compliance with safety in hotels

Strength of brand development

In response to rapidly changing customer needs evolve the brand with them. In order to maintain and strengthen the emotional bond with the customer, guarantee a high level of service and innovative product. Examples of such changes are implemented last refreshed design makes economic family "ibis" (campaign "Sweet Bed by ibis" and "Avanzi public area"), the new formula Novotel hotels in Poland ("Re-discover Novotel").

Development

In 2012. Orbis Hotel Group has opened five new hotels: two hotel complexes ibis and ibis budget in Krakow and Warsaw and ibis hotel in Kaunas, Lithuania, acting under a management contract. The last project funded by the company is the Novotel in Lodz, which opened in mid May 2013. Unquestionable priority for the Group's development based on management contracts and franchise. In 2012. 8 company signed such agreements, of which 4 hotels are already open. This led to the network grew by a total of more than 1 100 hotel rooms.

Marketing activities

Every year, numerous promotional campaigns contribute to sales growth and build positive awareness and perception of the brand. Marketing campaigns to ensure an increase in guest satisfaction, enhance the effectiveness of distribution systems and loyalty program - Le Club Accorhotels.

Global multi-brand loyalty program for guests

- 2 600 hotels in the program
- 90 countries
- Special offers for cardholders
- Data classic, silver, gold and platinum
- 225000 club members in Poland

Employee Development

Orbis supports the development of its employees by:

- 6 180 days of training in 2012
- More than 2 900 people trained
- Top Talent Hotel Management Program - educational plan developed in collaboration with the University of Lodz
- Talent Development Program - a new development program for executives
- Opening of the Accor Academy in Warsaw - a training center for employees and partners
- Promoting diversity in the workplace - Orbis is a co-founder of the Polish Charter of Diversity
- Supporting mobility in the country and abroad

Planet 21

This is 21 commitments in 7 areas on the environment and local communities. Orbis SA - Leader of the hotel market in Poland, along with a strategic partner Accor Group, seeking to combine its development with respect for the environment and local communities. For this purpose, engages all the hotels and customers to participate in a new, global, sustainable development program - PLANET 21.[4]

Orbis for ECO - nature, innovation, carbon dioxide:

- In 2011. Saved 25 million kWh, reducing energy costs by 7%;
- In 2011. PLN 7.5 million PLN saved by reducing water consumption (11%) and energy (13%)
- 91% of hotels sorts and recycles electric batteries, fluorescent lamps and fluorescent tubes
- 73% of hotels sorts and recycles paper and cardboard
- During Earth Day in 2011 and 2012. Employees planted 10 000 trees

Orbis for EGO - health, employment, dialogue, local community:

- The hotels are promoted balanced meals, prepared with natural seasonal and local produce
- Among employees are promoted education and awareness of the dangers posed by HIV / AIDS
- Support local development through initiatives in social and environmental co-operation with NGOs, local authorities and institutions

Health

01 The use of safe medical materials
02 The promotion of healthy eating
03 Prevention of diseases

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[4] http://www.accorhotels.com

Nature
04 Reduction of water consumption
05 Increased recycling
06 Caring for biodiversity

Carbon dioxide
07 Reduction of energy consumption
08 Reducing your carbon footprint
09 Increasing the use of renewable energy

Innovation
10 Designing of concern for ecology
11 Promoting sustainable construction
12 Promoting sustainable offerings and technology

Local Community
13 The protection of children from violence
14 The use of sustainable purchasing practices
15 Protection of ecosystems

Employment
16 Supporting the development of employees
17 Promoting diversity
18 Improving working conditions

Dialog
19 Conducting business in an open and transparent
20 The involvement of franchisees
21 Sharing the commitment with suppliers

Summary

Position of the ORBIS on the tourist market determines long tradition and reputation of the trade mark and credibility developed through years of market presence.Thus, despite the great competition in the opinion of the Board is the leader on the Polish tourist market characterized by:
- the largest in the country, the potential of the hotel and the associated strong position in a number of important in terms of tourism and business, local markets;
- having a universal known and recognized, well clouded by the trademark and trade name easily identifiable in the country and abroad;
- developing a strong position in the domestic market;
- maintaining a stable, favorable financial situation of the Company, and thus preserve the credibility of financial institutions;
- owning property located in the very attractive parts of most of the major Polish cities;
- the availability of experienced and qualified staff;
- having a strong majority position in the "subsidiary companies" that provide services complementary nature in relation to the catering and hospitality services; created by this opportunity to work closely in a triangle: hotele- touroperator- transport;
- use tools and methods of management support, in line with current international standards;
- development and application of systems standards: quality and service;
- flexible pricing policy applied in dealing with customers.

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Hotel Industry – from Human Potentials to Intellectual Capital

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Abstract

This paper deals with the specifics of human resources in the hotel industry. The paper emphasizes the role of human resource management in the process of transformation human potentials in the intellectual capital. Hotel industry hires a large volume of different staff profiles. Human resource management in hotel companies should provide staff development by acquiring of new functional knowledge. Practical application of individual staff knowledge leads to the organizational knowledge. Organizational knowledge should be considered as an intellectual capital. Improving the intellectual capital of hotel companies can be achieved by continuous investment in people. This means establishing a system of motivation and loyalty of the staff, especially from the ranks of experts with specialized and innovative knowledge of crucial importance for the future hotel industry development.

Key words

human potentials, intellectual capital, management, knowledge, hotel industry

Introduction

Belonging to the service sector determines hotel industry as a labour intensive one. It involves large share of so-called live labour in the delivery of hotel services which are achieved by direct contact with the customer. Although technical and technological innovations, especially the computerization of business, are widely used in the hotel industry, it does not diminish the importance of human potentials for the placement of hotel services. Subjective cognition of the customer, as important quality factor in the hotel industry is largely determined by the actions of employees. Hotel development involves significant changes in the needs of certain profiles of employees. With high technologies decreases the need for under-skilled workers and at the same time increases the demand for personnel at higher levels of skills and education. It is the way to outgrow human resources in the intellectual capital of hotel companies.

Basic features of human potentials in the hotel industry

Technology, work organization and technique in the hotel industry condition specific quality of human potentials. An authentic blend of basic (hospitality) components and additional (non-hospitality) components of hotel services imposes the heterogeneity of jobs, diversity of staffing profiles and the individualization of the work process. There is relative independence of each position. On the other hand, this suggests a high degree of functional connectivity of individual actions in certain phases of the work process. Temporal discontinuity of the work process is also important specificity of the hotel industry. It manifests itself in the form of yearly, monthly, weekly and daily imbalances. The annual variation is referred to the seasonality and it is one of the criteria of differentiation of lodging facilities (permanent and seasonal operations). In the hotels with a seasonal work, substantial number of seasonal workers is engaged. In high season, i.e. at the time of the greatest occupancy of hotels, the ratio between seasonal and permanent employees in the facility can range up to 70:30 in favour of seasonal. The fact that in the hotels with seasonal work there is no need to maintain the same number of employees during the year, mainly typical hospitality - manufacturing and service jobs (cooks, waiters, maids, hygiene attendants, support staff), may lead to some organizational and technical difficulties and delays in the work process. The professional personnel of some deficit occupations are not sufficiently motivated for seasonal work, especially in the conditions which do not guarantee the continuity of commitment and adequate compensation. For this reason, the hotels often resort to hiring under-qualified workforce of inadequate professional profiles, mostly from the local population. A short and incomplete training of these workers in season preparation generally can not satisfy the needs, so it manifests itself as an important limiting factor of the hotel product quality (Kosar, Lj, 2012).

Mentioned problems are gradually being overcome by modernization of the educational system, especially in the area of continuing education and by establishment of flexible organizational and staffing business models. Mutual cooperation of employees in the hotels in different locations with different concentrations of

the demand, allows organized exchange of personnel, which reduces the problem of seasonal employment. In this way it is possible to contribute to the reduction of employee turnover, which is lot present in the hotel industry, primarily as the result of relatively low wages and scarcity of skilled workers.

For some professions in the F&B sector, especially in the pension hotel types, there is a daily work unevenness, which causes greater lassitude, reduces the time for rest, makes working conditions more difficult and seems discouragingly to employment. Two shifts during the day are typical for the hotels with seasonal business, i.e. for seasonal workers. It is still one of the aggravating circumstances of this kind of employment. In addition to the great heterogeneity of professions, the large range of the educational level characterizes employed staff at the hotel. For certain jobs (maids and hygiene attendants, doormen, bellboys, carriers, auxiliary workers in the kitchen and warehouse) the hotels engage a significant volume of under-qualified workforce.

The volume and the qualifications of employees in the hotel industry

Strategic orientation towards tourism as an important, and sometimes absolutely dominant component of economic development, reflects in the share of employees in the hospitality industry in the total volume of employees in some countries. Hospitality of Cyprus, with a volume of about 29 thousand jobs, covers 7.5% of the total number of employees. Malta, with 14 thousand jobs in the hospitality, absorbs 8.6% of the total volume of employment. The share of employees in the hospitality toward the total volume of employment, higher than the EU average (4.3%) has been registered in Spain (7.7%), in Greece (6.9%), in Austria (6.2%), in Portugal (5.9%), in Italy (5.1%) (Eurostat, 2010). In Serbia, according to data for 2010, the hospitality employed close to 72 thousand people, which is about 3% of the total volume of employment in the country. This is slightly lower than the EU average.

Technological, organizational and technical aspects of doing business in the hospitality condition the high percentage of production and service workers at the level of three-year vocational school. Various auxiliary operations (loading, storage, preparatory stages of production, washing dishes, etc.) lead to relatively high prevalence of semi-qualified and unskilled workers.

Modern approach to the hotel development emphasizes organizational and staffing model as an important factor in the business, with special emphasis on educational and professional structure of employees. The prevailing opinion is that even simple jobs require workers with minimum three-year vocational school or with high school degree. This primarily refers to porters, luggage carriers, maids, so those in the hospitality profession involving direct contact and communication with customers. At least the three-year vocational school is all the more expected for auxiliary kitchen workers, workers in warehouses and the like. High recruitment criteria, in addition to the required level of education and appropriate vocational guidance, require general culture, which is important for the communication with the customers and business partners.

Table no. 1 shows the qualification structure of employees in some industries in Serbia.

Table 1. Employees by level of education in Serbia (structure in%, March 2011.)

Total	Total	University degree	Higher education	High school degree
	100.00	22.90	8.00	32.70
Agriculture, Forestry and Fisheries	100.00	10.70	3.40	32.80
Wholesale and retail trade, repair of	100.00	11.70	5.10	48.70
Transport and Storage	100.00	10.30	5.20	37.90
Accommodation and Food Services	**100.00**	**5.30**	**6.20**	**38.70**
Information and Communication	100.00	29.70	7.60	38.70
Finance and Insurance	100.00	35.90	11.50	45.20
Public administration and Social	100.00	40.20	10.00	39.50
Education	100.00	63.40	13.30	7.40
Health and social care	100.00	20.50	13.60	42.50
Arts, entertainment and recreation	100.00	25.80	6.20	50.00
Other services	100.00	15.20	4.40	22.80

Total	Primary school	Highly skilled	Skilled	Semi skilled
	4.40	5.10	14.90	4.70
Agriculture, Forestry and Fisheries	5.20	5.70	19.10	5.90
Wholesale and retail trade, repair of motor	4.50	3.80	19.50	2.80
Transport and Storage	4.90	15.20	19.50	4.80
Accommodation and Food Services	**8.20**	**4.40**	**21.10**	**6.80**
Information and Communication	2.00	15.80	3.70	1.20
Finance and Insurance	2.50	1.70	1.80	0.50
Public administration and Social insurance	3.10	0.50	3.20	1.00
Education	4.50	0.90	2.10	1.40
Health and social care	3.00	1.70	5.80	5.60
Arts, entertainment and recreation	4.70	1.60	4.70	2.50
Other services	4.40	30.00	11.60	6.10

Source: Republic Statistical Office of Serbia, Press br.204, ZP 12, p. 4

The qualification structure is the distribution of staff by level of education and qualifications. It is an important indicator of the achieved level of the economic development and also the development of the individual sectors and industries. Given the importance of human potentials for quality of service, the qualification structure is particularly evident in the hotel industry.

In Serbian hospitality the qualification structure of employees is not good enough. The reason for this is inadequate treatment within the national strategy of economic development. The investments in high technologies and in appropriate field of personnel education are still insufficient. Lagging behind the hospitality industry per the participation of highly educated staff is striking large. We can see much smaller participation of highly educated staff than of the country average, while a large share of under-skilled (about 24%). Reforming the educational system in accordance with modern international trends, should contribute to positive changes in this area. In this context, it is important to insist on education of employees, primarily to acquire adequate qualifications. This particularly refers to the unskilled and semi-skilled, and those with primary education.

The employees' knowledge as a basis of intellectual capital

The fast development that involves updating existing and creating new products and services, requires an appropriate pace of innovation of existing and acquiring new knowledge. Formal qualifications gained with in the past, are becoming inadequate and less and less considered when hiring new staff in employment. Priority is given to staff with new knowledge, general and specialized. The companies that do not advance the knowledge of their employees lose their competitive advantages and rapidly disappear from the market. Definition of knowledge is accessed primarily from the standpoint of individual knowledge. Knowledge is shaped by a mixture of experiences, related information, values and expert opinions, which provides a framework for evaluating and incorporating new experiences and information (Davenport, Prusak, 1998).

Knowledge is the mental characteristic of the individual. It is expressed by the individual mental action. Individual employees' knowledge forms the basis of the organizational knowledge. When information is further processed, it has the potential for becoming knowledge. Information is further processed when one finds a pattern relation existing among data and information. And when one is able to realize and understand the patterns and their implications, then this collection of data and information becomes knowledge (Uriate, 2008).

We can classify knowledge into two types: tacit knowledge and explicit knowledge. The tacit knowledge has personal character. It represents a synthesis of thinking, understanding and acceptance of the basic components of knowledge (experience, related information, the opinions of experts). It is accumulated through study and experience. It is developed through the interaction with other people. The tacit knowledge may be a technical nature, when it comes to the specific skills. These specific skills are very important for some professions in the hospitality industry. For example, they refer to the culinary arts, flambéing, serving wine, preparing cocktails, communication skills, ICT skills etc.

The explicit knowledge is a type of codified institutional knowledge. It covers stored documents, databases, websites, etc. It is publicly presented organizational knowledge that should be available to the different stakeholders.

Tacit knowledge is the starting point of explicit knowledge at the organizational level. The knowledge conversion explains, theoretically and empirically, the interaction between tacit and explicit knowledge (Nonaka, von Krogh, 2009). Inadequate qualification structure of employees in Serbian hospitality should be viewed as an indicator of the low level of tacit knowledge. On the other hand, when managers do not recognize the potential of the tacit knowledge of employees, there is no a favorable climate for its transformation in the explicit knowledge. National tourism and hospitality development strategies are often exhausted at the level of investment in infrastructure. Usually there is not enough money to invest in human potentials. Thus, the previously acquired individual knowledge of employees, even at the level of higher or academic education, becomes obsolete. It is necessary to continuously update the knowledge and the skills of employees, by organizing appropriate seminars and trainings. The trainings should contribute increasing the functional knowledge of employees. Functional knowledge should be treated as the knowledge required for work. In this regard, it can be considered as a category which refers to the possibility of using knowledge available for the work. The basic components of functional knowledge are: theoretical knowledge, practical knowledge and work experience. The work experience without new theoretical and practical knowledge, does not significantly contribute the functional knowledge to increase. The awareness of employees' own responsibility and personal contribution to the quality of hotel guest authentic experience is treated as the main driving factor of the functional knowledge improvement (Kosar, Lj, Kosar, N, 2014).

Functional knowledge is the basic component of staff competence. Competence is a set of knowledge, skills and attitudes essential for work performance associated with the main characteristics of this work, which can be measured based on the accepted standards and improved through education and training. (Lucia, Lepsinger, 1999).

Knowledge conversion, increase functional knowledge and staff competence are the topics within the scope of knowledge management. Knowledge management is considered as a mechanism for capturing and disseminating the knowledge that exists within the organization (Bollinger, Smith, 2001). Applying the basic principles of knowledge management establishes the core knowledge for the work process functioning. Core knowledge is critical to the attainment of the organization's goal and the fulfillment of its strategy. The management of core knowledge must be kept within the organization. The organizations need additional, so called enabling knowledge in order to achieve desired market position and competitive advantages.

Individual knowledge of employees makes the basic component of the intellectual capital of the organization. The structure of the intellectual capital consists of three main components: human capital, structural (organizational) capital and relational (customer) capital. Human capital includes experience, the know-how, capabilities, skills, and expertise of the human potentials of the organization. Structural capital includes the systems, networks, policies, culture, distribution channels, and other "organizational capabilities". Relational capital includes the connections with customers, their loyalty, the market share and similar (Kok, 2007).

Figure 1. Human capital position in the structure of intellectual capital
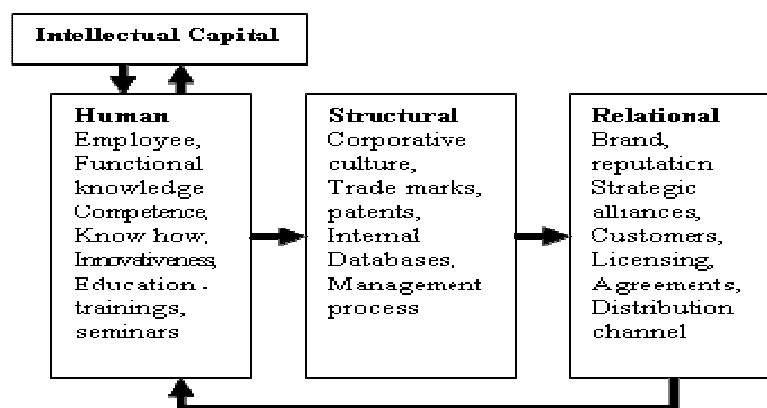
Source: Adapted according to: http://www.strategybuilders.eu/news/intellectual-capital-reporting/

The figure represents the key role of human capital for creating other two types of intellectual capital. This is particularly expressed in the hotel industry due to personal nature of services, which implies direct contact between hotel employees and the guests.

Transformation of human potentials in the intellectual capital of hotel companies

Intellectual capital management aims to increase the relational capital. But, the first step in this process is the increase of human capital. That means the investments in the knowledge of employees as well as the creating stimulant motivation programs which should include wages, health insurance, security and safety, and other incentives. Adequate care programs contribute to the satisfaction of employees, reduce their turnover and increase their loyalty to the company. In the hotel industry, it is necessary to take into account the specific work conditions and efforts at work. The specific work conditions related with the risk of accidents, the risk of damage to health (susceptibility to acute and chronic illnesses), microclimate of the working environment etc. All types of work efforts are present in the hotel industry. These are physical effort, sense effort, the effort of interpersonal communication, mental effort. Physical effort is associated with different types of jobs in the hotel and not just for those with lowest level of complexity (auxiliary workers in the warehouse, kitchen, laundry, luggage carriers, maids, and hygiene attendants, etc.). Sense effort is particularly evident in the kitchen because preparing food and beverages activates senses of taste and smell. Activating senses of sight and sound is emphasized in all domains of service (accommodation sector, F&B sector, additional facilities). Jobs that require direct contact with guests are related to the effort of interpersonal communication. These jobs require special psycho-physical abilities and personality traits of employees. Mental effort is related to the creative and managerial jobs.

Global hotel corporations are an example of the continuous transformation of human potentials in the human intellectual capital. Their business philosophy and core values are based on the people. It is pointed out in the missions of these companies.

Summary

Basic features of human potentials in the hotel industry are: large volume of employment, numerous and heterogeneous jobs, wide range in the level of expertise, seasonal work. Direct contact with the guests requests specific psycho-physical abilities, personality traits and the expertise from the employees. Modern business in the hotel industry, especially the use of electronic and other high-tech systems, requires the radicalization of educational process for hotel professions at all levels. In this regard it is particularly important to point out the need for highly educated professionals of specialized profiles. Investing in the functional knowledge of human potentials leads to their status as the intellectual capital of the organization. Management of intellectual human capital largely contributes creating recognizable market image of the hotel. This approach is best illustrated in the practice of global hotel corporations.

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The Role of Tourism in the Current Crisis of the Greek Economy

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Abstract
The paper focuses on the contributions of tourism in facing the problem s of the Greek economy. Advantages and weaknesses are discussed on comparison with competition. Finally some suggestions try to make Greek tourism more competitive.

Introduction

There is no doubt that tourism constitutes a structural element of the productive basis of the Greek economy. It is the main factor of extraversion and the dynamic draw for foreign investment. In the last decade Greek tourism contributed directly or indirectly about 16% of the Gross Domestic Product (GDP) and about 19% of the labor force of the country were employed in tourism.

In 2012 the total receipts exceeded 10 billion euros with 16,9 million arrivals of foreigners while the total employment in tourism (688.800 jobs) was counting for the 18,3% of the total employment of the country. Regarding the market share, Greece had 1,5% at global level and 2,9% at European level.

Greek tourism has satisfactory performance at global level. According to the World Tourism Organization[1], Greece in 2012 was 17th in terms of international arrivals and 23rd in terms of the respective receipts. According to the World Economic Forum, in 2013 Greece was 32nd among 140 countries in the Travel and Tourism Competitiveness Index (29th in 2011).[2]

The above mentioned data, show that the Greek tourism is one of the few sectors of the Economy which are competitive at international level. In 2013 tourism in Greece was increased compared with 2012. If we include the cruise passengers, tourist exceeded the 20 million and the receipts increased by 15% (roughly). According to more recent data, the number of visitors will increase even further.

There are favorable perspectives for a further growth of tourism in the next few years. According to a study carried out by McKinsey and presented by the Association of Greek tourism enterprises, the next 8-10 years, tourism will be the driving force of the Greek economy. The international visitors will exceed the 24 million in 2021 and the average spending per capita will be around 800 euros (646 euros in 2012). Namely the receipts will reach 48-50 billion euros against 32 billion euros in 2012. That means an extra 9 units in the GDP of the country and 1.000.000 jobs compared with 688.800 jobs in 2012 (TO VIMA, 4/9/2013).

Characteristics of the Greek Tourism

It is widely acceptable that despite its great potentials, Greek tourism has long way to go in order to reach the position it deserves in the International ranking.

In table 1 we can see the position of Greece in the world ranking, compared with the position of some of the main competitors in 2012.

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[1] World Tourism Organization, Yearbook of Tourism Statistics
[2] World Economic Forum "The Travel and Tourism Competitiveness Report 2013: Reducing Barriers to Economic Growth and Jobs Creation" Editors Jennifer Blanke and Thea Chiesa.

Table 1

Country	Rank in		
	Arrivals	**Receipts**	**Competitiveness**
Spain	4	2	4
Greece	17	23	32
Croatia	26	33	35
Cyprus	50	50	29
Turkey	6	12	46
Egypt	22	32	85

Source: SETE and UNWTO Spain performs much better than all the other competitors.

In table 2 we can see a breakdown of International tourism receipts by country of origin for 2012.

Table 2

COUNTRY	% OF RECEIPTS
GERMANY	16,50%
UK	14,16%
RUSSIA	9,42%
FRANCE	7,62%
ITALY	5,42%
USA	4,25%
CYPRUS	3,14%
SWITZERLAND	2,96%
NETHERLANDS	2,77%
BELGIUM	2,59%
OTHERS	31,17%
TOTAL	100%

Source: Bank of Greece

In table 3 we can see the seasonality of international tourist arrivals for 2012. Almost 56% of the arrivals take place in July, August and September.

Table 3

MONTH	% OF ARRIVALS
JANUARY	2,3%
FEBRUARY	1,7%
MARCH	2,3%
APRIL	4%
MAY	7,6%
JUNE	13,2%
JULY	18,5%
AUGUST	21,1%
SEPTEMBER	16,3%
OCTOBER	8,4%
NOVEMBER	2,5%
DECEMBER	2,1%
TOTAL	100%

Source: Hellenic Statistical Authority

In the next table 4 we can see that the international tourism receipts come mainly from independent travelers and less from package tours.

Table 4

CATEGORY OF TRAVELLERS	% OF RECEIPTS
Independent Travelers	65,81%
Package Tours	34,19%
TOTAL	100%

Source: Bank of Greece

In the next table 5 we can see the percentage distribution of hotel units and beds by category in 2012.

Table 5. Percentage distribution of units and beds by category

Category	Hotel Units	Beds
5*	3,6%	14,7%
4*	12,9%	25,1%
3*	24,1%	23,8%
2*	43,8%	29,2%
1*	15,6%	7,2%
TOTAL	100%	100%

Source: Hellenic Chamber of Hotels

Finally in table 6 we can see the percentage distribution of Hotel beds by region in 2012.

Table 6

REGION	% Hotel beds
Crete	21,4%
Dodecanese	18,4%
Macedonia	14%
Central Greece	12%
Ionian Islands	11,6%
Peloponnese	6,8%
Cyclades	6,3%
Thessaly	3,7%
Aegean Islands	2,9%
Epirus	2%
Thrace	0,9%
TOTAL	100%

Source: Hellenic Chamber of Hotels

We can see the concentration of the supply of hotel services, with 66% of beds being in Crete, Dodecanese, Macedonia and Central Greece.

Tourism compared with the rest of the Greek economy

It is evident from all the statistical data concerning the Greek economy, that tourism is the strongest sector. As we already mentioned Greek tourism was ranked by the World Economic Forum **(WEF)** in the 32nd position for 2013 regarding its competitiveness. In the same year WEF was ranking the competitiveness of the entire Greek economy in 91st position. The gap between the two figures shows the strength of the Greek tourism. However the problems faced by the rest of the economic sectors are to

some extent problems of tourism as well. For example, the serious problem of the last few years, namely the difficulty of access to financing is a common problem for the whole economy. Similarly, the lack of flexibility in the labor market, the low protection of investors, the inadequate infrastructure, the high taxation, the bureaucracy and corruption are the main fields that create difficulties in the ease of doing business. Despite the improvement recorded in the last annual report of the World Bank (Doing Business 2014), due to the reforms dictated by the creditors, the Greek economy remains not very attractive for investments as many disadvantages remain intact. The lack of political will from all the political parties involved in the government and opposition, make things more difficult. We believe that tourism alone cannot give the absolute solution to the big problems of the Greek economy. Even if the receipts from tourism are increased spectacularly, the recovery of the Greek economy will not come immediately, unless the attitude of the political parties changes dramatically.Besides, tourism itself must get rid of some of its own problems and approach the performance of tourism in Spain.

Suggestions

The high potentials of the Greek tourism are undoubted and they are based on the remarkable comparative advantages. But the country will not benefit from these potentials, unless some changes are implemented. These changes can be summarized in the following conditions.-The income policy has to be adapted to the reality of a very strong currency like euro. -The non-competitive and non-profitable hotel units should not be supported by State grants and leave the industry. -The use of internet can give the local businessmen a chance to approach their customers directly without the use of tourist agents. The appropriate offers and pricing policies can help to extend the touristic period for more months.-More political stability, with less demonstratives, protests and disasters which are sometimes presented with exaggeration from some international media.
- Solutions will come from both the businessmen and the State, with an increased budget for advertising the good quality with reasonable prices of the Greek tourism abroad.

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The Development of Spa and Wellness Services in Lower Silesia Region

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Abstract

For over 10 years the dynamic development of facilities offering spa and wellness services has been observed in some Polish regions. Among them there are specializes spa and wellness centres, spa enterprises and also hotels including the above-mentioned services in their offer. For the latter it is one of the methods to improve their competitive advantage and increase their revenues. One of Polish regions, in which the number of entities (including hotels) offering spa and wellness services, has been systematically growing is Lower Silesia (the region is located in south-western Poland, along the border with the Czech Republic in the south and Germany in the west). The purpose of the study is to identify basic trends determining the development of spa and wellness market in Poland, as well as to answer the question: to what extent the offer of the discussed services provided by Lower Silesia hotels reflects current trends and expectations of clients.

Key words

Spa and wellness, trends referring to spa and wellness, expectations of clients

Introduction

One of the most important factors determining the nature of contemporary tourism is represented by the advancing demographic changes. These transformations, along with the predominance of two family models: 2 + 1 and DINK (double income no kids), resulted in the fact that an average number of people in one household is decreasing, which results in higher income at the disposal and an increased individual purchasing power. The number of senior, but healthier, citizens is also growing due to, among others, higher level of medical services. An average education level among Polish population is also systematically increasing, which stimulates the demand for education and health oriented services. As a result of these changes the demand for products related to prophylaxis and the broadly understood health and beauty rejuvenation is constantly increasing (spa and wellness hotels, spa centres, sanatoriums). In 2010 Poles spent 900 million PLN on visits in health and beauty rejuvenation centres, whereas the current market value of services related to leisure and entertainment is estimated as reaching almost 55 billion PLN. In 2015 it is supposed to increase to the level of 75 billion PLN[1]. In consequence the interest of tourism sector in health and beauty rejuvenation services keeps growing, since they extend the traditional offer of hospitality facilities. The occurring changes in demand and the growing competition speed up transformations in the structure and nature of supply in tourism. The development of spa and wellness services offer is becoming the phenomenon characteristics for the 21st century tourism market. Managers of accommodation facilities follow these trends and extend their offer by spa and wellness services expecting, at the same time, their higher competitiveness and thus economic situation improvement.

The research purpose, subject matter and methodology

The purpose of the study is to identify basic trends determining the development of spa and wellness services market in Poland and in Lower Silesia region, and to answer the question whether the offer of such services, provided by Lower Silesian hotels, meets client expectations.

Hotel facilities offering spa and wellness services have become the permanent Lower Silesian tourism market component. Currently 75 facilities, promoting themselves as spa and wellness, are functioning in the region. This group includes hotels, guest-houses and non-standardized facilities. The research, conducted in the period May-July 2011, covered 41 hotels offering spa and wellness services. The basis for performing direct research was the survey addressed to managers of such facilities. Additional research covered the group of 607 clients of spa and wellness hotels functioning in the discussed region. The sample selection was random.

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[1] http://www.egospodarka.pl

Research results

The review of worldwide and Polish literature referring to spa and wellness market and the results of conducted surveys allowed for the identification of the most important trends observed at this market and their confrontation against the trends occurring in Poland and in Lower Silesia. The research carried out among clients visiting these hotels and their managers constituted the background for assessing the offer of spa and wellness services and specifying the directions of this tourism market segment development in Lower Silesia.

The reports by an American company SpaFinder, which have been published since 2003, allow for the identification of the most important trends referring to spa and wellness market characteristic for the turn of the first and second decade of the 21st century. Among the significant changes referring to the needs of clients visiting hospitality facilities offering spa and wellness services the following should be listed:

1. Tourist destination – health oriented. Health as the motivating factor underlying tourist trips is gaining importance. In 2012 the number of spa and wellness motivated trips made by the Americans exceeded the level of 160 million.[2]
2. Central and Eastern Europe features the most dynamically developing hospitality market within which the niche products, e.g. spa and wellness, are gaining the growing significance.
3. Clients of spa and wellness hotels want to be fit to work and prefer sport, wellness and prevention specific offers.
4. Moving clients' interests from indulging themselves towards prevention and care about their health. Owing to the treatment offered by spa and wellness hotels clients desire to experience benefits resulting from keeping balance between their body, spirit and mind.
5. Increasing interest in various types of detoxification programs purifying the body from toxins by means of an organic diet, leaching (workout, steam and dry sauna) and getting rid of an emotional burden.
6. There are predictions (it has already been observed in Poland) that searching a secluded spa and wellness centre by a client will be substituted by the desire to take a more socializing oriented advantage of such facilities (Sallmann, 2010, 75).

The confrontation of the above-mentioned trends with the ones perceived by managers of hotels offering spa and wellness services points to both, similarities and differences. They identify mainly the following expectations of their clients:

1. Clients expect spa and wellness offer to be combined with regional, i.e. Lower Silesian traditions. It refers, among others, to taking advantage of thermal waters present in the region along with herbal traditions. It can constitute an alternative for the popular treatment types of Asian origin.
2. In relation to Lower Silesian spa traditions the interest in medi-spa is increasing. Clients expect treatment packages and medical care to be included in the offer provided by health and beauty rejuvenation centres.
3. There is a growing interest of entire families visiting spa and wellness centres (family package offer is expected). It requires preparing an offer not only for parents, but also for kids during their stay in such a centre (hotel).
4. Clients of spa and wellness centres express an increasing interest in their fitness improvement (growing interest in such activities as Nordic walking, workout in a gym).
5. An increasing interest of guests arriving in such centres in taking advantage of local traditions and local organic ingredients in spa treatment, which opens an opportunity for creating a unique offer.

Some of the above listed trends, characteristic for spa and wellness market, are neither articulated nor even identified by the managers of the hotels under analysis, which may indicate their lack of awareness or insufficient knowledge in this matter.

Spa and wellness services offer in Lower Silesian hotels

There are 58 hotels among 75 accommodations facilities functioning in Lower Silesia region, advertised as centres offering spa and wellness services. Out of this number 80% represent categorized

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[2] http://experienceispa.com/media/facts-stats

facilities included in 4 and 5 star hotel category[3]. This group covers both, small hotels (offering 10 rooms) and large ones having over 200 rooms at their disposal.

The research results also allowed for specifying the range of spa and wellness services offered in hotels by identifying services they provide and classified in literature as spa zone and wellness zone (tab. 1).

Table 1. Spa zone and wellness zone in spa and wellness Lower Silesian hotels

Zone	The description of zone components		Present (share in %)
Wellness zone	Environment and interior design of a facility	Interior design and atmosphere created in a facility constitutes balance between functionality and aesthetics	60
	Gastronomy, wellness cuisine	Facilities offer dietary meals, herbal teas, freshly squeezed juices and mineral waters	35
	Sport	Facilities offer gyms and/or fitness rooms and also such services as: yoga, Nordic walking, a tennis court	80
	Education	Adequate information, meetings with dieticians, medical doctors, information leaflets	10
Spa zone	Treatment	Massages, cosmetology. Spacious and well equipped treatment rooms. Robes, towels, single use footwear or underwear	100
	Saunas	Finnish, steam and infasaunas	100
	Resting	Relaxing and after-treatment rooms	55
	Water world	Zone with swimming pools, jacuzzi	100

Source: author's compilation based on Mroczek-Czetwertyńska, 2013, 132.

It has been observed that whereas spa zone (so-called water world or a hotel wet zone) is present in the majority of analysed hotels, the elements included in wellness zone are much more diversified. Managers of over half of the hotels pay attention to interior design and its atmosphere created by lightening, music and space arrangement. The educational component of wellness is the least frequently present one in spa and wellness hotels. On the other hand, the significant insufficiency of rooms for resting, well-furnished and properly illuminated is noticeable. In spite of the above-mentioned reservations the research results confirm that the offer of spa and wellness services is increasingly better meeting client expectations.

In the process of spa and wellness services offer assessment it turns out that massages and Finnish (steam) sauna represent its most popular components. More than 80% of the analysed hotels offer beauty treatment, fitness and relaxing rooms. It is quite rare, however, to come across an offer of traditional (Asian) medicine services, medical services (10% hotels) and a salt cave (5%). Moreover, a relatively small number of hotels offer infrasaunas (15% of the analysed hotels) and cryotherapy (20%).

Final remarks

Lower Silesia represents the region featuring long tourism traditions, including spa tourism. New tendencies occurring at this market, manifested by the increasing interest of tourists in spa and wellness facilities, are reflected in the growing number of hotels offering these services. Extending a hotel offer by spa and wellness services allows obtaining higher turnover per 1 m² of a facility area. It is estimated that the profits earned by hotels result from higher hotel occupancy (on average by 4%) and higher room price (by 5%). In the opinion of 60% managers participating in the study, the hotel offer extension by spa and wellness services increased the number of clients, prolonged tourist season in a hotel, increased profits (estimated at the level of 30% of the entire investment values). Therefore, a richer offer in terms of spa and wellness services is justified by both, clients' expectations and economic reasons.

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[3] Categorized hotels in Poland can be included in five categories marked with a number of stars where 1 star refers to the lowest category and 5 the highest one.

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Wine Production in the Tokaj Wine Region as a Precondition of the Tourism Development

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Abstract

The aim of this paper is to analyze and evaluate the conditions of the development of tourism in the Tokaj Wine Region, where besides the wine production is a big potential for tourism. Wine history in Slovakia is connected with the history of the Hungarian Empire and even now there is a common history of Tokaj wine, which is produced in the area of confluence of the rivers Tisa and Bodrog. Approximately in the half of the 90ties of the 20th century in the wine areas of Slovakia there was an idea emerged to create a wine route which would show the visitors the beauty of wine country, allowing the characteristic tasting of wine in specific areas and introducing local culinary specialties. The importance of wine tourism illustrates the fact that EU Member States have established the International Association of European wine routes. According to an estimate, the wine tourism contributes to the total revenue from tourism in the EU 7% (assuming a growth of 12% over 5 years).

Key words
Wine Region of Tokaj, Wine Tourism, Region, Development

Introduction

Entrepreneurs in various branches of agriculture and food processing industries focus their activities on better assessment of their products. Production of wine belongs to their activities too. The importance to a winery of tourism depends upon its size. For many small wineries tourism can be the core business. Every winery is at risk from a shrinking market; however it is the smaller wineries that are more at risk due to their limited resources. Having looked at the benefits to the wine industry, it is important to review the benefits to the local economy of the wine region. Whilst at a winery, visitors can have a good time, extend their knowledge of wines, the winery and wine region, and taste and perhaps buy the wines. However, many tourists include winery visits as part of an overall package whereby they can experience restaurants, international foods and wine, socialising, cultural activities such as visiting art galleries, visiting historical places and visiting parks and gardens (Symon, 2005). Wine and tourism have been intimately connected for many years, but it is only recently that this relationship has come to be explicitly recognized by governments, researches and by the industries themselves. For the tourism industry, wine is an important component of the attractiveness of a destination and can be a major motivating factor for visitors. For the wine industry, wine tourism is a very important way to build up relationships with customers who can experience first-hand the romance of the grape, while for many smaller wineries direct selling to visitors at the cellar door is often essential to their business success (Hall et all, 2004).

In Slovakia, as it has been stated in the Act No 313/2009 on viticulture and wine-making, wines are being produced in six wine regions which have been divided into 41 vineyard districts. The borders of the regions are not identical with the borders of administrative self-governing regions. According to the European division wine regions have been placed into zone "B". Almost 80% of vineyards are located in West Slovakia, 13% in Middle Slovakia and almost 7% in East Slovakia. Wine districts are divided into grape-growing units which are classified according to diverse climatic and soil peculiarities, into the categories B1, B2 and B3. The B1 category includes grape-growing strips of field with the best quality soil and microclimatic conditions convenient for growing vine (the whole area of the Tokaj Wine Region goes in there). Qualities of the soil B2 category are identical with the requirement of B1 category, but vineyards are located in districts the climate of which is less warm. B3 category includes the areas of vineyards where the microclimate and exposition are insufficient. The whole area of vineyards in Slovakia is divided into the above mentioned categories as follows: B1 – 58%, B2 – 25% and B3 – 17% (Nadzon,

2010). Wine tourism is interesting especially in the areas which have favourable climatic conditions for growing vine. People who travel to explore grape – growing and wine production bring in finance to the regions and help to raise the number of work places in services of tourist industry (Švedová, Babiaková Kapcalová, 2013). The notion of wine tourism has been a frequent topic of discussions also in the Czech Republic, especially in the southern Moravia where various events are being held for both layman´s and experts´ public under the patronage of various organizations and associations (mostly self-governing and non-profitable). The international cooperation in using wine making in tourism industry is absolutely necessary with regards to experiences in highly developed countries with this form of tourism and for decades it has proved to be highly promising (Kunc, Vystoupil, 2005).

Picture 1. Slovak Wine Regions
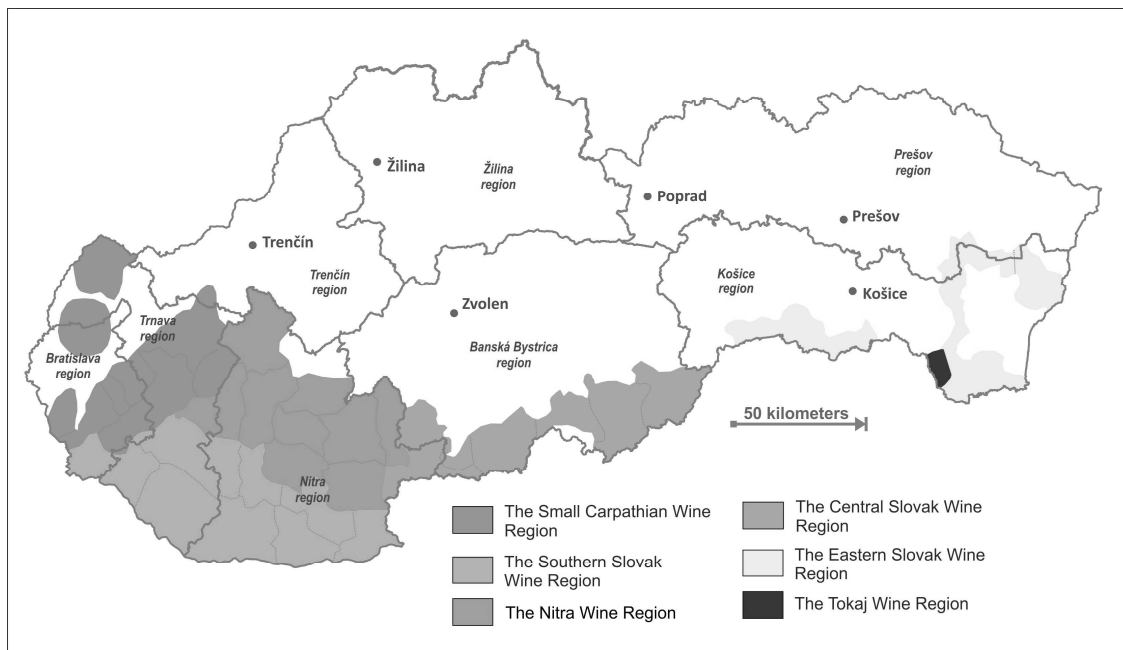
Source: own processing

Material and methods

The aim of this article is assessment of selected natural, cultural and historical presumptions for development of tourism industry in the Tokaj wine region on the basis of up-to-date state and prospects of further development of grape-growing. We have been working on primary and secondary data. We have obtained the primary data by applying reconnaissance in the region which is being assessed. The secondary data are being obtained from the legislative documents (Acts), strategic documents (strategy of the development of tourism industry) and also from home and foreign specialized writings that particularly deal with influence of tourism on the local development and wine tourism.

Results and discussion

The history of grape-growing in the Tokaj region dates back to the period of the Roman provincial culture (the 3rd century A.D.). After the fall of the Roman Empire, the Slavs that settled in southern Zemplin (488 A. D.) continued growing grapes. The development was stopped by the Tartar invasion that almost destroyed the population. After the Tartar invaders had left the country, the king Bela IV colonized abandoned territory (1248) by the Italians from the area of Bari and Formini towns. The new settlers brought the main kind of Tokaj grapes called Furmint (Kakaš, 2011). In the 16th and 17th centuries during the tempestuous period of Habsburg and Kuruc revolts, Hungaria and Sedmohradsko, the Upper and the Lower lands fought a long lasting fight to conquer that territory. New cellars were built and carved in tuff subsoil not only for storing wine, but also as hiding places for people and their property to be hidden safely from the plundering troops. The first selection of Tokaj called "aszu" was made by Matej Laczkó from Szepsi (Moldava-upon-Bodva today). The folk name "aszu" was probably derived from Latin "pass uva" which means died grapes. Picking cibebas was embodied by law chapter 79 in 1655 and was

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published in Notitia topografhica by A. Szirmay. According to the chapter, the selection was matured 8 – 10 years and then it was bottled. The authenticity of Tokaj wine was indicated by the designation "samorodný" (wine from selected grapes). Tokaj wine achieved its greatest fame and admiration in the French royal court under the rule of Louis XIV. The famous phrase "Vinum regum – rex vinorum" comes from this era, meaning 'wine of kings – king of wines'.

The Tokaj region was split up in 1918, with the majority (around 28 communities and some 4,500 hectares of vineyards) going to Hungary and a smaller part (3 communities and about 175 hectares of vineyards) going to Czechoslovakia (now Slovakia). In 1959, four more villages were added by Czechoslovak legislation, three of which had been mentioned in the original 1798 Tokaj delineation (www.indianwineacademy.com). The dispute between the countries over the right of Slovakia to use the name Tokaj that started in 1958 for its wines was resolved in 2004. With the accession of both Hungary and Slovakia to the European Union, the Tokaj name (including other forms of spelling) is being given Protected Designation of Origin status. Starting from 2007), only authorised wine producers from either the Hungarian or the Slovakian Tokaj region will be able to use the Tokaj. The villages of the Tokaj wine region in Slovakia are Bara, Čerhov, Černochov, Malá Trňa, Slovenské Nové Mesto, Velká Trňa, and Viničky (www.indianwineacademy.com).

Selected natural presumptions of development tourism industry in the Tokaj wine region

Location and setting bounds of the region
The Tokaj wine-growing region belongs among five regions in the world where it is possible to grow the sort of grapes for production of natural sweet wines. The Tokaj wine region is a geographically closed territory of grape-growing and production of wine in the basin of the Bodrog river in the north (in Slovakia) it is bordered by the Zemplin Highlands, by the hill of Rozhľadňa (an outlook tower – 470 m above sea level) and in the south (in Hungary) the borderline is the confluence of the rivers Tisa and Bodrog. It is a historic and territorial part of the large Tokaj region, the larger part of which spreads in Hungary (around 5000 hectares). In Slovakia, 908.71 hectares are delimited by law. In Slovakia, it belong among the smallest wine-growing regions but being exceptionally interesting it is one of the best known. The name of the region comes from an old Slavonic word "Stokaj" which, in its transferred meaning means the confluence of the rivers Tisa and Bodrog (Filip, 2010).

Geological conditions and climate
The area of the Tokaj wine region from the point of view of geological characteristics had appeared by the Alpine folding and repeated volcanic activity in the process of shaping the Carpathion mountain range. It consists of the covering of stiffen lava, ash and stone fragments. In the volcanic circle back to the tertiary period mainly igneous rock are found, especially andesite, rhyolite, trachyte and their tuffs (Vereš, 2002). In the lowest locations of grape-growing strips of field powdery soft sand, gravel, clay and loess-loam appear. In the strips of field called Piliš, Králka and Čierna Hora very special minerals are the most convenient substructure for growing the Tokaj sort of grapes from which the best quality Tokaj wines are made. Mesozocis minerals such as limestone and dolomite that can be found below the summit heights of the stripes of field called Brezina and, in the eastern part of the land registry called Viničky are highly convenient for growing vines (Kaša - Együd, 2002). According to Konček (1980), the investigated territory is a part of warm climatic region with warm climate, mild moist subdivision and, in its boundary, belongs to the district with warm, mildly moist area with cold winters. The average yearly temperature has been 9, 6°C for the past fifty years. Spring is dry and cold, warm weather gradually comes in May. Summers are very warm, even hot and often dry. Autumns are mainly long and sunny. The mists of early morning and dew provide abundance of moisture and thus help the noble mould Botrytis Cinerea Persoon to appear. The mould falls upon grapes and makes cibebas which are the raisins that add inimitable unique taste and bouquet to the Tokaj wines. Winters are cold and severe northern winds blow. Touches of frosts are supposed to begin at the beginning of October (Vereš, 2002). The area has a high number of sunny days, and higher relative moisture of the air is caused by the nearby rivers of Bodrog and Roňava. Mainly northern wind blows and they are not very beneficial for vineyards. However, most of the Tokaj vineyards are protected against the winds by the Zemplin Hills. In summer, warm southern winds blow (interné údaje SHMÚ, 2012).

Cultural and historical presumptions of the development of tourism in the Tokaj wine region

As it was mentioned above, the Tokaj wine region has had a rich tradition in growing grapes and making wines. Vine has been growing in the region for the centuries and over the years certain responsibility of the local people has been shaped. They realized that keeping traditional production of the Tokaj wines was their mission in life. Since the 17th century when the first Tokaj selection had been made and the production technology had been embodied in law. The information about making wines is being transferred from generation to generation. The Tokaj region belongs to a small group of vineyard regions in the world and it has proved to keep the original procedure in producing wine, during the period of ripening grapes and storing wine in cellars. This historical process is being kept by small local producers as well as by big wine producing companies in the region. Even though the Tokaj region is one of the most specific vineyard region in the world and in Slovakia, we consider it to be a part of our natural wealth and cultural heritage, it has not been adequately valued. U to the end of the 80ies of the 20th century, the Slovak Tokaj region had been approximately of the same level as the Hungarian part. Up to that period the country´s character had been preserved. The state enterprise Tokaj had mainly been taking care of vineyards, in Malá Tŕňa the Research Institute of Grape-Growing and Wines was placed in Malá Tŕňa, the Secondary Agriculture School was in Viničky. The students, young wine growers were trained how to grow grapes properly (Mikroregión - Združenie Tokajských obcí, 2002).

Since 90ies of the 20th century, the Slovak part had remained behind the Hungarian part. The state enterprise Tokaj quit to exist, some vineyards became the property of small wine growers, some vineyards got abandoned and overgrown by shrubs. A lot of vineyards died out. In 1990 J&J Ostrožovič company came into being. At present, the company owns 45 hectares of vineyard. The Research Institute of Grape-Growing and Wines cease to exist and the Secondary Agricultural School stopped training young winegrowers. At present, the school trains carpenters, cooks, waiters and mechanics. Approximately in the year to 2000, the decayed and abandoned vineyards gradually began to regenerate. Regeneration has been financed by donations from the Eurofunds.

Production of wines in the Tokaj wine region

The production of Tokaj wines depends on many factors that influence the fermentation process of Tokaj dry, sweet and select wines. In unfavourable years, the grapes are harvested before they rot. In such years, they produce varietal wines (Furmint, Lipovina and Muscat Ottonel) and their brand name wines, Toccata (a semi-sweet wine) and Tokajer (a dry wine). The grapes are pressed immediately and after that must is separated out, they are immediately fermented. In favourable years, when the grapes can ripen on the vines for a longer time and if a smaller amount of cibebs develop, they make Tokaj Samorodné Dry Wine. The crushed, de-stemmed grapes ferment for 12 to 24 hours, allowing the colour and bouquet to evolve and partial enzymatic oxidation to take place (http://www.indianwineacademy.com).

There are several famous and big producers of wine and a lot of family vineyards in this unique region. The most famous wine producers are the members of the citizens´ association called Tokaj Regnum that was formed in 2006. The association includes the following firms:

- Wine producer J&J Ostrožovič Veľká Tŕňa
- Tokaj Macik Vinary, Ltd Malá Trňa
- Zlaty Strapec Viničky (Golden Grape of Wine Viničky)
- Tokaj company Viničky Ltd.
- Galafruit Ltd. Malá Tŕňa
- Chateau Viničky, LP Košice
- Tokaj & Co Ltd.

Tokaj Wine Route

The singularity of Tokaj wine, the presentation of the Slovak part of the Tokaj vineyard region, growing and processing grapes as well as production technology led those involved and the local enthusiasts, growers and producers of wine to create the Tokaj Wine Route. The need to discover the past and the present of the region, its natural beauties, attractions, traditions and habits gave rise to creating the Tokaj wine route. The association the Tokaj wine road was founded in the town of Slovenské Nové Mesto in 2008 and unites Tokaj villages, grape-growers and producers of Tokaj wines, wine cellars, provider of accommodation and boarding services, travel agencies, cultural and historical sights, associations and

organizations that participate in developing the Tokaj grape-growing region (www.tvc.sk). The Tokaj wine route is a product of home tourist industry and it is cultural and educational route. The first stop is the town of Trebišov, then the route leads not only to seven Tokaj grape-growing villages, to begin with the village of Čerhov throughout Veľká Trňa, Malá Trňa, Černochov, Bara, Slovenské Nové Mesto and the village of Viničky. It also involves villages of Borša, Ladmovce and the village of Zemplín. The Tokaj grape-growing region as well as the complex of Tokaj wine cellars represents unique cultural value that was suggested to be written down in the list of the world cultural heritage UNESCO. Along with the "small" Tokaj Route the project Big Tokaj Wine Route will be accomplished in the future. The route would copy the old trade route. The old route enabled trading Tokaj wines. The old route led from the Hungarian Tokaj region through the Slovak Tokaj region and the territory of historical Zemplín county to upper Hungarian royal towns and as far as the bordering Polish trade centres and to Krakow.

Organized Events of the Tokaj Wine Route

In the Tokaj region folk traditions are being held and due to it almost every village or town have their own folk ensembles or a music group. Various cultural events are held in which mainly local inhabitants take part. Most of the events are focused on celebrating wines, vineyards and wine-growers. Historical tradition of setting maypoles has not been forgotten and has had a long tradition in the village of Čerhov. The most important and the most attractive event is celebration of Tokaj vintage which is usually held at the last September weekend in the village of Čerhov. Several villages and wine producers participate in the festival. Traditionally the Day of opened Tokaj cellars is a part of the celebration and three key grape-growing villages of Malá Tŕňa, Veľká Tŕňa and Viničky are involved. The event enables to see the Tokaj cellars and to taste Tokaj wines. The entertaining program is usually prepared - tasting regional gourmet specialities and enjoying folk dance and song performances. A very interesting entertainment is "Tokaj Steam Express" which departs from Košice in the morning and arrives at the village of Čerhov. The train goes back to Košice in the evening. Transportation to grape-growing villages is provided by bus and it is free on that day.

The second weekend in September is traditionally the time for two-day´s Tokaj Malotrňanske vintage celebrations, burrowing in Tokaj cellars, tasting local gourmet specialities and enjoying arts and there is a fair where traditional folk crafts are performed (www.tvc.sk). Some other events are organized over the year with the exception of January, October and November. The events include celebrating Carnival, the International Competition of Tokaj wines and presentation of crafts and traditions in the village of Viničky, and also celebration of ordaining young wine and the night of wine cellars etc.

The Tokaj cycle routes

The association of communities in the Tokaj Region in cooperation with the Department of Regional Development of Košice self-governing region created 52.6 km of cycle routes. 47.5 km have been marked. The routes were marked and were made accessible in 2009. The routes offer a lot of interesting places, unique natural and cultural wealth such as protected natural areas, reservations, sacral and worldly monuments. Of course stopping places are located at the Tokaj cellars hollowed out in tuff and tasting wines is accessible. Cycle routes in the Tokaj region are connected with the Medzibodrožská cycle route and with the F. Rákoczi cross-border long-distance cycle route. This track stretching from Hungary brunches off into the southern route leading to Sárospatak and the northern one leading to Holoház. The western proceeding of the Tokaj cycle route is a long-distance cycle route in the Slanske Hills, the route proceeds from there to Košice and Prešov (Košický samosprávny kraj, 2009).

Summary

The Tokaj wine region has special presumptions for development of country tourism including agritourism, wine-growing, viticulture, gastronomy and sports. The strongest pull factor in the region is grape-growing and its special final product of these activities – wine. The wide public got to know organized wine tasting due to the cultural event of the Tokaj wine grapes gathering in Čerhov which is associated with the Day of opened Tokaj wine cellars. Not only professional winemakers but also layman lovers of quality wine are fond of the event and attend the event every year. The festival is of over-regional character. Visitors from all corners of Slovakia as well as from abroad attend the festival. The number of visitors over the last years has been about 5000 – 6000. Thanks to this cultural event, the growing number of tourists visit the Tokaj wine region and the microregion of Tokaj Willages has rapidly raised. Wine tasting is held regularly all year round. Thus we can consider the events as the whole year´s

tourism. The events take place in the cellars, in which the constant temperature is 11-13°C for the whole year. Season tourism is bound to summer seasons. Folk festivals and other cultural events are organized. Rafting the Bodrog river is very popular. During summer time, tourists like visiting historical monuments and natural beauties. During some months such forms of pastime as hunting, fishing, picking forest fruits and mushrooms have become increasingly popular. So called "second household" or spending weekends in individual recreation buildings have risen greatly (Džupinová - Pšenka, 2010).

Visitors in the region of Tokay stay mainly 1 day. Majority of them are Slovaks and come from distant towns and villages (more than 50 km away). Significant majority of them are people at the age of 25 – 62. Pensioners and younger people rarely visit the region. Summer is a busy season and partly autumn too. In the winter and spring time the area is almost empty (http://www.arr.sk/file/projekty_file209.pdf).

Although the region is accessible due to convenient natural conditions, local peculiarities and high standard of transportation, the present conditions in the area are not convenient enough for recreation and tourism industry. The region lacks a whole year´s information centre with the sufficient amount of advertising materials in different foreign languages. Building up and improvement of traffic infrastructure extending accommodation and boarding services providing full service and higher quality of the existing cycle routes are absolutely necessary as well as giving regular present-day information about organized events and about cultural and historical places of interest on the local Internet websites. Another problem is that young people living in the region go abroad to seek for a job, and so mainly young adults and elderly people work in vineyards. The language barrier is also a significant problem in communication with tourists. The local people make themselves understood mainly in Hungarian and Slovak. The present high unemployment rate reflects the problems in grape-growing. Reduction of producing of wine leads to decrease of job opportunities. Different interests of separate groups (population, entrepreneurs, self-government) in the region are a characteristic feature of the region. Their activities have not been synchronized. Consequently, general scepticism prevails, the demographic growth is low (the villages have less population) and birth rate is low. The population is aging and migrating of people in order to find a job also contributes to the present state. Development of tourism in the Tokaj wine region can significantly help the whole region. It is necessary to realize the advantage of strong bound to the soil (grape growing, agriculture, fishing, forestry et. c.) in relationship of identity and life style we also must use in the system hospitality and gastronomy. We must realize the importance of preserving non-mass attendance and distinguish clearly mass forms of tourism and country tourism. Growing number of visitors can undoubtedly have negative influences on the development of communities, but positive influences will prevail to such an extent that this area remains attractive for tourism and the future generations.

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The Importance of Spa Tourism in the Czech Republic

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Abstract

Silesian University in Opava, Faculty of Philosophy and Science and namely its Institute of Gastronomy, Spa Management and Tourism carried out a research in the field of spa industry and tourism. This paper presents the results based on the survey carried out in 16 spa places. The respondents were not only the spa guests, but same-day visitors and tourist, too.

Key words
Spa, marketing research, spa guest, tourist, same-day visitors.

Introduction

Spa culture in the Czech Republic can boast a centuries-long history. According to an old tradition, throwing a coin into a healing spring is an expression of thanks for recovery. Roman and Celtic coins that have been found in the thermal springs in Teplice are a proof of the fact that the history of Czech spas is more than 2000 years long. Natural healing sources, baths, drinking cures and spa treatment have been used in medical science as one of the oldest ways of therapy from way back. Spas were gradually established in the surroundings of natural sources mainly around the springs of mineral and thermal waters. Also the deposits of peat and marsh provided a valuable material for warmed baths and wraps. A favourable climate gave rise to many spa centres as well.

The largest expansion of spas began at the end of the 18th century in connection with technological progress but also on the grounds of social communication development. Other important stimuli were the development of medical science and balneology as well as the establishment of the first hydrotherapeutic institute – its methods are in certain modification used up to now. The golden age of spa building culminated on the turn of the 19th and 20th centuries. In that period new spa houses and colonnades were built and the springs of mineral waters were gradually roofed. Considerable attention was aimed at the quality of natural healing sources.

The spa tradition in the Czech Republic is, to a large extent, based on natural healing sources, i.e. mineral waters, gas or peloids. A significant milestone in spa culture in the Czech Republic was the year 1989. Following the political changes, progressive economic changes were applied, mainly the change of property rights. In the course of the recent twenty years spas have undergone the most significant transformation in the frame of all the segments providing medical care and they have become an important part of tourism. Following successful privatisation and stabilisation of proprietary relations, massive investments into infrastructure were made. Besides the changes in proprietary relations, significant legislative changes were introduced – in 1993 a system of health insurance was introduced resulting in the change of the payer of covered spa care from the Czech social security administration to health insurance companies.

An inseparable part of the changes in spa care was a permanent increase of medical staff expertise. This fact may be documented by the number of quality certificates awarded by the European Spas Association that is the highest among all the member states of the European Union. Apart from the above mentioned qualitative changes, the standard offer of medical spa stays is being changed and extended with new forms of regenerative stays. Hence the spa culture is gradually no longer perceived as an inseparable part of the health and social system. Spa clientele begins to take advantages of the spa services more frequently as a way of prevention and spa guests become participants of tourism since spas represent one of the possibilities of leisure time spending. Spas follow this trend by an alternative offer of short-term preventive spa products as well as wellness packages.

The base of the spa care offered in the Czech Republic is making use of the combination of the effects of natural healing sources, rehabilitation care and in some cases also of the treatment of chronic diseases. The system of spa care distinguishes three types of service providing depending on the share of spa care payment by the health insurance company and the medical care beneficiary. The complex spa care is fully covered by the health insurance company where the client is insured. The company pays for the health care, accommodation and catering. The basic length of stay – according to the current legislation

(regulation no. 267/2012 Coll.) – 21, respectively 28 days may be prolonged in particular cases based on the doctor´s recommendation. This type of spa care is intended especially for follow-up treatment of postoperative states and for the prevention of disability development. While taking this care, the client is on temporary sick leave. Contributory spa care is provided in cases when the conditions for the complex spa care have not been met. Health Insurance Company covers the spa care while expenditures connected with the stay in a spa, i.e. accommodation and catering are covered by the client himself. The basic length of contributory spa care is 14, respectively 21 days. While taking this type of spa care, the client takes a holiday or as the case may be an unpaid leave. Stays of private payers represent spa care when all the expenditures connected with the stay in a spa are covered by the client himself. The length of these stays is not determined by the law. The average length of private payers´ stays ranges in days. This type of spa care is used by domestic as well as by foreign clientele.

The data regarding spa care are methodically gathered by means of statistical records documenting the development of provided spa care on the time axis that enables the analysis of changes caused by different more or less objective reasons. Their content was compiled based on the requirements of the Czech Spas and Springs Inspectorate of the Ministry of Health. The realisation of statistical investigations and their processing is provided by the Institute of Health Information and Statistics of the Czech Republic.

In the period of the last fourteen years from 2000 to 2013 the total number of clients increased by almost 37 per cent, i.e. from 275 811 clients in 2000 to 377 552 clients in 2013. However, the structure of spa clientele gradually changed to the disadvantage of the number of insured people taking the complex spa care, namely by 53 per cent, i.e. from 125 975 clients in 2000 to 59 590 clients in 2013. Similar tendency of development in the monitored period can also be seen in the numbers of patients who were provided with the contributory spa care, namely the decrease by 49 per cent from 24 914 to 12 734 persons.

In comparison with these data, the development of the numbers of private payers showed the opposite tendency with more steep increase. In the period of 2000 – 2013, domestic clientele showed quadruple increase from 31 901 persons in 2000 to 139 605 persons in 2013. Foreign clientele of private payers also showed increase in numbers although no as significant as that of the domestic clients – from 93 021 persons in 2000 the increase reached 165 228 persons in 2013.

Depending on the type of illness, adult patients, youth and children take part in spa care. Regulation no. 267/2012 Coll. determines indication list for spa curative-rehabilitation care of adults, children and youth. The regulation itself contains two constituent lists of indication groups of diseases, i.e. separately considering the care of adults and separately considering children and youth. Each list is divided into eleven indication groups (for adults under serial numbers I – XI, for children and youth under serial numbers XXI. – XXXI.). Each of the given groups shows differences in prevailing indication, although this indication within the particular groups is identical in flow line. Considering the adult clientele, diseases of musculoskeletal system prevail that do not change much in the course of time. In the year 2000 its share with the adults was 49.9 per cent; in 2013 it was 51.9 per cent. Considering children´s clientele the group of non-tubercular respiratory diseases prevails with nearly no changes in the course of time (almost 50 per cent). Deriving from the given facts, it is apparent that although the adults and children live in the same more or less healthy environment, children´s organism is more susceptible and less immune not only to the infection intake but also to the environment.

Methodology

To map the current opinions of the visitors (spa guests or tourists) as well as the residents of particular spa towns, the Institute of Gastronomy, Spa Management and Tourism has decided to carry out a research on the territory of the Czech Republic. The research started in 2012, the first phase was finished in 2013. The results of particular phases are presented to the Association of Spa Places (a non-governmental organisation grouping spa towns and municipalities in the Czech Republic). The second phase started in the year 2013 with expected finishing during the year 2014.

The first part of the research is aimed at mapping the opinions of the residents of a given spa place evaluating the benefits of spa to the development of the municipality and the life of its residents using the method of sociological survey. The second part, aimed at the visitors of a spa place is being carried out by means of marketing research by questioning at various places and on different days of week in particular seasons with the aim to eliminate a potential misrepresentation as much as possible.

One of the partial objectives of the research is the analysis of the residents´ relation to a given spa place including creation of the profile of a typical resident. Another partial objective is to find out the attitude of

the local administration to the issue of spa culture and its relations to tourism. Last but not least is another research objective, i.e. the analysis of the structure of spa place visitors, the degree of visitors´ satisfaction with services offered and the determination of the profile of a spa place visitor.

The group of interviewers is formed by the students of Spa management and tourism involved in the project in the form of partial outputs in the frame of bachelor theses. The concept of the research is divided into two comparatively independent parts. The first group of respondents are either spa residents who just live in the given area or the citizens who benefit from the existence of spa either as spa employees or as entrepreneurs providing services to spa guests, According to the size of a spa place, the sample of respondents is minimum 150 to 250 persons. The second group of respondents are the visitors of a given spa (spa guests, same-day visitors or tourists). The number of respondents is again minimum 150 to 250 persons addressed either in the immediate closeness of spa establishments or in the spa centre or at other tourist attractions.

Results and Discussion

The project has so far been finalised in the following spas: Bludov, Darkov, Hodonín, Jánské Lázně, Karviná, Klášterec nad Ohří, Klimkovice, Konstantinovy Lázně, Mariánské Lázně, Lázně Mšené, Ostrožská Nová Ves, Poděbrady, Slatinice, Teplice nad Bečvou, Třeboň, and Velké Losiny. Selected results of the project – including basic analysis – are presented in the following passage.

One of the questions concerned opinions of spa residents regarding advantages and disadvantages of the existence of spa in the given municipality. There were three possibilities of answer – a) I do not know, b) I just guess but cannot give anything particular, c) I know plus stating particular advantages and disadvantages of the existence of spa in the municipality. The advantages were given by only 21 per cent of residents (on average) and only 16 per cent of respondents were able to give some disadvantages. Table 1 gives the evaluation of the awareness of this issue in particular spa centres by means of average marks where answer a) was marked 1, answer b) was marked 3 and answer c) was marked 5. The best knowledge was proved by the residents of Janské Lázně and the worst by the residents of Lázně Mšené.

Table 1. Knowledge of advantages and disadvantages – order

spa places	Janské Lázně	Teplice n/Bečvou	Poděbrady	Slati-nice	Darkov	Třeboň	Mariánské Lázně	Ostrožská Nová Ves
knowledge	2,0	2,6	2,8	3,0	3,1	3,2	3,3	3,4
spa places	Karviná	Konst. Lázně	Klášterec nad Ohří	Klim-kovice	Velké Losiny	Hodonín	Bludov	Lázně Mšené
knowledge	3,4	3,4	3,4	3,5	3,6	3,9	4,0	4,4

Following questions concerned the benefits of spa to the municipality that is naturally closely connected with the attitude of the residents towards spa guests. If they perceive the presence of spa establishments in a positive way, it may be assumed that they will also have a positive attitude towards the spa guests. The benefits were evaluated by the usual range of answers: definitely or rather yes, I am not able to judge, and rather or definitely no. Approximately 78 per cent of residents consider the existence of spa to be beneficial. The opposite is the opinion that it is not beneficial (1 per cent). The attitudes of residents of particular spas were quantified (mark 1 to 5). The average for particular places is given in table 2. The residents of Klimkovice, Konstantinovy Lázně and Janské Lázně are most convinced about the benefits of spa to the municipality. The residents of Bludov consider the existence of spa least beneficial.

Table 2. Anticipated benefits of spa establishments to the municipality – order

spa places	Klimkovice	Konst. Lázně	Janské Lázně	Darkov	Karviná	Velké Losiny	Hodonín
benefits	1,5	1,6	1,7	1,7	1,7	1,7	1,7
spa places	Mariánské Lázně	Teplice n/Bečvou	Třeboň	Lázně Mšené	Slatinice	Klášterec nad Ohří	Bludov
benefits	1,8	1,9	2,1	2,3	2,3	2,3	2,5

In the consequent part of the questionnaire the residents were asked to consider the particular benefits of the spa existence. Table 3 shows the averaged answers. The residents see the greatest benefits of spa for

the municipality in the increase of sales of local shopkeepers (21 per cent), in creation of jobs for local inhabitants (19 per cent), and benefits for further service provides (16 percent). Last but not least, the residents appreciate more frequent cultural events due to the existence of spa (11 per cent).

The results achieved in particular spas were used for comparison of the gathered data. Each benefit was assigned a certain number of points (see Table 3). Consequently, the even distribution of all the mentioned benefits with regard to the total number of answers was taken into consideration. The number of points gathered this way is given in Table 4 where a greater number means that the respondents see more benefits of spa to the destination and its residents. The benefits connected with the existence of spa are most appreciated by the residents of Třeboň, Konstantinovy Lázně and Klimkovice; on the other hand the benefits of spa for the spa residents are appreciated least by the residents of Ostrožská Nová Ves and Teplice nad Bečvou.

Table 3. Most important benefits of spa for your municipality

spa places	Many residents find jobs	Increased sales for local shopkeepers	Increased sales for local service providers	People can rent accommodation	Greater number of inns and hotel
average	19 %	21 %	16 %	6 %	3 %
spa places	More cultural events	It motivates homeowners to greater care	Local authorities care more about public spaces	The city is alive	No benefits
average	11 %	4 %	13 %	3 %	3 %

Table 4. Extent of benefits resulting from spa for the municipality – order

spa places	Třeboň	Konst. Lázně	Klimko-vice	Karviná	Velké Losiny	Slati-nice	Mariánské Lázně	Bludov
total benefit	18	17	16	15	15	13	13	12
spa places	Podě-brady	Janské Lázně	Hodo-nín	Klášterec nad Ohří	Darkov	Lázně Mšené	Ostrožská Nová Ves	Teplice n/Bečvou
total benefit	12	12	11	11	10	9	8	8

When evaluating the opinions of the residents considering the increase of tourist and spa guest inflow, the respondents had the possibility to mark one of the proposed answers, or as the case may be to suggest other measures. Table 5 gives the order of most frequent answers. It is interesting that the most frequent answers are identical with the results of the research that was carried out in town and even in village conservation areas. Main suggestions included the improvement of cleanness and appearance, the improvement of the condition of roads and public areas, and the third place was taken by the suggestion to issue further promotional materials.

Table 5. Most frequent measures for the increase of municipality visit rates

measures	Improvement of cleanness and appearance	Improvement of roads and public areas	Publication of promotional materials	Contribution to residents for their home repairs	We do not want more tourists to come	Establishment of one more information centre
share answers	27 %	20 %	18 %	9 %	8 %	5 %

The second part of the research was devoted to the analysis of spa visitors´ opinions. The aim was to randomly address spa visitors regardless the fact whether they were spa guests, tourists or same-day visitors to find out the structure of visitors in a given municipality. The survey enabled to determine the ratio of respondents staying in the place as spa guests (all forms of spa care including wellness stays) to respondents staying there as visitors (tourists as well as same-day visitors – see Table 6). Respondents participating in the research were spa guests – 58 per cent, and visitors – 42 per cent. The differences between particular places are significant. While in Klimkovice the respondents were only spa guests, in Janské Lázně spa guests created only 20 per cent of respondents. Hence, it is apparent that Janské Lázně is an important tourist destination as well. Similar structure of respondents was typical for many important spa places – for example in Třeboň 61 per cent of respondents were tourists, in Mariánské Lázně 63 per cent and in Konstantinovy Lázně 64 per cent.

Table 6. Share of respondents: spa guests and visitors

spa places	spa guests	visitors	spa places	spa guests	visitors
Bludov	49 %	51 %	Mariánské Lázně	37 %	63 %
Darkov	64 %	36 %	Lázně Mšené	69 %	31 %
Hodonín	65 %	35 %	Ostrožská N. Ves	80 %	20 %
Jánské Lázně	20 %	80 %	Poděbrady	56 %	44 %
Karviná	57 %	43 %	Slatinice	99 %	1 %
Klášterec n/Ohří	36 %	64 %	Teplice n/Bečvou	77 %	23 %
Klimkovice	100 %	0 %	Třeboň	39 %	61 %
Konst. Lázně	36 %	64 %	Velké Losiny	39 %	61 %
Average				**58 %**	**42 %**

The next part of the research was devoted to the frequency of respondents´ visits. Spa places are ordered according to the average number of repeated visits in particular places. The share of first time visitors to the destination is also given. The highest frequency of repeated visits was identified in Klášterec nad Ohří, in Konstantinovy Lázně and in Hodonín. The numbers concern repeated visits or stays of not only the spa guests but of all the visitors. Two thirds of respondents in spa Mšené were the first-time visitors (see Table 7).

Table 7. Frequency of visits

Spa places	First visit	Frequency, average	Spa places	First visit	Frequency, average	Spa places	First visit	Frequency, average
Klášterec nad Ohří	27%	6,4	Teplice nad Bečvou	50%	4,7	Slatinice	56%	2,7
Konstantinovy Lázně	27%	6,4	Karviná	27%	4,5	Klimkovice	44%	2,5
Hodonín	25%	6,4	Mariánské Lázně	18%	4,4	Lázně Mšené	67%	2,1
Poděbrady	20%	6,2	Jánské Lázně	9%	4,4	Velké Losiny	66%	1,7
Bludov	30%	5,5	Darkov	39%	3,1	**Average**	**36%**	**4,3**
Třeboň	29%	5,0	Ostrožská Nová Ves	40%	2,7			

Consequently the length of stay in particular places was investigated. Foreigners were also asked to give the total length of their stay in the Czech Republic. The longest average stay of domestic visitors was found out in Klimkovice (21.6 days). This corresponds to the fact that the respondents were spa guests exclusively (100 per cent), not a single tourist or same-day visitor participated in the research. The longest stay of foreigners was detected in Mariánské Lázně (13.7 days on average). Interesting data were acquired for Třeboň with average length of stay of 13.3 days. As the spa guests created only 39 per cent of respondents, it can be deduced that the reason why domestic guests come to Třeboň is not only the spa stay but also holiday outside spa establishments. The total average length of stay of visitors in all the monitored spa places was almost 12 days. Nevertheless, it should be taken into consideration that to get more precise data, the total number of visitors (i.e. not only of the spa guests) per year in particular places would be needed. Unfortunately, these data are not available.

On average, 88 per cent of visitors are accommodated right in a spa place. Naturally, this concerns also tourists. Most, i.e. 100 or 99 per cent of visitors were accommodated right in the spa place in Darkov, Karviná, Klimkovice and Teplice nad Bečvou, the least number (59 per cent) in Klášterec nad Ohří. 100 per cent of visitors were accommodated directly in the spa establishment in Klimkovice. A high percentage of visitors accommodated directly in the spa concerned further small spa places (Bludov, Slatinice, Teplice nad Bečvou, Lázně Mšené, and Ostrožská Nová Ves). The largest share of hotel accommodation of visitors is in Jánské Lázně (34 per cent). A favourite type of accommodation in Třeboň is guest house (31 per cent), and one fifth of visitors in Karviná stays in private accommodation. Camps are rather popular in Janské Lázně (23 per cent). Visitors staying with relatives and friends are most typical for Poděbrady (12 per cent).

Summary
The best knowledge of advantages and disadvantages of the existence of spa in a municipality was proven by the residents of Janské Lázně, the worst knowledge was demonstrated by the residents of Spa Mšené. Most convinced about the benefits of spa are Klimkovice residents and least convinced are Bludov residents. The residents of Třeboň have the highest awareness of the benefits of spa while the residents of Ostrožská Nová Ves and Teplice nad Bečvou proved the lowest awareness.

Most residents consider the improvement of cleanness and appearance of the municipality, improvement of roads and public areas the basis for the increase of attractiveness of spa places, the third position was taken by publishing of promotional materials.

The share of spa guests and other spa visitors differs significantly. The average is 58 to 42 in favour of spa guests but for example in Janské Lázně it is only 20 per cent of spa guests, in Mariánské Lázně 37 per cent and in Třeboň 39 per cent.

The reasons of visits include not only the spa stays but for example 30 per cent of respondents come to Velké Losiny to spend their holiday there. In Klášterec nad Ohří the share of spa patients and wellness clientele is already the same (18 per cent). Many same-day visitors can be found in Janské Lázně (74 per cent). The highest rate of repeated guests is in Klášterec nad Ohří, Konstantinovy Lázně and Hodonín, the lowest in Velké Losiny. The longest average length of stay can be seen in places where spa guests prevail. In Klimkovice there is the average almost 22 days. Considering places that are important tourist centres as well, Mariánské Lázně and Třeboň should be mentioned.

Accommodation directly in a spa place prevails (88 per cent on average), although this figure concerns only guests who stay for more days. The structure of accommodation establishments differs a lot in particular places. Accommodation in a spa establishment does not prevail in all places. Accommodation right in spa establishments dominates in small spas but for example in Třeboň there are 31 per cent of more-day visitors accommodated in guest houses and in Janské Lázně 23 per cent in a camp.

The attractiveness of particular spa places may also be judged according to the average distance between the spa place and the place of residence of spa guests. The figures differed significantly. While the respondents had to travel 238 km on average to visit Mariánské Lázně, it was only 44 km to get to Lázně Mšené. As emerged from the research, higher prices should be expected in attractive spa places and people are usually ready to spend there more money. A visitor of Mariánské Lázně spends almost 2,800 Czech Crowns (on average) per day. On the other hand, daily expenditure in Hodonín is only 350 Czech Crowns.

The research and its continuation gain a significant importance especially in connection with the introduction of the new indication list in 2012. This had a significant impact on the results achieved by the spa establishments in 2013. Based on the common effort of professional organisations, i.e. Association of Spa Places and Czech Spa Association, a common Memorandum regarding the situation in spas was issued. An initiative of Czech senators in the first half of the year 2014 led to the annulment of the effect of the new indication list whose validity is set by the Constitutional Court of the Czech Republic only until the end of the year 2014. Therefore, it can be supposed that a new legislation regarding provision of spa care should be approved in the second half of this year at the latest.

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Management

5. Regional Development and Management

Analytical View of the Evolution of Unemployment in the Regions of Slovakia

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Abstract

Unemployment is a normal part of the labor market. It is a socially undesirable phenomenon, which is government trying to eliminate. Consequences of unemployment are manifested not only as economic losses but also as social and psychological problems in society. The aim of this paper is to evaluate the development of unemployment in the Slovak Republic for the period of 2004 – 2012 and analyze the evolution of unemployment by region.

Key words
unemployment, GDP, regional analysis

Introduction

Unemployment represents a macroeconomic problem, which should be minimized to a "natural rate of unemployment". Consequences of unemployment are serious for individuals and for the state and its economic performance too. The society has to deal with this serious problem and take actions to reduce it. This is particularly true, when unemployment reaches high values not only in Slovakia but also in European Union, which is facing serious economic problems. Slovakia had (to 31.3.2014) a total of 382,900 unemployed citizens, unemployment rate stood at 14.1 %, which ranked sixth in the countries of the European Union. There is also increasing youth unemployment. More than a third of people under 30 years cannot find a job. The highest number of unemployed people in Slovakia has long been registered in the Prešov region and Banská Bystrica region.

Concept of unemployment, the measurement of unemployment

Unemployment is an indicator associated with the labor market. In general we can say that it is a socially undesirable phenomenon that politicians are trying to influence by various interventions. Unemployment is purely macroeconomic problem, because no one else than the government has any chance to influence it.

Unemployment is a condition where a certain group of people (despite the fact that they are willing and able to work in terms of age, health status, personal circumstances) does not participate in the labor market. Unemployment is the result of an imbalance between supply and demand in the labor market.

According to the Methodology of the Sample Labor Force Survey (VZPS) are unemployed persons, the persons aged between 15 and 74 years, which simultaneously satisfy the three conditions:

  - In the reference week have done no paid work,
  - In the last four weeks have been actively looking for a job or have found a job (employment enroll no later than three months),
  - Are able to start working within two weeks.

Unemployment is ascertained by two different methodologies. Internationally comparable methodology ILO (International Labour Organization) is based on sample labor force survey (used by Statistical Office of the Slovak Republic).

According to the Methodology of the Ministry of Labour, Social Affairs and Family is unemployment ascertained by registered unemployment rate in Slovakia pursuant registered number of unemployed at labor offices (by regions and districts). According to the Methodology of the Ministry of Labour, Social Affairs and Family is unemployment in Slovakia ascertained by registration unemployed at labor offices (also by regions and districts). The unemployment rate expresses the proportion of the number of available job seekers to the total number of economically active population.

The general formula for calculating the unemployment rate (u) is as follows (Martincová 2002):

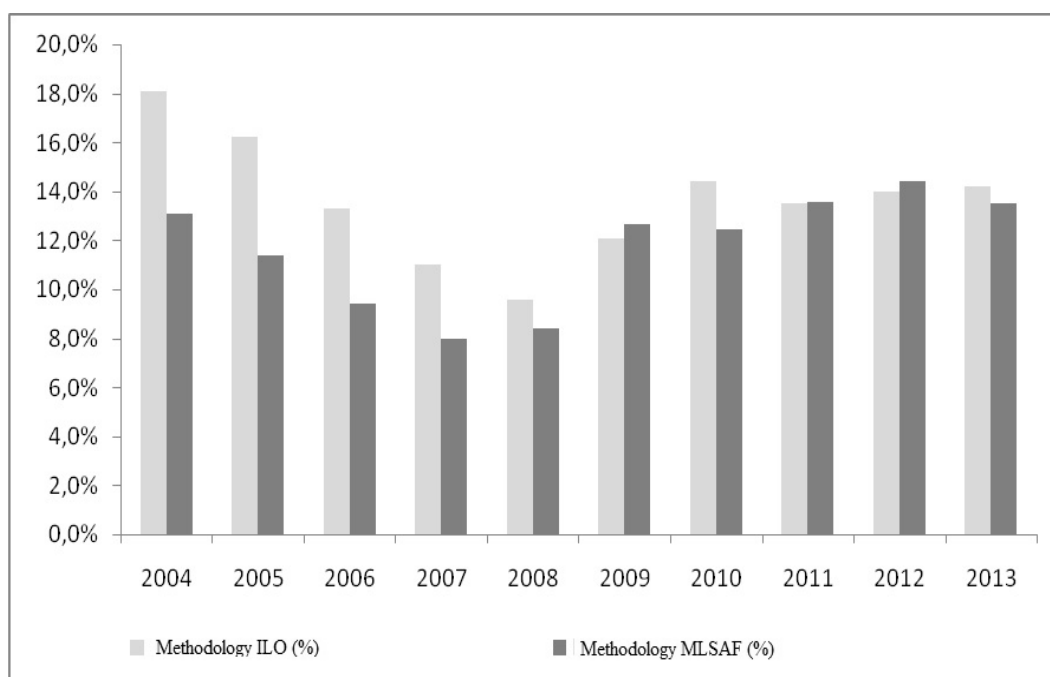$$u (\%) = U/L \times 100$$

where: L = E + U
L - labor force or economically active population
E - employed
U - unemployed
Unemployment rate development identified for the period 2004 - 2013 using both of named methodologies is pictured in Graph 1.

Graph 1. The unemployment rate in Slovakia (2004 – 2013)

Source: Own processing by SOSR, MLSAF

As the graph shows, there is a difference in the methodologies of calculating the unemployment rate. The biggest difference was in 2004 (4.94%). Since 2009, the difference is less pronounced. Higher unemployment rate is recorded in the methodology ILO (used by Statistical Office of the Slovak Republic). It cannot be generalized, which method is better. In our view, the methodologies are complementary to each other.

Development of unemployment in Slovakia
In recent years, since the onset of the economic crisis in 2009, the unemployment rate in the Slovak Republic has held the relatively high levels. There was 386 000 jobless people (to 31.12.2013), which is by 8 500 more than in 31.12.2012. The unemployment rate reached 14,2 % (+ 0,2 % against 2012).

The lowest unemployment rate was recorded just before the onset of the economic crisis (9,6 %), and from that period it moves on to the 13%.
The unemployment rate development for the period 2004 - 2012 is shown n the graph 2

Graph 2. Unemployment rate (2004 – 2012)
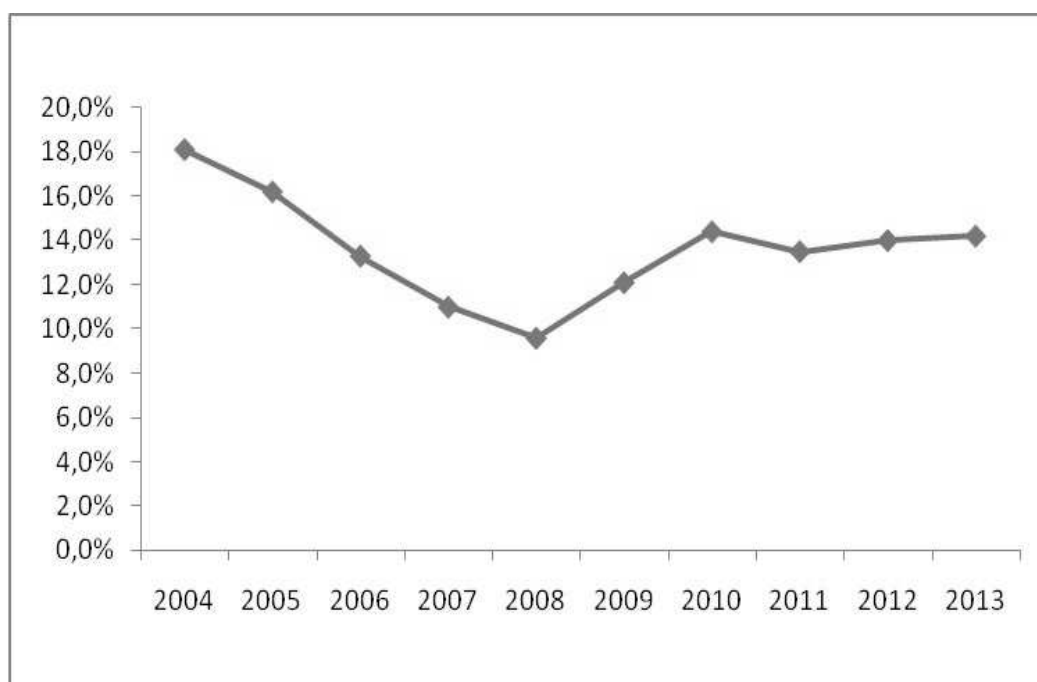
Source: Own processing by SOSR

Unemployment (or employment) also affects the value of gross domestic product (GDP). GDP reflects the economic strength of the country. Prerequisite for economic growth is the growth of GDP per capita. One of the sources of growth is work. So there is a relationship of interdependence between the amount of work (employment) and GDP. We can assume that GDP growth leads to an increase in employment. It is assumed that high GDP growth is accompanied by a decrease in unemployment. This relationship is known as Okun law that reflects quantitative changes in GDP and unemployment.

Table 1. Employment rate and GDP growth rate

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
GGR (%)	5,2	6,5	8,5	10,4	6,4	-4,7	4,2	3,0	1,8	0,9
ER (%)	56,7	56,7	57,5	58,7	60,3	58,2	57,4	57,4	57,3	57,8

* GDP growth rate
** Employment rate
Source: Eurostat

The correlation was not confirmed at the desired level of significance (Pearson correlation coefficient).

Development of unemployment in regions of Slovakia

Analysis of unemployment by region is done at the level of statistical units NUTS III. Slovak territory is divided into 8 regions. For the analysis we used data from the Statistical Office of the Slovak Republic.

Table 2. Unemployment rate by region (2004 – 2012)

Region	2004	2005	2006	2007	2008	2009	2010	2011	2012
Bratislava	8,2	5,2	4,3	4,2	3,6	4,7	6,1	5,7	5,6
Trnava	12,5	10,4	8,8	6,5	6,2	9,1	12,0	10,6	11,4
Trenčín	8,6	8,1	7,1	5,7	4,7	7,3	10,2	8,7	9,0
Nitra	20,3	17,8	13,2	10,7	8,8	13,0	15,4	12,5	13,3
Žilina	17,5	15,2	14,8	10,1	7,7	10,6	14,5	14,3	14,3
B. Bystrica	26,6	23,8	21,1	20,0	18,2	18,8	18,6	17,5	18,0
Prešov	22,9	21,5	18,1	13,8	13,0	16,2	18,6	17,8	18,3
Košice	25,2	24,7	20,3	15,9	13,5	15,5	18,3	19,6	19,7
Slovakia	18,1	16,2	13,3	11,0	9,6	12,1	14,4	13,6	14,0

Source: Own processing by SOSR

The table 2 shows significant differences among the regions of Slovakia. Bratislava region has the lowest unemployment rate, the highest unemployment is in Kosice region. The unemployment rate in the years 2004 - 2008 declined, and due to the crisis there was an increase in unemployment in all regions.

GDP per capita in districts shows an increase of 3974 EUR in 2011 (compared to 2004). The biggest increase was in Trnava region and Žilina region. The lowest increase was recorded in Banská Bystrica region and Košice region. From Table 3 it is possible to observe an increase in GDP per capita (with the exception of year 2009). The highest increase was observed in the years 2009 - 2011 in Bratislava region (111%) and Nitra region (116%).

Significant difference in GDP per capita is between Bratislava region and Prešov region (24 063 EUR).

Table 3. GDP per capita by region (in EUR)

Region	2004	2005	2006	2007	2008	2009	2010	2011
Bratislava	18958	22270	23784	26918	28503	28318	29243	31533
Trnava	8 852	9 896	12427	13675	14178	12811	13590	14291
Trenčín	7 771	8 081	9 537	10503	11205	10285	10753	11262
Nitra	7 416	8 126	8 756	9 509	10481	9 824	10028	11435
Žilina	6 793	7 537	8 270	9 553	10776	10028	10755	11040
B. Bystrica	6 910	6 565	7 537	8 450	9 317	8 479	9 008	8 955
Prešov	5 022	5 385	5 583	6 259	7 258	6 700	6 865	7 470
Košice	7 392	7 721	8 599	9 362	10180	9 070	9 644	9 898
Slovakia	8 391	9 154	10203	11387	12365	11590	12136	12777

Source: Own processing by SOSR

Summary

The analysis confirms that the effect of the crisis persists. The unemployment rate in Slovakia is still around 14 %. Significant differences are registered in employment rates between regions. In 2012, the unemployment rate in Bratislava region stood at 5.6%, while in the same year the unemployment reached 19.7% in Kosice region. Problem also poses Prešov region and Banská Bystrica region, where the unemployment rate is around 18%. In some districts the unemployment rate exceeds 20%. State may be able, by the use of appropriate instruments of active employment policy making, to partially improve this situation.

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Regional Management in the New Programming Period of the EU and the New Possibilities of Regional and Structural Policy of Reducing Regional Disparities

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Abstract

In the new programming period 2014 - 2020 Slovakia await significant changes, where regional policy is aimed not only at reducing disparities between regions, but will be directed towards fulfilling the objectives of the Europe 2020 strategy. In this article we want to focus, in the context of regional management, on earlier structural policy, as well as point out the basis for the formation of strategy for an integrated Regional Operational Programme. Comparison of prior and new programming period, we want to describe a new upcoming proposals of regional policy that will be contributing to efficient use of absorption ability NUTS 2 regions. In discussion, we want to be paid to delimitation of the potential of absorption ability of regions, in the context of environmental infrastructure development, as an important development factor.

Key words

regional policy, regional management, structural policy, absorption ability of regions, regional disparities

Introduction

In recent years, on international, and national level, more and more attention is paid to global environmental change. There are more and more global institutions and international commitments in the field of environment. Slovakia's entry into the European Union (EU) in May 2004 was conditional, inter alia, the fact that Slovakia has undertaken to solve the problems associated with the state of the environment in our country. Protecting the environment is a necessity for the economy, creates space, to which also EU pays increased attention. Analysis of the state of the environment in the countries of the EU, and thus also in Slovakia, over the past years pointed to significant differences in quality and protection of the environment. Deficiencies are found mainly in the field of water and waste management and air protection. As a result of long-term neglect of infrastructure investment, most sewers, public water supply, sewage treatment plants, municipal landfills, waste incinerators and the like. does not comply with EU standards or their capacity is insufficient. (Sloboda, 2005).

Regional management

Management of the meaning of governance also applies in terms of the region. In the region also apply known rules, policies, models and techniques of general management. This universality, given the region's activities in challenging market conditions and the need for its proper incorporation in different economic and social systems, it is virtually inevitable. When applying management in specific conditions of region, it is necessary to use more specific approaches, methods and techniques. These essentially are based on general knowledge, transforming them and especially adapting to more realistic conditions of practice. Therefore, even in a regional management must be developed both theoretical knowledge and at the same time with them practical applications. The basic form of management in the region, is the coordination of process of various activities in common guiding of business activities in the region. Regional Management as a term expressing the management of socio-economic systems in some relatively autonomous territory has several specific manifestations. Concept of regional management can both identify the function and, second, marking the group of people who perform these functions in a given, territorial space. Under current conditions, however, regional management strongly influenced by human factors, and therefore it is defined as "the science and art to manage the activities in the region" and even "the art of achieving the set objectives of the region." (Hittmár, 2001)

## Environmental management as part of the regional management

In regional management is increasingly being applied a range of environmental management tools. Environmental management - the management system of the company purposefully directed at the protection of environment, in interactions of sustainable development at the global, regional and local

level. Approach to environmental protection has undergone a number of developmental stages from passive, which relied on the power of nature to dispose waste of its own assimilation capability, through the so-called. reactive approach, based on the control strategy and management, especially in relation to legislative measures, to the precautionary principle, applied since the nineties of the 20th century in developed countries. Precautionary principle is simple: to preventing pollution is much cheaper and more effective than it subsequently remove, or bear the consequences. Instead of focusing on control and managing, especially the end, and separation technologies, it is better to focus on finding ways to prevent the occurrence of negative phenomena. (Hájnik, Russia, 2004)

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According to the state of the Environment, the entire territory of Slovakia is divided by the level of environmental quality to 5 degrees.

Picture 1. Quality of the Environment of the SR with the definition of regions and districts with significant damaged environment
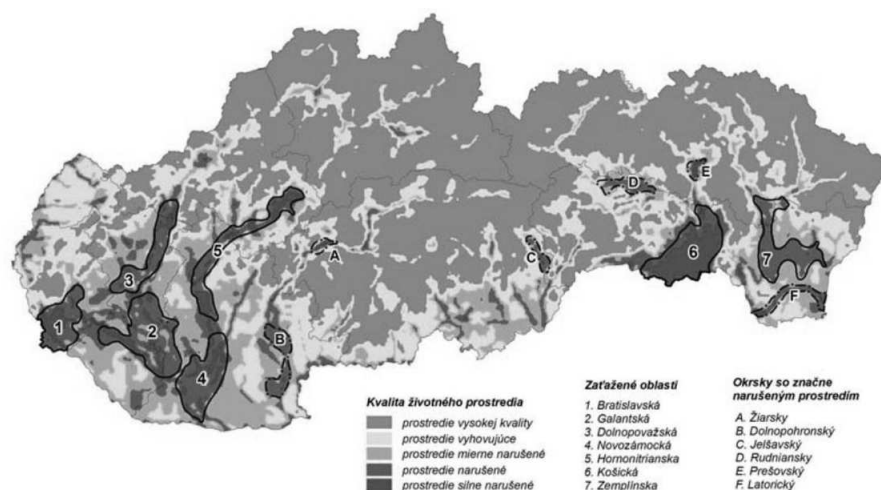
Source: SAŽP, 2012

Damaged and strongly damaged regions, long-term falls within the areas with reduced environmental quality. It has to do with the location of business activities associated with the production of waste substances released into the environment in varying degrees and in different synergic application. In recent years there was an improvement of environmental quality in Slovakia. But it is not only due to improvements in terms of environmental protection but mainly due to the closure of many manufacturing operations, termination of mining activities, which resulted in a reduction or even stopping the production of pollutants into the environment. Much of this run-down area of the former operations are called environmental burdens that contribute to a negative state of the environment in Slovakia. Environmental burdens are currently a source of danger to life and health of people living not only in the place of their occurrence, but also in the contact zones. Hazardous environmental burdens should be removed, resp. minimize their negative impact. Addressing environmental burdens is a specific issue of SR, which has comparable characteristics in the EU. The Slovak Republic has a number of ecologically endangered areas in which it is justified to take action and implement environmental projects to mitigate those disparities.

A problem specific to SR is the danger of floods, which have significant economic and social impact. If fail to provide prevention and without creating adequate conditions for the implementation of measures for flood protection the costs to eliminate flood damage will be increasing. General threat to the development

of society, socio-economic climate and also the health and lives of people classifies this issue among the priority areas of the environment. Air protection is one of the key issues that need to be addressed in connection with the threat to human health and shorter life expectancy. The main problem in air protection is poor air quality, a high proportion of pollutant emissions from mobile sources, inadequate fuel base, and the inadequate condition of separation techniques. Problem of SR is the high proportion of greenhouse gas emissions per capita. Due to the tightening of objectives at EU level in the field of greenhouse gas emissions is necessary to ensure their reduction through the promotion of use of renewable energies.

Since the deterioration of environmental quality in Slovakia confirmed most significantly in selected areas (problem areas), arose between these regions and other regions, significant regional disparities, whose disposition is complex and requires a long-term approach and a comprehensive set of measures. As we consider the natural resources and the quality of the environment as a decisive localization factor and an essential factor for regional development, regional disparities resulting from varying quality, distortion and damage to the environment and can be considered serious and limiting in the process of regional development. From environmental disparities, in fact, may further result disparity occurring only in the economic sphere (eg. Agricultural production), but also in the social sphere (eg. Deterioration of the health status of the population). (Adamišin, Huttmanová, 2009).

Programming period 2007-2013

On environmental protection and environmental infrastructure in the years 2007 - 2013 has focused Operational Programme Environment, which helped to improve the infrastructure of the area. Funded by two European funds - the European Regional Development Fund and the Cohesion Fund. Certain amount contributed the state from national resources. The main objective of the OPE was "improving the environment and the rational use of resources through improvement of environmental infrastructure of SR, in accordance with the EU and SR and strengthening the environmental component of sustainable development."

The total budget of the program amounted to more than 2.14 billion euros, of which funds from the European Regional Development Fund and the Cohesion Fund at the level of 1.82 billion euros, representing 15.99% of total EU funds intended for Slovakia.
OPE contained 7 priority axes, which were further concretized through operational objectives, which define what types of projects can be supported within the axis.

Priority 1 Integrated protection and rational use of water
Priority 2 Flood Protection
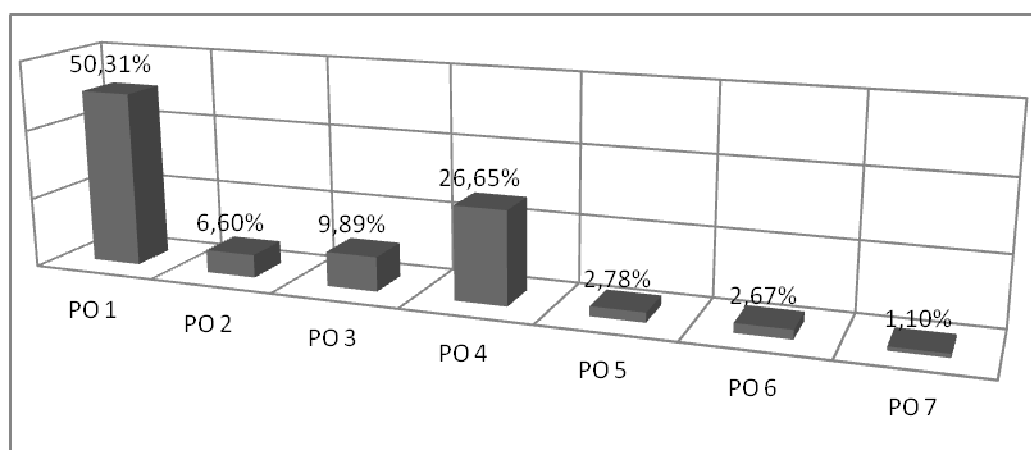Priority 3 Air protection and minimization of adverse impacts of climate change
Priority 4 Waste Management
Priority 5 Protection and regeneration of natural environment and landscape
Priority 6 Technical Assistance
Priority 7 Building flood warning and forecast system

Picture 2. Breakdown of funds OPE

Source: Own processing

The largest part of the funds was directed at reducing water pollution and quality of life of the population via improved water management infrastructure of the SR. It is mainly about ensuring access, the largest possible number of inhabitants to drinking water from public water in the sufficient quality and quantity. The public water in Slovakia supplies about 84.8% of the population of the total population. Supplying the population from public water characterize standards of living and hygiene of the population. Compared with developed countries Slovakia lags also in the collection and treatment of municipal and wastewater. It's only 65% of the EU average. Therefore, activities aimed at the construction of sewage networks and the construction and reconstruction of the wastewater treatment plant are supported. To 26.65% of the funds were allocated for the completion of the waste management infrastructure and to reduce and eliminate the negative effects of environmental burdens and landfills on human health and the ecosystem. It is important to increase the share of separated waste and the amount of recycled waste from industrial production and agricultural production. Streamlining the system of separate collection, contribute to ensuring disposal of hazardous waste in an environmentally sound manner. In the area of dealing with environmental problems is of great importance closure and reclamation of landfill sites.

Programming period 2014-2020

Experience from the programming period 2007 - 2013 resulting from the implementation of the OPE were also taken into account when drafting the Operational Programme Environment Quality for the years 2014 - 2020 as framework, strategic document that sets out the strategy, priorities and conditions for the use of European Structural and Investment Funds in efficient and effective manner, at the level of Slovakia, to comply with the EU's strategy to ensure sustainable growth.

The global objective of the Operational Programme Environment Quality (2014-2020) is to promote the sustainable and efficient use of natural resources, ensuring environmental protection, active adaptation to climate change and promote energy efficient low carbon economy. This global objective is expressed in terms of the specific objectives of each priority axis, on achievement of which are focused different types of activities.

Priority 1 Sustainable use of natural resources through the development of environmental infrastructure
Priority 2 Adaptation to the adverse effects of climate change with a focus on flood protection
Priority 3 Support of risk management and disaster resilience in the context of climate change
Priority 4 Energy efficient, low-carbon economy
Priority 5 Technical assistance

Picture 3. Breakdown of funds OP EQ
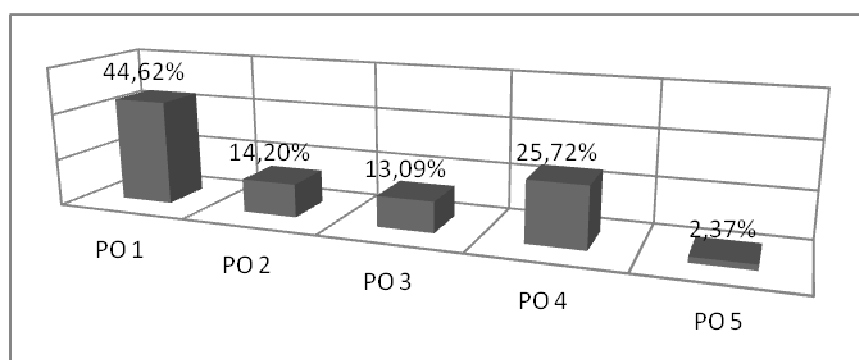
Source: Own processing

Individual investment activities within the thematic objectives combine improvement of environmental quality and investments in clean technologies, put the emphasis on increasing the efficiency of use of natural resources, as well as to limit the growth of greenhouse gas emissions, which is an essential preventive measure for reducing the adverse impacts of climate change, while complements it with support for measures aimed at adaptation to climate change, as well as to strengthen the intervention capacity to cope with disasters arising as a result of climate change,

particularly flooding. Funds allocated to OP EQ department consists of the Cohesion Fund and European Regional Development Fund. Available allocation takes into account the support to the implementation of priorities of intelligent, sustainable and inclusive growth of Europe 2020 strategy, and also the National Reform Programme.

The largest share of more than 44% of the total allocation is earmarked to preserve and protect the environment and support of effective use of resources. The main activities are focused on the preparation and reuse and recovery with a focus on recycling, including support for systems of separate collection of municipal waste and support the prevention of biodegradable municipal waste. Investments are channeled into building sewerage system and wastewater treatment plant, to support the implementation of infrastructure in sewerage and waste water treatment and ensure conditions in the area of supply of safe drinking water from public sources for Slovakia's population.

Approximately the same amount of money was allocated for priority axis 2 and 3 in order to promote adaptation to climate change, prevention and risk management. The main activities are focused mainly on preventive measures for flood protection, updating of flood hazard maps, promote partnerships between the public and private sector and clusters aimed at supporting risk management and innovation. The aim of these activities is to limit fluctuations in water levels as a result of climate change and human activities, raise awareness about the risks and risk factors as a basis for risk management and prevention of risk situations, respectively. elimination of their consequences. Almost 26% of the available allocation was earmarked for priority axis 4 in order to promote transition to a low carbon economy in all sectors. The aim is to increase the amount of energy produced from renewable energy sources, reducing CO_2 emissions and increasing employment.

Conclusion

These figures indicate that the investment strategies of the OPE and OP EQ combine improvement of environmental quality with an emphasis on increasing the efficiency of use of natural resources and to increase the share of renewables in energy consumption as well as to strengthen the intervention capacity for disaster management emerging as a result of climate change, thereby also helping to mitigate the economic damage caused by floods. Elimination of regional disparities in the environmental field is not a simple process. The use of EU funds in troubled regions is one of the tools aimed at revitalization of damaged areas. Most damaged regions thus have the option to remove or reduce environmental disparities and rank among developed and well-organized regions, which are a prerequisite for well-functioning economy.

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The Environment for Regional Human Resources Development of Small and Medium Enterprises in the Prešov Region

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Abstract

This paper deals with aspects of regional environment on the basis of an example from eastern Slovakia and focuses on the development of SMEs, mainly in the Prešov Region. It analyzes characteristic features of the region's environment with respect to the EU and Slovakia (demography, economy, market conditions, education, technology, infrastructure, resources, etc.). In the conclusion of the paper, suggestions for the development of SMEs according to analyzed aspects are presented.

Key words
SME development, aspects, region

Characteristics of the region

The regional environment of the Prešov Self-Governing Region is influenced by the Region's Economic and Social Development Programme, in which actions on the way towards the implementation of development plants are specified. The region was historically perceived in particular as an agricultural area, with well-known sheep and cattle farming and forestry. At the start of the 20th century, industrial manufacturing started to develop intensively, under the effect of which the region started to change into an agricultural-industrial area. Tourism, which uses the attractiveness of the whole region, has been on the rise recently. The border character of the region nowadays offers opportunities for the development of cross-border co-operation.

The Prešov Region has an area of 8,998 km^2, which is about 18 % of the territory of Slovakia. The region is administratively divided into 13 districts. It includes 666 municipalities, 23 towns and cities, and 2 military districts. The average population density is 88 per km^2. 54.3 % of the total population live in towns and villages (the regional capital Prešov has the population of 97,720). In the territory of the Prešov Region, there are deposits of the following mineral raw materials: bentonite and zeolite, lime stones and cement raw materials, construction raw materials - andezites and raw materials from them. Particularly significant are the deposits of salt in the locations of Solivar - Prešov, where brine extraction of nationwide significance takes place.

With respect to international transport, the region has a significant position on the north-south as well as east-west axes. The important main (northern) Bratislava - Žilina - Poprad - Prešov - Košice corridor and an eastern Stará Ľubovňa - Bardejov - Svidník - Prešov - Košice - Michaľany corridor run through it. The connection of the region to the European transport network is a problem. The Plavec - Prešov - Košice railway line is of a nationwide and international significance. In the territory of the region, there is an international airport in Poprad.

The territory of the Prešov Region is supplied with electric energy through the national electrical grid substation in Lemešany.

The capacity of underground and surface water sources covers the needs of the region with a margin.

In the statistical register of businesses, as of the end of 2013, there were 58,722 registered enterprises, organisations, and businesses. Most of them were small businesses – natural persons not registered in the business register (almost 77.6 %).

The region belongs to moderately industrialised areas, with a significant share of the processing industry. The Prešov Region's share on Slovakia's revenues from own operations and goods in the manufacturing industry in 2012 was 5.2 % (€1.8bn). The manufacturing industry is concentrated in

particular in the districts of Prešov, Poprad, Humenné, and Bardejov. With respect to industry types, production of foods and beverages, manufacture of machines and equipment, textile and clothes production, and chemical and electrical engineering industries prevail. The agriculture in the region specialises in crop production.

The unemployment rate in the population of the region is one of the highest in Slovakia.

The natural environment in the region can be characterized as one of the less disturbed ones in Slovakia.

In the territory of the region, there are 2,079 schools and education facilities. Prešov University with 9 faculties and a detached department of the Technical University - Faculty of Manufacturing Technologies - is located there.

The network of healthcare facilities in the region includes 12 hospitals.

The social sphere includes a complex of activities, from various civic activities, through cultural and sporting activities, up to social services for citizens in difficult living situations. The results of the summary analysis of the region's environment are shown in Table 1.

The following global strategic objectives result from the analysis:

A. Stop the region's economic and social lagging behind and, as soon as possible, set on the road of economic and social development leading towards continual decrease in disparity between the Prešov Region and other regions of Slovakia and Slovakia as a whole in the economic performance, social dynamics, ecological balance and the overall quality of living.

B. Mobilise internal resources of the region and secure resources from outside of the region as supplementary, but essential, since the Prešov Region is weak in terms of resources.

Problematic areas and some aspects of the development of the region

The technical infrastructure, compared with other regions and real needs of our region, is insufficient and it is necessary to complete its building, in particular in the area of roads and motorways, telecommunications, and utilities. A built-up infrastructure is an opportunity for further development of business and further inflow of investments, and it also contributes to the increasing of quality of the life of the population.

Tourism, culture, and external relations is an area on which we can build and therefore it is necessary to develop the tourism industry with the focus on increased competitiveness, with the emphasis on the quality of services and on the building of the region's image.

Business support and development is an area in which the lack of funds for the development and a low level of product finalization are dominating. It is necessary to create a suitable environment for business and thus the creation of competition capable to produce in the EU; focus on finalization in the light industry and use the region's strengths for the development of services.

Agriculture, forestry and rural development are particularly sensitive development areas. While the agriculture is permanently underfinanced, the forest industry, at the current logging rate, shows low production finalisation. The rural areas record continual decline in population due to migration in search of jobs.

The social area and healthcare should be completed institutionally in their building, people should be prepared for that, and a suitable model of financing should be found.

The natural environment should focus on securing access by the whole population to sources of drinking water; reduction in waste generation, and ecological waste management; protection of soil, air, and biodiversity; rational use of natural resources and countryside; and environmental education and creation of institutional partnerships.

Learning, education, and science are some of the basic preconditions for the preparation of human resources and require the creation of a flexible system that will react flexibly to the requirements of the job market, with adequate financial support.

The amount of funds available for the development is limited by the economic performance of the state and by a contribution from EU funds. Currently known is just the amount of contribution from EU funds, but its splitting into individual programmes and sectors has not been very clear so far.

Its basic priority is the economic growth of the region's economy, increase in the region's economic performance, and the competitiveness of its economic entities while respecting sustainability principles. The securing of the implementation of the region's development programme is determined by measures of the National Development Plan and Act No. 503/2001 Z.z. on regional development support. According to EU criteria (Regulation 99/1260/EC), the partnership principle, applied in the creation and activities of monitoring committees, is one of the most important principles of a successful regional policy. Act No. 503/2001 Z.z. defines the lowest monitoring committee at the regional level, i.e. NUTS II - in our case a NUTS II region - Eastern Slovakia (Prešov and Košice Self-Governing Regions).

Loan programmes to support SMEs

Microloan programme
The objective of the microloan programme is the support of small business in selected regions of Slovakia and making capital available for starting businesses. The programme is intended for small businesses with fewer than 50 employees whose business activities arise from the needs of the region.

Loan programme Development II to support SMEs with support from the EU
Long-term investments may be financed with the loan, except:
- financing of projects started earlier than 6 months before the date of the submission of the application at the SZRB bank through the implementing bank (ex-post financing);
- replacement of other financing (debt restructuring);
- primary agricultural production and mining projects;
- projects related with gambling, real property, banking, insurance or financial brokering, or weapons.

The loan programme Development II to support SMEs
With a loan, it is possible to finance medium-term and long-term investments, except:
- financing of projects started earlier than 6 months before the date of the submission of an application at the SRZR bank through the implementing bank (ex-post financing);
- replacement of other financing (debt restructuring);
- primary agricultural production and mining.

Loan programme "Support"
The loan can be used for:
- procurement of tangible assets (lands, buildings, constructions, machinery, instruments, and equipment, tools, etc.);
- procurement of intangible assets (licences, appreciable rights, etc.);
- investment costs that were provingly not started earlier than 6 months before the submission of the loan application.

Table 1. Summary of the analysis

Strengths	Weaknesses
Location of the region on a pan-European corridor and Baltic – south-eastern Europe route Natural and cultural-historical potential Qualification level of educational facilities Qualified human resources, available flexible workforce Very good conditions for tourism Diversified structure of manufacturing industries Abundance of high quality drinking and mineral water resources	Insufficient transport infrastructure as well as technical infrastructure of municipalities Lack and inaccessibility of funding sources in the region Low level of basic and supplementary services Not secured accessibility of healthcare services according to the specifics and needs of the population Weak base of scientific and research institutions Waste management
Opportunities	**Threats**
Completion of the transport infrastructure will increase the attractiveness of the region for investors, transport operators, and visitors to the region Opportunity for the development of the potential of the nature and countryside, and ecological stabilisation through decreasing energy demand by increasing the share of renewable sources of energy and by good waste management Enlargement of the market after joining the EU and the creation of offers for effective investors Effective use of EU sources for the optimisation of offer and demand on the job market and in the building of the basic infrastructure Increased opportunities for tourism in the region by its targeted regionalisation, offer of packaged products, and increased promotion Development of an information society Inclusion of marginalised groups into the job market and willingness to take responsibility for own destiny	Failure to complete the transport infrastructure will cause the region's further lagging behind and an unsuitable transport mode will increase the burdening on the environment Devastation of the environment, insufficient flood protection Inability to adapt to the EU market and drain of qualified workforce Further horizontal and vertical social disintegration Uncoordinated approach of entities involved in tourism may lead to its further fragmentation and decline Ineffective use of funds intended for the development of the job market may lead to an increased number of groups dependent on social assistance

Summary

The way out for small and medium enterprises in the analysed region is also, among other things, their association.

The securing of logistical and distribution services in particular is unbearably costly for SMEs. The way towards the effectiveness and rationality is in the building of logistics and distribution centres (LDCs). LDCs are systems that secure most of the distribution activities and services for the customer. They represent a connection between manufacturers, transport agents, dispatchers, and customers, and thus exceeding enterprise systems. LDCs secure in particular the following activities:

Transport and its coordination;
Warehousing;
Purchase order processing;
Job management;
Product price labelling;
Special packaging;
Sufficient inspection of the quantity and quality of the supplied goods;
Information and coordination services;
Consulting;
and other.

An LDC is understood to be an integrated system of services with organisation centralisation and with major geographic features; i.e. an LDC for small businesses has a regional significance.

LDCs may be organised by a large company that co-operates with a larger number of small businesses and, by the establishment of an **autonomous business unit**, secures logistics and distribution services, in particular for regular suppliers or subcontractors. With the understanding by the managers of a large company that small businesses are not "servants" of the large company but its partners, who may contribute to its higher efficiency, LDCs organised in such a way may be an advantageous form of the organisation. There may also be **strategic alliances**, which mostly have the legal form of inter-enterprise co-operation or a joint venture. Areas, times, and methods of co-operation between partners in the alliance are specified on the basis of contracts or legally valid agreements.

LDCs organised in such a way may exist either as independent joint ventures or as facilities of small business associations, e.g. of the mentioned small business chamber or of a professional association. In the world, there are also LDCs that are parts of **scientific and technological parks** at technological colleges and universities.

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The Possibilities of Use of Regional Marketing and Promotion within Selected Self-governing Region

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Abstract

The importance of marketing being the decisive tool of support and development of Slovak regions is currently growing. The same way as the companies try to satisfy the needs of their customers to the most possible extent also the self-governing regions increase their competitiveness by implementing various tools of marketing mix. The aim of this article is to describe the theoretical base of the area of regional marketing and promotion as well as to provide insight into the possible application and use of selected marketing activities and promotion within selected self-governing region.

Key words
regional marketing, competition, promotion, region, regional development

Fundamentals and importance of the regional marketing and promotion

Each region has its own unique character. It is unique in its culture, namely in its folk traditions, traditional craft products, folklore, through which it can offer unique products specific to individual regions and present itself by means of them. It is important to offer this potential especially to the attention of children and youth, tourists by organizing public events, festivals with the traditional culture of the region which will be connected with presentation of traditional folk handicrafts. The cultural product of the region can be extended by cultural and historical monuments, museums, galleries. A quality product can be created and offered also in the area of tourism by the regions.

From a marketing point of view the concept of **region** cannot be determined only by the criteria resulting from its administrative organization (ie purely administrative region). In this case, we are talking about the successful promotion of the region in the interregional competition in terms of the so-called "Enterprising region" consisting of a number of separate subsystems, which include municipalities, towns, micro-regions, businesses, interest groups of businesses and citizens, various initiatives etc.which have a relationship with the external environment consisting of regional offices, regional governments (self governing regions), ministries, government, European Union, etc. Such regions often arise independently of administrative structuring. Marketing approaches require a strong focus on "customers", their needs and quality satisfaction when territorial units are being managed. **Regional marketing** is based on the concept of social-ethical marketing and applies the best of that, respectively that what can be utilized the most effectively from corporate marketing in the specific conditions of the market of regions (Bucek et al., 2008).

The main objective of **regional marketing** is to reconcile heterogeneous goals and needs of the various stakeholders to the most satisfactory extent. It is important to promote and support a common representation of regional and town interests, raise awareness about the region and maintain its image - to improve and enhance it, to increase the attractiveness of the region, increase customer satisfaction of the region, deepen understanding which will facilitate identifation of the citizens and businesses with their regions (Morovská et al., 2009).

The role of the regional marketing is to meet the needs of all who are present in the given territory. This marketing has become an important instrument for promoting and supporting regional development and it contributes to competitiveness. Marketing activities carried out by local government should be the major contribution to that. A significant and important component of regional marketing is territorial marketing (Bernátová, 2001). Economic development as well as consistent influx of investments, invigorate tourism and meeting the needs of the population, then other reasons such as image building, raising legal awareness of citizens and the feeling of belonging, including the fact that it is the most

effective concept of working with the market - all these are considered as the most important reason for application of marketing activities in regional conditions by a self-governing region (Pauličková, 2005).

Currently, information and communication technologies play a key role. The right information is an important element of creating a real competitive advantage because they allow to improve the offer of products and services to target groups. According to Bernátová, Vaňová (2000) the self-government communicates with four main groups in its territory which consist of: permanent residents living on its territory, people who come to its territory, then those who might come to its territory and finally the employees of self-government. The first group includes permanent and temporary residents, local businesses, public authorities, interest groups, educational institutions, the church, and the local media etc. The second group are tourists, students, businessmen, entrepreneurs, funds, foundations, the media. Potential residents, investors, businessmen, visitors and the like are among those who would come to the area. Finally, the fourth group is a special subset of the first which requires a special type of communication. Communication between these groups takes place in two directions. And that is in the way that the sender of the message is the self-government and the public accepts it, or vice versa where recipient of the message is the self-government itself.

Promotion is, on the contraty, an impersonal form of marketing communication. It uses various forms of print advertising, i.e. leaflets, posters, flyers, brochures, catalogues. It is also a communication in the form of audiovisual advertising on radio, television, websites, etc. (Mastermann, Wood, 2006).

The main objective of marketing communications and overall marketing approach is to properly inform the target group about the offered product. It is thus primarily the maximum use of all forms of marketing communications for the deepening and strengthening of relationships between the self-governing region and its target groups. Use of any kind or means of communication leads primarily to effective awareness. The basis of the marketing oriented communication is continuous communication with the target group (Dudinská et al., 2000).

Turnout, that is the traffic (number of visitors, investors, local residents, local cultural community and similiar) is a significant priority for the municipalities. In this case, it is effective to use internet marketing whose aims are as follows (Dobrotková, 2010):
- e-mail marketing - targeting of internet advertising to target group of customers,
- regular communication and community building,
- use of interactivity - the possibility of immediate purchase of the product, the possibility of the „immediate",
- obtaining comprehensive information about the product,
- advertising in search engines - SEM, SEO, PPC services,
- the possibility of building a brand in the subconscious of visitors
- viral marketing, direct marketing,
- advertising campaigns and their evaluation - mediaplanning, banners, e-mail, graphics, text editing,
- advertising - technical possibilities of the Internet allow very precise targeting, planning and evaluation of the campaign than traditional media,
- research, user testing, data mining - surveys, polls,
- consumer contests and games - surveys, questionnaires, games for fun.

Possibilities of use of promotion v Prešov Self-governing Region
Presov Self-governing Region is located in the northeastern part of Slovakia. Slovakia is administratively divided into 8 higher territorial units (self-governing regions). Presov region is the most populous of all the regions; with total area of 8 974 sq km occupies 18.3% of the Slovak Republic and it is the second largest region. It consists of the historical regions of northern, central and partially southern part of Spiš, upper and lower Šariš and upper Zemplín.

Picture 1. Location of Prešov Self-governing Region in the Slovak Republic
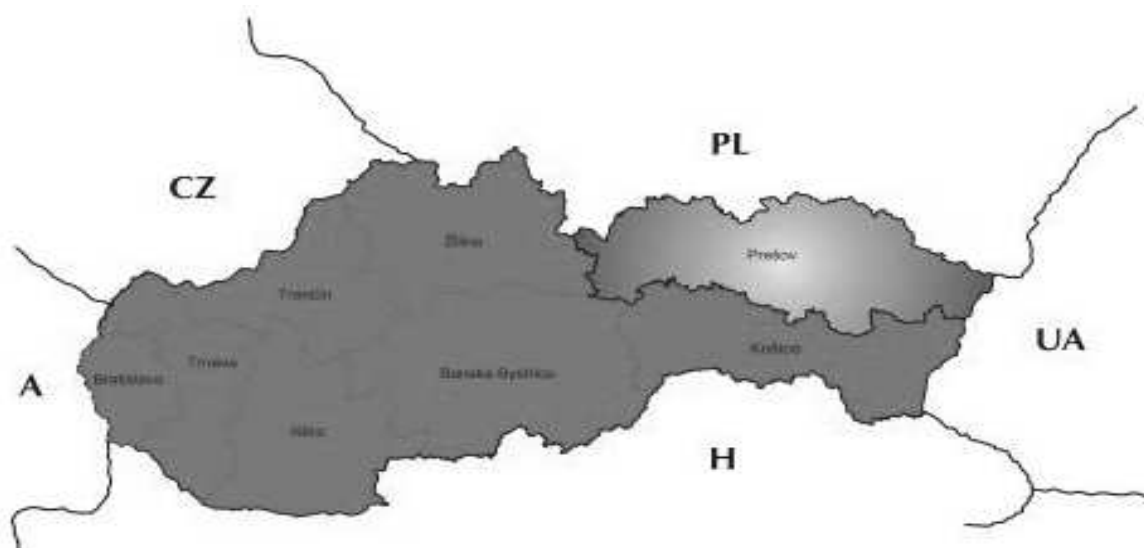
Source: www.po-kraj.sk

Local government and self-government, but also other subjects are interested in regional development as one of the possible tools of prosperity and competitiveness for the Prešov Self-governing Region, which is one of the most backward regions, and for the whole country as well. It is necessary to make an effort to facilitate its prosperity and development, promote it and take advantage of all opportunities that come, because if a level of one region increases, it will be also reflected in the development indicators (Čverhová, 2009).

Advertising and marketing, personal communication, sales promotion and public relations are among the most used tools of marketing communication in the Prešov region (PSR).

Advertising and marketing uses predominantly the following forms:
- leaflets, brochures, flyers, informational magazine „Spravodajca PSK", journal In Flow both in printed and electronic form, mail order catalogue for entrepreneurs, business travelers and tourists, publications, reports of regional government, annual reports, posters, calendars, postcards, studies, maps, tourist guides, written information, videos about the region, information provided through the website of the region, information and tourist boards, books about the region (books about the towns which lie in PSR), promotional items (merchandise), information centers, local television in cities, radio advertising, in different cities broadcast audioinvitation spot in the form of spoken text and captions for media programs.

Personal communication includes especially:
- dealing with citizens in person or via the Internet where professional approach of officials is adopted, presentation at exhibitions and fairs, telephone lines, receiving of official visits, speeches on ceremonial occasions and at other events, communications at press and professional conferences, business trips of the President of PSR, post, e-mail, representatives of individual towns of PSR meet with citizens and businesses.

Sales promotion is carried out by:
- participation in trade fairs, presentations to journalists and tourism businesses, PPP projects, cooperation with foreign partners, providing subsidies from its own resources of PSR, construction of new housing and creation of public/green areas for relaxation in individual towns, and organizing of various cultural events, cooperation within public sector.

Public relations are provided by the region in forms of:
- training, meetings and conferences conducted by the Council, directives, press articles, own newspaper – „Spravodajca PSK", regular TV news, events of various kinds, annual events and activities, press and professional / trade / special conferences, seminars, minutes, leisure centers in the towns of PSR, voluntary associations, city tours, press and fam trips, newsletters, sponsorship, children's parliaments, exhibitions in embassies (Horváthová, 2010).

Forms of promotion of Prešov Self-governing Region (PSR) may be different. They are strongly depending on the target group of customers. Communication as a tool of marketing mix in the Prešov Self-governing Region is applied by the following forms:

- **Regional stand of PSR** - selected fairs and exhibitions.
- **Presentations** of PSR by video film or other promotional material.
- **Workshops and presentations for professionals** - actors in tourism.
- **Inviting local and foreign journalists** (television, radio, press).
- **Inviting tour operators to Infotrips (so called familirization trips – fam trips)** – put the region into their offer.
- **Putting objects, programs and regions into specialized pan-European lists;** various tourism catalogues and guides.
- **Brochures, magazines, posters** and the like. - Printed promotional and information material.
- **Internet and other forms of action** through specialized organizations and associations in the field of sports, culture, hunting and so on (www3.ekf.tuke.sk).

Communication policy of PSR is dedicated to publishing information on the Internet and also through print media such as „Spravodaj PSK" which is informational periodical that PSR issues three times a year. It was established with aim to introduce and explain to the residents the meaning of regional government. It describes the individual competencies of a self-governing region, explains intentions, decisions and the objectives of regional self-governments. Other media is dedicated to „Magazin PSK". „Magazin PSK" is a TV show broadcasted by private regional television in the Prešov Region on a monthly basis. Its aim is to inform people about current events in the PSR. Media department of PSR issues and subsequently publishes press releases on internet (www.po-kraj.sk).

Summary

Regional marketing plays an important role in directing the future of the region. Selected priorities within the self-governing region must be reflected for example into individual projects. By approval of the national strategic reference framework, the administration has enough options to meet their goals in all areas, including education. However, it is questionable to what extent it is efficient and managerially capable to make use of these options. The main role of regional managers within the Prešov Self-governing Region is to contribute, in the most effective way, to raising awareness about Prešov Self-governing Region among not only domestic but also foreign public. It can be achieved only by using the right and effective marketing and communication tools.

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Management of the Cultural Wealth at the Local Level

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Abstract

Culture is a phenomenon which is present in every aspect of human life. In itself it is an ambiguous term what can be noticed in the numerous attempts of its interpretation. Many researchers have tried to define culture through the prism of different scientific fields. They are often divergent or even contradictory. It was already in the eighteenth century when the German philosopher Johann Herder wrote that "nothing is more vague than the word culture"[1]. It is true that every definition expresses a different point of view.

According to the Dictionary of the Polish language, "culture is the totality of the material and spiritual achievement of humanity, amassed, preserved and enriched throughout its history, passed on from generation to generation"[2]. This definition clearly shows that culture has no defined boundaries, and is included in every dimension of our life.

Since the culture applies to both each individually and all together, it has been organized in the so-called culture sector. Therefore, it must have a specified organizational structure and a method of management and financing.

We can distinguish the so-called profit-making and subsidized cultural sector. These two dimensions are complementary and together shape the cultural life of society. In recent years, it is possible to observe the growth in importance of the private sector, however, it still constitutes a small percentage of the entire sector.

The cultural activity, as defined in the Act of 25 October on The Organization and Execution of Cultural Activity (Journal of Laws of 2001 No. 13, item 123 as amended) consists in the creation, dissemination, and protection of culture.

The patronage of cultural activity, which include support and promotion of creativity, education and cultural education, cultural activities and initiatives as well as the care of monuments, is exercised by state and local government units. But only within their competence.

Cultural activity can be run by legal and natural persons as well as organizational units without legal personality. The cultural activity is run by ministers and heads of central offices who create state cultural institutions and the local government units creating local cultural institutions. If a private person wants to run a cultural institution, then the general provisions on business activity are applied. The organizational forms of cultural activity include in particular: theaters, opera houses, operettas, concert halls, orchestras, museums, libraries, cultural centres, artistic centres, art galleries and centres for research and documentation in different areas of culture.

Key words
culture, monuments, protection, security, local government.

Cultural institutions

Since 1999, the majority of cultural institutions previously operated mainly by the government administration authorities have been handed over to local governments. In 2007, the local government units already managed 91.7% cultural centres, clubs and community centres, 70.8% museums and museum branches, 57.7% cinemas and 51.7% art and connoisseur galleries.[3]

The so-called cultural institutions are engaged in dissemination of culture. These are public institutions. This name is reserved only for those forms of cultural activity, which function on the basis of the above-mentioned act. These may be state or local government institutions, i.e. established by the minister or the head of the central office or local government. For local government units performing such activity is the own obligatory task. Cultural institutions operate under the act on their establishment,

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[1] J.G. Herder, Przedmowa, [w:] tegoż, Myśli o filozofii dziejów, trans. by J. Gałecki, Warszawa 1962, Vol. I, p.4

[2] www.sjp.pwn.pl

[3] J. Głowacki, J.Hausner, K.Jakóbik, K.Markiel, A.Mituś, M.Żabinski, Raport o stanie kultury, Uniwersytet Ekonomiczny w Krakowie, Kraków 2008, p. 95.

the statute given by the organizer and organizational regulations. Upon entering the institution to the register by the organizer, it becomes a legal entity, which is provided by the organizer with the necessary property. The responsibilities of the organizer is to ensure adequate means for the institution not only to start the activity, but also to run cultural activity and maintain the facility. The institution manages the property independently and runs an independent administration within held means (following the principle of the effectiveness of their exploitation). As the entity of the public finance sector (in accordance with the Act of 30 June 2005 on Public Finances in the Journal of Laws No. 249, item 2104) the cultural institution covers itself the costs of current operations and its obligations. The income consist of receipts from the operating entity (including those from the sale of chattels items and the rental and lease of assets' items, budget subsidies, funds from individuals and legal persons). Cultural institutions organized by JST (local government units) may receive subsidies for tasks under the state patronage, including capital expenditures from state budget.

As a result of dosage of decentralization benefits, local governments are not fully independent financially, what decides also on the financial inefficiency of most of the cultural institutions. This in turn forces the introduction of financial solutions, i.e. "financial prosthesis" of different types (special budget reserves, co-financing. etc), what does not generate a sense of responsibility, which arises when the tasks and possibilities for action are adapted to available resources and existing needs.[4]

Similarly, the national cultural institutions may receive grants for capital expenditure from the budgets of local government units (for assignments important in terms of the regional cultural policy). The subsidies are the most common form of maintaining the institution,[5] because the income from the operated activity is very differential (depending on the activity's subject). The full commercialization of culture would lead to its decline by hampering a universal access. The cultural activity, due to the high level of public utility, requires financing from the public means. All this to allow access to as many people as it is possible.

The amount of the annual subsidy for operation of cultural institutions is set by the organizer. The reference point for the calculation of subsidy for cultural institution will be the costs associated with its activity taking into account its own revenue acquiring potential. The amount of the subsidy's contribution in financing the costs of the cultural institution operations is determined by the nature of its services.

A low level of financial autonomy of the cultural institutions results in administrational dependency and politicization. Thus, they lose the policy independence and cease to be creators of autotelic values, they are instrumentalized on demand.

The expenses on culture and protection of national heritage in 2008 increased in comparison with the previous year. The participation of these expenses in the general structure of expenses of both local governments and the state budget also increased.

Table 1. Expenses on culture and protection of national heritage in 2007 and 2008

	2007	2008
Total amount [mln zł]	5928,4	6978,1
Share in PKB (Gross Domestic Product) [%]	0,51	0,53
Share of expenditure of the local government units [%]	79	78,8
The amount of expenditure of the local government units [mln zł]	4729,9	5411,6
Share of expenditure in the total local government units expenditure	3,66	3,73
The amount of expenditure from the budget [mln zł]	1313,6	1486,7
Share of expenditure in the total state budget expenditure	0,52	0,53

Source: own work on the basis of GUS (Central Statistical Office)

Monuments protection

Monuments are the goods which due to the inestimable value should be protected. A document, which directly refers to the mode of handling the monuments is *the Act on The Protection and Care of*

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[4] Ibidem

[5] *K.Sawicka,* Dotacje budżetu gminy jako szczególna forma wydatków publicznych *[w]*:Studia z dziedziny prawa finansowego, prawa konstytucyjnego i ochrony środowiska, *red. R.Mastalski, Wrocław 2001, p. 180*

Monuments of 23 July 2003. This Act includes not only the protection of sacred objects, but also those secular, archaeological, urban arrangements and the cultural landscape. It defines monument as:

„*an estate or a chattel, their parts or complexes, being the work of a human, or connected with his activity, and constituting a testimony of the past epoch or event, the preservation of which is in the social interest due to their historical, artistic, or scientific value* "[6].

The duties of the state as well as the object's owner result from the above mentioned law. Article 4 specifies the actions that the public administration authorities must undertake to protect the monuments:

1. ensure legal, organizational and financial conditions that enable permanent preservation of monuments as well as their development and maintenance
2. prevent threats that may be detrimental to monuments' value
3. thwart the destruction or improper use of monuments
4. prevent theft, disappearance and illegal export of monuments
5. control the preservation state and the use of monuments
6. including protection tasks in the spatial planning and development, and in environment management.

The conservation guidelines and recommendations addressed to the owner of the monument are clearly defined by the Act (art. 5. of the Act). The guardianship of a monument consists in ensuring the following conditions:

1. scientific research and documentation of the monument
2. conducting conservation, restoration and construction works at the monument
3. protecting and maintaining the monument and its surroundings in the best possible condition
4. using the monument in a way that ensures permanent preservation of its values
5. promoting and disseminating knowledge of the monument and its significance for the history and culture.

The Act also mentions the forms and measures of monument protection (art. 7.), which include:

1) entering a monument into the Monuments Inventory;
2) granting historic monument status;
3) creating a cultural park;
4) establishing protection in the local spatial development plan.

The art. 16. of *the Act on The Protection and Care of Monuments* provides guidance as to the procedure for the protection of the landscape by local authorities:

1. The Commune Council, following the opinion of the Voivodship Conservator of Monuments (VIoM), pursuant to resolution may establish a cultural park in order to protect the cultural landscape and preserve the distinctive landscape areas with the immovable monuments characteristic of local construction and settlement tradition.
2. The resolution specifies the name of cultural park, its boundaries, mode of protection as well as bans and limitations.
3. The Commune Administrator (the Mayor, the City Mayor), following the agreement with the Voivodship Conservator of Monuments, draws up a cultural park protection plan, which requires approval of the Commune Council.
4. In order to execute tasks connected with the cultural park protection, the Commune Council may form an organizational unit responsible for the park administration.
5. A cultural park exceeding the boundaries of the commune, may be established and administered on the basis of consistent resolutions of the Commune Councils (Association of the Communes), on the territory of which this park is to be established.
6. The obligatory local spatial development plan shall be prepared for the area on which the cultural park has been established.

Whereas art. 89 of the Act names authorities responsible for monuments preservation. These are:

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[6] The Act of 23July 2003 *on The Protection and Care of Monuments*, art. 3.

1) the relevant Minister in Charge of Culture and National Heritage Protection, whose tasks and authority, on his/her behalf, are executed by the General Conservator of Monuments;
2) the voivod, whose tasks and authority in this matter are executed by the Voivodship Conservator of Monuments.

Legal form of protection of the movable historical object is an entry to the Register of Historic Monuments made by the Voivodship Conservator of Monuments. The basis for such entry is an administrative decision. A motion for entry may be put forward by owner of the monument and perpetual lessee of land on which the monument is situated. The Act includes also additional responsibilities of owners and holders of registered monuments. This regulation requires them to notify VIoM immediately of damage, destruction, disappearance and theft of a historic monument and of the occurrence of hazards that produce such consequences. However, the changes in the legal status of the monument, for example, about its sale, or change of storage, the voivodship inspector should be informed within a month. The law lays also a duty on the owners to render the object accessible for the protection authorities to conduct research.

Moreover, the monuments protection act lays a duty on the Commune Administrator, the Mayor and the City Mayor to keep records of the voivodship and commune monuments respectively. The spatial development of cities is planned basing on the commune registry, taking into account the protection of immovable historical monuments. The national register of historic monuments the Minister of Culture entrusted to the National Centre for Historical Monuments Studies and Documentation. It is not a form of protection, but the mode of its exercise. The record card of a monument constitutes for the voivodship conservators the basis for entry in the register of historic monuments - this entry in turn is the basis for the state budget financing or co-financing of monuments conservation.

On 5 June 2010, the Act of 18 March 2010 on *Amending The Act on the protection and care of monuments* came into force. The introduction of amendments in the law, submitted by the Minister of Culture and National Heritage, was aimed at, inter alia, adjusting Polish law to EU regulations.

The amendment to the Act on the Protection of monuments and care of monuments has also introduced amendments to *the Construction Law* and *the Law on Spatial Planning and Development*, consisting in extension of the protection to include monuments enclosed in the commune register of historic monuments, thus to settle planned investment measures with the Voivodship Conservator of Monuments that concern these monuments.[7]

Culture in the local government

Culture is a material and spiritual achievement of a man, realized in the material and spiritual form. Thus, culture should be understood as a management of the material component (cultural heritage) and management of the spiritual sphere (artistic, literary, musical, and the like). Moreover, in many areas of human behavior activities we are dealing with the formation of certain areas of custom specificity, labour culture and the like.

Culture is therefore a component, which applies to most of our actions, motivating us to such activities that are within the categories of positive classification of human activity. The material components of culture are characterized with respect to others in that they have values, the specificity of which distinguish them from other material components. Obviously, there is also a culture that can be a negative model that exists in subcultures, which are not always consistent with the principles of social coexistence.

Classification of cultural property is based, among others, on such historical values, which are unique in their content, embody or impart some meaning and value. The properties of material culture can be inanimate and animate. Among the animate, there may be the components of nature conservation. Culture cannot be completely identified with activities of administration and therefore it is supported and coordinated by the administration but participation in its creation takes the whole society.

Conducting tasks in the scope of culture, including the creation, dissemination and protection of culture, is the own, mandatory, task of all units of local government. In order to accomplish this task the local government units appoint local cultural institutions or conclude agreements with other entities to implement tasks in the scope of culture. The expenses related to the conduct of cultural activity the local government unit covers with public funds from their own budgets (in 921 department - Culture and National Heritage Protection).

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[7] http://www.zabytek.pl/page,search.html

The support and promotion of creativity, education and cultural activities as well as the care of monuments is the duty of local authorities. Supporting the institution of culture consists in financing of assignments planned for the given year, tasks which are connected with political culture carried out by the local government. These include museums, cinemas, libraries, community centers, art galleries and centres for research and documentation in different areas of culture.

A local government in its budget must secure funds for cultural activities with particular consideration of securing organizational activities as well as artists and cultural workers. The program adopted in Małopolska may serve as an example of such activity.

As part of the monuments preservation project, the Małopolska (Lesser Poland) Regional Assembly adopted the "Regional Program for the Preservation of Historical Monuments in Małopolska for the years 2010-2013" with the resolution No. LII/843/1 of 8 November 2010. It has been drawn up on the initiative of the Board of the Małopolska Region. It has been developed at the Department of Culture and National Heritage of the Marshal Office of the Małopolska Region in cooperation with the task force appointed by the Marshal of the Małopolska Region. This force includes specialists in the preservation of historical monuments: the representatives of the scientific community, conservation services, cultural institutions and local authorities. The regional program of monuments preservation in Małopolska for the years 2010-2013 points to objectives, priorities and courses of actions specified through the conducted analysis of the cultural heritage resource in the region.

A decisive influence on the choice of priorities and actions have had an assessment of the preservation state of particular types of historic monuments and cultural landscape, risks analysis, and trends and issues in the scope of broadly defined protection of cultural space. There were set priorities and activities inspiring in nature, that can be implemented by different entities and managing authorities.

To preserve the cultural heritage, the regional program assumes the principle of conducting actions aiming at keeping the authenticity of historic buildings and areas and the recognition of the concept of authenticity as the supreme value of the cultural heritage.

The program considers complexity of the cultural heritage preservation, in the result of which there will be actions conducted to stop the unfavorable and uncontrolled transformations of the culture space. The protection of material and immaterial cultural resources as well as shaping cultural landscape should initiate and support economic growth. To accomplish this, the mechanisms of support and activation of users of valuable objects – of both historical and contemporary cultural properties- should be implemented to invest in their own properties and develop those which deteriorate. The program requests for creation and dissemination of a new model of "use of historical monuments", which combines the monuments protection, search for the possible forms of protection and the creation of favorable conditions for development, in particular leisure industries sector and creative by conferring the sights new functions.

The regional mission of monuments protection in Małopolska for the years 2010-2013 will be implemented through two strategic objectives: the protection of regional cultural space and the management of regional cultural space. As part of these objectives 5 priorities, as well as 13 courses of actions and 64 actions were determined, all of which are intended to achieve them. To support the implementation of the program actions, some specific program tasks of supralocal importance have been assigned resulting from the accepted priorities and being specified in accordance with the guidelines of the planning documents and recommendations of the historic monument preservation services. These tasks do not constitute the closed catalogue - what allows for their current formulation and verification.

To support the implementation of the actions of the voivodship program of historic monuments preservation, some specific program tasks of supralocal importance have been assigned resulting from the accepted priorities and being specified in accordance with the guidelines of the planning documents and recommendations of the historic monument preservation services, which concern in particular:

1. monuments at risk, requiring emergency works
2. monuments of regional importance of artistic and historical value, being the outstanding examples of art or architecture or the cultural landscape preserved in an unchanged form
3. areas proposed to be covered with legal protection in the form of cultural parks, and an entry in the Register of Historic Monuments or recognition as the Monuments of History
4. contemporary cultural resources identified in the Małopolskie voivodship

The budget of the Małopolskie voivodship grants designated subsidies for renovation works of movable and immovable objects of the historical, artistic or scientific importance, or being in poor technical

condition. The aim of the program is to stop the degradation of historic monuments and achieve the improvement of their preservance; consistent application of the conservation requirements and complexity of the undertaken actions; renovation of regional architecture and protection against deterioration; support and encourage the owners of historic buildings to undertake restoration and conservation works; implementation of the wooden architecture monuments protection program (especially those included in the Małopolska Wooden Architecture Trail); ensure the safety of historic buildings as well as maintenance of tourist attractiveness of the region based on the values of cultural heritage.

The subsidies include works at historical monuments – i.e. urban and rural systems, and construction complexes; works of architecture and construction, also the defense and old industry, historic cemeteries and places commemorating distinguished people and historical events - and movable historical objects constituting the outstanding works of an ancient art (easel painting, sculpture, polychromy), handicrafts and applied art; collections constituting a group of objects collected and arranged, and technology creations characteristic of old and new forms of economy, which document the level of science and development of civilization.

Most often in local government there are managed libraries, cultural centres, community centres and clubs, artistic centres or artists associations, conducting specific activities aiming at dissemination of culture. The key tasks of these institutions include above all the cultural education, education through art, provide monuments protection, creating conditions for amateur artistic movement and interest in art; creating favorable conditions for the development of folklore as well as folk and art handicrafts; recognizing, raising and satisfying the needs and cultural interests; organization of artistic or entertainment events.

Public libraries are carrying out in particular:
1. collecting, processing and keeping library resources, with a particular focus on the publishing assets concerning their own region
2. preparing information and promotion materials of library's activity
3. making the resources available in the library, lending home and between the libraries, taking into consideration particular needs of children and teenagers as well as disabled persons
4. popularization of a book, knowledge and reading
5. improving the standards and methods of library work

Libraries may operate as a media and press centre through both traditional and modern electronic forms of communication, or as other form of organization fulfilling the informational needs of the society on the principles established in separate regulations. A library may disseminate and popularize the sources of information concerning the activities of local government, residents, all local communities and the European Union. It can conduct promoting, marketing and publishing activities for the commune purposes.

Summary

Management is the art of achieving the desired results through appropriate disposal of material wealth and human resources. Management in local government is quite a specific one, as in this case, it is necessary to secure for the local community specific services or goods in the maximum way.

Decisions on the organization of cultural events are also rendered at the local level. This allows them to exercise the control over the preciseness of the organization especially in the area, which relates to human health, public morals and the protection of considerable size property.

Culture management is one of many tasks that the local government is burdened with. It has a great potential in discovering, maintaining, rebuilding and reconstruction of cultural heritage, and it contributes indirectly to the creation of national community spirit as well as its identity.

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The Knowledge and Other Specific Circumstances in Cross Border Project Life Cycle

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Abstract

The subject of the paper is focused on the specific conditions of cross-border projects analysed in the perspective of the life cycle of, so-called, cross-border micro-projects implemented on the Polish-Slovak border in Euroregion Beskidy. High complexity of this type of projects, that are implemented in partnership across borders, and taking into account the requirements stemming from EU funding, is forcing extensive use of knowledge as a resource required to implement them, and also as one of the results of such projects. The aim of the paper is the diagnosis of the importance of knowledge in the life cycle of a cross-border project, and to make recommendations on how to make optimal use of expertise in cross-border projects.

Key words

knowledge, borderland, cross-border project, life cycle of project

Introduction

Preparation and implementation of cross-border projects is an interesting and live issue, that is related to, among others, the use of EU funds from the European Regional Development Fund. This fund supports, among others, the projects aimed at building economic and social cohesion of the European Community and the prevention of marginalization of borderlands, through a joint partnership project, implemented in the borderlands by at least two neighboring EU countries. The implementation of such projects is a rather complicated process, due to particular circumstances of their implementation in the borderlands, with the aid of the EU, in a partnership, which persistence and effects should significantly exceed the results of individual projects.

Given many personal experiences associated with participation in Polish-Czech and Polish-Slovak cross-border projects, and based on the literature on these issues, the Author has made an important and perspective research on the role of expertise in the implementation of such projects. The aim of the paper is the diagnosis of the importance of expertise in various phases of the implementation of a cross-border project. The intention of the Author is also to present recommendations on how to make optimal use of expertise in cross-border projects, which can significantly contribute to improving the efficiency of cross-border projects in the EU financial perspective 2014-2020. The Author has addressed her research assumptions primarily to cross-border micro-projects implemented in the Euroregion Beskidy.

Specific conditions of the implementation of cross-border projects

The project is a certain way of organizing the tasks and coordinating the work of people and driving it (Newton, 2010, 24). It can also be described as a venture that is new, unusual, different from routine operations, embedded in a specific organization that implements it. As rightly pointed out in the literature, the project is implemented in a specific organization. This does not, however, contradict the fact that the project may also be implemented by other entities, usually in partnership (Pawlak, 2006, 17), but this raises implications for the manner of their implementation. Partnership, as a form of group work, generates a number of benefits for its participants (Furmankiewicz, Foryś, 2006, 109-128), resulting, inter alia, from:
- the synergy (when the group achieves better results than the most efficient unit individually);
- the scale (when the increase in size of the group increases the results of its operations greater than the sum of the individual effects would be);
- the critical mass (when the group achieved a minimum level of certain resources, such as skills, knowledge, financial resources, etc., that are necessary to launch the operations).

Due to specific requirements of the partnership, the noteworthy ones, are cross-border projects that are functionally and operationally consistent, and are implemented and having an impact on their beneficiaries on both sides of the border. Such projects are based on a territorial, one-sector or a multi-sector partnership. Territorial partnerships can be defined as the voluntary agreement between the partners who retain their autonomy, representing at least two of the three sectors: public, private and non-governmental one, who together implement long-term measures, improving them, and monitoring and maintaining the principle of equality in the sharing of resources, responsibilities, risks and benefits (Furmankiewicz, Foryś, 2006, 109-128). Regarding the legal status of partners and other conditions for the implementation of cross-border projects – there are no significant limitations here, if implemented projects are initiated and implemented in accordance with the law, without prejudice to the interests or rights of third parties, based on own resources of the partners.

In terms of the efficiency of cross-border projects, in addition to the properly executed partnership and the proper management of these complex projects, external factors are also important: favorable for their implementation and impeding the implementation of these projects. Among the main reasons of the development of cross-border cooperation in this formula one can indicate the following: often close historical and cultural origins of neighboring communities, political reasons such as these relay to, among others, promoted in the European Union. Euroregionalisation and integration processes, social conditions resulting from the strengthening of formal and informal cross-border relations (e.g. agreement on twinning counties, cities and municipalities, etc.), financial conditions associated with the motivation to acquire EU funds (Jakubiec, Kurowska-Pysz, 2013, 15). The key barriers to cross-border projects can include, among others, (Kurowska-Pysz, 2013, 12-13):
- shortage of public and private capital to undertake such projects;
- asymmetries of economic and social potential of borderland areas, hindering the initiation of joint ventures, that respect the interests of each of the partners;
- difficulties in finding partners for specific projects;
- competitive mode of obtaining EU funds for projects aimed at the development of borderlands; no guarantee to obtain funding for this purpose;
- complicated procedures for settling cross-border projects co-financed from EU funds;
- language, cultural, religious and philosophical barriers.

Despite complex determinants of the implementation of cross-border projects, very popular are the competitions on the funding for this type of projects funded by the European Regional Development Fund, among others, through the Cross Border Cooperation Programme Poland-Slovak Republic 2007-2013, whose continuation is also planned for the 2014-2020 perspective. For example, at the end of 2012 factual implementation of 436 projects (including micro-projects) has ended in the Programme, out of which 267 projects have been financially completed as well (www.plsk.eu). Such a large number of cross-border projects confirms that they are actually effective and proven cooperation instrument, widely used in the borderlands. Based on the example of Cross-border Cooperation Programme Poland-Slovak Republic 2007-2013, the following distinguishing characteristics of this type of projects can be listed (www.plsk.eu):
- the need to diagnose real problems and needs in the project, that are identified in the Programme area and take into account the goals in line with the priorities of the Programme and the cross-border effect for the institutions, residents and the entire area of impact of the project;
- the need to involve at least two partners in the project, i.e. one partner institution on both sides of the border, and the network projects should include at least three partners, where one of them must take on the role of the so-called Lead Partner;
- the partnership must be a real one and concern common project development, joint implementation and financing, with the involvement of a common project management staff.

The determinants of cross-border projects described above, indicate a considerable degree of complexity in the preparation and implementation of projects implemented in partnership. Many authors emphasize that a smooth interaction between all members of the project team is of vital importance for the proper management of the project (Wiatrak, 2008, 169-178; Szczepańska-Woszczyna, 2014). Projects are generally unusual, complex, and involve experts from different fields (Pawlak, 2006, 28); they require the

management team have an access to different types of resources, among which knowledge occupies a key position at the moment.

Cross-border project management, in particular one that is co-financed by the European Union, requires respecting a number of factors, which become extremely complicated in project partnership. These include, among others: cross-border scope of the project, the time and costs of its implementation on both sides of the border, the quality of implementation (including cross-border effect), and project risks (including the risk of breaking the partnership and the risk of not obtaining a refund from the EU funds), as well as coordination of the work of the cross-border project team. All of this requires a skilful management of data, information and knowledge arising from the project, as well as the expertise necessary for the proper implementation of this venture.

Cross-border project life cycle – on an example of the EU Polish -Slovak micro-projects in Euroregion Beskidy

Euroregion Beskidy is operating since 2000 in the border area part of the Silesia – at the Polish side, the region Žilina – at the Slovak side and municipalities around the city Frydek-Mistek in Czech Republic. Euroregion Beskidy has the following members: Association Region Beskidy in Bielsko-Biala, združenie Región Beskydy in Zilina and Sdruzeni Region Beskydy in Frýdek-Místek. The members of the associations that are forming Euroregion Beskidy are primarily local governments, but they also work closely with NGOs, entrepreneurs and individuals, who are the beneficiaries of cross-border projects implemented in this Euroregion (www.euroregion-beskidy.pl).

Key measures implemented in this euroregional structure focus on cross-border cooperation in the fields of culture, education, sport and recreation, tourism, transport and the economy. A number of initiatives like "people for people" are also undertaken, mainly of integration nature, to address significant development problems of the borderlands. A financial instrument to support the development of cross-border cooperation is called The Micro-Projects Fund in the Cross Border Cooperation Programme Poland-Slovak Republic 2007-2013 (www.plsk.eu). These funds are distributed by, among others, Euroregion Beskidy, which is organizing grant competitions for applicants interested in using EU subsidies for the development of cross-border cooperation in the areas consistent with the objectives of the Programme and the needs of border communities.

The joint implementation of cross-border projects, co-financed by the European Union, is one of the most common forms of cross-border cooperation. The specificity of cross-border projects often requires their implementation to take place within a defined area, by a limited group of entities that may apply for a grant. In Euroregion Beskidy neither financial commitment of both partners, nor joint implementation of a project or projects that are complementary, are not required, it is acceptable to apply for funding of a project conducted and funded individually by one of the partners, but its impact must include both parts of the border and it is necessary to demonstrate cross-border partnership. The applicant partners should meet the requirements set out in the competition documentation (Howaniec, Kurowska-Pysz, 2014, 87). A significant barrier for the use of these funds is the need for pre-financing of cross-border projects, such as the requirement to cover the costs of the project from own resources. Only after the completion of the project and its settlement part of funds, corresponding to the amount of approved grant from EU funds is returned to the beneficiary of the grant. Another important characteristic is the requirement to achieve the cross-border effect, to reduce disparities between the communities living on both sides of the border, as well as the creation or improvement of partnerships between institutions, organizations and people in the partner regions (Jabłońska, Hryniewicka, 2010, 87-88). The described circumstances indicate that the life cycle of the cross-border project, funded by the European Union, although generally in line with the classic life cycle of the project (among others: Adams, Barnd, 2008; Westland, 2007, 3), requires certain standards for cross-organizational cooperation. This is due to the mandatory partnership and involvement of an external entity, representing the Euroregion, in the implementation of the project (Table 1).

Table 1. The life cycle of a cross-border project implemented under the, so-called, Polish-Slovak Micro-Projects Fund in the Euroregion Beskidy

The stages of the project life cycle	The activity of the cross-border project partners	The activity of entities representing the Euroregion
1. Programing	The involvement in public consultations organized by the Managing Authority, on the shape and the rules of future implementation of cross-border projects, based on the provisions of the operational programme and the guidelines regarding the Micro-Projects Fund.	
2. Identification	Diagnosis of expectations and needs of the cross-border cooperation stakeholders in Euroregion; analysis of the possibility of applying for funds for the the implementation of cross-border projects in the Euroregion from the Micro-Projects Fund	Analysis of the provisions of the operational programme from the point of view of the conditions of implementation of the so-called Micro-Projects Fund in the Euroregion and organization of grant competitions for the beneficiaries; preparation of absorption model of EU funds for potential beneficiaries the Euroregion.
3. Formulating	Signing partnership agreements for the preparation and implementation of cross-border projects; development of application documents for funding of cross-border projects; submitting the applications in the competition; corrections and additions	Announcement of grant competitions for potential beneficiaries of the so called Micro-Projects Fund; informational and promotional activities; training of applicants; assistance in partnership liaising; advising on the development of the application documentation; conducting competitions and evaluation of applications; the selection of projects for funding
4. Financing	Signing the agreements on the financing of cross-border projects implemented under the so-called Micro-Projects Fund	
5. Implementation	Joint actions of the partners for the implementation of tasks in the cross-border project, in accordance with the provisions of the application and in accordance with the timetable of the project; preparation of project reports and applications for payment;	Monitoring of the correct implementation of the cross-border project by the partners; reporting at the level of the so-called Micro-Projects Fund; verification of reports on the implementation of projects, prepared by the partners; verification of applications for payment; disbursement of funds;
	Maintaining the sustainability of the project and the cross-border effect for a fixed period of time, at least 1 year	Monitoring the sustainability of the project by the partners and the cross border impact of the project for a specified period of time, at least 1 year
6. Evaluation	Evaluation of the results of the project and the cross-border effect generated by the project; analysis of the long-term results of cross-border cooperation within the tied partnership; Defining a strategy for further cross-border cooperation between the partners after the end of the shelf life of the project.	

Source: Own, based on Aid Delivery Methods. Guidelines on the Programming, Design and Management of General Budget Support, European Commission, 2007, p. 32

As shown in Table 1, the cross-border project life cycle is a process involving at least three organizations at any stage: the lead partner of the project, along with other partners, including cross-border partners (with at least one partner), as well as the institution representing the Euroregion. The proper conduct of the various stages of the cross-border project is dependent on the quality and effectiveness of cooperation by the above-mentioned organizations, but also on the proper conduct of the communication between them. Managing available resources is also very important in the process of cross-border project management, among which expertise takes place has expertise, necessary for the preparation and

implementation of the project, but also generated in the course of its implementation, at the individual, team, organization and inter-organizational level (Kowalczyk, Nogalski, 2007, 25).

The use of knowledge in a cross-border project

The greater the complexity of the tasks within implemented projects, the greater the demand for knowledge. Preparation and implementation of a cross-border project, as shown in Table 1, is an undertaking with a high degree of complexity, as indicated by, among others:
- the need to perform all the tasks with the participation of both partners,
- extended formal requirements of applying for EU funds and the settlement of obtained grant (including several levels of control),
- an increased risk of the project, due to the need to implement project tasks strictly according to approved application documents, in partnership (with the possibility of only minor changes), and to maintain the sustainability of the project for a specified period of time,
- the need to maintain the EU requirements regarding the eligibility of beneficiaries, costs, tasks, and the time of their execution and the area of project implementation.

The correct approach to the use of knowledge in cross-border projects should provide access to knowledge (OECD, 2000, 57-76) at the following levels:
- project environment (e.g., knowledge of the opportunities and threats arising from the outside, knowledge of the conditions of applying for EU funds, knowledge about the possibilities of acquiring partners, knowledge about the needs and expectations of potential recipients of the project),
- the organization of the project partners (e.g. knowledge of financial and legal conditions for the implementation of cross-border project, knowledge of communication procedures within the organization and between the partners, knowledge about the procedures of selection of contractors),
- project team and its individual members (e.g. individual experiences resulting from participation in previous projects, the knowledge resulting from the education and professional specialization, knowledge of the borderlands, etc.).

Without a doubt, the correct implementation of a cross-border project requires the use of different types of knowledge. There should be access to both public, formal, explicit and systematic knowledge (e.g. documents, guidelines, databases), as well as knowledge of the quiet, hidden, anchored in the minds of men and difficult to define, resulting primarily from personal experience (Nanoka, Takeuchi, 1995, 47). The organizations implementing the projects and teams directly managing them, should have each of these types of knowledge.

The use of knowledge in projects should be considered in three perspectives (Kozarkiewicz, 2012, 116-117):
- past: as knowledge, experience and skills of the organization, teams and individuals participating in earlier projects (together or individually), for example concerning the effectiveness of the methods, procedures, tools, etc.
- present: the knowledge coming from currently implemented project(s), such as restrictions on the availability of resources, sharing of available information, the creation of additional value-added in the project, etc.
- future: as knowledge which is an important resource to use in future projects.

The objectives of knowledge management in the project (Wąsowicz, 2013, 133), with particular regard to cross-border conditions and the conditions related to the funds obtained from the European Union are as follows:
- identifying and acquiring new knowledge from the environment of the cross-border project (e.g. from the Managing Authority, the Euroregion, from experts and trainers, from the beneficiaries of other projects, etc.)
- extraction of knowledge gained in experiences and competences of the organizations implementing the project on both sides of the border, and cross-border teams implementing the project (for example, managers of partner organizations, project coordinators, internal experts, etc.)
- developing existing knowledge and creating new knowledge, contained, inter alia, in the results of the project,

- documenting, collecting and storing knowledge by each of the project partners, in such a way that it is accessible by other partners, and in certain cases – by other stakeholders of the project on both sides of the border (knowledge sharing). Possibilities of using knowledge in a cross-border project are presented in Table 2

Table 2. The use of knowledge in a cross-border project

Stage 1. Preparation of the project	Stage 2. Implementation of the project	Stage 3. Completion of the project
The acquisition and use of knowledge available in the cross-border surroundings of the project, balancing and using the knowledge of organizations-partners of the project and absorption of knowledge of teams and people preparing the project from each of the partners.	Developing knowledge of Stage 1 and creating new knowledge, during the implementation of the project, knowledge sharing and cross-border transfer of knowledge between partners, re-use of knowledge in organizations of the partners for example for other projects carried out in parallel.	Consolidation of knowledge developed and created in Stage 2, storing and using this knowledge for new applications such as other cross-border or individual projects, further diffusion of knowledge on cross-border project area and beyond.

Source: Own

As shown in Table 2, knowledge is one of the resources needed in the project on "input", i.e. at the stage of its preparation. During implementation of the project it comes to a further multiplication and enrichment of knowledge (both knowledge of the methodology of implementing the cross-border project, as well as knowledge about the problems of the project). Specifically important is cross-border transfer of knowledge between partners and sharing of knowledge, which is made available, usually (at least to some extent) for the recipients of the project on both sides of the border, where it can be re-used in other applications. Therefore, thanks to project partnership the diffusion of knowledge on both sides of the border occurs relatively fast, although usually such processes involves a number of barriers that hinder the sharing of resources such as knowledge (e.g. language barrier). The knowledge created during the implementation of the project should also be treated as one of its "output" results. It is extremely important to try to convert tacit knowledge into explicit knowledge, during the processes of development of knowledge and creation of new knowledge, that have been described in Table 2. This will make one able to make more efficient use of the knowledge in other applications.

Summary

Cross-border micro-projects implemented with the financial support of the European Union, are a particularly complex category of projects, both from the point of view of the methodology of their preparation, implementation and settlement, as well as due to the specific requirements of cross-border partnership. Regardless of the purpose of joint projects, an extra added value that comes from their implementation should be a permanent partnership between the organizations implementing them. Apart from the classic benefits of the scale and the benefits of synergy, cross-border partnership supported by European Union funds should promote internal integration, among others, at the level of euroregions, and building economic and social cohesion of these areas, often exposed to marginalization. Without a doubt, in the modern knowledge-based economy, it is this resource that also takes on a special meaning in cross-border relations, inter alia, the projects. In the last chapter of the paper the Author was trying to show, how wide the use knowledge in a cross-border project should be. The process of knowledge management in the project has its own rhythm, based on the specifics of each of its stages. Knowledge as a resource is crucial for the initiation and preparation of the project, and then, its proper implementation. At the same time the knowledge newly established or developed in the project, should be treated as a result, and value added of the project, at the same time acting as a resource necessary to prepare the next project. Cross-border partnership in projects is a convenient plane of knowledge transfer, facilitating its rapid spread in the area of the project, despite many barriers to this process at the borderlands.

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Discussing Regional Management Approach and Regional Disparities in the Context of the Slovak Republic

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Abstract

The study deals with regional disparities in the context of the Slovak Republic. Specifically, we focus on the definition of "regional disparity", whereby we focus on the main factors of individual regional disparities. Wehave chosen several factors, through which it is possible to compare and evaluate disparities. These include for example unemployment, financing, as well as gross domestic product, etc. In the last section, we define the method of evaluation of disparities, and the assistance of management.

Key words
Slovak Republic, disparities, unemployment, employment, financing.

Regional Disparities in the context of SR

Balanced economic development of regions should be one of the most important tasks of any governmental policy of the state. This provides not only economic development, but also development of the business environment, which has a very positive impact on individual regions, people living in them and consequently the state itself. It not only improves the solvency of small, medium and large enterprises to pay its obligations, thereby unspoils the financial chain of payments, but subsequently increases employment, which has a very positive impact on the state expenditures. Consequently, it decreases expenditures directed towards social policy (unemployment benefits, social assistance benefits). Saved funds can be an effective tool for further development of the business environment and the settlement of regional economic disparities.

In contrast, the uneven economic development of regions highly negatively affects not only human life, but also has a very negative impact on economic development, but also the business environment and the financial solvency of the regions. This in turn translates to not only increasing unemployment, but also poverty. Slovakia is a country where the differences between regions are very high, and we can talk about "regional disparities".

The concept of regional disparities started to be used in recent years very often. Under those terms Viturka author (2010, p. 131) states that "*generally it is understood as inequalities, differences, heterogeneity and difference.*" While the Ministry of Local development of CR defines disparity as "*unjustified regional differences in the level of economic, social and environmental development of the regions. Disparities that need to be addressed are the differences caused by subjective human activity, not differences arising from objective reasons, such as under natural conditions. The disparity is often understood in terms of an undesirable phenomenon, i.e. as a problem. On the other hand, they may be defined as positive, i.e. in terms of the strengths of the region. This is a comparative advantage, which may lay foundation to the development of the area* ".

Therefore, in general, the term "*disparity*" we can be perceive as the difference. Regional disparity can be seen in the economic, social, demographic, cultural differences etc. That concept was not established very well in Slovakia. It binds to the economic impact after 1989, that is the legacy of socialism and its differentiation of the regions. After the collapse of socialism and the socialist countries markets, the regional disparities further increased, which can be observed even nowadays.

The authors Klaasen, Vanhove (1987, in: Kutcherauer et al, 2010) refer to the factors of regional disparities. These are:

a) The Primary factors – these include in particular:

- Relatively low labor mobility – in standard economic theory has been omitted a very important fact, namely, that workers do not respond immediately to the differences in wages. Their reactions are slow and lag behind demand. As a consequence, there is the regional deformation in revenue.
- Relatively low capital mobility – in theoretical textbooks the capital is considered to be very mobile. In fact, there is a strong rigidity in capital reactions to the differences in productions costs. Low labor mobility and low mobility of capital are the two main causes of regional disparities in income and employment.

- Geographical factors – regional disparities in general can be explained by geographical factors. Location of the regions on the periphery represents these economic disadvantages such as above-average transport costs leading to high prices, low profits or limited markets. Then there are some other factors such as limited access to large urban centers providing specific services, long distance from the market information and contacts with customers, but also the low quality of transport services. Furthermore, we can consider some other factors, namely, poor natural equipment of the regions (mountain areas, regions with poor soil, regions with coal, water, fuel, etc.)
- The economic structure of the regions – each region has its specific economic structure. Regions economically oriented on attenuation industries have serious employment problems. In more fortunate regions based on emerging sectors such as electronics, banking, consumer goods industry, we can see the increasing demand for labour.

b) Secondary factors – the secondary factors include:
- External Economy – parameters such as communication and transport system, contact with the central authorities, technical and financial infrastructure.
- Demographic situation – we can include here the difference in the distance of the rural population to urban population, or differences in population growth.
- Rigidity of costs and prices – in the regions, there are inertial forces that prevent natural adaptation of the market to changes in supply and demand, for example a decline in demand for coal does not automatically lead to a reduction in the price of coal. As a result, it prevents the flow of workforce, but also eliminates a distinct initiative which could attract a capital in such a region.

If we consider these factors in Slovakia, we find that some regions are „devastated" and their „reconstrucion" is very slow, which has a negative impact on them. Such regions include for example Presov region – Svidník, Stropkov, Medzilaborce, Snina, Vranov nad Topľou etc. For their development, it would be useful to build a highway R4, which would attract new investments that are necessary for the development of each region. There are 2,000 trucks that pass daily on the route Prešov – border Vyšný Komárnik heading to Poland. So these regions have a great potential which should be utilized.

The author Džupinová et al (2008, p. 175) points out that "*the overall picture of regional differentiation in Slovakia is characterized by polarization northwest - southeast, while the worst indicators shows the southern part of Central Slovakia and northeastern regions of Slovakia.*" It is necessary to add that Slovakia is a small country and the distance between Bratislava in southern Slovakia and Svidník in Eastern Slovakia is about 480 km. Not only in Europe, but also worldwide, there are bigger states that despite its size were able and are capable of ensuring a balanced development of regions. Whether it happens through the development of agriculture, which is in Slovakia a "freezing point", or the development of trade and industrial production.

Unemployment

Differences between regions may also be analyzed through various factors. Such factors include, for example, unemployment, where you can use the formula: high unemployment - backward region, low unemployment - economically advanced region. Statistical data on unemployment not only in individual districts, but also in regions are the real "mirror" to the state of economic development of regions in Slovakia. For example, in the Bratislava region, on 31/07/2014 a total of only 22 076 - 6.57% were unemployed, in the Trnava region 26 925 - 9.23% unemployed, in the Trenčín region 32,929 - 11.05% unemployed, in the Nitra region 45 465 - 12.96% unemployed, in the Žilina region 41,621 - 12.43% unemployed, in the region of Banska Bystrica 64 543 - 19.96% unemployed, in the Prešov region 80,138 - 20.18% unemployed, in the Kosice region 70,305 - 19.17 % unemployed (ÚPSVaR, 2014). A huge difference in the number of unemployed among the economically stronger and weaker regions further points out that the state should actually support the weaker regions. It should ensure not only the increasing number of investments in these regions, that lead to building the industrial parks, but especially complete the necessary road infrastructure, that would join together not only cities like Bratislava and Košice, but also Košice with Poland in the direction of Vyšný Komárnik. Especially the second option would help in developing regions, where is the highest rate of unemployment. While in the Prešov region out of 13 districts 8 districts have unemployment rate higher than 20% and not less than 16%. These investments would help districts as Bardejov, Svidník, Medzilaborce, Snina, Vranov in the development of economic and business environment.

Chart 1. Overall unemployment rate in regions of SR

District	31/07/2014	31/12/2013	31/12/2012	31/12/2011	31/12/2010
	%	%	%	%	%
Bratislava district	6,57	6,43	6,02	5,74	4,98
Trnava district	9,23	9,86	10,34	9,86	9,39
Trenčin district	11,05	11,56	11,93	10,95	10,63
Nitra district	12,96	13,61	15,33	14,65	13,21
Žilina district	12,43	13,59	13,87	13,12	12,12
Banska Bystrica district	19,96	20,04	22,40	21,51	21,14
Prešov district	20,18	21,45	22,79	21,18	20,69
Košice district	19,17	19,35	21,66	20,90	19,63
Slovakia	**14,23**	**14,78**	**15,76**	**14,99**	**14,19**

Source: ÚPSVaR (http://www.upsvar.sk/statistiky/nezamestnanost-mesacne-statistiky.html?page_id=1254)

The chart 1 points to the real differences between "East" and "West" in Slovakia. It also has a significant negative impact on the demographic structure of the population and its migration. Not only young people go to work in big cities, especially in Bratislava and Trnava regions, which further increases the differences between the regions, but especially their "desertification" - underdevelopment. State should provide a flow of more funds to these regions for their development, which does actually not happen for many years. Almost all of the Slovak Governments had included in its policy statement to reduce regional disparity, but neither government has found a recipe to this issue so far.

Employment and financing

The employment, or the number of working people in the country are among the additional elements of the assessment of regional disparities. Statistical Office states that people over 15 years of age and those who did not exceed the level of 60 years of age for men and 55 for women belong to the working group. Wherein for calculation of employment these citizens can be divided into:

- Economically active population - this includes persons who are employed and those actively seeking employment.
- Economically inactive population - these are people who, for example, have a vocational training, attend retraining courses, receive a pension, women on parental allowance, etc.

The data in Chart 2 refer to the fact, which is highly discussed – a youth employment. Statistically it is possible to observe that the number of employed young people is decreasing, which is a very negative aspect, especially for the weaker regions of Slovakia. Young people go to work in stronger regions, or abroad, thus the region loses the work force, but also the number of permanently living population, which in many cases is the only effective workforce. The fewer the number of such people is, the lower purchasing power, which results in lower turnover and financial resources in the region. On the other hand, we can regard as a negative aspect that the proportion of working people over 60 years (retirement age) increases.

Chart 2. Working force according to age groups– SR

Agegroups	Year 2010	Year 2011	Year 2012	Year 2013
	2 317,50	2 315,30	2 329,00	2 329,30
15 - 19 years	9	7,5	8,3	7,3
20 - 24years	154,2	143,2	138,2	136,7
25 - 29 years	309,5	295,1	295,8	286,9
30 - 34 years	343,9	334,9	330,6	325,2
35 - 39 years	325,4	334,7	346,2	353,7
40 - 44 years	294,6	293,8	293,6	307,5
45 - 49 years	307	307,7	304,5	296,7
50 - 54 years	297,4	302,3	294,1	284,7
55 - 59 years	218	230,4	242,9	249,2
60 - 64 years	48,4	53,8	63,3	69,8
65 and more	10,3	12,2	11,7	11,7

Surce: Statistical Office of the Slovak Republic – database RekDat (http://px-web.statistics.sk/PXWebSlovak/).

Other factors that show the difference between stronger and weaker regions are credit funds. The more funds the region has, the better its economic potential is. As it is reported by the Statistical Office of the Slovak Republic in the database RegDat on its Internet portal, for example, in 2001, in Bratislava region there were granted loans in amount of € 208,886,706, whereas in the same year in Presov region the amount of loans was € 9,641,242 and in Trenčin region € 7,574,837. In 2008, in the Bratislava region the number of loans increased up to € 448,066,545, in the Prešov region up to € 35,949,007 and Trenčín region only € 37,441,546. The above figures clearly show that insufficient supply of financial resources to different regions have a very negative impact on their development, while GDP in 2011 was in the Bratislava region at 27.58%, but in the Trenčín region at 9.70% and in Prešov region 8.82% (SORS, 2014, 113 p.). These figures clearly show us that the concept of "*regional disparity*" is a negative term when it comes to big, even wide variations between regions.

Other factors, by which we can distinguish regional disparity are, for example, the average monthly wage in the region, net monthly income per capita, net monthly expenditure per capita, number of organizations oriented to generate profits, the number of freelancers, production of GDP per capita, foreign direct investments, tax collection, gross birth rate etc.

Regional management - Procedures for evaluation disparity

Management as a discipline, has many methods that could assist in solving various economic problems. These methods can also be used for assessing regional disparities usable by regional management.

More detailed analysis of performance and denouncing capability of available mathematical and statistical methods showed that there are 5 methods suitable for measuring regional disparities usable in the regional management, namely:

- Method based on scaling techniques – for the assessment of regional disparities the most useful is scaling technique through which we are able to compare the data, which are based not only on the metric, but also on non-metric basis. When measuring regional disparities, the scaling procedures play the same role as a measuring procedures in case of physical phenomena. As a beneficial, we can consider a good view and seamless scalability of the analyzed group.

- Method of traffic light – it is a specific form of scaling. It is very similar to the numbering procedure. In this case, we do not assign a specific numbers to the individual indicators, but specific symbols. These symbols have the most common form of three circles in semaphore lights. The same as with the scaling technique, this method has a good transparency and smooth expandability of the analyzed group.

- Method of the average deviation – this method expresses the measure of variability, defined as the arithmetic average of the absolute deviations of individual values of the monitored parameters from the specific selected value. In this technique of calculating the aggregate indicator based on the principle of absolute deviations, i.e. deviations in which case the sign does not play any role. By using this approach, we remove the problems from the analyzed file that arise by mutual offsetting of positive and negative deviations.

- Point method – the starting point of this method, the author of which is an American mathematician M.K. Bennet, is to find a region that in the case of the analyzed indicator reaches either a maximum or a minimum value of contrast. While the minimum value is referred to as decrease of the indicator, the maximum value is used in the opposite case, i.e. in a situation where the progression is considered to be the growth of the value of the indicator. This region is evaluated by 1,000 points, whereas other regions are evaluated at the points between 0 and 1,000, depending on the amount of parts per thousand which is the value of their own indicator of the value of the first set of criteria.

- Method of standardized variables – the third actuarial method which is useful in calculating the summary indicators. The standardized variable is a dimensionless value that has as zero, as the average unit, which means that thus calculated values can be easily aggregated. (Kutcherauer et al, 2010)

- Utilization of the management, not only in the calculation of regional disparities, but mainly in proposals which could help to correct the disparities between regions, is undoubtedly necessary. It is also necessary for the State to establish not only the analysis of regional disparities, but also suggestions that would help to eliminate these disparities in a certain time frame.

- Indeed the man is responsible for these regional disparities and it is a man who can settle these disparities. We can only believe that people in high places will have the courage to address these issues and not just talk about them.

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Investment in Culture in the Region: Moving Forward?

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Abstract

The culture and cultural life is a term that can be explained on different ways by each individual or group of people. It can be understood as "cultural activities and cultural events"; as a "value", which is important for transmission of traditions and customs from generation to generation; or as a "standard of behaviour", as an "approach to morality", as a "relationship to the surroundings, respectively to the environment"; and so on. The aim of the paper is to analyse the perception of changes in the cultural life after the realization of investment activities within the project ECOC 2013. The first part of the paper gives a theoretical background of the problem and the second one presents the results of the analysis based also on primary data collected from the citizens.

1 Culture and the Investments

The culture (along with the art) bears a great potential for the future, which is probably not appreciated enough by the citizens of the Slovak Republic. Currently, the society seeks to achieve a mass production and profit maximization and often forgets to develop intangible intellectual potential, which often can have much larger contribution to the economy, as well as to the quality of human life as such. From this perspective, the investments in culture are very important and the state should try to find ways to encourage private investments in culture as well as to stimulate economic activity in this direction.

Investments are a problem that is addressing also individuals and household, but most often firms or regional policy, where the invested capital is substantially higher. Wrong investment decision leads to an inefficient use of investment, which can bring the opposite effect of what the investor originally wanted to achieve, and it may lead to a financial bankruptcy of the entity or it may lead to miss the stated target.

Smejkal and Rais (2010) understand the investment in two ways:
1. Investment activity, which is in the public and private sectors focused mainly on the expansion and renewal of tangible and intangible investment assets (fixed assets).
2. Investment in the meaning of buying that kind of assets that will ensure a future economic benefit.

Investing in culture and its development are an integral part of the economic growth of the region, as well as of the global economy of the country. Culture is not just a subject of an individual, but first of all it's a subject of larger groups of people, of different local communities and generally it's a matter of the nation, therefore it's mostly under the administration of the State. Private investments cannot cover this need of the nation, and the incomes from cultural events and businesses are often inadequate. Therefore, the major part of the funding and of the investment activities in the field of culture is connected to the economic policy of the state. A specificity of the investments in culture (in comparison to other industries) is the fact that the objectives (expected outcomes, results or impacts) are in most cases non-measurable parameters. With respect to this issue, it's better focus on the importance and irreplaceable contribution of the culture in the lives of the region's population, rather than on economic outcomes.

Čopič et al. (2011) speaks of three fundamental sources of funding for culture in European countries. These are the public sources, the private support and the income earned from gainful activities.

We can say that public sources are the funds received from public budgets of public administration (government, local government, higher territorial units). Public support consists of grants, procurement contracts, service contracts, as well as grants set by law (contributory organizations, budgetary organizations) (Urblíková et al., 2012).

According to Čopič et al. (2011) the private support is a financial support provided through donations, expenditure or investments on an individual or let us say non-public level. To be included here business support, support from foundations and funds, as well as individual donations.

Income earned from gainful activities includes all individual expenditures for cultural purposes (e.g. admission fee to cultural institutions, purchase of cultural articles). Therefore, the income earned from gainful activities means any direct income of the cultural institutions in the market (Čopič et al., 2011). According to Tajtáková et al. (2010) that income can usually cover only a small part of the total cost of running the organization and rarely exceed the level of 50% of income. Usually, the organizations are able to generate on this way only 10% of resources needed for their operation.

As Maier et al. (2012) says, in the transition economies of Central and Eastern Europe, including Slovakia (not only in the cultural sector), it's reflected the lack of domestic investment capital.

Investments in culture provide a development of the cultural potential. For example, building of new facilities or cultural industries is an important tool to diversify the local economic structure, and among other things it creates new jobs positions. It can be said that the major role of culture in the process of urban regeneration is to create a new "image" of a given city or region. For the territory it is important to be visible – cities must demonstrate their specificity, and to succeed in an increasingly competitive environment they must sell their uniqueness. The profile of a cosmopolitan "cultural" centre with quality cultural attractions is being assigned to the marketing strategies of the cities increasingly. Cities are thus trying to succeed in a competitive global environment and in an international competition for mobile capital, for skilled labour force, and in the contest for tourists (Kesner 2005).

2 Material and Methods

The basis for the analysis was the collection of primary data through questionnaires. The questionnaire survey was aimed at assessing the impact that had investment activities in connection with the project Košice ECOC 2013. Within this questionnaire was examined mainly the topic of "perception of changes in the cultural life after the realization of investment activities". Based on the analysis of secondary data were identified the selected investment activities in the city of Košice, and therefore the research sample was selected from the residents (with permanent or temporary residence) of the territory of the 22 municipal districts of Kosice.

Generally speaking, the discussed cultural institutions are increasingly popular within the groups of younger people. Therefore, we chose an electronic questionnaire to collect the necessary data. The questionnaire was created using docs.google.com and it was subsequently distributed via email and via electronic mailing on social networks. The data collection based on quota sampling was realized in the period from February to March 2014.

The research sample consisted of 136 respondents, of which 87 were women (64% as a total) and 49 were men (36%). Undoubtedly, those cultural events are attended more often by young aged people. We assumed that in most cases these respondents have more information about the analysed cultural events as well as time and opportunities for cultural activities. The most numerous group of respondents was the group with the age of 20-30, followed by a group of 31-50 years old and 14% of respondents were classed as 15-19 year olds.

3 Perception of Changes

In the fields of interest in learning about the culture and of visiting the cultural events and institutions can be seen a certain similarity of respondents' answers. In a very considerable extent there can be observed a slight improvement in the current perception of these parameters by the population in Košice city. A 49% of respondents perceived a slight improvement in the interest in learning about the culture and similarly 46% of respondents assessed a slight improvement in visiting cultural events and institutions. It can therefore be concluded, that the investment activities of the ECOC 2013 caused a slight improvement in these parameters, which is a positive fact.

Figure 1: The interest in learning about the culture and visiting the cultural events and institutions
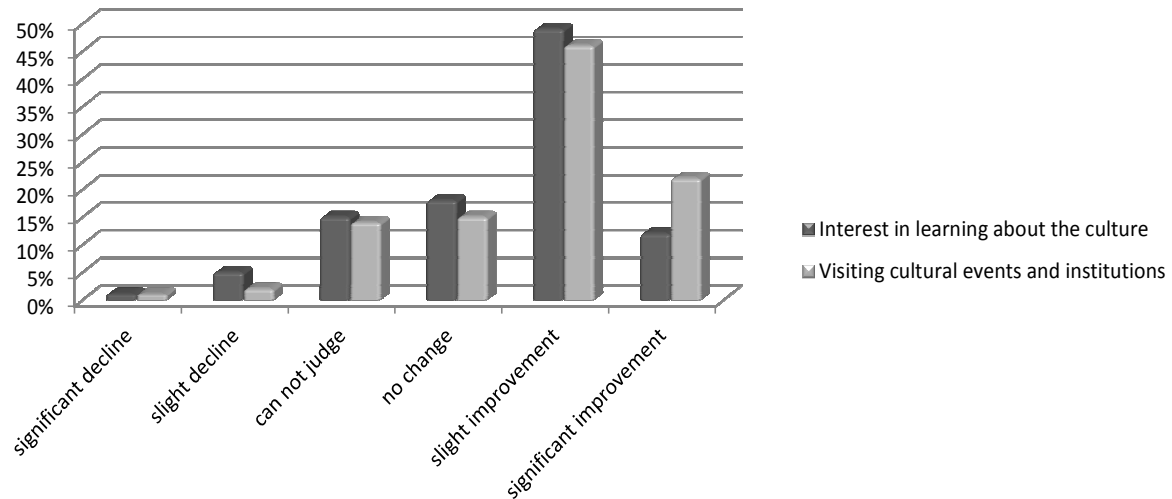
(Source: self-elaboration)

Most of the respondents (48%) agreed that the investment activities of the ECOC 2013 caused a slight improvement in the opportunities of leisure, as well as in the possibilities for the development and in application of artists in practice (40%). Up to 25% noticed a significant change compared to the previous possibilities for leisure time. Considerable improvement can be also seen (19% of respondents) in the opportunities for the development of artists. However, a similar percentage of respondents (20%) was not able to evaluate this parameter. We suppose that this is due to the fact that they are not directly involved in carrying out artistic activities, respectively they do not know people who are dedicated to such activities.

Figure 2: Opportunities for leisure and for the development of artists
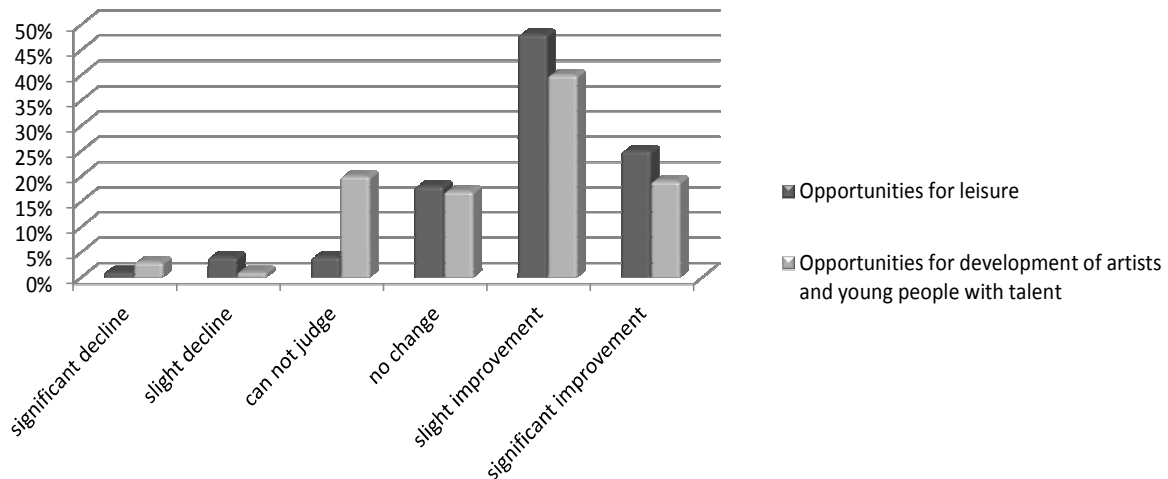
(Source: self-elaboration)

We found similarity in the parameters of "overall cohesion of the population" and "security in the city and its surroundings". A simple deduction can also be made, that the more people are coherent and better relations are between them, the less conflicts are created between the public and it also improves the safety of the inhabitants. Of course, in such a context, there are playing a significant role also a number of other factors. However, we expected at least a slight improvement, as many activities of the ECOC were aimed also to encourage cohesion between the people. Nevertheless, after realizing the investment activities, the most of respondents (i.e. 45%) do not feel change in the cohesion of the citizens. So our expectations were refused by this finding. A significant number of respondents (37%) were also agreed that there was no change neither in the field of security. A 25% of respondents felt in the issue of security a slight improvement and 22% of respondents cannot judge this factor.

Figure 3: Cohesion of citizens and the security in the city

Legend:
- ■ Overall cohesion of citizens
- ■ Security in the city and its surroundings
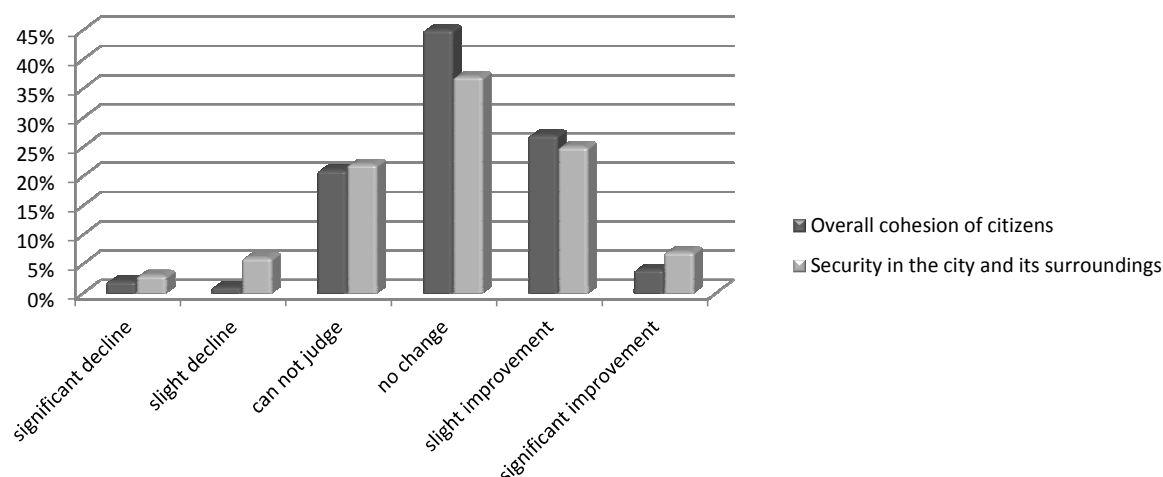
(Source: self-elaboration)

Summary

The most important finding is that investment activities, which were made until 2013 within the ECOC, brought to the city as well as to the residents themselves more positive changes than those negative. Perception of slight and significant improvement was reflected mainly in the supply and availability of cultural events and services, in the interest and increased attendance of cultural events and institutions, in the opportunities for leisure and for development of artists. Although the change in cohesion and security questions was considerably not demonstrated, it can be concluded that, the residents perceive positive changes in the implementation of investment projects in all areas surveyed.

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6. Econometrics, Quantitative Methods and Informatics in Management

ARMA Models and Their Role in Applied Econometrics

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Abstract

The contribution deals with the ARMA model characteristics and its structure with the application in the field of econometrics. The econometrics covers wide range area, so gross domestic product of Slovakia was chosen as an example. The model was constructed for p=1, q=1. The data was chosen for the period of the years from 1995 to the first quarter of 2014. The trend was modeled with clarifying the seasoning.

Key words

econometrics, ARMA model, gross domestic product, trend analysis, correlogram

Introduction

Modelling with the process description leading to the prediction plays an important role in economy. There are a lot of theories to describe and predict the process such as seasonal adjustment method, exponential smoothing method and perhaps mostly used fitting trend method. ARMA (autoregressive moving-average) sequence model as a stationary model is a combination of moving average process with a linear difference equation.

Theoretical and practical issues of time series analysis are introduced for instance in (1) where the role of ARMA model is stressed especially in the field of economics. Theoretical and applied economics is devoted also (4) of authors Andrei and Bugudui. Peter J. Brockwell and a group of authors are in (5) concerned with the continues-time ARMA processes in general, while authors such as Möst and Keles (8) build a specific model for liberalization of energy market including climate policy and renewable energy sources with regulations. In (6) is presented a model of the manufacturing production process. The financial applications with the set of characteristics for ARMA model with specific properties are described in (7) where Kwan and a group of authors introduce also several techniques of model identifications with the variance in financial time series. Estimation method to characterize ARMA model in (2) uses construction of a new class of one-step R-estimators. Periodicity in the model as PARMA study with the season variation is stressed in (3). Pi and Mickleborough apply models in structural dynamics in (9).

Testing the adequacy of both the model and its construction plays an important part in every modelling. Samir K. Safi and Alaa A. Al-Reqep use portmanteau testing for the model that was constructed for real data set of electricity consumption in (10). Forecasting using the streamflow processes is the topic of Wang in (11).

The paper presents the analysis of gross domestic product of Slovak Republic within the years 1995 to the first quarter of 2014 using the ARMA model.

## Autoregressive moving-average (ARMA) model specification

From the mathematical point of view autoregressive moving-average (ARMA) model for y_t can be characterized as combination of difference equation given by the homogeneous portion of (1) and the moving average part as x_t in (1).

$$y_t = a_0 + \sum_{i=1}^{p} a_i \, y_{t-i} + x_i \qquad (1)$$

The difference equation (1) of p-order is the autoregressive part of the model AR(p). Let $\{x_t\}$ be the moving average process MA(q), given by (2).

$$x_t = \sum_{i=0}^{q} \beta_i \varepsilon_{t-i} \qquad (2)$$

So autoregressive moving-average ARMA(p,q) model $\{y_t\}$ can be written in the form:

$$y_t = a_0 + \sum_{i=1}^{p} a_i\, y_{t-i} + \sum_{i=0}^{q} \beta_i\, \varepsilon_{t-i}$$

(3)

where β_0 equals to unity.

ARMA model as a method in time-series econometrics is mostly used for description the trends in economic processes, for instance the gross domestic product (GDP).

Modelling the gross domestic product using the ARMA model

The gross domestic product of Slovak Republic was analyzed within the years 1995 to the first quarter of 2014. The graphical representation in Figure 1 shows the seasoning in the characteristics. The trend has the polynomial pattern with clarifying the seasoning.

Figure 1. Graphical representatin with the trend analysis of the gross domestic product of Slovak Republic within the years 1995 to the first quarter of 2014.
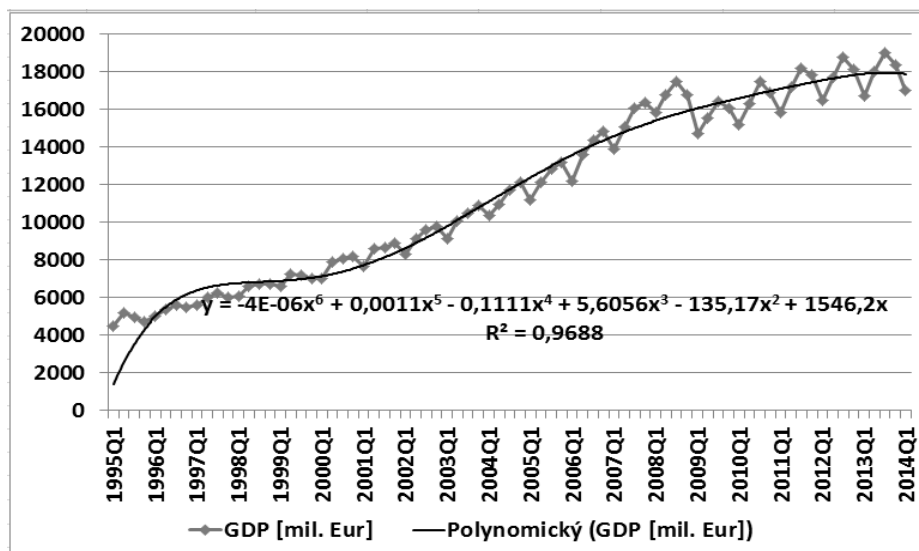
Figure 2. Autocorrelation function (ACF) as part of correlogram for modelling the gross domestic product.
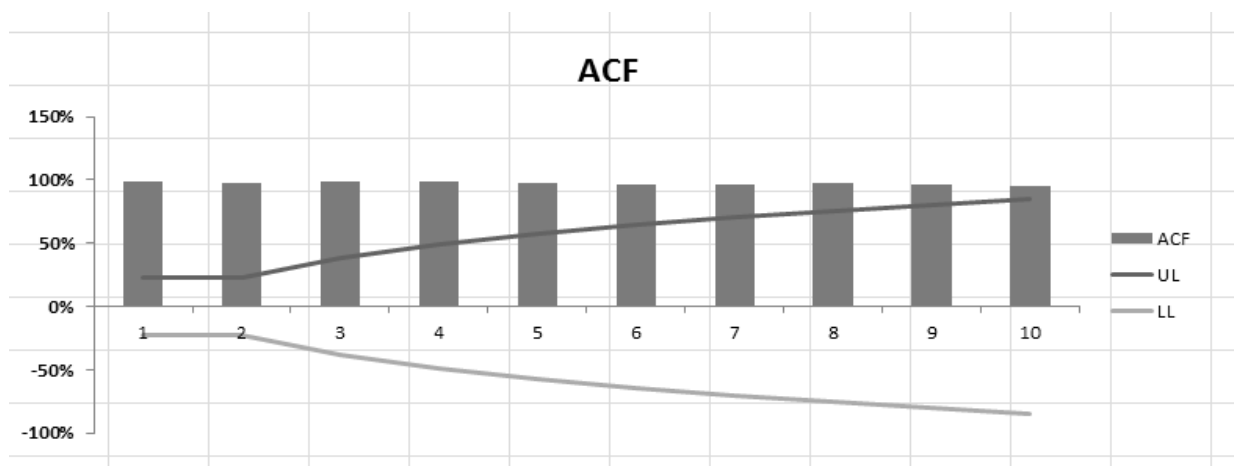
Figure 3. Partial autocorrelation function (PACF) as part of correlogram for modelling the gross domestic product.
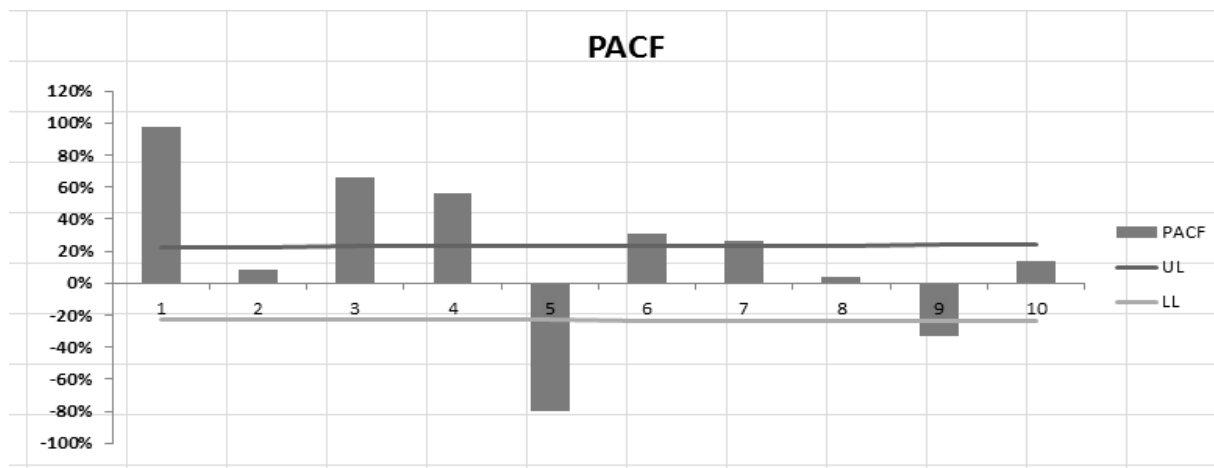
Table 1. Correlogram analysis for modelling the gross domestic product of Slovak Republic within the years 1995 to the first quarter of 2014.

Correlogram Analysis						
Lag	ACF	UL	LL	PACF	UL	LL
1	98,62%	22,48%	-22,48%	97,90%	22,48%	-22,48%
2	97,49%	22,63%	-22,63%	8,55%	22,63%	-22,63%
3	98,14%	38,45%	-38,45%	65,82%	22,78%	-22,78%
4	99,14%	48,92%	-48,92%	55,72%	22,94%	-22,94%
5	97,49%	57,28%	-57,28%	-79,73%	23,10%	-23,10%
6	96,21%	64,42%	-64,42%	30,77%	23,26%	-23,26%
7	96,89%	70,46%	-70,46%	26,22%	23,43%	-23,43%
8	97,92%	75,68%	-75,68%	3,74%	23,60%	-23,60%
9	96,11%	80,37%	-80,37%	-32,95%	23,77%	-23,77%
10	94,79%	84,68%	-84,68%	13,85%	23,94%	-23,94%

So the characteristics of ARMA model for $p = 1$, $q = 1$:

Table 2. ARMA(1,1) for modelling the gross domestic product of Slovak Republic within the years 1995 to the first quarter of 2014.

ARMA(1,1)				Goodness-of-fit		
	Param	Value		LLF	AIC	CHECK
	μ	11651,40		-758,71	1525,42	1,
	ϕ_1	0,00				
	θ_1	0,00				
	σ	4602,88				

Table 3. Residual analysis for modelling the gross domestic product of Slovak Republic within the years 1995 to the first quarter of 2014.

	Residuals (standardized) Analysis						
	AVG	STDEV	SKEW	KURTOSIS	Noise?	Normal?	ARCH?
	0,00	1,01	0,02	-1,51	FALSE	FALSE	TRUE
Target	0,00	1,00	0,00	0,00			
SIG?	FALSE	FALSE	FALSE	TRUE			

Summary

The ARMA model is one that is suitable to be used especially in the field of econometrics. The paper presents the application of ARMA model for *p*=1, *q*=1 on the gross domestic product of Slovakia with the analysis for the period within the years 1995 to the first quarter of 2014. The trend was construced with the clarifying the seasoning.

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Issues of Management and Management Ethics in Company Operations

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Abstract

Managers play a key role in the relationship between capital owners and employees. Their decisions should, at the same time, enhance the accummulation of company assets. The decisions can be regarded as both economic and ethical issues and they influence many areas. Management requires rational considerations but serious social conflicts may emerge when ethical issues are ignored. This study attempts to explore the influence of such issues and the possibilities of managing conflicts.

"The style is the man himself." (Buffon)

Introduction

Man always seeks to satisfy their needs. This is what has motivated people from the early stages of evolution up to the present time. Being successful in economic terms and having successful financial investments is a priority. Investment and business is a kind of competition between market actors and follow certain decision patterns. The phenomenon remains the same but the circumstances might change from time to time. Development has been influenced by various factors and conditions in different eras. At the early stage of human development dexterity was the key competence (for collecting berries, fishing and hunting), then, with the division of labour, the ability of using tools of production became the most important factor of development. Results were generated by farming and animal breeding in agriculture and by technological development and the appearance of a well-trained workforce in the industry. Today competitive advantages are produced by increasing business sizes, modern technical and technological conditions, licences, know-how and computerization. As a result, profits were skyrocketing at the dawn of the industrial age.

The large-scale development providing amazing opportunities in the global economy was further enhanced by globalization. Globalization has been widely discussed in current literature. It is important to notice that globalization has many faces and it is a process that requires an increasing amount of effort to be made in improvements and adaptation from everybody involved. People are required to continuously update their knowledge, to participate in the process of life-long-learning offering excellent opportunities to both individuals and companies employing them in preserving their adaptation and staying in the competition. Employees need to attend an endless series of courses, either organized by their company or on their own.

Development directly influenced the average size of business. Huge consortia acting as multinational companies were formed in the 20th century. These companies are still linked to a particular country and the economic and social features of a country (taxation rules, allowances, etc.) in which they were founded. They are, however, encouraged to transform into a transnational company through the maximization of profit since this is the form of business that provides the widest range of opportunities globally. Whether the company management can take advantage of the economic benefits and increase global effectiveness is crucial. However, the issue of management potential cannot be addressed without speaking about the issue of responsibility.

While the global economy is constantly shifting, companies continue to face the very same challenges: making profit and accumulating wealth. There are internal and external actors involved in these operations. External actors are cooperating partners in the market or in the other areas of the economy. Internal actors are the following:

- *company owners* (individuals who have invested money into the business and expect to have a profit),
- *managers* who make decisions in the operation of the company to maximize profit and to address issues of the workforce and the environment,
- and the *employees* who are interested in supporting the company's aims through following their own financial interests and who want to keep their jobs in production or distribution in the long run. Their salaries and other remunerations reduce the profit, of course, which means that the

conflicts of interests must be dealt with. The interests of employees are represented by trade unions.

In the subsequent part of the study, the relationship between owners and management will be discussed and the issues of the responsibility of the management will be examined.

Owners

Company ownership occurs when financial conditions are appropriate for an investment into the business (e.g. shareholders' company, cooperatives, etc....). In these cases, owners invest their present savings into the operation of the company to generate profit for themselves as owners of the company in the future. They expect their investment to yield an increasing amount of profit with the elapsed time. A good investment means that apart from the outflow there is significant inflow of money back into the business. Investments involve various risk levels when a bad decision may considerably reduce profit or lead to serious social discussions jeopardizing company operations. At the time of investment, the owner has various expectations toward the business just to mention a few:

- investment should be liquid (it could easily be converted into money if necessary),
- investment risk level should be relatively low (including economic, financial, political, environmental and other risks),
- investment should yield maximum profit at a minimum risk,
- the management's decisions should be favourable to the business and managers should be loyal to the company while profitability is continuously monitored and managers are continuously evaluated through financial results.

Owners seek good financial results and security or the lowest possible level of risks. Decisions are both economic and ethical issues and they have to be made by the management. Managers are high executives, employed by the company, who are responsible for the economic processes of the business. Severe changes happened to the decision-making process in large companies in the last fifty years since it is no longer the owner but the managers who make decisions at the operative level.

Managers

Market competition primarily takes place in the minds of market actors, which means that company management plays a very important role here. Managers have partly the same interests as owners do (it is the profitable operation in the long run), but managers regard companies as a workplace and they may be willing to accept offers from other companies. Each manager is responsible for the company and seeks to take maximum advantage of business opportunities. To achieve this, they constantly improve their skills and their relations. Managers are supposed to make decisions after having carefully examined the underlying conditions, using up-to-date decision skills. Managerial decisions are both financial and ethical and for this reason it is very important for managers to acquire a high level of professional and financial recognition while performing their duties.

Decisions may influence the company in the long run and they have various consequences (company-related, social and personal implications). Good decisions require a high level of ethical approach. Alternatives of ethical decisions are always accompanied by economic and social consequences. Such consequences may emerge from wrong goal-setting or right goal-setting but a poor execution of objectives. Most managerial decisions have a wide range of consequences. One example is the forklift driver or the warehouseman who gets laid off and is looking for a new job as a result of the introduction of the just in time management system at the company. Managers have to be innovative and responsible so that the company is able to perform continuous market cooperation with others under the current economic conditions.

Managers should consider the following issues for making a decision:
- aspects of utility when economic decisions have ethical issues as well,
- political aspects that can lead to severe internal conflicts when they influence the process of decision-making,

- decision-making can be supported by a three-stage system in which managers consider the following areas: ethical issues, efficiency (including technical issues, feasibility, etc.) and a realization filter,
- ethical issues regarding the environment (such as storage and disposal of hazardous waste, etc...)
- their own value orientation that is reflected in the company image and leadership style,
- issues related to employees' satisfaction,
- provision and retention of financial stability (income generation, workforce encouragement, job security issues) and
- preparation of the decision-making process, considering the opinion of the workforce.

It is obvious that each company can only achieve their goals in a harmony with their environment, so each decision made influences the long-time perspectives of the company and the state of the environment: e.g. the construction of a shopping centre and the relating communal system and their effect on the former system of supply. Tasks are so complex that a successful decision-making process requires careful preparation every time. Company relations are formed in the global marketplace and they follow the patterns of transnational or multinational companies.

Decision-making at transnational and multinational companies

Companies form alliances that go international nowadays. Companies that cross the borders encounter a culture, ethical and economic conditions, law regulations that are different from those of their country and it is very important that they adapt their operations to the local conditions of the host country. There are some other issues that are important as well: product security, pricing, fight against corruption, issues of human rights, fight against discrimination, etc. Such challenges can be addressed when the management of the expanding business gets prepared to manage the different conditions of the host country. When the business is expanding into developing countries, they might need to make new regulations, manage issues of state regulations and pricing. Such challenges have been dealt with by some international initiatives as well such as EU regulations about foreign investment, UN regulations about transnational companies and various codes of international organizations such as the OECD, the International Labour Office, etc.)
In an increasingly globalized world the conditions of the international business ethics have to be considered as well. These are some of the most important principles of this ethics:
- *the principle of equity*, which states that no one should take advantage of their extra power against the population of a country with a vulnerable economy,
- *the principle of objectivity*, which means that consumers should get enough information to make careful decisions on their consumption,
- *the principle of community*, which states that everyone has to respect the local conditions (economic, legal and personal conditions) in a host country,
- *the principle of discrimination* claiming that everyone should be treated equally in the partner country,
- *the principle of respecting personality*.

Apart from the issues mentioned above, moral issues have to be considered too since they affect largely the normal operations of a company. Such issues include the exploitation of natural resources, consideration of environmental conditions, abuse and corruption which usually emerge as economic issues as well. The company influences the market, the consumers and all the other market actors. This means that they must not cross every line in pursuing their own interest but need to consider their partners' interests as well. Management should examine the social utility of their decisions. Profitability should be reached while respecting the ecological environment and the company should compensate everyone for the damage caused by them. The various quality levels of ecological responsibility are the following:
- *aggressiveness* (disregarding the environmental conditions),
- *responsibility* (acknowledging the deficiencies but failing to act to solve the problem) and
- *sensitiveness* (characterized by activities and openness to solve problems, search for alternative solutions to protect the environment and considering all kinds of critiques that try to help).

Companies often face conflicts with their environment during their operations. The management has to address such issues through appropriate decisions. It is the basic interest of all the parties that such conflicts do not escalate leading to much more severe problems. To manage the issues of damage to the environment during the economic processes, the companies have to invest capital on the basis of the managerial decisions. Beside normative regulations, market elements may help decision-making.

Globalization has led to drastic (and very complex) changes in the last decades of the 20th century. Development followed different paths and it offered great opportunity for scientific experts to analyze the effects of various factors and execute changes to respond to these factors. This is what TA (Technology Assessment) is about. TA, which originates from Germany, Japan and the Netherlands consists of the following parts:

- management of long-term effects of a new technology,
- overview and assessment of the interdisciplinary conditions of a given technology,
- elaboration of alternatives to create favourable environmental solutions.

The moral responsibility of each company having international relations is increasingly important and is being reflected in the relationship between the company and the environment. Companies sometimes have to follow unwritten rules of business ethics, for which the management is responsible. Apart from the conventional assessment systems, their work is enhanced by assessment solutions that are based on newly created factors.

Summary

This study deals with an underresearched issue, the relationship between ethical behaviour and economic opportunities and conditions. Management plays a key role in this field since it is them and not the owners who have to make most economic decisions. Any companies that wish to stay long in the international marketplace have to follow the official legal regulations, the ethical rules and the unwritten moral principles as well.

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On Modelling of Residential Construction in Slovak Republic

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Abstract
We run a linear regression with the aim to determine residential construction in the Slovak Republic. We use ten explanatory variables, that are often mentioned as having an impact on construction activities. Surprisingly, we found no evidence about the impact of these variables on residential construction.

Key words
residential construction, housing, Slovak Republic, regression analysis

Introduction

The housing market in Slovak Republic have been significantly influenced by centrally controlled economy. Housing in Slovak Republic reached its peak in times of communism. In 1989, 33,437 flats have been built in total. After political changes housing has declined and reached its bottom in 1995, when only 6,157 flats have been built. Nowadays, number of completed flats per year is on the level of 15,000. Evaluation of housing in Slovak Republic during the period 1989-2013 is on the Figure 1.

Way of life, declining birth rate and increasing divorce rate are causing a reduction of household members and increase interest in smaller apartments. Oversupply on the market of housing is reflecting the economic situation in the country and various social factors.

Another phenomenon on the housing market in the Slovak Republic is relatively low purchasing power. Although the real wage increased over time, job retention is still difficult, thus, people prefer to rent flats instead of purchase. Recently, the situation has changed slowly, because the mortgage market becomes more liberal and mortgages become accessible to a wide range of people.

Four out of five flats in the Slovak Republic are purchased through a loan. In the Eurozone, the interest rate is lower than in the Slovak Republic. Countries with lowest interest rates are Portugal, Finland, Estonia where the interest rate does not exceed 1,86%. Most expensive mortgages are in Cyprus, Netherland and Slovak Republic (www.ecb.europa.eu). Interest rates in Slovak Republic started to decrease and during the first term of 2014 reached 3,61% and are still decreasing. Recently the lowest basic interest rate in Slovak republic is 2,59%.

Figure 1. Number of completed flats per year
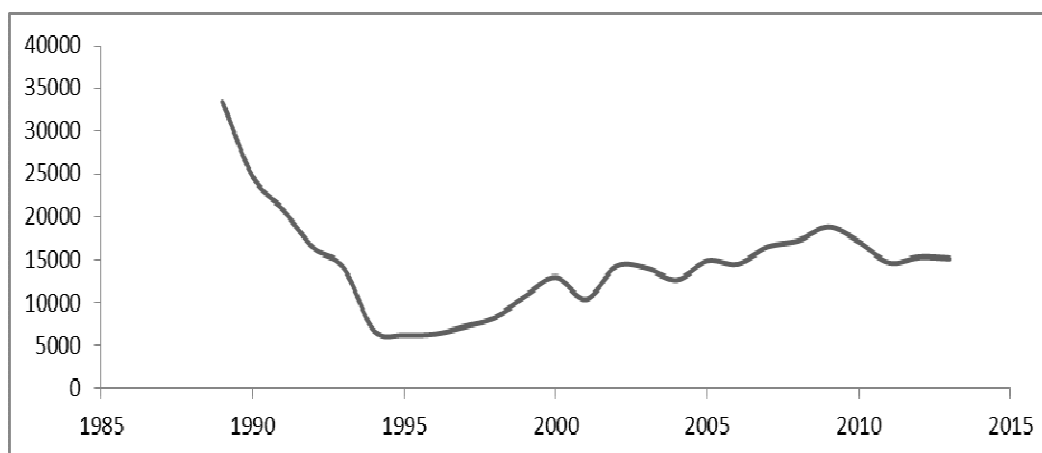
In this paper, we investigate the impact of chosen explanatory variables on number of constructed flats in given year. Paper is organized as follows. Next, second chapter describes dataset and methodology, third section proposes findings. Conclusion are in the fourth section.

Data and Methodology

In this paper, we are using secondary data of the Statistical Office of the Slovak Republic (Slovstat and RegDat). Our dataset length is 15 years, reaching from 1998 to 2012. We are using ordinary least-squares regression model to describe a number of constructed flats in the Slovak Republic and find out its determinants. The model has following equation:

number of completed flats$_t$ *= β$_0$ + β$_1$ construction production index$_t$ + β$_2$ real wage index$_t$ + β$_3$ gross domestic product$_t$ + β$_4$ average annual interest rate$_t$ + β$_5$ number of marriages$_t$ + β$_6$ number of live births$_t$ + β$_7$ economic activity rate$_t$ + β$_8$ average number of employees in the construction industry$_t$ + β$_9$ wages of employees in the construction industry$_t$ + β$_{10}$ number of enterprises in the construction industry$_t$ + μ$_t$*

Results

After running several regressions we found a model which has best information value. Explanatory values in this model are lagged by three years. Parameters of the model are in the Table 1.

Table 1. Parameters

```
Model 2: OLS, using observations 2001-2012 (T = 12)
Dependent variable: PDB

                coefficient    std. error    t-ratio    p-value
     -------------------------------------------------------------
     const      166780        40483,5         4,120     0,0259    **
     rwi_3         275,324        84,7338      3,249     0,0475    **
     nlb_3           1,04639       0,230115    4,547     0,0199    **
     aair_3       1341,15        415,797       3,225     0,0484    **
     aneci_3        -0,440307      0,0535461  -8,223     0,0038    ***
     cpi_3        -177,194        39,4109     -4,496     0,0205    **
     weci_3         68,1966       12,6004      5,412     0,0124    **
     neci_3         -0,397831      0,0980736  -4,056     0,0270    **
     ear_3       -3189,64        512,836      -6,220     0,0084    ***

Mean dependent var    14986,92    S.D. dependent var    2253,174
Sum squared resid     554217,2    S.E. of regression    429,8128
R-squared               0,990076  Adjusted R-squared      0,963611
F(8, 3)                37,41122   P-value(F)              0,006373
Log-likelihood        -81,46969   Akaike criterion       180,9394
Schwarz criterion     185,3035    Hannan-Quinn           179,3236
rho                    -0,177710   Durbin-Watson            2,274387
```

At first we run an F test. We test following hypothesis:
H_0: $β_1 = β_2 = ... = β_{10} = 0$.
H_1: $β_i ≠ 0$, for at least one value of i.
Respective p-value of F test is 0,006373, thus we reject the null hypothesis about nought parameters.

Secondly, we run t test concerning regression coefficients. We test following hypothesis:
H_0: $β_i = 0$.
H_1: $β_i ≠ 0$.
Respective p-values of t test are in Table 1. One can see that all coefficients are statistically significant.

Further, we are concerned about the problem of autocorrelation. We test following hypothesis:
H_0: $ρ = 0$
H_1: $ρ > 0$

Since tabulated values for n=15 and k=10 are dL = 0,068 and dU = 3,374 and the observed value of the test statistic is 2,274387, thus $d_{L,α} < DW < d_{U,α}$, Durbin-Watson test in our case inconclusive for both cases, positive autocorrelation and negative autocorrelation also.

Finally, we are concerned about multicollinearity. Here we use the variance inflation factor. Values of variance inflation factor are in Table 2.

Table 2. Variance inflation factor

```
Minimum possible value = 1.0
Values > 10.0 may indicate a collinearity problem

        rwi_3        5,144
        nlb_3       28,215
        aair_3       3,636
        aneci_3     78,058
        cpi_3       13,540
        weci_3     450,972
        neci_3     236,284
        ear_3        6,011

VIF(j) = 1/(1 - R(j)^2), where R(j) is the multiple correlation coefficient
between variable j and the other independent variables

Properties of matrix X'X:

 1-norm = 4,7354391e+011
 Determinant = 1,8020519e+035
 Reciprocal condition number = 2,3364837e-016
```

It is evident, that VIF for number of live births, average number of employees in the construction industry, construction production index, wages of employees in the construction industry and a number of enterprises in the construction industry are above 10, thus we exempt them from our analysis.

We obtain new model which parameters are in the Table 3.

Table 3. Modified model

```
Model 3: OLS, using observations 2001-2012 (T = 12)
Dependent variable: PDB

                 coefficient    std. error    t-ratio    p-value
       ----------------------------------------------------------------
    const        293768         59149,2         4,967     0,0011   ***
    aneci_3         -0,198663     0,0328317     -6,051     0,0003   ***
    neci_3           0,136614     0,0297157      4,597     0,0018   ***
    ear_3        -4319,22        937,483        -4,607     0,0017   ***

Mean dependent var    14986,92    S.D. dependent var    2253,174
Sum squared resid      6683179    S.E. of regression     914,0007
R-squared             0,880326    Adjusted R-squared    0,835448
F(3, 8)              19,61604     P-value(F)            0,000480
Log-likelihood      -96,40845     Akaike criterion      200,8169
Schwarz criterion    202,7565     Hannan-Quinn          200,0988
rho                  -0,692053    Durbin-Watson         3,033782
```

Here we run again at first an F test. We test following hypothesis:
H_0: $\beta_1 = \beta_2 = \beta_3 = 0$.
H_1: $\beta_i \neq 0$, for at least one value of i.
Respective p-value of F test is 0,000480, thus we reject the null hypothesis about nought parameters.

Secondly, we run again t test concerning regression coefficients. We test following hypothesis:
H_0: $\beta_i = 0$.
H_1: $\beta_i \neq 0$.
Respective p-values of t test are in Table 3. One can see that all coefficients are statistically significant.

Thirdly, we run Durbin-Watson test to test hypothesis about autocorrelation:
H_0: $\rho = 0$
H_1: $\rho > 0$

Respective p value for DW=3,033782 is p-value = 0,89115, we cannot reject the null hypothesis, thus we have no autocorrelation in our model.

Further, we are concerned about multicollinearity. Values of variance inflation factor are in Table 4.

Table 4. Variance inflation factor

```
Variance Inflation Factors

Minimum possible value = 1.0
Values > 10.0 may indicate a collinearity problem

         aneci_3    6,490
         neci_3     4,797
         ear_3      4,442

VIF(j) = 1/(1 - R(j)^2), where R(j) is the multiple correlation coefficient
between variable j and the other independent variables

Properties of matrix X'X:

 1-norm = 3,7501453e+011
 Determinant = 5,7307585e+019
 Reciprocal condition number = 6,2679281e-016
```

It is evident, that there is no problem with multicollinearity in the new model.

In the next step, we run a Jarque–Bera normality test of residuals. We test the hypothesis:
H_0: Residuals are from a normal distribution.
H_1: Residuals are not from a normal distribution.
Respective p-value of the test is 0,07828, thus we cannot reject the null hypothesis about normal distribution of residuals.

Finally, we run Breusch-Pagan test for heteroscedasticity, where hypothesis are:
H_o: $\alpha_2 = 0$ – homoscedasticity.
H_1: $\alpha_2 \neq 0$ - heteroscedasticity.
Respective p-value of the test is 0,714108, we cannot reject the null hypothesis about homoscedasticity.

Summary

Our analysis revealed, that number of constructed flats in Slovak Republic is not determined by construction production index, real wage index, gross domestic product, average annual interest rate, number of marriages, number of live births and wages of employees in the construction industry. Residential construction in Slovak Republic is determined negatively by average number of employees in the construction industry and economic activity rate. On the other hand, number of enterprises in the construction industry influence construction of flats positively. These effects are observable with a three year lag.

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Comparison of Exact and Numerical Solutions of Black-Scholes Model

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Abstract

Derivatives are frequently used financial instruments, whether as a tool for speculation or hedging. This work addresses one of these derivatives - options. Options are the right to buy (call option) or to sell (put option) an underlying asset at a fixed price. Important part of process is setting option price (called premium). Important tool for option pricing is Black-Scholes model. In the first part of the article historical and theoretical basis of the Black-Scholes model, its various modifications, improvements and other methods of calculation are summarized. In the second part, the Black-Scholes equation, a partial differential equation, is derived. Exact and numerical solutions are used to calculate price of European call option. Algorithms of exact and numerical solutions are suggested and then programmed in C++. Both solutions are finally compared.

Key words
Black-Scholes, option pricing, numerical solution, exact solution

Introduction

Options or the option contracts are part of a larger class of financial instruments known as derivatives. It is the right to buy or, alternatively, the right to sell, at a specified time (European options) respectively within the specified time (American options) some underlying asset at a predetermined (strike) price. The word "right" is important. Option owner may, but do not have to, buy/sell. It is a right and not an obligation. The other side of the contract, the option writer, is obliged, in the case of the option owner decision to fulfill the contract, to sell or buy respectively. Writer of the option receives a premium for this trade, which is negotiated and paid at the beginning of the option contract. The option owner is obliged to pay the premium whether or not he uses the option (Wilmott, Howison, Dewynne, 1994).

For example, the application of call option, the right to buy the underlying asset, pays off to owner only, if the value of asset at the expiration time will be greater than, or equal to at worst, the agreed price together with the value of the premium paid. Of course, the option writer expects the opposite - the price of asset to be lower or equal to the sum of agreed price and premium. Thus, the key factor is determining premium and correct prediction of the price development of the underlying asset.

It is a well-known fact (Black, Scholes, 1973), that the study of Mr. Black and Mr. Scholes caused the breakthrough in the theory of option pricing. They defined pricing model that became a phenomenon. Its general version offers mathematically interesting and quality results.

Black Scholes model assumptions

Black-Scholes model (Black, Scholes, 1973) presupposes certain properties of options and market. The basic assumptions include:
- zero transaction costs,
- zero taxes and trading fees,
- exclusion of arbitrage,
- constant volatility of the underlying asset,
- a constant risk-free interest rate,
- perfectly divisible assets.

Not all of these assumptions reflect the real situation of the market. Therefore a lot of studies supplementing this model or modifying some of its parts (Chen, Ren, Qiu, 2004) were created. Some authors even refer to this model as a purely academic and unrelated to the real world or as a model only

partially correlated with the empirical characteristics of the financial world (Haug, Taleb, 2011). For example, Berg and Lyhagen (1998), Lo (1991), Hsieth (1991) Yang and Huang (1995) have shown that the return has short (or long) dependences.

Lo and Mackinlay (1988), Elton and Gruber (1995), Frennberg and Hansson (1993), Fama and French (2004) and Poterba and Summer (1987) discovered positive auto-correlation of assets in the short term and negative auto-correlation in long term.

Modifications, adaptations and counter-opinions

Author of the first modification of Black-Scholes model was their colleague, Merton (1973), only few months after the publication of original model. His work described the modification and/or extension of BS model. Using an alternative derivation of the BS equation he proved its validity even with simpler assumptions as determined by Black and Scholes.

This Merton's extension has become the standard and is often used as a Black-Scholes-Merton model instead of the original BS model. In 1997, Merton and Scholes received, for this model, the Nobel Prize for Economics (Nobelprize.org, 1997).

This extension was first but not last. Thanks to popularity of BS model, a lot of modifications, proposals, extensions and adaptations exist. For example, some of the known and popular adaptations are:

Fuzzy logic - Using Fuzzy logic, the form of many-valued logic, is useful in the application of BS model in real life conditions, where not all variables are accurately and unalterably defined. Interest rate could be example of such a variable. BS model assumes that interest rate is a constant but in real life different banks could offer different interest rates. In this situation, it is appropriate to define such a variable as a fuzzy number and use the fuzzy set theory (Lee, Tzeng, Wang, 2005) (Wu, 2007).

Mellin transform – It is the integral transformation, which may be considered as the multiplicative version of two-sided Laplace transform (Company et al., 2008) (Jódar et al., 2005).

Other - Other methods, modifications or alternative calculations of BS model, that improve one or more parameters and its accuracy in specific situations are: partial integro-differential equation (Bhowmik, 2013), fractional (Jumarie, 2010)(Devreese, Lemmens, Tempere, 2010)(Liu, Chang, 2013)(Jumarie, 2008) and multifractional models (Wang, 2010), Laplace differential transform method (Ahn, Kang, Kwon, 2010) and many more (Company, González, Jódar, 2006)(Batten, Ellis, 2005)(Sowrirajan, Balachandran, 2010).

Espen Gaarder Haugb and Nassim Nicholas Taleb (2001) significantly criticized Black-Scholes model as a purely academic model without application in practice. In their article "Option traders use (very) sophisticated heuristics, never the Black-Scholes-Merton formula" the most common myths about BS model are opposed and busted.

The formulation of problem

From the text above, it is clear that the European call option is a contract in which the owner has the option, but not the obligation, to buy the underlying asset within a specified expiration time **T** for an agreed price **E**. At the beginning of the contract, the premium **V** is paid. The optimal premium is a key element of the contract. For both sides - the writer of the option and the owner - it is important to know what is the optimal value of the premium, so that neither party would be favored. Denote:

- S - asset price,
- V_{ec} - optimal value of European call option,
- E - strike price,
- T - expiration time,
- t - time variable, $t \in [0,T]$.

The problem lies in finding a mathematical equation that describes the relationship of the option pricing function

$$V_{ec} = V(S,t) \tag{1}$$

at any time $t \in [0,T]$ and for any underlying asset price $S \geq 0$. For modeling the random evolution of the share price as a function of time $S = S(t)$, the stochastic differential equation is used

$$dS = \mu S dt + \sigma S dw \tag{2}$$

where:

- dS is the change of price for a small time interval dt,
- w is standard Wiener process,
- μ is expected return on stocks,
- σ is the volatility of the share price,
- dw is change of Wiener process.

This stochastic equation can be rewritten in the form

$$\frac{dS}{S} = \mu dt + \sigma dw \qquad (3)$$

from which is clear, that in time analysis, important is the relative change of $\frac{dS}{S}$ and not absolute change of price dS. Function $V=V(S,t)$ is smooth function of two variables, where variable S is itself a function of time $S=S(t)$ which satisfies the stochastic equation (2) and thus $\mu(S,t) = \mu S, \sigma(S,t) = \sigma S$. Based on Itō's lemma (1944), the price of derivate, the function $V(S,t)$ of random process S, will satisfy the stochastic differential equation

$$dV = \left(\frac{\partial V}{\partial t} + \mu S \frac{\partial V}{\partial S} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} \right) dt + \sigma S \frac{\partial V}{\partial S} dw. \qquad (4)$$

Key element in the derivation of the Black-Scholes equation is a combination of two random processes (2) and (4) so the risk-free portfolio of P (hedging) is created. The holder of the portfolio is called a hedger. Hedger aim is to combine portfolio P of shares and options to minimize risk. The only risk member in both equations (2) and (4) is represented by an unpredictable member of random process - dw. Combination rate of options of price V and shares of price S is denoted as Δ. Value of the portfolio is thus given by

$$P = V + \Delta \cdot S. \qquad (5)$$

That means, for one unit of the option are Δ share units. Change of portfolio value for a sufficiently small time interval dt (during dt the Δ is constant) is equal to

$$dP = dV + \Delta \cdot dS. \qquad (6)$$

Combination of (2), (4) and (6), the stochastic equation is given for portfolio P

$$dP = \left(\frac{\partial V}{\partial t} + \mu S \frac{\partial V}{\partial S} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} + \Delta \mu S \right) dt + \left(\sigma S \frac{\partial V}{\partial S} + \Delta \sigma S \right) dw. \qquad (7)$$

Because of the principle of risk aversion, Black and Scholes set ratio so that hedger could eliminate stochastic part with selection

$$\Delta = -\frac{\partial V}{\partial S}. \qquad (8)$$

Then, for the price of the portfolio, we get the differential equation

$$dP = \left(\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} \right) dt. \qquad (9)$$

To eliminate the possibility of arbitrage (the risk-free profit), it is necessary that price of portfolio would be exactly the same as would be achieved by depositing into a bank with continuous interest rate r, so

$$dP = rPdt. \qquad (10)$$

Thus

$$rPdt = \left(\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} \right) dt. \qquad (11)$$

Because of $P = V + \Delta \cdot S = V - S\frac{\partial V}{\partial S}$, we finally get, for unknown function $V(S,t)$, Black-Scholes partial differential equation

$$\frac{\partial V}{\partial t} + rS \frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} - rV = 0. \qquad (12)$$

There is one useful generalization of this equation for the case of shares, which pays continuous dividends. In this case, a shareholder obtains, for small time interval dt, the value $DSdt$, where D is

constant dividend interest. So the change in the portfolio consisting of one option and Δ shares for time dt will be valued

$$dP = dV + \Delta \cdot dS + \Delta \cdot DSdt. \tag{13}$$

Repeating the above procedure, of deriving the Black-Scholes equation in the case of non-payment of dividends, we finally come to the equation

$$\frac{\partial V}{\partial t} + (r - D)S\frac{\partial V}{\partial t} + \frac{1}{2}\sigma^2 S^2 \frac{\partial^2 V}{\partial S^2} - rV = 0. \tag{14}$$

Expiration conditions for European call option

In the case of a European call option, the condition is added at the time of expiration T. If the current price S at time T exceeds the value E, the price of the option is the difference between the current price S and the agreed price E, so

$$V_{ec}(S,T) = S - E. \tag{15}$$

Otherwise, if the current price of the share does not exceed the price E, the option has zero value because owner will not apply it. Thus

$$V_{ec}(S,T) = 0. \tag{16}$$

So the expiration condition could be written in the form

$$V_{ec}(S,T) = \max(0, S - E). \tag{17}$$

The function $V_{ec}(S,T)$ defined in (17) is referred as the so-called intrinsic value of the option or call-payoff diagram (Figure 1).

Figure 1. Call-papyoff diagram
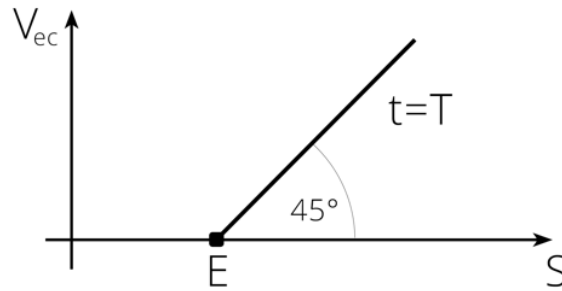
Boundary conditions for European call option

The equation (2) shows that if $S = 0$, in the next time step the value will still be equal to zero. Thus, the option is worthless. So

$$V_{ec}(0,t) = 0 \text{ for all } t \in [0,T]. \tag{18}$$

If the price rises above all border ($S \to \infty$) then the option price is equal to the stock price minus the dividend income, so

$$V_{ec}(S,t) \to Se^{-D(T-t)} \text{ for } S \to \infty, \text{ fro all } t \in [0,T]. \tag{19}$$

Exact solution

Equation (14) and the conditions (17)(18)(19) can be explicitly solved (Wilmott, Howison, Dewynne, 1994) (Ševčovič, 2008). Its solution is

$$V_{ec}(S,t) = e^{-D(T-t)}SN(d_1) - Ee^{-r(T-t)}N(d_2) \tag{20}$$

where

$$d_1 = \frac{\ln(\frac{S}{E}) + \left(r - D + \frac{\sigma^2}{2}\right)(T - t)}{\sigma\sqrt{T - t}} \tag{21}$$

$$d_2 = d_1 - \sigma\sqrt{T - t} \tag{22}$$

and

$$N(u) = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{u} e^{-\frac{x^2}{2}} \, dx. \tag{23}$$

N(u) is the standard normal distribution function, $\xi \approx N(0,1)$. Solution (20), when *D=0,* is known as the Black-Scholes option pricing formula. Exact solution with different parameters *S* and *T* is shown on Figure 2.

Figure 2. Exact solution with different parameters *S* and *T*
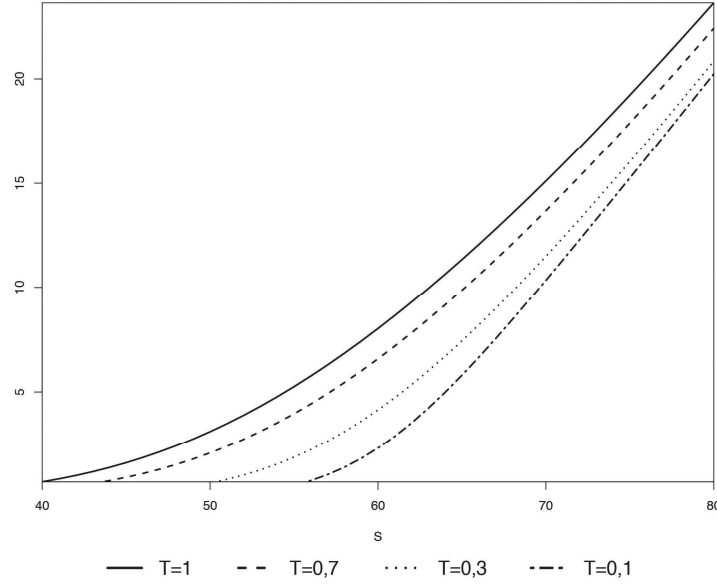
Numerical solution

For the numerical solution of Black-Scholes partial differential equation, we use the finite difference method. In this method, we approximate the partial derivative with finite differences. Before we can approximate the Black-Scholes PDE, it is advisable to transform it. We will define new variable *x* defined by

$$x = \ln S. \tag{24}$$

While of course is valid

$$S = e^{x}. \tag{25}$$

We define a new function

$$u(x, \tau) = V(S, T - t). \tag{26}$$

Then for the members of the Black-Scholes equation is true

$$\frac{\partial}{\partial S} V(S, T - t) = \frac{\partial}{\partial S} u(x, \tau) = \frac{\partial}{\partial S} u(\ln S, \tau) = \frac{\partial}{\partial x} u(x, \tau) \frac{\partial x}{\partial S} = = \frac{\partial u}{\partial x} \frac{\partial \ln S}{\partial S}$$
$$= \frac{1}{S} \frac{\partial u}{\partial x} \tag{27}$$

$$\frac{\partial}{\partial S}\left(\frac{1}{S}\frac{\partial u}{\partial x}\right) = \frac{\partial}{\partial S}\left(\frac{1}{S}\right)' \frac{\partial u}{\partial x} + \frac{1}{S}\frac{\partial}{\partial S}\left(\frac{\partial u}{\partial x}\right)' = -\frac{1}{S^2}\frac{\partial u}{\partial x} + \frac{1}{S}\frac{\partial}{\partial S}\left[\frac{\partial u}{\partial x}(x,\tau)\right] =$$
$$= -\frac{1}{S^2}\frac{\partial u}{\partial x} + \frac{1}{S}\left[\frac{\partial}{\partial x}\frac{\partial u}{\partial x}(x,\tau)\frac{\partial x}{\partial S}\right] = = -\frac{1}{S^2}\frac{\partial u}{\partial x} + \frac{1}{S}\left[\frac{1}{S}\frac{\partial^2 u}{\partial x^2}\right] \tag{28}$$
$$= \frac{1}{S^2}\left(\frac{\partial^2 u}{\partial x^2} - \frac{\partial u}{\partial x}\right)$$

$$\frac{\partial V}{\partial t} = -\frac{\partial u}{\partial \tau}. \tag{29}$$

After substituting these members into equation (12), we obtain the transformed Black-Scholes equation for an unknown function *u*. This feed-forward diffusion equation with constant coefficients

$$-\frac{\partial u}{\partial \tau} + + re^x \frac{1}{e^x}\frac{\partial u}{\partial x} + \frac{1}{2}\sigma^2 e^{2x}\frac{1}{e^{2x}}\left(\frac{\partial^2 u}{\partial x^2} - \frac{\partial u}{\partial x}\right) - ru = 0 \qquad (30)$$

is preferable compared to the original formulation. After appropriate adaptations we get

$$-\frac{\partial u}{\partial \tau} + \frac{\partial u}{\partial x} + \frac{1}{2}\sigma^2\left(\frac{\partial^2 u}{\partial x^2} - \frac{\partial u}{\partial x}\right) - ru = 0, \qquad (31)$$

We define time step k

$$k = \frac{\tau}{m}; \tau \in R, m \in N \qquad (32)$$

where m is the number of time steps. Applying the finite difference method with spatial step h and time step k, we obtain, by discretization of equation, explicit iterative prescription

$$\frac{u_i^{j+1} - u_i^j}{k} = \frac{\sigma^2}{2}\frac{u_{i-1}^j - 2u_i^j + u_{i+1}^j}{h^2} + \left(r - \frac{\sigma^2}{2}\right)\frac{u_{i+1}^j - u_{i-1}^j}{2h} - ru_i^{j+1} \qquad (33)$$

By multiplying k, we get

$$u_i^{j+1} - u_i^j = \frac{\sigma^2}{2}k\frac{u_{i-1}^j - 2u_i^j + u_{i+1}^j}{h^2} + \left(r - \frac{\sigma^2}{2}\right)k\frac{u_{i+1}^j - u_{i-1}^j}{2h} - rku_i^{j+1} \qquad (34)$$

followed by appropriate adjustments, we get

$$(1 + kr)u_i^{j+1} = u_{i-1}^j\left[\frac{\sigma^2}{2h^2}k - \left(r - \frac{\sigma^2}{2}\right)\frac{k}{2h}\right] + u_i^j\left[-\frac{\sigma^2 k}{h^2} + 1\right]$$
$$+ u_{i+1}^j\left[\frac{\sigma^2}{2}\frac{k}{h^2} + \left(r - \frac{\sigma^2}{2}\right)\frac{k}{2h}\right] \qquad (35)$$

This will be used in the calculation using the method of trinomial tree (Figure 3) (Clifford, Wang, Zaboronski, Zhang, 2010).

Figure 3. Trinomic tree
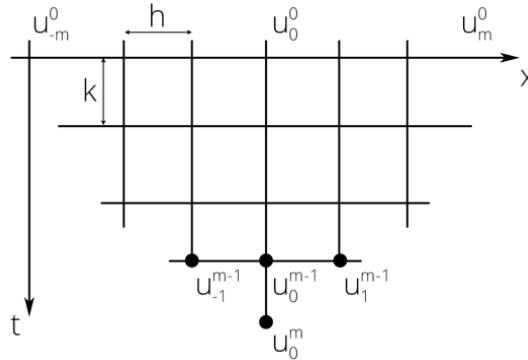
Comparison of exact and numerical solutions

Numerical solutions only make sense, if it is effective and convergent. To verify this property of solution, we had created algorithms for both solutions (numerical and exact).

Algorithms were programmed in C++. This language was chosen for its stability, speed and one of author's experiences. The same algorithms could be also programmed in other languages.

For partial differential equations, it is necessary for convergence and stability, comply with the CFL condition (Courant, Fridrichs, Lewy, 1928). Its application to the analyzed numerical solution is

$$\frac{\sigma^2 k}{h^2} \leq 1, \qquad (36)$$

In the simulation, several parameters were changed. For numerical solution, we have been changing parameters S and consequently the size of the *time* and *spatial* steps. Because of the amount of data and to retain readability, the results are displayed with only one particular value of the expiration time T.

The results are shown in Figure 4 - the behavior of the numerical against exact solution with different sizes of time and spatial steps Properties of simulation:

- Constant parameters: $E=60$, $\sigma=0,29$, $r=0,04$, $T=0,4$.
- Variables: $S \in <40,80>$, $h \in \{...\}$, $m \in \{2,5,10,100\}$.
- X-axis represents parameter S.
- Y-axis represents results of function $u(x,\tau)$.

We choose h and m as variable parameters because their high impact on accuracy and convergence of numerical solution.

The solid line represents the exact solution; the dashed line (mostly overlapping with solid line, with $h=0.0894$) represents numerical solution with parameters set to be as accurate as possible; the two-dash line ($h=0.8$) represents much higher value h and dotted line (with $h=0.053$) represents numerical solution with lower value of h. The closer the lines are to solid one, the more convergent the solution is. It is clear, that for some values, the solution is greatly divergent. As you can see, even dashed line, which is very close to exact solution, is highly inaccurate when the number of time steps is low.

As stated before, numerical solution is convergent only if it complies with the CFL (36). In Table 1, the values of CFL coefficients are calculated with the same h and m values as in Figure 4. If the value is lower than 1, the solution should be convergent.

Figure 4. Different values of parameters h and m
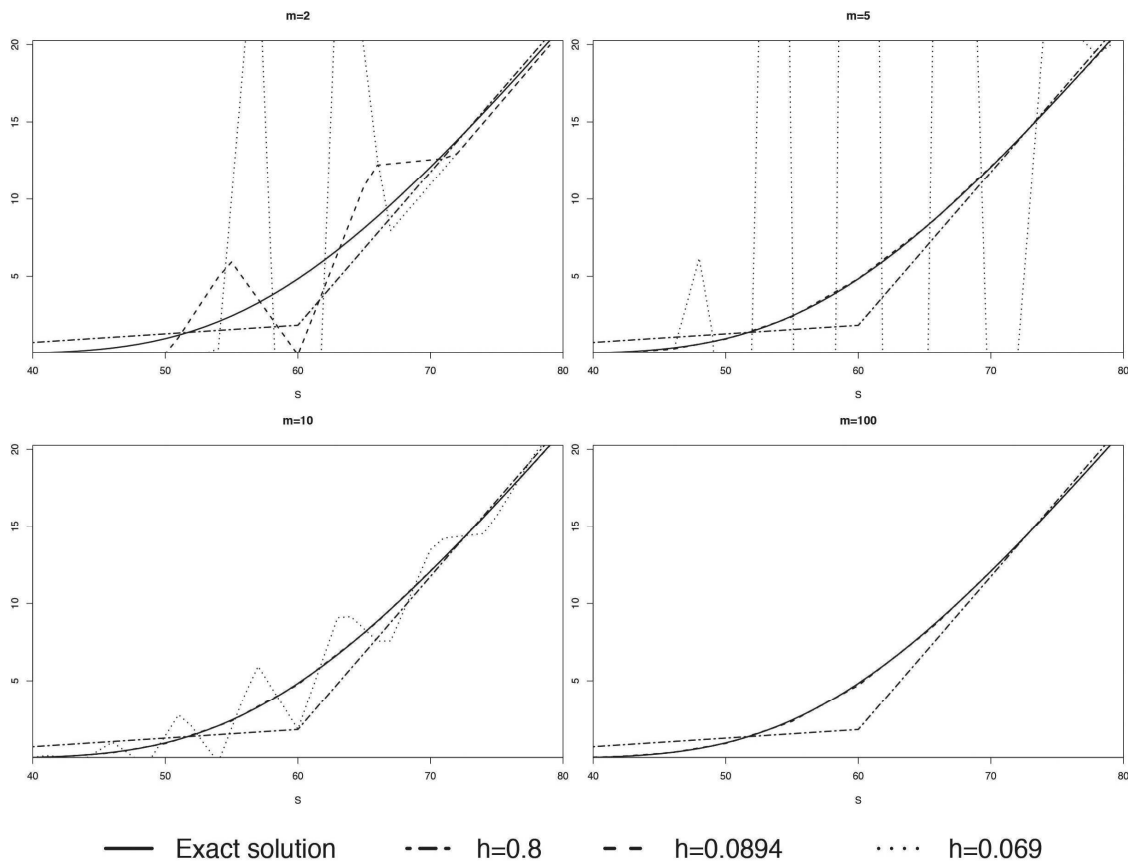
Table 1 CFL coeficients

m/h	0.0894	0.053	0.8
2	2,105	5,988	0,026
5	0,842	2,395	0,011
10	0,421	1,198	0,005
100	0,042	0,120	0,001

Based on collected data, we can state that in compliance with the CFL rule, the numerical solution is sufficiently convergent. However, at the same time we see that, in the case of *h = 0.8,* CFL condition is satisfied in all cases, however, the Figure 4 clearly shows, that the values are significantly different from those calculated by exact solution. CFL rule is effective but it is not universally reliable.

Solution was applied and tested on European call options. However, by simply changing the expiration conditions, the same solution can be applied to European put options. With supplementing the conditions based on arbitrage argument, the solution can be also used to calculate American options.

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Orthogonal Regression Method and its Application to Air Modeling in Building's Environment

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Abstract

The paper deals with the fitting of the measured data on the building's environment. An orthogonal regression method is presented and compared with widely used the classical least squares method. For illustration both methods are applied to the dependence between the indoor air relative humidity and working hours. The best fittings are found for both methods in the linearized form y=a+b.z for selected dependences z=z(x).

Key words
fitting, orthogonal regression, modeling, environment

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 [6,10], which is used most frequently. The second method is an orthogonal regression method [11], also called a total least squares method [4,9], which is used only rarely. A reader will find more details in [13] regarding to the historical background of orthogonal regression method. An application of this method on some national economies is shown in [14-15].

In this article, for purposes of illustration, both methods are used to determine the regression dependence between the relative humidity in the selected workplace and work time [7]. We propose three different correlation dependences in the case of relative humidity. The mean square residual [11] 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 a 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 introduce descriptions of some articles that belong to construction area, including the management energy savings in buildings.

In order to avoid a need of measuring density, thermal conductivity and specific heat capacity for each possible composition of phase change materials (PCM) and traditional construction materials, in the article

[3] the correlations for the estimation of these thermal properties for gypsum based composite materials with micro-encapsulated PCM are derived.

Analysis of correlation between humidity and CO_2 concentration was conducted in the work [16] based on the obtained measurement results. Three kindergartens in the temperate zone with different exterior wall insulation were studied. Exterior wall thermal insulation influences the quality of air of the natural ventilation system.

The aim of the paper [1] was to improve the existing correlations and in particular to confront the issue related to leeward openings where airflow rate is reduced due to the turbulent zone formation behind the leeward side of a building. The study is based on Computer Fluid Dynamics (CFD) simulations and full scale experiments.

The thermal energy required for heating in an industrial building in Kosice, Slovakia was studied in [8] using measurements and calculations by means of the linear regression of heating days.

Natural convective heat transfer and air flow in ventilated facades of the building were numerically investigated in the work [7]. Correlations have been proposed for the dependence of heat and air flow in symmetrical and asymmetrical heated channels.

A modeling of air convection in the buildings is contained in the article [12] and involves a solution of fluid dynamics problems in which the complexity of an enclosed space's geometry and the diversity of indoor airflow patterns require many fit-for-purpose convection correlations. These must take into account specifics of the space and of the heating ventilation and air-conditioning (HVAC) system.

Dynamics of relative moisture of air

A correlation analysis between heat conductivity and the thickness of selected insulation materials on a district building wall is presented in the work [7]. There were partially measured the dependences between temperature and time (during work time) as well as between relative humidity and time (during work time). The measurement results are imaged in Fig. 1.

Figure 1. Correlations between temperature and time, and between relative humidity and time [7]
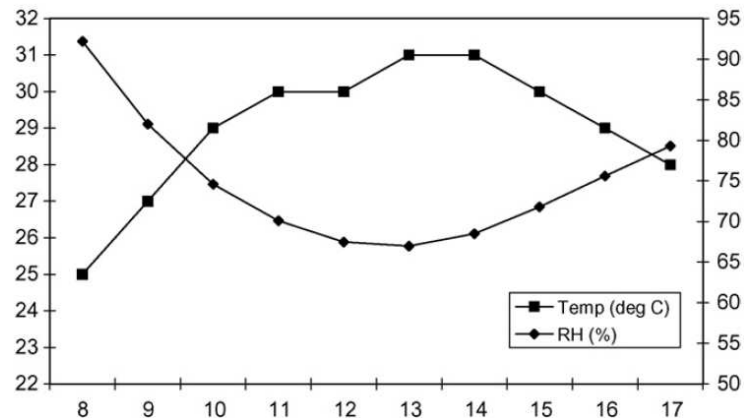
We concentrate our intention only to the dependence between relative moisture and time. Let us table the relative humidity and time values from Fig. 1, thus we obtain the following Tab. 1.

Table 1. Tableted values of relative humidity and time from Fig. 1

Variable	1	2	3	4	5
x – time in hours	8	9	10	11	12
y – relat. moisture in %	92	82	75	70	67,5

Variable	6	7	8	9	10
x – time in hours	13	14	15	16	17
y – relat. moisture in %	67	68	72	75,5	79

We will show that the classical linear regression is not suitable for such approximation and next we will suggest three non-linear models by means of the classical least square method as well as the orthogonal regression method, and we will determine the point estimates for regression coefficients of the models. Next, we determine the mean square residual for each model according to the formulas (5) or (7), which characterizes proximity of the curve to the measured points in the sense of the least square method.

Classical linear regression

At the beginning we find out for pair selection from Tab. 1 whether the linear correlation dependence $y = a_c + b_c \cdot x + \varepsilon$ between variables y and x exists, where ε is a random variable with zero expected mean and non-zero dispersion. For this purpose we determine the Pearson's coefficient of pair correlation [6,10,11,18] according to the formula

$$r \equiv r_{x,y} = \frac{\sum\limits_{i=1}^{n} x_i \cdot y_i - n \cdot \bar{x} \cdot \bar{y}}{\sqrt{\left[\sum\limits_{i=1}^{n} x_i^2 - n \cdot \bar{x}^2\right] \cdot \left[\sum\limits_{i=1}^{n} y_i^2 - n \cdot \bar{y}^2\right]}}. \tag{1}$$

The result is $r = -0{,}4291$. Next, we test this value whether it must be considered as a zero value or a non-zero value. Therefore, we formulate hypotheses

$$H_0 : r = 0 \quad \text{versus the alternative hypothesis} \quad H_1 : r \neq 0. \tag{2}$$

and we test [6,18] according the test

$$\frac{|r|\sqrt{n-2}}{\sqrt{1-r^2}} > t_{1-\alpha/2}(n-2). \tag{3}$$

The value of test statistics $T = \dfrac{|-0{,}4291|\sqrt{8}}{\sqrt{1-(-0{,}4291)^2}}$ is, in this case, equal to $T = 1{,}3437$ and the critical value of Student's t - distribution quantile for significance level $\alpha = 0{,}05$ is equal to $t_{0{,}975}(8) = 2{,}306$. That means the critical region K is given by interval $(2{,}306; \infty)$. The value of the test statistics $T = 1{,}3437$ does not belong to critical region K and therefore the hypothesis H_0 is not rejected and the value of Pearson's coefficient of pair correlation $r = -0{,}4291$ is considered as a zero value. So, the linear correlation dependence between variables y and x is absent. Due to this, we have to look for other dependence than linear.

Finally, we determine the mean square residual for this linear dependence. We put for the classical least square method in normal system [6,10]

$$\hat{a}_c \cdot n + \hat{b}_c \cdot \sum_{i=1}^{n} x_i = \sum_{i=1}^{n} y_i, \quad \hat{a}_c \cdot \sum_{i=1}^{n} x_i + \hat{b}_c \cdot \sum_{i=1}^{n} x_i^2 = \sum_{i=1}^{n} x_i \cdot y_i, \tag{4}$$

the following quantities

$n = 10$, $\sum\limits_{i=1}^{10} x_i = 125$, $\sum\limits_{i=1}^{10} x_i^2 = 1645$, $\sum\limits_{i=1}^{10} y_i = 748$, $\sum\limits_{i=1}^{10} x_i y_i = 9258$. Hence, we receive the point

estimates $\hat{a}_c = 88{,}7394$ $\hat{b}_c = -1{,}1152$ for regression coefficients a_c, b_c that enable us to calculate the mean square residual $s_c = 454{,}5061$ according to formula [11] as follows

$$s_c = \frac{\sum\limits_{i=1}^{n} \left(y_i - \hat{a}_c - \hat{b}_c \cdot x_i\right)^2}{n}. \tag{5}$$

Orthogonal regression method

A little used orthogonal regression method is presented in the works [4,9,11,13,14,15] that history, it seems, extends deeper into the past [13]. An essence of this method is that the distance d_i between a i-th point of experimental measurement (x_i, y_i), $i = 1,2,...,n$ and regression line is measured by perpendicular to the regression line (see Fig. 2), while in the classical least squares method a vertical difference between the measured value and the value on the regression line is considered. By means of the Fig. 1 one can easily derive that

$$d_i = \Delta y_i \cdot \cos \alpha' = \frac{\Delta y_i}{\sqrt{1 + \tan^2 \alpha'}} = \frac{\Delta y_i}{\sqrt{1 + \hat{b}_\perp^{\,2}}} = \frac{\left| y_i - \left(\hat{a}_\perp + \hat{b}_\perp \cdot x_i \right) \right|}{\sqrt{1 + \hat{b}_\perp^{\,2}}},$$

where $\hat{a}_\perp$ and $\hat{b}_\perp$ are point estimates for regression coefficients $a_\perp$ and $b_\perp$ of the linear model $y = a_\perp + b_\perp \cdot x + \varepsilon$ of orthogonal regression, while it can be proved that

$$\hat{a}_\perp = \bar{y} - \hat{b}_\perp \cdot \bar{x} \qquad\qquad \hat{b}_\perp = -B \pm \sqrt{1 + B^2}$$

$$B = \frac{1}{2} \frac{\left(\sum_{i=1}^{n} y_i^2 - n\bar{y}^2 \right) - \left(\sum_{i=1}^{n} x_i^2 - n\bar{x}^2 \right)}{n\bar{x}\bar{y} - \sum_{i=1}^{n} x_i y_i}. \qquad (6)$$

The proof supposes to construct the error functional and its minimization with respect to the variables $\hat{a}_\perp$ and $\hat{b}_\perp$ as well as some simple algebraic modifications.

Note, in general, the regression line $y = \hat{a}_c + \hat{b}_c \cdot x$ for classical least square method differs from the regression line $y = \hat{a}_\perp + \hat{b}_\perp \cdot x$ for orthogonal regression method in the plane x, y. However, these lines have one common point that is, so called, centroid $(\bar{x}, \bar{y})$, where

$$\bar{x} = \left(\sum_{i=1}^{n} x_i \right) / n, \qquad\qquad \bar{y} = \left(\sum_{i=1}^{n} y_i \right) / n.$$

Figure 2. Image of perpendicular distance of measured point *(x$_i$, y$_i$)*
to regression line $y = a + b \cdot x$
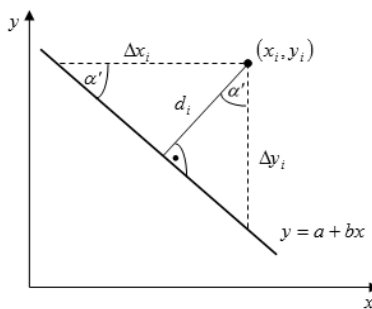
Let us even add that we consider the mean square residual for orthogonal regression method in the form [11]

$$s_\perp = \frac{\sum_{i=1}^{n} d_i^2}{n} = \frac{\sum_{i=1}^{n} \left[y_i - \left(\hat{a}_\perp + \hat{b}_\perp \cdot x_i \right) \right]^2}{n \cdot \left(1 + \hat{b}_\perp^2 \right)}. \qquad (7)$$

We sequentially obtain from Tab. 1 $\bar{x} = 12,5$; $\bar{y} = 74,8$; $\sum_{i=1}^{10} y_i^2 = 56507,5$; $B = 2,579348$;

$\hat{b}_\perp = $ -5,3458 , $\hat{a}_\perp = 141,622$ and we have $s_\perp = 65,2901$ for mean square residual according to formula

(7). We can see that the mean square residual $s_{\perp} = 65{,}2901$ for orthogonal regression method is again significantly smaller than the mean square residual $s_c = 454{,}5061$ for classical linear regression.

Non-linear linearized regression models

Next, we will study several non-linear but linearized regression models. We consider the following transformations $z = z(x)$:

$$z_1 = (x-13)^2; \qquad z_2 = \sin[\pi \cdot (x+1)/9]; \qquad z_3 = \frac{x^2}{x-7};$$

in the linear model $y = a + b \cdot z + \varepsilon$. Tab. 2 shows corresponding values z after transformation of variable x.

Table 2. Values of variable z after transformation of variable x

x	8	9	10	11	12	13	14	15	16	17
Transformation	**Ranking**									
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
z_1	25	16	9	4	1	0	1	4	9	16
z_2	0	-0,34	-0,64	-0,87	-0,98	-0,98	-0,87	-0,64	-0,34	0
z_3	64	40,5	33,3	30,3	28,8	28,2	28	28,1	28,4	28,9

By imaging one can see that dependencies $y = y(z)$ are approximately linear what could not be said regarding to dependence $y = y(x)$ in Fig. 1.

Next, we make the regression analysis by the classical least square method as well as the orthogonal regression method to individual linear models $y = \hat{a} + \hat{b} \cdot z + \varepsilon$. The results of this analysis are shown in Tab. 3.

Table 3. Parameters $\hat{a}$, $\hat{b}$ for classical least square method and for orthogonal regression method

Transformation	Parameters			
	$\hat{a}_c$	$\hat{b}_c$	$\hat{a}_{\perp}$	$\hat{b}_{\perp}$
z_1	66,7803	0,9435	66,6849	0,9547
z_2	85,3529	18,6076	88,0213	23,3127
z_3	54,2207	0,6079	52,3489	0,6632

After comparing the parameters $\hat{a}_c$, $\hat{b}_c$ with parameters $\hat{a}_{\perp}$, $\hat{b}_{\perp}$ in Tab. 3 we find out that the individual dependences $z = z(x)$ are not too much close. Due to this, the regression lines for classical method and for orthogonal method are little bit different.

Next, we present corresponding values of the mean square residuals in the Tab. 4.

Table 4. Quantities of the mean square residuals for individual methods

Transformation	s_c	$s_{\perp}$
z_1	13,6504	7,1815
z_2	112,6426	0,2591
z_3	133,9451	95,4581

We can see in Tab. 4 that in the case of the classical least square method the smallest value of the mean square residual is reached for transformation $z_1 = (x-13)^2$, and in the case of orthogonal regression method the smallest value of the mean square residual is reached for transformation $z_2 = \sin[\pi \cdot (x+1)/9]$. Next, we can see that the orthogonal regression method provides the smaller values of the mean square residual in all cases than the classical least square method.

It can be expected that dependence between variables y and z, where $z_2 = \sin[\pi \cdot (x+1)/9]$ is linear. We can confirm this fact by testing. Let us consider the set y from Tab. 1 and the set z from Tab. 2 (the last but one row) and we will test the linear correlation dependence $y = a_\perp + b_\perp \cdot z + \varepsilon$. We substitute the variable x in the formula (1) by the variable z and after we calculate Pearson's coefficient of pair correlation for variables y and z. We get $r = 0,8932$. Now, we test this value of the Pearson's coefficient of pair correlation according to the hypotheses (2). By test (3) the value of test statistics is $T = 5,618$ and the critical region K remains unchanged i.e. $(2,306;\infty)$. Thus, we can see that the test statistics $T = 5,618$ belongs to the critical region $K = (2,4306;\infty)$, and therefore the hypothesis H_0 must be rejected. That means the value of the Pearson's coefficient of pair correlation $r = 0,8932$ must be considered as a non-zero value and correlation dependence between variables y and z is established as a linear.

Summary

The energy loss through district envelope walls is affected by the state of the relative moisture inside the room. The change in relative humidity depending on working hours we have analyzed in this paper and 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 [13], in general. 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 [14-15]. In soon future our intention is to apply the developed methodology of orthogonal regression to the area of finance [2,17], as well as to area of risk management [5].

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Solution Generalization of Analytic Hierarchy Process with Three Criteria

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Abstract

A generalized solution of the analytic hierarchy process with three criteria is found in the paper. Three cases without the generalized solution and three cases with the generalized solution are presented. By means of the comparing it is detected that the generalized solutions are consistent with solutions that were received by other authors in the past. An implementation of generalized solution in MATLAB is presented at the end of this paper.

Key words
analytic hierarchy process, priority, probability, decision making

Introduction

In the paper (Peregrin Pavluš 2013) we have begun to solve a problem in the area of generalized solution of the analytic hierarchy process (AHP) with two criteria. Conclusion of our research was, the generalized solutions are in accordance with solutions that were obtained by other authors (Saaty 1990).In this paper, we will continue in mentioned research and we will focus on the generalized solution of AHP with three criteria.

Many situations occur in the professional or current life when the correct and quick decisions are necessary (Campbell, Whitehead, Finkelstein 2009). The multi-criteria decision methods are often used for such decisions accomplishing. The methods provide a suitable background for the realization of effective decisions. Among others the analytic hierarchy method belongs to these methods. AHP was suggested by Thomas L. Saaty (Saaty 1990).

AHP is a method that provides a framework for the preparation of effective decisions in the complex situations. It helps to simplify and speed up of the decision making process. AHP is realized by an expert part and subsequently by a mathematical part that divide a complex non-structured situation (a main problem) to the simpler components (smaller, more detailed elements) so that a hierarchy system of the problem is created. A decision making according to the AHP can be divided to three different steps (Saaty 1990, Krause 2011):

Hierarchy: This means a division of the main problem to separate elements (criteria) – a creation of the hierarchy model (Fig. 1).

Figure 1. Hierarchy of the problem division
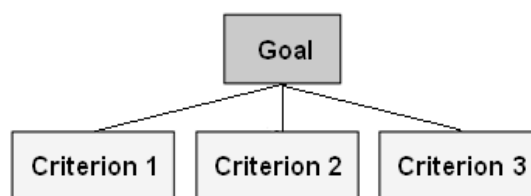
Priority: This step is based on the pairwise comparison of the importance level of the individual criteria. The evaluation of the importance level is based on the "expert estimation" (the expert part of the process), when the specialists compare the interactions and evaluate the criteria importance by means of the intensities of importance (Table 1). These intensities are subsequently used in the matrix of pairwise comparison. As a result of this step one can obtain some priorities to individual criteria that is expressed in the form of the eigenvalue vector of a matrix (the mathematical part of the process).

Table 1. Distribution of weights of intensities of importance for pairwise comparison

Intensity of importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective.
3	Moderate importance	Experience and judgment strongly favor one activity over another.
5	Strong importance	Experience and judgment strongly favor one activity over another.
7	Very strong importance	An activity is strongly favored and its dominance demonstrated in practice.
9	Extreme importance	The evidence favoring one activity over another is of the highest possible order of affirmation.
2, 4, 6, 8		When compromise is needed.
1,1; 1,2; 1,3...		When elements are nearly indistinguishable; moderate is 1,3; and extreme is 1,9.

As we mentioned this step consists of two parts, namely, the expert and mathematical parts.

Expert part – consists of the assignment of weights of intensities to individual criteria in view of the importance to the main goal.

Mathematical part – in this part the priorities of individual criteria are calculated on the base of the assignment of the intensities of importance in view of the importance to the main goal. In the beginning the assigned intensities of importance are used in the matrix of the weight comparison. Then an eigenvalue and an eigenvector of the matrix are calculated. Each element of the eigenvector expresses a priority of the individual criterion. The number of the eigenvector components is equal to the number of all criteria that priorities we are looking for.

Consistency: Expresses some measure of the credibility of the result. The consistency ratio (CR) or the consistency value is calculated from the matrix in order to determine the sufficient credibility of assigned intensities of importance. According to Saaty (Saaty 1994 str. 27), if the CR is greater than 10% then the consistency is not sufficient and the entire AHP must be repeated once again starting with a new pairwise comparison.

In this paper, as it was in (Peregrin Pavluš 2013), in expert part we will consider consistent assignment of the intensities of importance. It means, if we assign Criterion 2 3-times greater importance than Criterion 1 and Criterion 3 2-times greater importance than Criterion 2, thus automatically Criterion 3 will have 6-times greater importance against Criterion 1.

Our intention is to determine the generalized solution, for the case of deciding between three criteria. In order to verify a correctness of our research the generalized solution will be applied to examples that were described by Saaty in his works (Saaty 1994, Saaty 1990). That means we will compare the priorities obtained by our generalized approach with the priorities calculated by Saaty. We will execute the comparing for three cases.

Case A: In the paper (Saaty 1994 p. 29) the comparison of three criteria and its importance is mentioned, namely community costs, institutional costs and societal costs to the main goal(greatest costs).According to question, which of criteria has the strongest importance to the main goal, Saaty answers that institutional costs are strong important than the community costs as well as societal costs (he assign this criterion in both cases intensity of importance 5) (Table2).These intensities are subsequently written in the matrix of pairwise comparison, then the eigenvector with priorities is calculated

Table 2. The matrix of the pairwise comparison for criteria related to the upper criterion "greatest costs" with the calculated priorities

Costs	Community	Institutional	Societal	Priorities
Community	1	1/5	1	0,143
Institutional	5	1	5	0,714
Societal	1	1/5	1	0,143
		Sum of priorities:		1,000

Case B: There is an application of AHP in (Saaty 1990p. 16), where Saaty compares three houses in view of the importance to the general condition. House B is in little bit better condition than House A (he assigns in these comparison intensity of importance 2), and House B is in the same condition as house C (he assigns an equal importance) (Table 3).

Table 3: The matrix of the pairwise comparison for criteria related to the upper criterion "general condition" with the calculated priorities

General condition	House A	House B	House C	Priorities
House A	1	1/2	1/2	0,200
House B	2	1	1	0,400
House C	2	1	1	0,400
			Sum of priorities:	1,000

Case C: In the paper (Saaty 1994 str. 36) third case of application of AHP is mentioned, where Saaty compares three products A,B,C to the upper criterion P (Table 4).

Table 4: The matrix of the pairwise comparison for criteria related to the upper criterion P with the calculated priorities

P	A	B	C	Priorities
A	1	5	1	0,455
B	1/5	1	1/5	0,090
C	1	5	1	0,455
			Sum of priorities:	1,000

Mathematical formulation of AHP

In the paper (Peregrin Pavluš 2013) in the chapter of the same name we had explained, how the priorities were received with the classical procedural way of AHP of two criteria. Now, we analogically explain how to receive priorities with the classical procedural way of AHP but for three criteria, namely, on the Case A. The resulted priorities are determined as some elements of the eigenvector of the matrix of weight comparison.

In the beginning we divide the main problem (costs) to smaller criteria (community, institutional and societal costs) which we compare towards the importance to the main goal as it was done by Saaty (Saaty 1994 p. 29).Result of comparisons will be assigned intensities of importance (Table 5).

Table 5. Pairwise comparison of costs towards the main goal

Community	1	Institutional	5	According to Saaty institutional costs has stronger importance than community costs and he assigns to this criterion an intensity of importance equal to7.
Community	1	Societal	1	Saaty judges community and societal costs as equal, so he assign this criteria an intensity of importance 1
Institutional	5	Societal	1	According to Saaty institutional costs are strong important than the societal costs, so he assign to this criterion 5.

Now, we write the assigned intensities of importance to the matrix of the pairwise comparison (Table 6).

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Table 6. The matrix of the pairwise comparison for criteria related to the upper criterion with unknown priorities

Costs	Community	Institutional	Societal	Priorities
Community	1	1/5	1	p_1= ?
Institutional	5	1	5	p_2= ?
Societal	1	1/5	1	p_3= ?
			Sum of priorities:	1,000

Here is the end of the expert part and the start of the mathematical part is going. The goal of the mathematical part is to calculate priorities p_1, p_2 and p_3 for individual criteria as some elements of an eigenvector of eigenvalue. In the first, we write the matrix of pairwise comparison to a simpler form

$$A = \begin{pmatrix} 1 & 1/5 & 1 \\ 5 & 1 & 5 \\ 1 & 1/5 & 1 \end{pmatrix}. \tag{1}$$

Then the characteristic equation in the form $det(A - \lambda E) = 0$ is determined to matrix A (1), where λ is an found eigenvalue of the matrix A and E is the unique matrix.

$$det\left[\begin{pmatrix} 1 & 1/5 & 1 \\ 5 & 1 & 5 \\ 1 & 1/5 & 1 \end{pmatrix} - \lambda \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}\right] = 0 \rightarrow det\left[\begin{pmatrix} 1 & 1/5 & 1 \\ 5 & 1 & 5 \\ 1 & 1/5 & 1 \end{pmatrix} - \begin{pmatrix} \lambda & 0 & 0 \\ 0 & \lambda & 0 \\ 0 & 0 & \lambda \end{pmatrix}\right] = 0 \rightarrow$$

$$det\begin{pmatrix} 1-\lambda & 1/5 & 1 \\ 5 & 1-\lambda & 5 \\ 1 & 1/5 & 1-\lambda \end{pmatrix} = 0.$$

Now, we calculate the determinant and put it equal to zero

$$(1-\lambda)^3 + 5.\frac{1}{5}.1 + 1.\frac{1}{5}.5 - \left[1.(1-\lambda).1 + 5.\frac{1}{5}.(1-\lambda) + (1-\lambda).\frac{1}{5}.5\right] = 0 \rightarrow$$

$$(1-\lambda)^3 + 2 - [1-\lambda+1-\lambda+1-\lambda] = 0 \rightarrow$$

$$(1-\lambda)^3 - 3(1-\lambda) + 2 = 0. \tag{2}$$

After substitution $z = 1-\lambda$ we get

$$z^3 - 3z + 2 = 0.$$

As we can see, we obtained the cubic equation, and its solution will be found eigenvalues λ of matrix. Those we obtain by means of the using of Cardanos method. According this method, suitable substitution is $z = y + \frac{1}{y}$,

$$\left(y + \frac{1}{y}\right)^3 - 3\left(y + \frac{1}{y}\right) + 2 = 0. \tag{3}$$

After application of $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$ to our cubic equation, we obtain

$$y^3 + 3y^2\frac{1}{y} + 3y\frac{1}{y^2} + \frac{1}{y^3} - 3y - 3\frac{1}{y} + 2 = 0 \rightarrow y^3 + \frac{1}{y^3} + 2 = 0 \quad /.y^3 \rightarrow$$

$$y^6 + 1 + 2y^3 = 0 \rightarrow y^6 + 2y^3 + 1 = 0.$$

After substitution $y^3 = k$ we come to

$$k^2 + 2k + 1 = 0 \rightarrow (k+1)^2 = 0.$$

so

$$k = -1 \rightarrow y^3 = -1 \rightarrow y^3 + 1 = 0 \rightarrow y^3 + 1^3 = 0.$$

According to $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$ we obtain
$(y + 1)(y^2 - y + 1) = 0$.

The roots of this equation are $y_1 = -1$, $y_{2,3} = \frac{1 \pm i\sqrt{3}}{2}$. Next, if we know the roots of substituted equation (3), the roots of the basic equation(2) (respectively eigenvalues λ) can be calculated as follows

$$y_1 = -1 \rightarrow z_1 = -1 + \frac{1}{-1} = -1 - 1 = -2;$$

$$z_1 = 1 - \lambda_1 \rightarrow -2 = 1 - \lambda_1 \rightarrow \lambda_1 = 3$$

$$y_2 = \frac{1 - i\sqrt{3}}{2} \rightarrow z_2 = \frac{1 - i\sqrt{3}}{2} + \frac{2}{1 - i\sqrt{3}} = \frac{1 - i\sqrt{3}}{2} + \frac{2}{1 - i\sqrt{3}} \cdot \frac{1 + i\sqrt{3}}{1 + i\sqrt{3}} =$$

$$= \frac{1 - i\sqrt{3}}{2} + \frac{2(1 + i\sqrt{3})}{1 + 3} = \frac{1 - i\sqrt{3}}{2} + \frac{1 + i\sqrt{3}}{2} = 1;$$

$$z_2 = 1 - \lambda_2 \rightarrow 1 = 1 - \lambda_2 \rightarrow \lambda_2 = 0$$

$$y_3 = \frac{1 + i\sqrt{3}}{2} \rightarrow z_3 = \frac{1 + i\sqrt{3}}{2} + \frac{2}{1 + i\sqrt{3}} = \frac{1 + i\sqrt{3}}{2} + \frac{2}{1 + i\sqrt{3}} \cdot \frac{1 - i\sqrt{3}}{1 - i\sqrt{3}} =$$

$$= \frac{1 + i\sqrt{3}}{2} + \frac{2(1 - i\sqrt{3})}{1 + 3} = \frac{1 + i\sqrt{3}}{2} + \frac{1 - i\sqrt{3}}{2} = 1;$$

$$z_3 = 1 - \lambda_3 \rightarrow 1 = 1 - \lambda_3 \rightarrow \lambda_3 = 0.$$

So, the solution is represented by three eigenvalues

$$\lambda_1 = 3, \quad \lambda_2 = 0, \quad \lambda_3 = 0.$$

Next, we find the eigenvector p = $(p_1, p_2, p_3)^T$, that corresponds to the eigenvalue $\lambda_1 = 3$. This vector p will express the priorities of the compared criteria

$$\begin{pmatrix} 1 - \lambda_1 & 1/5 & 1 \\ 5 & 1 - \lambda_1 & 5 \\ 1 & 1/5 & 1 - \lambda_1 \end{pmatrix} \cdot p = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix} \rightarrow \begin{pmatrix} -2 & 1/5 & 1 \\ 5 & -2 & 5 \\ 1 & 1/5 & -2 \end{pmatrix} \cdot p = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}.$$

Consequently, we can solve this system of equations, for example, by means of the Gauss elimination method

$$\begin{pmatrix} -2 & 1/5 & 1 & | & 0 \\ 5 & -2 & 5 & | & 0 \\ 1 & 1/5 & -2 & | & 0 \end{pmatrix} \overset{\cdot 5/2}{\underset{\downarrow}{}} \sim \begin{pmatrix} -2 & 1/5 & 1 & | & 0 \\ 0 & -3/2 & 15/2 & | & 0 \\ 1 & 1/5 & -2 & | & 0 \end{pmatrix} \overset{\cdot 1/2}{\underset{\downarrow}{}} \sim$$

$$\begin{pmatrix} -2 & 1/5 & 1 & | & 0 \\ 0 & -3/2 & 15/2 & | & 0 \\ 0 & 3/10 & -3/2 & | & 0 \end{pmatrix} \cdot 1/5 \sim \begin{pmatrix} -2 & 1/5 & 1 & | & 0 \\ 0 & -3/2 & 15/2 & | & 0 \\ 0 & 0 & 0 & | & 0 \end{pmatrix}.$$

Thus we get the equations of three unknowns

$$-2p_1 + \frac{1}{5}p_2 + p_3 = 0 \tag{4}$$

$$-\frac{3}{2}p_2 + \frac{15}{2}p_3 = 0 \rightarrow p_2 = 5p_3.$$

After substitution p_2 to the previous relation (4) we get

$$-2p_1 + \frac{1}{5} 5p_3 + p_3 = 0 \rightarrow -2p_1 + 2p_3 = 0 \rightarrow p_1 = p_3$$

Because the priorities express some probabilities, the sum of the probabilities p_1, p_2 and p_3 must be equal to one, so that we can write

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$$p_1 + p_2 + p_2 = 1 \rightarrow p_3 + 5p_3 + p_3 = 1 \rightarrow 7p_3 = 1 \rightarrow p_3 = \frac{1}{7} = 0,143$$

After substitution p_3 to relation for $p_2 = 5p_3$ we find that $p_2 = 5.0,143 = 0,714$ According to relation $p_1 = p_3$ it is clear that $p_1 = 0,143$.

So, the solution is the vector $p = \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0,143 \\ 0,714 \\ 0,143 \end{pmatrix}$.

If we look back to the problem that we have sold, we can find out that the community and societal costs has priority equal to 0,143 and the institutional costs has priority 0,714.

The same as in the paper (Peregrin, Pavluš 2013) let us note that we do not consider the eigenvalue $\lambda_2 = 0$ and $\lambda_3 = 0$ because the submitted approach applied for $\lambda_2 = 0$ and $\lambda_3 = 0$ leads to the mathematical solution which does not meet the probability properties like

$$p_1 \geq 0 \text{ or } p_2 \geq 0 \text{ or } p_3 \geq 0 \text{ or } p_1 + p_2 + p_3 \geq 0, \tag{5}$$

Derivation of generalized solution

The matrix of pairwise comparison of three criteria can be written in the generalized form (Table 7) as and in the mathematical form as the mathematical matrix.

Table 7: Generalized form of the matrix of pair wise comparison with consistent levels of significance

	Criterion 1	Criterion2	Criterion3	Priorities
Criterion1	1	α	ß	$p_1 = ?$
Criterion2	1/ α	1	ß/α	$p_2 = ?$
Criterion3	1/ ß	α/ß	1	$p_3 = ?$

$$A = \begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix}, \tag{6}$$

where A denotes the matrix of pairwise comparison.

Now we can determine the generalized solution that enable us to calculate the priorities of individual criteria for arbitrary consistent matrix 3 x 3 with arbitrary positive α and ß. The eigenvector of the matrix A represents priorities of criteria, so for this reason it is necessary to determine the eigenvalues of the generalized matrix A and then the corresponding eigenvector.

Derivation of generalized solution we do analogically as we did in the case of generalized solution of two criteria in the paper (Peregrin Pavluš 2013)

The eigenvector of the generalized matrix A (6) is the nonzero vector $\begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix}$, which fulfills

$$A \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \lambda \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix}, \tag{7}$$

where λ is the eigenvalue and $\begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix}$ is eigenvector of the matrix A(6).

If we rewrite the previous equation (7) and the right side we convert to the left side then we get the matrix equation in the form

$$\begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} - \lambda \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

We multiply the eigenvalue λ by the unique matrix $E = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix}$

$$\begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} - \lambda \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix} \rightarrow$$

$$\rightarrow \begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} - \begin{pmatrix} \lambda & 0 & 0 \\ 0 & \lambda & 0 \\ 0 & 0 & \lambda \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

Then we choose behind the bracket the vector $\begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix}$ on the left sideand we receive the equation in the form

$(A - \lambda E)\begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = 0$, or

$$\left[\begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix} - \begin{pmatrix} \lambda & 0 & 0 \\ 0 & \lambda & 0 \\ 0 & 0 & \lambda \end{pmatrix}\right] \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

Finally we subtract the matrices inside the brackets

$$\begin{pmatrix} 1-\lambda & \alpha & \beta \\ 1/\alpha & 1-\lambda & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1-\lambda \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

Now, we can write the characteristic equation of the matrix A and consequently calculate the eigenvalues

$$\begin{vmatrix} 1-\lambda & \alpha & \beta \\ 1/\alpha & 1-\lambda & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1-\lambda \end{vmatrix} = 0.$$

We calculate the determinant

$$(1-\lambda)^3 + \frac{1}{\alpha}.\frac{\alpha}{\beta}.\beta + \frac{1}{\beta}.\alpha.\frac{\beta}{\alpha} - \left[\beta.(1-\lambda).\frac{1}{\beta} + \frac{\beta}{\alpha}.\frac{\alpha}{\beta}.(1-\lambda) + (1-\lambda).\alpha.\frac{1}{\alpha}\right] = 0 \rightarrow$$

$$(1-\lambda)^3 + 2 - [1-\lambda + 1-\lambda + 1-\lambda] = 0 \rightarrow$$

$$(1-\lambda)^3 - 3(1-\lambda) + 2 = 0.$$

The eigenvalues from this equation are calculated by using of Cardanos method. Procedure is same as in the previous part „Mathematical formulation of AHP that is why we will not mention it again.
One can see that the matrix A has three eigenvalues, namely,

$$\lambda_1 = 3 \quad \lambda_2 = 0 \quad \lambda_3 = 0$$

Next, we determine the eigenvector for matrix A for the eigenvalue $\lambda_1 = 3$.

We substitute the calculated eigenvalue $\lambda = 3$ into the equation $(A - \lambda E)\begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = 0$

$$\left[\begin{pmatrix} 1 & \alpha & \beta \\ 1/\alpha & 1 & \beta/\alpha \\ 1/\beta & \alpha/\beta & 1 \end{pmatrix} - \begin{pmatrix} 3 & 0 & 0 \\ 0 & 3 & 0 \\ 0 & 0 & 3 \end{pmatrix}\right] \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

Then the subtraction of the matrices in the brackets gives

$$\begin{pmatrix} -2 & \alpha & \beta \\ 1/\alpha & -2 & \beta/\alpha \\ 1/\beta & \alpha/\beta & -2 \end{pmatrix} \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0 \\ 0 \end{pmatrix}$$

It should be clear from the last matrix equation that we have get the system of three equations with three unknowns p_1, p_2 and p_3, that represent the elements of the eigenvector. We solve this system

$$\begin{pmatrix} -2 & \alpha & \beta & | 0 \\ 1/\alpha & -2 & \beta/\alpha & | 0 \\ 1/\beta & \alpha/\beta & -2 & | 0 \end{pmatrix} \begin{matrix} .1/2\alpha \\ \\ \end{matrix} \sim \begin{pmatrix} -2 & \alpha & \beta & | 0 \\ 0 & -3/2 & 3\beta/2\alpha & | 0 \\ 1/\beta & \alpha/\beta & -2 & | 0 \end{pmatrix} \begin{matrix} .1/2\beta \\ \\ \end{matrix} \sim$$

$$\begin{pmatrix} -2 & \alpha & \beta & | 0 \\ 0 & -3/2 & 3\beta/2\alpha & | 0 \\ 0 & 3\alpha/2\beta & -3/2 & | 0 \end{pmatrix} .\alpha/\beta \sim \begin{pmatrix} -2 & \alpha & \beta & | 0 \\ 0 & -3/2 & 3\beta/2\alpha & | 0 \\ 0 & 0 & 0 & | 0 \end{pmatrix}$$

We have obtained two equations with three unknowns

$$-2p_1 + \alpha p_2 + \beta p_3 = 0 \qquad\qquad (8)$$

$$-\frac{3}{2}p_2 + \frac{3\beta}{2\alpha}p_3 = 0 \rightarrow p_2 = \frac{\beta}{\alpha}p_3$$

After substitution p_2 into the previous relation (8) we get

$$-2p_1 + \alpha\frac{\beta}{\alpha}p_3 + \beta p_3 = 0 \rightarrow p_1 = \beta p_3.$$

So, the eigenvector of the matrix A for the eigenvalue $\lambda_1 = 3$ will be the vector

$$\begin{pmatrix} \beta p_3 \\ \frac{\beta}{\alpha}p_3 \\ p_3 \end{pmatrix}.$$

The components of the eigenvector p represent some probabilities and due to this we demand the properties to by fulfilled (5).

We substitute the elements of calculated eigenvector $\begin{pmatrix} \beta p_3 \\ \frac{\beta}{\alpha}p_3 \\ p_3 \end{pmatrix}$ into the condition $p_1 + p_2 + p_3 = 1$ and thus we

obtain

$$\beta p_3 + \frac{\beta}{\alpha}p_3 + p_3 = 1.$$

It follows that

$$p_3 = \frac{\alpha}{\alpha\beta + \alpha + \beta}.$$

And after the substitution p_3 to relation $p_2 = \frac{\beta}{\alpha}p_3$ and $p_1 = \beta p_3$ we come to

$$p_2 = \frac{\beta}{\alpha} \cdot \frac{\alpha}{\alpha\beta + \alpha + \beta} = \frac{\beta}{\alpha\beta + \alpha + \beta}$$

$$p_1 = \beta \cdot \frac{\alpha}{\alpha\beta + \alpha + \beta} = \frac{\alpha\beta}{\alpha\beta + \alpha + \beta}$$

That means the generalized solution which enable us to determine the priorities of the individual criteria of arbitrary consistent matrix A 3 x 3 is the following

$$p_1 = \frac{\alpha\beta}{\alpha\beta + \alpha + \beta}, \quad p_2 = \frac{\beta}{\alpha\beta + \alpha + \beta}, \quad p_3 = \frac{\alpha}{\alpha\beta + \alpha + \beta}. \qquad\qquad (9)$$

Application and results comparison

We compare the results obtained by this general solution (9) with the results that were received by Saaty (Saaty 1990, Saaty 1994) in his papers in order to confirm the correctness of our derivation. First we make the comparison for the **case A**, then **B** and finally for **C**.

Case A: As the first, it is necessary to determine the constant α a β. According the Table 7 the constant α is situated in the second column of the first raw of the matrix A. So, if we look at the Table 2 then it is clear that $\alpha = \frac{1}{5}$ a $\beta = 1$.

After substitution in to the generalized solution (9) we get the resulted priorities

$$p_1 = \frac{\alpha\beta}{\alpha\beta + \alpha + \beta} = \frac{\frac{1}{5} \cdot 1}{\frac{1}{5} \cdot 1 + \frac{1}{5} + 1} = \frac{\frac{1}{5}}{\frac{7}{5}} = \frac{5}{35} = 0,143$$

$$p_2 = \frac{\beta}{\alpha\beta + \alpha + \beta} = \frac{1}{\frac{1}{5} \cdot 1 + \frac{1}{5} + 1} = \frac{1}{\frac{7}{5}} = \frac{5}{7} = 0,714$$

$$p_3 = \frac{\alpha}{\alpha\beta + \alpha + \beta} = \frac{\frac{1}{5}}{\frac{1}{5} \cdot 1 + \frac{1}{5} + 1} = \frac{\frac{1}{5}}{\frac{7}{5}} = \frac{5}{35} = 0,143.$$

We compare the calculated priorities with priorities in the Table 2 (the last column) we can see that calculated priorities are identical with priorities received by Saaty.

Case B: According to Table 3 we have $\alpha = \frac{1}{2}$ a $\beta = \frac{1}{2}$.

$$p_1 = \frac{\alpha\beta}{\alpha\beta + \alpha + \beta} = \frac{\frac{1}{2} \cdot \frac{1}{2}}{\frac{1}{2} \cdot \frac{1}{2} + \frac{1}{2} + \frac{1}{2}} = \frac{\frac{1}{4}}{\frac{5}{4}} = \frac{4}{20} = 0,2$$

$$p_2 = \frac{\beta}{\alpha\beta + \alpha + \beta} = \frac{\frac{1}{2}}{\frac{1}{2} \cdot \frac{1}{2} + \frac{1}{2} + \frac{1}{2}} = \frac{\frac{1}{2}}{\frac{5}{4}} = \frac{4}{10} = 0,4$$

$$p_3 = \frac{\alpha}{\alpha\beta + \alpha + \beta} = \frac{\frac{1}{2}}{\frac{1}{2} \cdot \frac{1}{2} + \frac{1}{2} + \frac{1}{2}} = \frac{\frac{1}{2}}{\frac{5}{4}} = \frac{4}{10} = 0,4$$

After comparison of the calculated priorities obtained by generalized solution (9) with priorities in Table 3, we can confirm the correctness of our calculation.

Case C: From Table 4 we have $\alpha = 5$ a $\beta = 1$. After substitution to generalized solution (9) we receive

$$p_1 = \frac{\alpha\beta}{\alpha\beta + \alpha + \beta} = \frac{5 \cdot 1}{5 \cdot 1 + 5 + 1} = \frac{5}{11} = 0,455$$

$$p_2 = \frac{\beta}{\alpha\beta + \alpha + \beta} = \frac{1}{5 \cdot 1 + 5 + 1} = \frac{1}{11} = 0,090$$

$$p_3 = \frac{\alpha}{\alpha\beta + \alpha + \beta} = \frac{5}{5 \cdot 1 + 5 + 1} = \frac{5}{11} = 0,455.$$

It is clear that calculate priorities are identical with priorities in the Table 4.

Implementation of generalized solution in MATLAB

Founded solution was implemented into programming language MATLAB 2013 from The Centre of Scientific and Technical Information of the Slovak Republic. This will lead to new generalized solutions of AHP for calculation of criteria of higher order. We assume that mentioned implementation will accelerate calculations.

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Source code:

```
%
% Name: Generalized solution of AHP with three criteria
%
% Input parameters
% - alfa: Intesity of importance of Criterion 1 to Criterion 2 in the range (0; 9)
% - beta: Intesity of importance of Criterion 1 to Criterion 3 in the range (0; 9)
%
% Output parameters
% - p:vector with priorities of each criteria 1,2 and 3
%
% Date: 29/11/2013
%

alfa=1;
beta=5;

p(1) = (alfa*beta)/(alfa*beta+alfa+beta);
p(2) = (beta)/(alfa*beta+alfa+beta);
p(3) = (alfa)/(alfa*beta+alfa+beta);
```

Summary

A generalized solution that enable us to calculate priorities of individual criteria of consistent matrix 3 x 3 with arbitrary positive α and β was determined in this paper. This was done in order to have the generalized formulas for priority calculation which speed up the decision making process. After derivation of this solution and after its application to three different cases we can conclude that the obtained generalized solution is in coincidence with the solutions that were received by Saaty in his papers. Let us note, there are various software (for example, easy available on the internet website with address http://www.isc.senshu-u.ac.jp/~thc0456/EAHP/AHPweb.html), which prove correctness of our solution. In this paper we have considered the consistent assignment of the intensities of importance. Result of our research together with MATLAB implementation will lead to a comfortable tool for calculation of criteria of higher order than 2.

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7. Psychological, Environmental, Ethical and Other Selected Aspects of Management

Incentives to Stimulate Motivation to Work Effectively

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Abstract

A neuralgic problem of motivation theory refers to the factors that determine the activity of workforce, which exerts influence on the intensity of the situation, so on the strength, quantity and intensity and, what is more, on its direction or the target of undertaking certain activities. Knowing these factors is the key to create systems, which predispose ways and tools pointing for effective motivation impact, leading to employees' proper proceeding.

The proposed issue is very important as far as scientific and practical point of view is concerned, in connection with this, the general objective of this work is to indicate what kind of incentives to stimulate motivation have the influence on the effective employees' work.

To systematize the problems, the article was divided into three chapters. The first one refers to the presentation of motivators' structure and rank, in the second part the issue of wages as the means of motivation was discussed, and the last chapter refers to the analysis of non-financial motivators.

Key words
management, staff, motivating, incentives

Structure and rank of motivators

Motivation is dependent on the use of incentive measures, and these take the name of motivators. We can distinguish three basic groups of motivators:

- wage motivators;
- non-wage material motivators;
- immaterial ones.

Wage motivators - the kind of salaries, which are the tools of material motivation. Employee's wages make the income connected with being employed, what at the same time is the element of the work costs that each company incurs. Wage motivators also include bonuses and prizes, some of the companies additionally use periodic bonuses for the employees.[1] Further components of wages are extras for overtime work done by the employee (especially at night or on duties). However, not every wage motivator has the motivational function, some of them have a social character, for example, wages granted during the vacation or illness of the employed worker.[2]

Non-wage material motivators - they include the following material benefits:
- shares with limited transferability and stock options, which concern mainly managers, these motivators are more important in the world practice;
- bonds, which are issued by companies;
- prestigious office with equipment, of course it is not treated as a main income of the manager but is undoubtedly an incentive;
- making business cars available to the managers, and sometimes even for employees;
- refunds of expenses for journeys by private car for business purposes, the lump sums for commuting are also included;
- apartments and accommodation paid for by the particular unit;
- both laptops and desktops, which are necessary while working at home and travelling;
- additional paid leaves; also the financing or co-financing of the trips;
- medical care (often both for the employees and their families) - at the expense of the employer;
- additional pension and health insurance;

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[1] these are the sums of money awarded twice a year in the amount dependent on the will of the employer.
[2] (Filipowicz 2010, p. 212)

- financing or co-financing of trainings and vocational training courses raising professional qualifications of staff;
- representative fund (but only for the top managers);
- additional security of communication events;
- all kinds of consulting at the expense of the company, including: law, taxes, computers etc.

Immaterial motivators on the other hand - include mainly:
- fascinating job in a prestigious organization;
- respect and appreciation for the employee;
- the possibility of an individual activity;
- professional development;
- favorable work hours;
- the opportunity to work outside the workplace;
- state and organizational awards; as well as diplomas and letters of congratulations;
- unforced clothing at work.[3]

Motivation is a very important aspect in the modern economy, but the rank of motivators is transforming depending on the level of every human's wealth, culture of the organization or also on the expectations of employees. The most often, with relatively low incomes the most important motivator is salary, because it allows to satisfy the basic needs of every employee. When we deal with a much higher level of wealth, the importance of the rank of non-wage motivators - material and immaterial ones - is increasing at the same time.[4]

Wages as a means of motivation

Wages, bonuses as well as promotions are the part of the most common tools of motivators' rank, if they are, of course, used properly. The remuneration system in the unit is composed of the formal and informal mechanisms, through which you can evaluate the activities and the results of the individual employees.[5]

It is worth to distinguish four basic functions of remuneration:[6]

Motivational function - according to this function the desire of getting money is the main reason for people to look for work. Wage is a reward for conscientious fulfilling instructions by the employee, which is a motivational function shaping the relevant attitudes and behaviors of group of employees. The particular amount of remuneration affects not only the efficiency and productivity of work but also the involvement in life of the particular economic entity;

Lucrative function - monetary gratification is a very important segment of the employee's livelihood, but also his family. It affects the opportunity to acquire certain property, to satisfy the basic needs as well as opportunities to broaden their own development. The salary function which is being discussed is the standard concept of the fair and minimum wage;

Cost function - wages are an important building block of cost for the enterprise, affecting even the competitiveness of the company.

Social function - this concept states that the level of income and its variations have an impact on relationships, both in the workplace and beyond. In the business environment, especially in the labor market, size and differentiation of wages, is able to influence the level and direction of education. Social function affects the satisfaction of each employee, thereby reducing the unwanted phenomenon in the enterprise.[7]

There are many principles of employees' remunerating, but one of the most commonly used is paying out salary according to the position at work. Employers hiring subordinates due to their acquired skills,

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[3] (Oleksyn 2001, p. 236-238)
[4] (Ibidem, p. 239)
[5] (Griffin 1999, p. 531-532)
[6] (Jurkowski 2001, p. 118)
[7] (Sekuła 1997, p. 80-85)

give them tasks and reward according to their position and the official title. A separate program, however similar in the construction to that described above, is the wage paid on the basis of competence. The level of wages depend on the attitude of employees, qualifications, but also on efficiency and effectiveness.

Contrasts between the salaries are usually diagnosed on the basis of results and contribution, which includes the level and duration of commands implementation. Valuation of difficulty level is realized by a method of job evaluation, but the duration of the work is set by the proper standard which is described in the labor laws. However, remuneration according to the effects is formed on the basis of the percentage of salaries, especially rewards and bonuses. Each salary is varied in terms of the effects of work. Valuation method is very effective what results in more effective involvement of the employee in implementing given tasks.[8]

According to S. Borkowska an indispensable condition to raise as much as possible the effectiveness of motivation through payment and increase the efficiency and effectiveness of personnel is not to violate the following rules:

- **salary** should be equal to the level of difficulty and effectiveness of the implemented tasks. The assumption, which allows to specify realizations of such a rule requires rigorous evaluation and measurement of job requirements. This study makes that the payment is adequate to remuneration received by employees for comparable jobs;

- **form** is a way to motivate as well as the degree of granting awards, which cannot be the same for all the employees. According to the form it should be adapted to certain expectations of the employees and the aims of the individual;

- **motivation** should demonstrate a positive character. An important assumption is that the motivation is more effective than the punishment for certain behavior. The best results achieved by the employee as well as the effects of assigned commands should be the subject of remuneration. This allows to create the base for the efficient management of limited resources for salaries;

- **motivating tools** are the instruments internally coherent, since they refer to the same part of the sphere of working people. Presented motivation requires a systemic approach;

- **remuneration system** should be accepted by the staff and clear for them;

- **the employee** should have the possibility to choose rewards or behavior, allowing in this way to adapt to the needs of the staff and the choice of the most attractive offers for them. Such a strategy leads to the increase of motivation and a sense of freedom in the environment.

The above there were presented principles of the effective motivation, which are an important instruction for the economic entity. By creating a system of remuneration, all the companies should analyze financial possibilities and the current situation at the market, the value of the job within the organization structure by means of analytical methods taking into consideration such features of work as: responsibility, psychophysical effort, conditions, the environment, and also very important competences of the employee.[9]

An important element of remuneration system is a bonus, which is a priority component in the process of motivating each and every employee. Bonus, in fact, has more important function than the basic salary, because it brings together all the results obtained by the employees with the size of the salary. It is the motivator influencing the quantitative and qualitative effects of work. For the proper use of the personnel's latent strength, an effective system of bonuses should be created. The circumstances of allocating premium must be defined carefully and the criteria of it must be measurable. The bonus system should be created in such a way, to be able to provoke the responsibility impulse for given tasks in employed people.

Bonuses refer to the individual employees, and to the whole working teams. However, the specific benefits of the team bonuses should include the fact, that we must take into account workers who achieve very important results in their work, we can mention even sale increasing and reducing costs at the same time, and the most important (from the employer's point of view) profit growth in the enterprise. However, it is important that the bonus acts as a motivator, and therefore it cannot be allowed to be treated by the employees as a permanent addition to the salary. Still, bonus affects the attitudes of workers and various

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[8] (Kozioł 2002, p. 92)
[9] (Sekuła 1997, p. 407-408)

factors of the enterprise, so it is necessary to use the bonus system properly in the process of human resources management.[10]

Non-wage motivators

Promotion is the transfer of an employee to a higher (often much more prestigious) position, which implies the increase of tasks number or extension of the duties that include new tasks. Promotion can be called the most effective way to motivate employees.[11] Properly motivated employee can tangibly see their own values, and what is more, the sense of dignity increases as well, and it also allows the access to higher values and thus the standard of living raises. On the other hand by the career we mean the "way" to the perfection of master and achieving significantly higher satisfaction with professional life. Everyone sees career differently, moreover, different things matter to each of us. Therefore, it should be considered individually, because otherwise it will lose its motivational power.

Promotion, if it is accurate, motivates each employee to improve skills, and motivation for effective implementing duties also increases. Promotion generates willingness to be active and to raise requirements at work higher and higher. If the promotion is right, it should usually affect positively not only the promoted one but also his subordinates. Otherwise, the unfair promotion destroys morale, weakens the relationship in the team, what often leads to misunderstandings and even desire to change an employer and business partners. It sometimes happens that promotion in companies is not determined by good results at work but unfortunately by a good relationship with subordinates. Such a phenomenon affects the results of the work negatively. If the promotion is to play an effective motivational role, it is essential for the management to introduce reliable promotion policy, based on proven principles.

The other means of motivation, such as: praise, respect or gratitude, have similar functions to promotion. A righteous manager is aware of the fact that subordinates who regularly carry out work at an adequate level, deserve the same attention, as employees with the best results. These measures of motivation inspire to more efficient work, awake the appreciation of environment and the need to raise self-esteem.[12]

The **organization of work** gives the opportunity to implement the work at a certain level and at fixed time. It creates new conditions, gives protection of the proper use of staff's qualifications and the products of their work. Therefore, the organization of work aims for such a selection of staff and integration of people in the process of work, to make the process possible at the lowest costs of material resources and real work. That kind of work organization contributes to the use by company's management as versatile and the least expensive means of motivating employees also as a means of employees' participation. In the organization of work, the value of motivation can be various. According to F.W. Taylor, the optimized organization of work, is the kind of work that guarantees:

- profound operating division and, what is more, high specialization of contractors,
- division of conceptual, preliminary, executive and control functions.

Assuming that the proper work efficiency can be achieved only by the high developed work division, it is believed that there is only one method of implementation the tasks, which is set by the manager, and the realization of such a task is the simpler, the shorter work content it absorbs (for example, structure, area and method of implementation). Only by using such a tactic, it was brought about to management's convergence in the goals, achieving an exorbitant productivity and adequate useful earnings as the motivation for contractors' action.

Currently it was initiated to use varied motivational forms of work organization, but their potency of motivation is, to some extent, heterogeneous.[13] The work environment in which the employee functions is also considerable. The organization of work can become a source of internal motivation only if the management uses such forms of work organization, which will satisfy the staff while on duty and will contribute to satisfaction from job.[14]

Summary

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[10] (Ibidem, p. 409-410)

[11] An employee has the right to accept or reject a proposal to change the position, however, there is no doubt that the promotion increases self-confidence and causes the desire to achieve more and better results.

[12] (Ibidem, p. 224-228)

[13] depending on the age of employees, gender, level, as well as the type of education, experience and professional positions.

[14] (Jasiński 1999, p. 223-226)

Any organizations have their own system of motivation, namely - the mechanism of interaction on their own employees. The purpose of these activities is to encourage employees to make reasonable decisions and to avoid negative provisions from the whole entity's point of view.

Motivating the unit comes down to team interactions that lead to a productive implementation of the missions, goals, functions and tasks of the organization, as well as the adoption of attitudes from the standpoint of the company's interests. Motivating the unit highlights many aspects. Firstly, it indicates the need for efficient and effective motivation. The most often, it determines the use of the entire group of motivational means to make a positive impact. It comes down not only to the wage motivators (usually they are not sufficient). The second aspect is the aim of motivating and filling out the organization's mission and implementing tasks related to the aim. An organization should not be guided by their own interests or desires of the manager, for example: assigning oneself the employee. Thirdly, the motivation ought to be moral in relation to the goals and forms of intentions. It is unethical to manipulate the employees, coaxing someone to illegal actions is not motivating but disposing to crime.

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Time and Spatial Variability of Physical and Chemical Soil Parameters in Conditions of the Sustainable Soil Use in Carpathian Region

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Abstract

The work deals with observing of the basic physical and chemical soil properties in conditions of ecological farming system in chosen area of Carpatian region. The aim of this work is based on time and spatial variability of soil properties to consider sustainability of ecological farming and its role in sustainable agriculture and development. The observation was done in 1996 - 2000, 2008 – 2010 in the farm with ecological farming system in Liptovská Teplička. The paper confirmed, that ecological agriculture has positive influence on chemical and physical soil properties and enables its sustainable utilization.

Key words

Ecological agriculture, soil properties, sustainable soil use, Carpathian region

Introduction

The sustainable soil utilization responds to concrete soil-ecological conditions and is realized in a specific way and intensity that does not affect any negative changes in the soil and on soil properties. The basic principle of the sustainable soil utilization philosophy is in its protection against any nature degradation and human impact. The sustainable development of soil utilization involves protection of the land area at the range, that follows from the needs to sustain all soil functions. From the ecological farming point of view on the soil, information about quality changes or soil degradation are very important (Fazekašová 2003, Fazekašová 2012). To the soil development evaluation, the basics characteristics of the natural environment (physical, chemical and biological) are employed. From the physical such as bulk density, porosity, water holding capacity, soil temperature, etc. From the chemical, there are total carbon and nitrogen content, soil pH and nutrients availability. The paper brings the new knowledge within the problems of changes on soil properties in ecological farming system in time and spatial horizon.

Material and methods

The research was carried out in 1996 - 2000, 2008 - 2010 at the producing conditions on the model farming enterprise Liptovská Teplička (48o 57' N; 20o 05' E), which has been in the system of ecology agriculture since 1996 (Fig. 1). The studied territory is a part of the National Park Low Tatras. The altitude of the area is 846 till 1492 m a.s.l. From the geomorphological point of view, the area comes under sub-unit Kráľovohoľské Tatry. Climatic conditions are relatively homogenous. The whole site belongs to mildly cold area, the average daily temperature is higher than 10˚C 1600-2000 and precipitations per year are 800-1100 mm. The soil conditions are relatively homogenous. The biggest land area is formed by Cambisol, medium heavy, heavily skeleton mostly under topsoil. The second widespread soil type are Rendzina soil, medium heavy, shallow and skeleton. There is some Histosol in the territory. Mostly of the soil in the area are located on the slopes. The soil samples for determination of physical properties were collected two times per year from six sites, in spring (connected vegetation) and in summer (before the harvest), from the layer 0,5 – 0,15 m in two or three replicates, bulk density [$t.m^{-3}$], porosity [%], retential water capacity [%] in Kopecký cylinder (Fiala, K. et al. 1999) during years 1996 – 2000 and 2008 - 2010. The soil samples for chemical properties determination were collected once a year. Soil pH, humus content [%], available Mg, K, P [$mg.kg^{-1}$] (analyzed during years 1997 – 2000 and 2008 - 2010), total nitrogen content [$mg.kg^{-1}$] (analyzed during years 1998, 1999 and 2008 - 2010) were observed with the common available laboratory methods (Fiala, K. et al. 1999).

Figure 1 Location investigated area Liptovská Teplička (48° 57' N; 20° 05' E)

Results from the observed areas are processed by descriptive statistic and their values are shown in the Fig. 2 - 11. For time and spatial demonstration of soil properties, the results in 1996 - 2000 are compared with the results in 2008 - 2010.

Results and discussion

Bulk density and porosity are closely related to each other. Values of porosity correspond with values of bulk density, within higher bulk density, values of porosity are lower (Kotorová 2007). Higher bulk density changes ratio between water and air capacity in behalf of water capacity. Also porosity is lower and in parallel capillary porosity ratio is higher. That induce favorable water mode and plant water supply during vegetation (Kotorová 2007). Therefore bulk density and retential water capacity decrease and porosity values increase. Total porosity is in close relationship with bulk density, it means that decreasing bulk density increase total porosity which is according to Šimanský et al. (2008). Average values of bulk density in 1996 were higher (1,48 in spring and 1,46 in summer) than 10 years later (1,07 in spring and 1,09 in summer). This parameter stabilized its values and increased total porosity (ranged from 44,18 – 63,33 in spring and 44,86 – 59,01 in summer). The soil reaction which had ranged between 6,3 and 6,6 is one of the most important factors of soil fertility, in spite of the fact, that its value is dynamic and changes in dependence on external and internal factors. During research, soil reaction changed on model area only minimal due to ecological agriculture without application of acid mineral fertilizers. Organic matter positively influences soil buffer capacity and that's why soil reaction changed only minimal. It is important continuously attention on soil reaction, because soil naturally acidate due to acid atmospheric fallout and calcium taking off by crops. By Bielek (1998), it is just less probably that the increasing of total nitrogen (2223 – 3680 mg.kg^{-1}) would positively influence the soil fertility. For soils with low productivity, to which belongs also our researched area is typical non-directly comparable relationship between total nitrogen contents and fertility. In soil-ecological conditions of researched area runs mineralizations of nitrogen little intensively (optimal temperature for intensive process is 28-30 °C). Therefore within high content of total nitrogen, content of mineral – for plants immediately available nitrogen doesn´t have to be high. Phosphorus is relatively firmly fixed (54 – 66 mg.kg^{-1}) and its content is relatively stable and depends on soil reaction. Therefore content of available phosphorus changed minimal just in common interval.

Content of Potassium (233 – 327 mg.kg^{-1}) and Magnesium (227 – 295 mg.kg^{-1}) was during focused period relatively high. With regard to soil granularity, these nutritions can be firmly fixed on soil particles and therefore are not flowed out from plough-land in spite of high rainfalls during year. Content of humus is changing markedly during long time period. Percentage of humus has increased from 5,06% – 6,24%. The quality of humus is corresponding average values for cambium (Vilček et al. 2005).
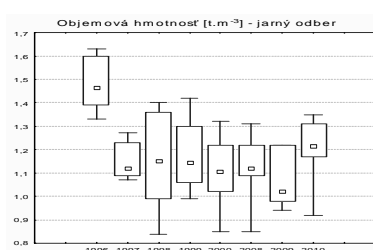
Figure 2 Bulk density [t.m^{-3}] in spring in Liptovská Teplička
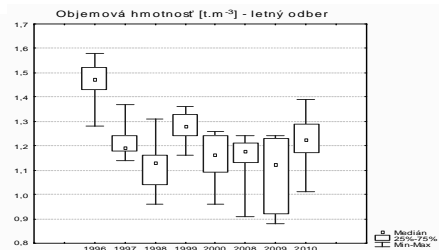
Figure 3 Bulk density [t.m^{-3}] in summer in Liptovská Teplička
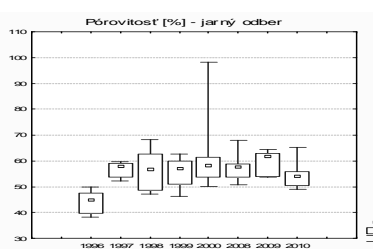
Figure 4 Total porosity [%] in spring in Liptovská Teplička
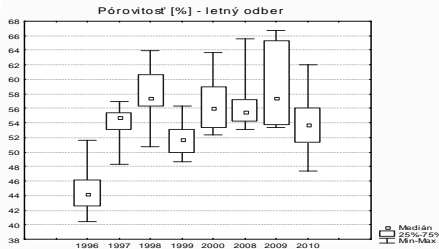
5 Total porosity [%] in summer in Liptovská Teplička
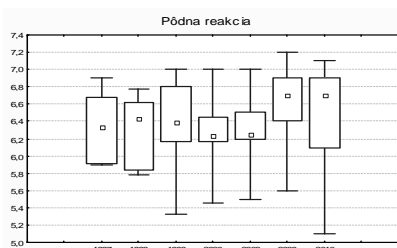
Figure 6 Soil reaction in Liptovská Teplička
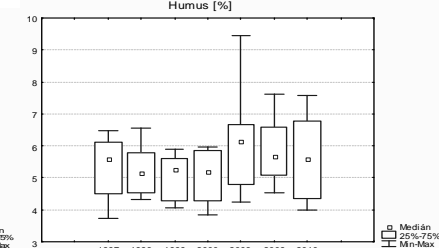
Figure 7 Content of humus [%] in Liptovská Teplička
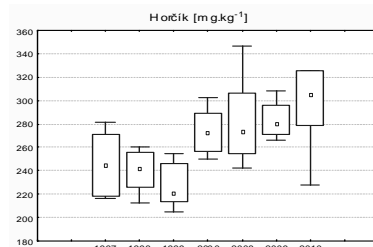
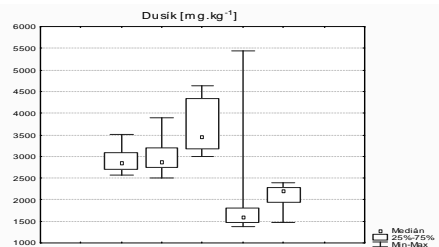Figure 8 Content of magnesium [mg.kg^{-1}] in Liptovská Teplička

Figure 9 Content of total nitrogen [mg.kg^{-1}] in Liptovská Teplička
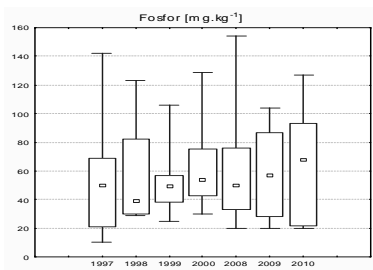
Figure 10 Content of phosphorus [mg.kg^{-1}] in Liptovská Teplička
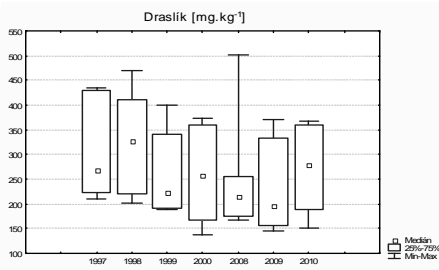
Figure 11 Content of potassium [mg.kg^{-1}] in Liptovská Teplička

Conclusion

Research confirmed that physical soil conditions have positively changed in ecological system of agriculture. Measured values of bulk density, water holding capacity and porosity are continuously modified and stabilized during focused time period. Chemical soil properties (soil reaction, humus, available nutritious, nitrogen) did not changed markedly. Basically, on the introduced results we can allege, that stability and sustainable utilization of agro ecosystem can be achieved thought biodiversity of maintenanced areas and by returning of organic matter into soil.

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Specification of the Differences in Evaluation of the Selected Attributes of Social Intelligence and Personality Traits Between Managers and Efficient Workers

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Abstract

The report focuses on an analysis of the differences in evaluation of the selected attributes of social intelligence and personality traits of managers and efficient workers. The research was conducted on the sample of 86 respondents (42 men, 44 women, 33 managers, 53 efficient workers). The data was gained by means of the questionnaires NEO FFI (Hřebíčková, Urbánek, 2001) and MESI (Frankovský, Birknerová, 2014). Acquired results prove the existence of significant differences in evaluation of the studied factors between managers and efficient workers both in the context of social intelligence (empathy and social irritability), as well as the context of personality traits (openness, agreeableness, conscientiousness).

Key words
social intelligence, personality traits, managers, efficient workers

Personality

Kováč (2003) states that personality is the leitmotif of psychological finale. However, it is necessary to note that it is a notion encountered not only in the field of psychology, but also in other scientific disciplines. Attention to this issue is paid by pedagogy, sociology, medicine, history, management and other primarily social disciplines, which documents the interdisciplinary nature of studying the human personality.

Personality of an individual is a set of inherited features by means of which people perceive themselves and their surroundings, filter encountered reactions, interpret results, and react to the impressions coming from their surroundings as well as their own inner selves (Gajdošová, Timčák, Zeľová, 2002). Nakonečný (1999) claims that a person becomes a personality in a particular time of their young age, when a certain organization and functioning of the psyche, which is typically human, is created. According to Říčan (2007), personality is an overall organization in which the mental life takes place and which includes all mental functions.

The basic set of personality features consists of the qualities which are not changeable because they are connected to the biological and psychological nature of personality. These personality features are marked by its versatility and polarity (Kačáni, Bucková, 2001). Research on personality attracts significant attention because personality in the strict sense represents the person, who this person is, how they perceive themselves, how they perceive their surroundings, how they differ from others, what characterizes them, what can be expected from them and what should be avoided in their case (Boroš, 2002).

Although individual definitions of personality more or less differ, in accordance with Smékal (2007) it is still possible to identify the essential, mutual traits which appear regularly and frequently within the separate definitions. Among these traits there are: system, organization, self-regulation, uniqueness, subjectivity, individuality, proactiveness, retroactivity and integrity.

Following these ideas, Svoboda (1999) states that the common features of the majority of definitions of personality are accentuation of the internal unity and structuring of the mental life and specificity, uniqueness of human personality.

Personality of a manager

According to Sojka (2007), it is possible to define managers as people, whose primary activities include managerial functions by means of which they influence the objects of management, make plans, organize, lead and control human, financial and information sources within an organization.

Personality of a manager as a creative factor in the managing process may be created by formation, but it is also the result of self-education, long-term and purposeful work on one's self (Peck, 2009). Nature and contents of the managing work put specific demands on the profile of the personality of a manager. Manager is the one who decides what, when and how things will be done in the workplace. Only the manager, who understands the opinions and needs of the co-workers, is able to influence them in an adequate way, and is able to interconnect their interests and goals with those of the organization, can be a successful manager and leader (Pauknerová, 2006).

Requirements for the personality of a manager vary, but are inevitable for this profession. In accordance with Koubek (2008), from the viewpoint of leadership, among the most important ones are qualification and physical performance, independence, perseverance, intelligence, sound judgement, verbal and social skills, hence also social intelligence.

Social intelligence

Discussions about the issue of social intelligence are connected to a much more general discussion about the issues of defining intelligence as such. On the basis of an analysis of the answers to the questions of how you imagine the concept of intelligence and how to study it, Ruisel (2004) pointed out the obvious diffusion in understanding the notion of intelligence. In the context of considering the autonomous components of intelligence, since the 1920s the thoughts were given also to the existence of social intelligence, which was defined by Thorndike (1920) as an ability to understand and manage other people and act wisely in interpersonal relationships.

Vernon (1933), following Thorndike (1920), defined social intelligence as knowledge about the issues connected to social cognition, an insight into moods and personality features of people, also an ability to understand other individuals and move around seamlessly in the company of people. Existence of social intelligence is also supported by Gardner's (1993) opinion, according to which it is impossible to conceive only of one single intelligence but, contrarily, it is necessary to specify the separate intelligence types. Characterizations, such as readiness to react to the stimuli from others, ability to empathize with various moods and hidden personality qualities of familiar and unfamiliar people, ability to move around within interpersonal relations, understand them as well as oneself, own behavior and subsequent causes of success and failure, understanding of feelings, thinking and behavior of other people as well as oneself and on the basis of this understanding behaving accordingly, using social techniques to manipulate others, and knowledge about social norms and social life appear in a variety of definitions (Vybíral, 2000; Orosová, Gajdošová, 2009; Kosmitzki, John, 1993; Silvera, Martinussen and Dahl, 2001).

According to the aforementioned characterizations, one of the important widely discussed questions is the issue of interconnections between social intelligence and ethics. In this context, many authors believe that a high level of social intelligence is related to honesty and sincerity but also to speculative behavior and misleading of trustworthy and naïve people. Social intelligence is, therefore, defined also as an ethically neutral category (Kosmitzki, John, 1993; Kaukiainen et al., 1999; Vybíral, 2000; Frankovský, Birknerová, 2012).

Social intelligence and managers

As Aghazadeh (1999) claims, managers face the challenge to think globally and act locally, but operations managers and professionals from human resource management have to create partnerships and mutually carry out various functions aimed at the outputs of an organization.

Efforts to know and diagnose managerial competences and on this basis to predict behavior of managers in particular situations is one of the crucial preconditions for effective managerial work as well as an increase of its quality. To fulfil these efforts is, however, not simple. To define and therefore understand and diagnose the essential preconditions for managerial work on a particular position is a multidisciplinary issue, the solution of which requires cooperation of professionals from various scientific disciplines.

Managerial work is carried out within various contexts. A specific area in this work is represented by interpersonal situations and behavior of people in these situations, in which an important role is

played by the factor of social contact. In all these situations, the aspect of interaction between an individual and the social environment is accentuated, as well as the presence of mutual relations among social objects (persons, groups, social objects). Thus the social dimension of these situations is highlighted.

Managers solve interpersonal situations and within them they act individually, differently. Some people feel well in these situations, which do not present a problem for their behavior, and they even look for such situations. Others try to avoid these situations, they do not feel comfortable in them, and they are unable to choose correct form of behavior in such situations. Causes of these differences may be found within several areas and analyzed from various points of view. It is obvious that behavior specifications in these situations may be influenced by individual degrees of certain traits of every manager (temperament, personality traits), but also according to the particular situation (conflict, friendly atmosphere, threat). Analysis of interconnections between the behavior of a manager in an interpersonal situation and the possible predictors of this behavior is therefore represented by a wide variety of factors both on the side of the particular person as well as the concrete interpersonal situation.

Managers cannot make decisions without considering the social context. They can manage effectively only if they are familiar with the opinions and needs of their co-workers and thus they can influence them in an appropriate way (Pauknerová, 2006).

This is manifested by the fact that in almost every specification of managerial competences, to a greater or lesser extent one encounters characterizations which are related to the social part of managerial work and thus may be connected also to social intelligence. Pauknerová (2006), for instance, states the following:

- prerequisites for organizational work,
- participation in social events,
- inputs into social interactions,
- providing and requiring greater amount of information,
- greater dominance,
- certain detachment and sense of humor.

From the viewpoint of the social context of managerial demeanor, Hančovská (2013) focused on the following areas:

- ability to satisfy the needs of the members of the managed group,
- succeeding as a personality in interpersonal relationships in the workplace,
- managing the social aspects of the managing function,
- managing the social status of the leading worker.

Coherent approach to formation and management of the personnel systems and understanding the people within an organization was highlighted also by Henry and Pettigrew (Armstrong, 1999).

The possibility to specify and understand social intelligence as one of the important competences of effective behavior of managers enables:

- already at the moment of personnel selection to make decisions with higher level of probability of successful management of managerial positions,
- preparation and training of managers in the area of social competences (Frankovský, Baranová, 2010).

From the viewpoint of managerial work it is significant that social intelligence presents an ability to acquire and persuade people, understand them, predict the behavior of other people and reveal the hypocrisy and deceit. Mindfulness and memory of events, faces and names of people one comes into contact with are also accentuated. Socially intelligent managers must want to influence positively their surroundings, move promptly in the social environment, know how to deal with people and manipulate them if necessary, although only to a certain permitted extent (Goleman, 2006).

Research

The main objective of the research was to specify certain personality traits of a manager based on an analysis of differences in evaluation of the selected social intelligence attributes and personality traits between managers and efficient workers. The research was conducted on the sample of 86 respondents (42 men, 44 women, 33 managers, 53 efficient employees).

Data were gained by means of the questionnaires NEO FFI (Hřebíčková, Urbánek, 2001) and MESI (Frankovský, Birknerová, 2014). Results were processed by the statistical program SPSS 17.

NEO Five-Factor Inventory (NEO-FFI) is a shortened version of NEO-PI (Hřebíčková, Urbánek, 2001). The authors extracted five factors:

1. **Neuroticism:** represents a level of emotional lability and emotional stability. People with high scores within this dimension are mentally unstable and their self-possession is easily disruptible.
2. **Extraversion:** measures quantity and intensity of interpersonal interactions, degree of overall activity and need for stimulation. Highly scoring individuals are described as active, sociable, open in communication, cheerful, energetic, and optimistic.
3. **Openness to experience:** represents a level of interest in new experiences and impressions. Individuals with high scores are highly proactive searchers with a desire for new experience.
4. **Agreeableness:** measures the quality of interpersonal orientation on a continuum from tenderheartedness to hostility both within one's actions as well as feelings and thoughts (Ruisel, Halama, 2007). Persons scoring high in Agreeableness are willing to help, have understanding for others, act kindheartedly and friendly.
5. **Conscientiousness:** distinguishes between reliable, consistent people and those who are apathetic and disorderly (Ruisel, Halama, 2007). Highly scoring persons are characterized as reliable, strong-minded, ambitious, hardworking, systematic, disciplined, steadfast, principled and orderly.

The respondents were to evaluate themselves on a scale from 0 (strongly disagree) to 4 (strongly agree) according to the degree to which the given statements represented their attitudes or features.

The presented MESI methodology aimed to detect social intelligence on the basis of the psychometric approach is a developing continuation of the EMESI methodology (Frankovský, Birknerová, 2012). The MESI methodology contains 21 items evaluated on a 5-point scale (0 – never, 4 – very often). By means of a factor analysis (Principal Component Analysis with Varimax rotation), three social intelligence factors were extracted and labeled by Frankovský and Birknerová (2014) as follows:

- **Manipulation:** People who have higher scores in this factor are able to persuade others to do for them what they need. They can use others for their own benefit and persuade them to take their side. They use the lies of others for their own advantage. Cronbach's alpha: .854.
- **Empathy:** Individuals with higher scores in this factor are able to recognize the intentions, feelings, and weaknesses of other people. They can adapt to new people, guess their wishes as well as fulfill them. Cronbach's alpha: .783.
- **Social irritability:** Persons characterized by higher scores in this factor are nervous in contact with other people. Feelings of others baffle them, adapting to other people is a problem for them. Weaknesses and wishes of others confuse them. They become nervous around people who are willing to do anything for them. Cronbach's alpha: .716.

Research hypotheses

H1: We assume the existence of statistically significant differences in evaluation of the selected personality traits between managers and efficient workers.

H2: We assume the existence of statistically significant differences in evaluation of the selected social intelligence attributes between managers and efficient workers.

Research results

On the basis of the conducted mathematical and statistical analyses (by means of the t-tests), several findings may be specified.

Differences in evaluation of the selected personality traits between managers and efficient workers

Verification of the research hypothesis 1 pointed to the fact that statistically significant differences between managers and efficient workers were detected during an evaluation of three personality traits – Openness to experience, Agreeableness and Conscientiousness. Differences in evaluation of Neuroticism and Extraversion were not detected. Efficient workers scored higher in two dimensions, managers had higher scores in one dimension (Table 1).

Table 1. Evaluation of personality traits by managers and efficient employees

	Position within organization	Mean	Std. Deviation	T - test	Sig (2-tailed)
Neuroticism	manager	1.9495	.06100	1.747	.085
	efficient worker	1.8048	.05623		
Extraversion	manager	2.4697	.06496	-.154	.878
	efficient worker	2.4833	.06023		
Openness	**manager**	2.1995	.05858	3.065	**.003**
	efficient worker	1.8762	.08773		
Agreeableness	manager	2.2045	.10258	-3.212	**.002**
	efficient worker	2.5714	.05023		
Conscientiousness	manager	2.6086	.06128	-4.063	**.000**
	efficient worker	2.9262	.04853		

The Openness dimension provides an insight into the attitude towards new experiences and impressions. Higher scores were recorded among the employees on managerial positions, who are characterized by a high level of constant seeking and exploring new things, situations and a desire for experience. They belong to the employees who are inventive, creative, and their fantasy exceeds the fantasy of efficient workers. Managers are willing to experiment, constantly formulate and change the valid norms and values. It is necessary to note that average values of the managers and efficient workers were on the disagreement-oriented side of the scale. This means that the managers expressed simply a lower level of disagreement than the efficient workers.

Higher scores were reached by the efficient workers in the dimensions Agreeableness and Conscientiousness. Therefore they may be characterized as employees who are more willing to help, behave more friendly and kindheartedly, and have a tendency to trust others. These employees also prefer cooperation and their understanding and helpfulness enter the forefront. Within these dimensions, managers score lower because they prefer competition over cooperation and are more manipulative and suspicious. As part of Conscientiousness, efficient workers are characterized by their reliability, diligence, perseverance, and discipline. In the work process they try to finalize their work without objections and with full deployment. Contrarily, managers are in this sense more indifferent, carefree and casual. They often delegate work to the efficient workers and are careless in fulfillment of tasks.

Hypothesis 1 was confirmed as we assumed the existence of statistically significant differences in evaluation of the selected personality traits between managers and efficient workers.

Differences in evaluation of the selected social intelligence attributes between managers and efficient workers

Verification of the research hypothesis 2 revealed the fact that statistically significant differences between managers and efficient workers were detected while evaluating two attributes of social intelligence – Empathy and Social irritability. Differences in evaluation of manipulation were not recorded. In both social intelligence attributes the efficient workers scored higher than the managers (Table 2).

Table 2. Evaluation of social intelligence attributes by managers and efficient employees

	Position within organization	Mean	Std. Deviation	Test criterion	Sig (2-tailed)
Manipulation	manager	1.7446	.13067	.010	.992
	efficient worker	1.7429	.11769		
Empathy	manager	2.2121	.10199	-3.397	.001
	efficient worker	2.6980	.10021		
Social irritability	manager	1.3333	.14104	-2.166	.034
	efficient worker	1.6980	.09512		

The presented results demonstrate the fact that efficient workers are characterized by a higher level of adaptability to new people, employees, leadership, etc. These employees behave more friendly and are able to guess the wishes of others as well as help to fulfill them. Managers are less empathetic towards others. Differences between managers and efficient workers are, however, only in the degree of positive evaluation of this social intelligence attribute.

Contrarily, from the viewpoint of evaluation of Social irritability, the differences between managers and efficient workers are only in the degree of refusal of this trait. Social irritability is more significantly refused by managers. It means that the presence of people is more pleasant to them than to efficient workers.

Hypothesis 2 was confirmed as we assumed the existence of statistically significant differences in evaluation of the selected social intelligence attributes between managers and efficient workers.

Discussion and conclusion

This research proves that the addressed managers are characterized by a higher level of constant searching and exploring new things, situations and a desire for experience. They seem to be inventive and creative individuals with well-developed fantasy. They are willing to experiment, formulate and change the valid norms and values. They are more competitive than cooperative, more manipulative and suspicious, but also more careless, carefree, and they often delegate work to the efficient workers.

Efficient workers are, in comparison to managers, more conservative and they prefer stereotypes and conventional behavior. On the other hand, they are willing to help, act friendly, have a tendency to trust others, prefer cooperation and are characterized by their understanding and helpfulness. They are known for their reliability, diligence, perseverance and discipline, and they try to finalize their work without objections and with full deployment.

As part of the social intelligence degree it was detected that efficient workers are characterized by a higher level of adaptability to new people, employees, leadership, they are friendly and able to guess the wishes of others as well as fulfill them.

The presented research results confirm the existence of differences in evaluation of certain personality traits and social intelligence attributes between managers and efficient workers. However, it is necessary to note that these differences occur only in the case of the selected traits and often only in the degree of positive or negative evaluation.

Effective motivation, leadership and development of abilities and skills of the subordinates represent a precondition for effective managerial work. Ability to fulfill tasks, respect natural authorities, and having a reliable superordinate are preconditions for effective work of every efficient worker. Effectiveness of the whole organization is, however, conditioned by the combination of these attributes as well as the existing differences between managers and efficient workers.

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Financing Projects in the Field of Water Management in Compliance with the Requirements under the Water Framework Directive 2000/60/EC

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Abstract

The work analyzes the current state in the field of the water management in Slovakia since 1993 to the present day. It points at the increase of population using water supply and sewer system with respect to the amount of the financial expenses in three periods. The first period is the time before the admission of Slovakia to the EU, when it was supported by pre-accession instruments ISPA, SAPARD and PHARE.

The second is the programming period 2004 – 2006, during which, using the Cohesion fund aimed at supporting large infrastructure investments in the field of transport and environment exceeding 10,000,000 €. In the programming period of 2007 -2013, Slovakia was able to receive funds via the National strategic reference framework, which was a strategic document designed in accordance with the new EU regulations on structural funds and the Cohesion fund. Recently, in the field of environment, the Cohesion fund shall support investments into the adjustment to the climate change and risk prevention, investments in the sector of water management and drainage, as well as investments into the municipal environment. Also, investments in the field of energetic are approved in accordance with the proposals of Multiannual Financial Framework, provided that they are beneficial for the environment.

Key words

water management, water supply, discharge, funds, EU funds

Introduction

The existing differences in economic and social development of the individual regions of Slovakia, which came into existence in the past and gradually became stronger, need to be resolved systematically, since it is necessary to narrow regional disparities, among which there is the construction of water supply, discharge and waste water treatment plants. Support and encouraging development of the less developed regions is ranked among the priorities of the government´s region policy. The fact that field of water management belongs to he basic fields of national economy was, and still is, realized by every state. This is why countries, including Slovakia, on the behalf of economic growth, protecting nation´s health, environment, and satisfying fundamental needs, regulate this field by specific legal regulations, and monitor the real condition of the public drinking water supply, and the discharge and treatment of communal waste water, since this is one of the activities which result in the groundwater and surface water pollution. Adopting measures to protect waters, limiting or restricting discharge of polluting substances, hazardous and extremely hazardous substances takes priority in the area of water quality protection. It was needed to adopt measures in form of laws, regulations and directives to resolve the issue of the public drinking water supply, and the discharge and treatment of communal waste water. Water Framework Directive (2000/60/ES) states achieving "good water quality" in all member countries. A considerable amount of financial means is necessary to meet the requirement of improving the quality of water supply, and the discharge and treatment of communal waste water, and this can be done by using domestic or EU funds. The objective of financing projects in this field is achieving the required standards, which at the same time increases the living standards of the population.

Financing projects before the accession of Slovakia to EU

During the period before the accession of Slovakia to EU, especially the following regulations applied to the field of the public water supply and drainage:

1. *Act* No.*138/1973* Coll. on Water (Water *Act*)
2. *Act* No. 135/1974 Coll. on State Administration in Water Management
3. Regulation 154/1978 Coll. on public water mains and public sewerage as amended by 15/1989 Coll.

The necessity for securing sustainable development in the field of water management is a reliable and sufficient discharge of the produced waste water, while the basic function of the drainage is achieving

status, when taking the environmental requirements and total costs into account, discharge and respective treatment of waste water without negative effects on the environment, or threatening public health, operating staff or property. Therefore, it needed enough funds to provide the necessary amount of materials, technology and labor (Lajčin, 2008). In the field of discharge and treatment of communal waste water, the priority was to finish the development, or reconstruction of the most prominent drainage and treatment plants, which were meant to resolve the environmental issue, and regulate waste water disposal into water, as well as gradual compliance with EC guidelines for water protection. This would result in achieving the required state of the management of the existing drainage and treatment plants (increased treatment efficiency), and creating conditions to gradually alleviate the lagging of development of drainage behind the development of water supply, aiming to reach 57% of population living in households connected to sewer systems in 2005. The following tables point out to the real condition in the field of condition of the public drinking water supply, and the discharge and treatment of communal waste water during the period before the accession of Slovakia to EU.

Tab 1 Supplying population with water from water supply as of 31.12.[drafted by author in accordance with Reports about environment in Slovakia]

	unit	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Water supply length	km	20335	20788	21236	21691	21700	2 2196	22863	23260	23393	23781	24896
Population supplied	Thous	4133	4193	4257	4288	4354	4427	4443	4479	4485	4512	4531
Population supplied	%	77,8	78,4	79,4	79,7	80,9	82,1	82,3	82,9	83,4	83,9	84,2

Tab 2 State of sewer systems as of 31.12. [drafted by author in accordance with Reports about environment in Slovakia]

	unit	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Sewer system length	km	5107	5172	5558	5789	5867	5964	6041	6308	6372	6658	6853
Population in houses connected to sewer system	Thous	2737	2792	2817	2853	2891	2938	2953	2956	2967	2975	2978
Population in houses connected to sewer system	%	51,3	52,3	52,5	53,0	53,7	54,5	54,7	54,7	55,2	55,3	55,4

During 1999-2001, a number of programming documents for regional development was designed and approved, creating a frame especially for using financial means from the pre-accession PHARE, ISPA and SAPARD funds. The pre-accession instruments were divided according to the determination and served as predecessors of structural funds and the Cohesion fund. This way PHARE and SAPARD were supposed to be a preparation for the structural funds and ISPA a preparation for the Cohesion fund. Programming of PHARE projects was finished in 2003, while in the same year, the last aid within the Financial Memorandum was donated. Using funds also continued after 2004, until the complete achieving of the objectives of the respective programs (Augustínová, 2007, Ižová et al. 2010). ISPA (Instrument for Structural Policies for PreAccession) was focused on the mobilization of other financial resources (through public, private resources, to international financial institutions). ISPA was used to help the countries which applied for the admission to EU to meet its infrastructure standards and to donate some of the resources for environmental measures, as well as for transport infrastructures. The measures taken within ISPA were supposed to be applied to such extent, as to provide for a significant improvement of the quality and protection of the environment, and also improvement of the transport infrastructure. Total costs of each measurement were supposed to amount to at least 5 million €. It was also necessary to achieve balance between environmental and transport infrastructure measures. Basic priorities in the field of improving the quality and protection of the environment were the drinking water, waste water, dealing with solid waste disposal and air pollution.
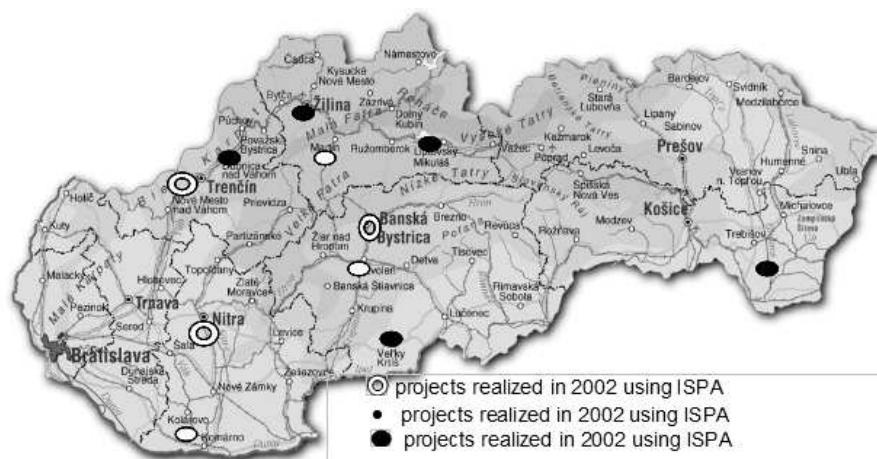
Fig 1   Projects realized using ISPA [drafted by the author]

Financing projects in 2004 – 2006

Acting as a gestor of the water management, Ministry of Environment of the Slovak Republic has designed and submitted two final planning and conceptual documents - The conception of the water management policy through 2015 and The water supply and sewerage development plan for the state territory which is framework document for regulating the preparation, planning and realization of the water supply and sewerage system in the state territory. Its objective is to analyze the conditions for the provision of quality drinking water supply, effective discharge and treatment of waste water without the negative impact on the environment, and to define the general conditions for its realization. The conception of the water management policy of the Slovak Republic for the period after joining the European Union in the planning horizon through 2015 responds to problems and requirements in the horizon through 2015, when the period for meeting the requirements of the Council Directive 91/271/EEC on the treatment of municipal waste water ends. The following two charts point out to the state in the field of drinking water supply, and the discharge and treatment of communal waste water during this period.

Tab 4 Supplying population with water from water supply as of 31.12.[drafted by author in accordance with Reports about environment in Slovakia]

	unit	2004	2005	2006
Water supply length	km	25185	25660	26166
Population supplied	thousand	4563	4605	4654
Population supplied out of the total	%	84,7	85,4	86,3

Tab 5 State of sewer systems as of 31.12. [drafted by author in accordance with Reports about environment in Slovakia]

	unit	2004	2005	2006
Sewer system length	km	7 018	7 542	7 723
Population in houses connected to sewer system	thousand	3 030	3 034	3 042
Population in houses connected to sewer system out of the total	%	56,3	56,3	56,4

The objective of European regional policy is to show solidarity of the EU through the means of economic and social cohesion, narrowing disparities in the development of regions. European regional policy is based on solidarity and cohesion among regions since more than 35% of the EU budget coming primarily from more wealthy member countries is available for spending in handicapped regions. EU creates various tools for this purpose, sets aims and priorities aiming at hampering the creation and exacerbation of disparities among regions (Ižová, 2009, Matisková, Sláviková, 2012). Tools for the realization of the regional policy are the *EU Structural Funds*. Slovakia gained access to these after its accession to the EU (May 1st 2004). Up till then Slovakia used EU support from the pre-accession funds,

objective of which was to prepare legal and administrative conditions for proper and effective use of the structural funds and the Cohesion fund. In the programming period of 2004-2006, support for the development of regions was realized via the above mentioned funds. A major part (94%) of the structural funds was aimed at three priority objectives:

- OBJECTIVE 1 – supporting the development and structural changes in regions with lagging development, so called „lagging"
- OBJECTIVE 2 – supporting the economic and social innovation of areas facing structural difficulties
- OBJECTIVE 3 – supporting adjustment and modernization of policies and education systems, trainings and employment (PHARE, ISPA, SAPARD, 2003)

During this period, using the Cohesion fund aiming to support large infrastructural investments in the field of transport and environment costing over € 10,000,000 each, projects aimed at water supply, discharge and waste water treatment were financed in Slovakia. Projects supported activities in accordance with Water Framework Directive and daughter EU directives.

Financing using National Strategic Reference Framework

The period of the recent years is characterized by gradual and sequential finishing of sewer systems under construction, which already reflect the effort to accept prospective requirements for the quality of treatment. Strategic document of water resources planning is Water Plan of the Slovak Republic of 2009, setting frame tasks for the protection and improvement of the condition of surface and ground water and water ecosystems, for sustainable and economic use of waters, securing territorial system of ecologic stability and for protection against harmful effects of waters. Two following tables demonstrate the real state in the field of water supply, discharge and waste water treatment plants in the recent period (Augustínová, 2007, Ižová, 2009)

Tab 7 Supplying population with water from water supply as of 31.12.[drafted by author in accordance with Reports about environment in Slovakia]

	unit	2007	2008	2009	2010
Sewer system length	km	26 992	27 558	27 532	28 092
Population supplied	thousand	4 679	4 727	4 682	4 705
Population supplied out of the total	%	86.6	87.3	86.3	86.6

Programming period 2007-2013 was the was period for Slovakia, in which it had the chance to use over 11,000,000,000 € from the EU funds. Resolvingthe issues of the economic growth rate, realization of the objectives in the field of discharge and waste water treatment not only contributes to a better quality of life and the protection of waters against pollution, but also plays a dominant role in fulfilling the vision of this programming period. Therefore the strategic objective is formulated as "to significantly improve competitiveness and productivity of regions and Slovak economy while respecting sustainable development till 2013" The strategy, priorities and objectives of the National strategic reference framework have been implemented within the respective objectives of the EU cohesion policy. Operational program Environment was designed for the field of environment, global aim of which is *"improvement of the environment and rational use of resources through the building up and improvement of environmental infrastructure of the Slovak Republic in concordance with the regulations of the European Union and the Slovak Republic, and at strengthening of the environmental aspect of sustainable development",* and which was based on long term principles, priorities and objectives of Slovak environmental policy, as well as on ties of Slovak Republic arising from Environmental Approximation Strategy, Common Implementation Strategy for the Water Framework Directive and Treaty of Accession. EC sources totaling 1,800,000,000 € have been primarily aimed at supporting activities focused on complying with the obligations that result from transition periods, however as 2007 National Strategic Reference Framework report shows, as of December 31st, no using of funds from EU support, nor from the state budget has taken place (Operational Programme).

Fig 2 Anticipated projects in the recent programming period [drafted by the author]

Conclusion

Realization of the projects in the field of environmental infrastructure including water supply, discharge and waste water treatment contributes to the sustainable character of of the economic and social development, and preserves the quality of the environment for the future generations, and at the same time contributes to the improvement of living standards of the population and the development of social and entrepreneurship activities in Slovakia. Despite the growing tendency in the numbers of people connected to water supply and sewage systems, and significant financial funds are used in the field of water management, Slovakia is lagging behind the neighboring countries (Czech Republic, Hungary, Austria) in this field, exception being the drainage in Hungary.From 1993 to 2010, figures of the population connected to water supply increased from 77.8% to today´s 86.6%, which is an increase by 8.8%. For the same period, figures of the population with connection to sewer systems increased from 51.3% to today´s 60%, which is an increase by 8,7%, and furthermore Slovakia has contracts totaling 509,208,580.76 € for projects concerning the field of water supply, discharge and waste water treatment in its respective regions, and on the whole, according to the available sources, 369,347,234.1 € have been invested intothis field since 2000, when Slovakia started to use support from EU funds. Despite this large amount of money and increasing figures, it is still necessary to invest a significant amount of money, since Slovakia has not reached the conditions from among the neighboring countries yet, and has not met the requirement of the EU to reach "good water quality", which is one of the priority field for our country, since during the negotiations before Slovakia´s accession to EU, Slovakia was granted seven transition periods, reflected in the Treaty of Accession. The following requirements still need to be met:

- provide for the discharge and biological waste water treatment in *in agglomerations* with a population *equivalent* (PE) of *over* 2000 till the end of 2015
- continuously provide for accurate waste water treatment in all *in agglomerations* with a population *equivalent* (PE) of *under* 2000 with a complete sewer system (Reports about environment in Slovakia)

Besides resolving the issues in the field of water management in towns and villages with a PE of *over* 2000, and in which it s possible to finance these from EU funds, it is equally necessary to pay attention to the issue of providing for water supply and accurate waste water treatment in all *agglomerations* with a PE of *under* 2000, since 30.6% of Slovakia´s population live in such agglomerations and need to acquire various alternatives of financing to resolve of the issue of water supply and drainage.

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Exact Solution of a Wetting System with Phase Transition and Air Presence

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Abstract

At present, the energy saving management and closely related environmental management plays a vital role in thermal insulation of buildings. One of the main risks in this area is the presence of moisture in the porous material used. A linear system is formulated and its exact solution is determined. The system describes the wetting process in porous material with phase transition. It consists of four equations. The first equation is a diffusion equation for air concentration w_a; the second equation is a diffusion equation for liquid moisture concentration w_l; the third one is a diffusion equation for saturated vapor concentration w_v: the second and the third equations are tied with the rate S of change of moisture concentration that arises in the pores due to the evaporation or condensation. The fourth equation is an algebraic one and describes three complementary parts of the pores volume. The system is solved by means of the variables separation method. The obtained analytical solutions are programmed and displayed in figures.

Introduction

At present, the energy saving management and closely related the environmental management play a vital role in thermal insulation of buildings. One of the main risks in this area is the presence of moisture in the porous building material used.

In the past, several authors have studied the problem of moisture transfer in porous media. Let us mention at least the following works of Lykov [14], [18], de Vries [6], [19], Glasser [7], Vasilieva [27], Reeves and Celia [23], Reshetin and Orlov [24], Korjenic, Teblick and Bednar [10], [11], Litavcová, Pavluš and Seman [12-16], and many others [1], [2], [3], [4], [5], [8], [9], [20], [21], [22], [25]. In some of these works the moisture is viewed as a set of water molecules regardless of their phase state. The reason is that even new experimental methods for moisture detection like neutron radiography method [23] or magnetic resonance method [26] cannot distinguish between different phases. In reality, different phases of water in the pores of material are present and should be considered.

The present work provides moisture transfer model, in which the moisture is subdivided into a liquid component (water) and saturated vapor (water vapor). Moreover, dry air is considered in the pores, as well. Air presence was not considered in the previous studies [12-16]. This subdivision has a practical significance in the fact that during the wetting of a dry sample (sample contains a dry air in the pores at the beginning) an evaporation occurs in the pores of the material as well as diffusion of condensed vapor from the material surface where the water evaporates into the internal pores of material. Furthermore, the model describes not only the evaporation of water into the vapor but also the condensation of the saturated vapor to water in the pores of material. Next, we suppose a macroscopic isothermal process of wetting when wetting rates are rather low for imparting too large temperature gradients within the material.

In this work we formulate a problem of wetting of a dry sample and looking for the exact solution using the method of separation of variables and the method of constant variation. The received formulas of exact solution are programmed and displayed in the corresponding figures which allow us to conclude a correctness of the proposed model.

Model

Let us consider a dry sample consisting of a solid phase while in the pores of the material some dry air, saturated vapor and no liquid are present. Let us introduce the function of the concentration of air

$w_\alpha(x,t)$, liquid $w_l(x,t)$, the function of the concentration of saturated vapor $w_v(x,t)$, and the source function $S(x,t)$ characterizing the rate of a phase transition which takes positive values if the liquid is evaporating and negative values if saturated vapor is condensed into liquid, while x is independent spatial variable and t is independent time variable. Let us denote Π the constant pores volume, ϱ_i and D_i the density and the diffusion coefficients for the air ($i = \alpha$), liquid phase ($i = l$), and for the saturated vapor phase ($i = v$). We shall assume that all these coefficients are positive and that $\varrho_l \gg \varrho_v$.

Then we can describe the model of wetting of a dry sample by the following system of four equations

$$\frac{\partial w_\alpha}{\partial t} = \frac{\partial}{\partial x}\left(D_\alpha \frac{\partial w_\alpha}{\partial x}\right), \ 0 < x < 1, \ t > 0, \tag{1}$$

$$\frac{\partial w_l}{\partial t} = \frac{\partial}{\partial x}\left(D_l \frac{\partial w_l}{\partial x}\right) - S, \ 0 < x < 1, \ t > 0, \tag{2}$$

$$\frac{\partial w_v}{\partial t} = \frac{\partial}{\partial x}\left(D_v \frac{\partial w_v}{\partial x}\right) + S, \ 0 < x < 1, \ t > 0, \tag{3}$$

$$\Pi = \frac{w_\alpha}{\varrho_\alpha} + \frac{w_l}{\varrho_l} + \frac{w_v}{\varrho_v}, \ 0 \le x \le 1, \ t \ge 0. \tag{4}$$

Initial conditions for $t = 0$

$$w_\alpha(x,0) = \Pi\varrho_\alpha, \ w_l(x,0) = 0, \ S(x,0) = 0, \ 0 \le x \le 1. \tag{5}$$

Boundary conditions for $x = 0$

$$-D_\alpha \frac{\partial w_\alpha}{\partial x}(0,t) = 0, \ -D_l \frac{\partial w_l}{\partial x}(0,t) = 0, \ t > 0. \tag{6}$$

Boundary conditions for $x = 1$

$$w_\alpha(1,t) = \Pi\varrho_\alpha e^{-\alpha_\alpha t}, \ w_l(1,t) = \Pi\varrho_l(1 - e^{-\alpha_l t}), \ t > 0. \tag{7}$$

We shall assume that ϱ_α, ϱ_l, ϱ_v, D_α, D_l, D_v, Π, α_α, α_l are positive constants and $\alpha_l \le \alpha_\alpha$. From this using the boundary condition (7) and the equation (4) we shall easily get that

$$w_v(1,t) \ge 0, \ t > 0. \tag{8}$$

Solution

We can solve the problem (1-7) in the following steps.

1. Dividing the equation (1) by ϱ_α, (2) by ϱ_l , (3) by ϱ_v , then adding together so arranged equations, using the equation (4) and the fact, that the Π is constant, we get

$$S = -\frac{\varrho_l \varrho_v}{\varrho_l - \varrho_v}\left[\frac{1}{\varrho_\alpha}(D_\alpha - D_v)\frac{\partial^2 w_\alpha}{\partial x^2} + \frac{1}{\varrho_l}(D_l - D_v)\frac{\partial^2 w_l}{\partial x^2}\right]. \tag{9}$$

2. Substituting the equality (9) for the source S to equations (2) and (3) we shall obtain

$$\frac{\partial w_l}{\partial t} = D_l \frac{\partial^2 w_l}{\partial x^2} + \frac{\varrho_l \varrho_v}{\varrho_l - \varrho_v}\left[\frac{1}{\varrho_\alpha}(D_\alpha - D_v)\frac{\partial^2 w_\alpha}{\partial x^2} + \frac{1}{\varrho_l}(D_l - D_v)\frac{\partial^2 w_l}{\partial x^2}\right],$$

$$0 < x < 1, \ t > 0. \tag{10}$$

$$\frac{\partial w_v}{\partial t} = D_v \frac{\partial^2 w_v}{\partial x^2} - \frac{\varrho_l \varrho_v}{\varrho_l - \varrho_v} \left[\frac{1}{\varrho_\alpha}(D_\alpha - D_v)\frac{\partial^2 w_\alpha}{\partial x^2} + \frac{1}{\varrho_l}(D_l - D_v)\frac{\partial^2 w_l}{\partial x^2} \right],$$
$$0 < x < 1, \, t > 0. \tag{11}$$

3. We can show that the equations (10) and (11) are equivalent. So, we can in future consider only one of those equations, e.g. the equation (10) which we can briefly write in the form

$$\frac{\partial w_l}{\partial t} = D \frac{\partial^2 w_l}{\partial x^2} + \bar{D} \frac{\partial^2 w_\alpha}{\partial x^2}, \, 0 < x < 1, \, t > 0. \tag{12}$$

where

$$D = \frac{D_l \varrho_l - D_v \varrho_v}{\varrho_l - \varrho_v}, \quad \bar{D} = \frac{\varrho_l \varrho_v}{\varrho_l - \varrho_v}\frac{1}{\varrho_\alpha}(D_\alpha - D_v). \tag{13}$$

4. Now, we can start finding the solution of the problem (1-7). First, we shall solve the equation (1) with the initial and the boundary conditions given by (5-7), i.e. the problem

$$\frac{\partial w_\alpha}{\partial t} = \frac{\partial}{\partial x}\left(D_\alpha \frac{\partial w_\alpha}{\partial x}\right), \, 0 < x < 1, \, t > 0$$

with the conditions

$$w_\alpha(x,0) = \Pi \varrho_\alpha, \, 0 \le x \le 1, \, -D_\alpha \frac{\partial w_\alpha}{\partial x}(0,t) = 0,$$

$$w_\alpha(1,t) = \Pi \varrho_\alpha e^{-\alpha_\alpha t}, \, t > 0.$$

The solution of this problem is given by

$$w_\alpha(x,0) = \Pi \varrho_\alpha e^{-\alpha_\alpha t} + \sum_{k=1}^{\infty} T_k(t)X_k(x), \, 0 \le x \le 1, \, t \ge 0, \tag{14}$$

where

$$T_k(t) = 4\Pi \varrho_\alpha \alpha_\alpha \frac{(-1)^{k-1}}{(2k-1)\pi(\alpha_\alpha + D_\alpha \lambda_k)}\left(e^{D_\alpha \lambda_k t} - e^{-\alpha_\alpha t}\right), \, t \ge 0, \tag{15}$$

for $k = 1,2,\cdots,$ and so called eigenvalues and corresponding eigenfunctions of this problem (we can find applying the variable separation method) are given by

$$\lambda_k = -\left[\frac{(2k-1)\pi}{2}\right]^2, \, X_k(x) = \cos\sqrt{|\lambda_k|} = \cos\frac{(2k-1)\pi x}{2}. \tag{16}$$

From (14) and (18) we can easily show that

$$\frac{\partial^2 w_\alpha(x,t)}{\partial x^2} = \sum_{k=1}^{\infty} \lambda_k T_k(t)X_k(x), \, 0 < x < 1, \, t > 0. \tag{17}$$

5. Next, we shall solve the equation (12) with the initial and boundary conditions given by (5-7), i.e. the problem

$$\frac{\partial w_l}{\partial t} = D \frac{\partial^2 w_l}{\partial x^2} + \bar{D} \frac{\partial^2 w_\alpha}{\partial x^2}, \, 0 < x < 1, \, t > 0$$

with the initial condition

$$w_l(x, 0) = 0, \ 0 \le x \le 1 \qquad (18)$$

and the boundary conditions

$$-D_l \frac{\partial w_l}{\partial x}(0, t) = 0, \ w_l(1, t) = \Pi \varrho_l (1 - e^{-\alpha_l t}), \ t > 0, \qquad (19)$$

where $D, \bar{D}$ are given by (13) and the function w_α and its second partial derivative are given by (14) and (17).
The solution of the problem (12), (18), and (19) is given by the following relation

$$w_l(x, t) = \Pi \varrho_l (1 - e^{-\alpha_l t}) + \sum_{k=1}^{\infty} Z_k(t) X_k(x), \ 0 \le x \le 1, t \ge 0, \quad (20)$$

where

$$Z_k(t) = g_k e^{-\alpha_l t} + h_k e^{D_\alpha \lambda_k t} + z_k e^{-\alpha_\alpha t} - (g_k + h_k + z_k) e^{D \lambda_k t}, \qquad (21)$$

$$g_k = \Pi \varrho_l \alpha_l \frac{4(-1)^{k-1}}{(2k-1)\pi(\alpha_l + D\lambda_k)}, \ k = 1, 2, \cdots, \qquad (22)$$

$$h_k = \bar{D} \Pi \varrho_\alpha \alpha_\alpha \frac{4(-1)^{k-1}}{(2k-1)\pi(\alpha_\alpha + D_\alpha \lambda_k)(D_\alpha - D)}, \ k = 1, 2, \cdots, \qquad (23)$$

$$z_k = \bar{D} \Pi \varrho_\alpha \alpha_\alpha \frac{4(-1)^{k-1} \lambda_k}{(2k-1)\pi(\alpha_\alpha + D_\alpha \lambda_k)(\alpha_\alpha + D\lambda_k)}, \ k = 1, 2, \cdots, \qquad (24)$$

From (20) using (16) one can easily show that

$$\frac{\partial^2 w_l(x, t)}{\partial x^2} = \sum_{k=1}^{\infty} \lambda_k Z_k(t) X_k(x), \ 0 \le x \le 1 \qquad (25)$$

Summary
Relations (14), (20), (4), and (9) we used to calculate the curves of the functions w_α, w_l, w_v, S at the time moments 0, 0.02, 0.05, 0.03, 0.65, 1 corresponding to the state of the sample at 0, 0.4, 1, 6, 13 and 20 days from the beginning of the wetting process. We have made calculations for the following parameter values: $\Pi = 0.72$, $\alpha_\alpha = 50, \alpha_l = 0.1$, $\varrho_\alpha = 0.0016, \varrho_l = 1.39, \varrho_v = 0.000036$, $D_\alpha = 0.2$, $D_l = 1$, and $D_v = 0.5$. In doing so, we approximately replaced $\sum_{k=1}^{\infty}$ by $\sum_{k=1}^{N}$ with a sufficiently large N. We have used $N = 10000$. The results are shown graphically in the following Figure.

Figure. Graphs of the air, liquid and saturated vapor concentrations w_a, w_l, w_p, and the source S.
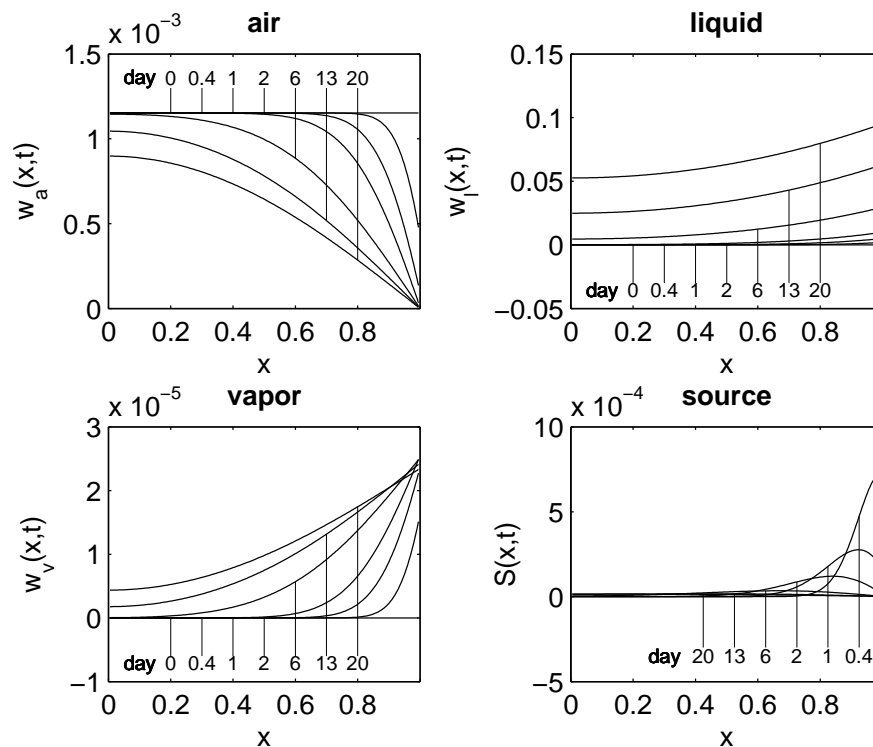
We can see that the profiles of water concentration w_l and water vapoir concentration w_v are successively increasing while the profiles of dry air are successively decreasing. The profiles of the source function S at the beginning of the process are rapidly increasing and after they are slowly decreasing. The obtained exact solution adequately reflects the wetting process with phase transition. Founded exact solution brings knowledge about the process of wetting of buildings materials. This, in turn, allows a more precise formulation of the recalculation of the thickness of the insulating material for the optimal management of the cost of its acquisition.

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Coping with Cultural Clashes via English for Specific Purposes Teaching

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Abstract

   Culture has always played a crucial part in foreign language teaching and learning studies. Culture and language is used as a main way through which culture is expressed.The development of people's cultural awareness leads students to deeper insight and more critical thinking. Students are not always able to use the business language adequately as it requires because they are not knowledgeable enough about the target culture. The aim of the article is to provide necessary information and to emphasize the close connection between the language and its culture and thus to be able to cope with possible cultural clashes.

Key words
Communication; Culture; Intercultural competence; Cultural Clash; ESP; English Teaching.

   As presented by Byram, Fleming (1998) our global era is characterized by the use of English as a language of high -tech environment and international workplace, therefore, whatever language of instruction; learners, all over the world, are getting engaged in the field of science, technology and business that respectively corresponds their academic or professional purposes (Byram, Fleming 1998). The paper proposes some fresh lights on incorporating the intercultural aspect in EFL teaching in general and ESP in particular. However, as Benabdallah (2012) said, it requires a basic understanding of the role of the ESP teacher in designing an innovative framework base fundamentally on the new perspective and strategies or teaching the intercultural sensitivity and consequently training their Intercultural Communicative Competence.

   It should be highlighted that learning a language does not occur in vacuum but rather used to carry out meanings and facts in a specific context. Moreover, it should be taken into account that learning any language is closely bound to learn about its social, political and cultural contexts, the intercultural awareness to language teaching/ learning is, consequently, believed to be on paradigms required to display a kind of intercultural communication among members of the same discourse community. (Benabdallah, 2012) In this sense, Byram, Flaming (1998) clearly stated that, in all ways, the ESP learners are involved in meaningful interactions between the members of the same discourse community, depending on their field of interests; the cases in point are those occurring between the writers and the readers when reading up - date materials, the speakers and the listeners when engaging in vocal conversation. At this point, the cultural dimension is increasingly seen to play a crucial role for successful communication.

   It has been widely recognized among specialists that the reason for the most poor communication ability in some ESP occupational contexts which resulted in the loss of business is closely linked to the insufficient cross –cultural understanding on the part of the customers. As a result, a new trend in education has been emerged to become nowadays as a significant challenge for our English language teaching in general, attempting fundamentally at filling the existing gap between the needs of the learning and target situations. Several speculations thus have been made on mapping the cultural dimension in language instruction, making use of an intercultural approach (Benabdallah, 2012).

   In any society which expects its education system to prepare people for living in an internationalised culture and globalised economy, and also for the interaction between people of different cultures within and across national boundaries, the process of tertiary socialisation and the acquisition of intercultural competence are clearly desirable (Chastain, 1988). As presented by Thomas (1994) it is quite impossible to separate what might be termed as the purely business aspect of the language from its cultural heritage. Therefore, ESP should properly be seen not as any particular language product but as an approach to teaching which is directed by specific and apparent reasons for learning. In our case, we teach what is called Business English, this tends to mean that our students are prepared to be efficient at communicating

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in a specific context, that of commerce in general or for example tourism, through the medium of the English language.

The culture of a country, civilization, society influences not only the everyday language, but also the language for specific purposes. The vast majority of students are reasonably ignorant of the culture issue, what may complicate their effective language learning. Thomas (1994) stated that certain words and expressions that they are required to learn and use prove difficult for them, since these words and expressions come from the culture which lies hidden behind the language itself and about which they know very little. The result is often that they learn by rote, and thus equally often quickly forget what they have learned because they have no point of reference to which they can attach the words or expressions. (Thomas, 1994) As it can be seen, words and expressions are only the tip of the iceberg because of the fact that there is the additional difficulty of cross-cultural conflicts. It can be said that it becomes necessary for the EFL as well as ESP teachers to adopt or adapt a range of intercultural activities so that to promote the learners' cross -cultural understanding enabling them at the same time to have a global access to knowledge. (Benabdallah, 2012)

To solve the business communication problems in the target language in the ESP classrooms the learners need to learn the target culture within the sylabus. Culture may mean different things to different people. In the anthropological sense culture is defined as the way people live. Trinovitch (1980, p.550) defined culture as *„an all-inclusive system which incorporates the biological and technical behavior of human beings with their verbal and non-verbal systems of expressive behavior starting from birth, and this "all-inclusive system" is acquired as the native culture. This process, which can be referred to as "socialization", prepares the individual for the linguistically and non-linguistically accepted patterns of the society in which he lives"*. Brown (1994, p.163) added that *„culture is the context within which we exist, think, feel and relate others. It is the glue that binds a group of people together"*.

Sometimes communication in business English classes is seen as the application of grammatical rules in oral and written practice. Cakir (2006) stated that non-verbal aspects of target culture are sometimes picked up from TV serials, which means that they are far from being helpful for business communicative purposes, therefore, it should not be forgotten that if the learning of the cultural aspects were necessary for the learner's survival abroad, the problem could be minimized; but when the person faces problems in the comprehension, interpretation, translation and production of written and oral texts, either as a learner or as a professional, the problem gets even more serious. On the contrary, problems that arise from the lack of cross-cultural awareness are not limited to the verbal side of communication,which means that the paralinguistic aspects and appropriate manners of behavior are equally important factors in the communicatively competent learner's performance. (Cakir, 2006)

In ESP classes, as we teach the language, the culture is automatically taught. Cakir (2006) stated that by using the forms of address, greetings, formulas, dealing with complaints and other utterances found in the dialogues or models our students hear and the allusions to aspects of culture found in the reading represent cultural knowledge. Furthermore, gestures, body movements, and distances maintained by speakers should foster cultural insights. Students' intellectual curiosity is aroused and satisfied when they learn that there exists another mode of expression to talk about feelings, wants, needs and when they read the literature of the foreign country. To communicate internationally inevitably involves communicating interculturally as well, that might lead to deal with cultural differences. Such kind of differences exist in every language such as the place of silence, tone of voice, appropriate topic of conversation, and expressions as speech act functions (e.g. apologies, suggestions, complaints, refusals, etc.). (Cakir, 2006) It can be said that language and culture cannot be separated because of the fact that every culture has its own cultural norms for conversation and these norms differ from one culture to another. Therefore, communication problems may arise among speakers who do not know or share the norms of other culture.

If teachers are to become effective cross-cultural communicators, it is essential to understand the role that culture plays within the multi-cultural school setting. Lustig and Koester (2003) define culture as a learned set of shared interpretations about beliefs, values, and norms affecting the behaviors of a relatively large group of people. Samovar and Porter (1991) explain culture as a medium that touches and alters all aspects of human life, including personality, how people express themselves (which includes displays of

emotion), the way they think, how they move, and how problems are solved. Indeed, culture goes far beyond the climate, food, and clothing of a student's native country. The most known definition of intercultural communicative competence is the one provided by Deardorff (2006, p.247) in which he defines it as "the ability to communicate effectively and appropriately in intercultural situations based on one's intercultural knowledge, skills, and attitudes". The aspects of intercultural competence presented by Byram, Gribkova, Starkey (2002) are the following:

- Intercultural attitudes - it includes curiosity and openness and, readiness to suspend disbelief about other cultures and belief about one's own.
- Knowledge - it includes knowledge of social groups, their life and behaviour, that is, knowledge of self and other and awareness of relationship of an individual to society.
- Skills of interpreting and relating – it encompasses interpreting things from other cultures, comparing and relating them to own culture and developing new perspectives through comparison and contrast.
- Skills of discovery and interaction – it is defined as ability to acquire and operate new knowledge in real time communication sucha s developing ethnographic and research skills and exploring cultures.
- Critical culture awareness – it is defined as ability to critically evaluate some document or event from another culture.

Acquiring cultural competence is a gradual process. It is achieved only after many observations, experiences, and interactions. However, the process can begin with the knowledge and understanding of four basic cultural differences that ESP students are likely to encounter in the culturally diverse business environment. Familiarity with these differences will begin to aid students in understanding the complexity of coping cultural clashes in diffferent cultures. Pratt-Johnson (2006) presented four differences as follows:

1) *Ways of Knowing* - In some cultures, information is gathered through intensive research in libraries and on the Internet- for example, in the United States. These cultures appreciate evidence that can be measured and documented through such media. On the other hand, other cultures acquire information through "non-academic" sources- for example, through elders, nature, spirits, or symbols. Some cultures do not have the same quantity and quality of experience with books or similar forms of research. These cultures may place greater value on information and knowledge acquired through oral tradition.

2) *Ways of Solving Problems* - Cultures have different ways of solving problems. It is surprising that given the same set of problems and circumstances, cultures can arrive at very different solutions. Cultures reason differently and arrive at solutions based on their distinctive values, philosophy and beliefs.

3) *Ways of Communicating Non-verbally* - Cultures have different ways of communicating non-verbally, and it is crucial for ESP students to be aware of these differences. In an environment that is culturally diverse, any or all of the following might be observed in there: people who will not make direct eye contact when talking to a their partners, because to do so would show lack of respect in their culture; peole who smile not because they are happy but because they are embarrassed or do not understand and are afraid to ask questions; others who rarely smile, such as people from Korea.

4) *Ways of Dealing with Conflict* - Conflict is a fact of life. It is in observing how people deal with and react to conflicts that we see clear differences between cultures. Some cultures view conflict as a positive thing, while others view it as something to be avoided.

To summarize, understanding any language involves not only knowledge of grammar and vocabulary, but also certain features and characteristics of the culture. Teacher's task in ESP classes is to make students aware of cultural differences by developing the awareness of sociocultural and sociolinguistic differences that might exist between the students' first language and the target language. By developing cultural awareness in the classroom students learn how to accept and adopt the cultural norms, beliefs, or habits of the target culture, moreover, students have to assimilate new patterns and systems of understanding and speaking the language as native speakers. Cultural awareness can often help students understand why sometimes there is unintended failure and breakdown in communication with other cultures. If students are aware of the importance of cultural competence, they are prepared to be able to cope with possible cultural clashes.

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Use Management of Ecological Knowledge to Improve Water Quality

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Abstract

To demonstrate the use of bio-ecological knowledge to improve the quality of water we used long-term observation tank Velka Domaša. The obtained data allow to propose measures that contribute significantly to improving the current situation.

Term monitoring of physico-chemical and biological properties may be water quality in the reservoir Great Domaša significantly affect measures in the inlet area of the appropriate management and use of water catchment tank suitable bio-technical measures. To us belongs. "Food web management", which confine the primary production, the use of planktonic filter-as consumers of phytoplankton by reducing the number of planktivorous fish by predatory fish.

To increase the ability of nutrients in the elimination of overgrown parts of woody vegetation in the upper part of the tank is necessary to consider the multiple furkation flow, create artificial channels, where there would have been effective elimination of nutrients accrual flora and fauna, and would create favorable conditions for the development and spawning fish.

Key words
Water quality, nutrient elimination, river basin management, food web management

Introduction

Ondava River opening into the water reservoir Velka Domasa is among the rivers that provide the greatest amount of suspended sediment from the Slovak rivers causing significant accumulation of substances in the tank and subsequently reviving biota. Another notable feature is that the tank belongs to the categories of the multiannual filling with water (Volos,Terek 2007).

Author addresses a series of tasks designed to assess the impact of sedimentation processes and subsequent events in relation to water quality of the upper part of Velka Domasa reservoir (Terek 2003, 2007). Biological relationship, especially zooplankton and zoo benthos dealt Terek (1983,1987), Terek, Brazda (1983). Watching ratios and reconciliation of the results from years 1976-1978 (Terek 1983, 1983) allow assessing changes, only up to certain extent because of the results of year with extremely poor water level. Pollution in the Ondava river basin was reduced by one third in the last two decades (Terek, Novosad 2010).

Influence of environmental factors, especially turbidity with significant impact on the qualitative - quantitative representation of aquatic organisms and consequently on water quality and trophic conditions. Monitoring of these processes in terms of water quality in the dam meant for determining forecasting as well as for subsequent biotechnical measures in the water dam and basin.. Given the fact that this ever-expanding area without any apparent care, is to be assessed in terms of protection and utilization of the inundated land, as well as in terms of forestry, fishing, ecotourism and conservation or other considerations.

Characteristics of the studied object

Water reservoir Velka Domasa was built in river km 71.565 of Ondava River. It was put into operation in 1966. The purpose of the tank is: ensuring the flow rate ($Q = 5.91$ m3.s - 1) for industrial , environmental and energy use, to protect the affected area from flooding, to provide water for irrigation of 17,000 hectares of agricultural land, for recreation and sports, for farming and fishing.

Accumulation zone of suspended matter, which is largely covered by woody vegetation or weed, occupies an area of about 2.5-3 km2. By Pirkovsky (1963) the average quantity transported by suspended sediment can be estimated at 23 000 m3.r - 1 and can reach up to 140 000 m3.r -1.

The comparison of the results of the last two measurements, respectively their essays (in 1977 and 1992) shows that the sedimentation volumes coming into the order of the real volume levels and found it reasonably correlating with the focus to be counted as well as loads of suspended solids and sediment on the eastern rivers . Quantities of established deposit for the last 16 years practically did not affect the net volume of the water dam (0.25 %). There is a loss of the total volume of -0.3 %.

The water dam surface at the maximum level is 15.1 square kilometers; the length of river km between 71.57 and 90.54 is nearly 20 km (Abaffy 1991). Catchment area situated in the flysch zone Ondavska Highlands occupies 788.3 square kilometers (according Sezstáka 829.79 km2), forest cover in the basin is about 50 %).

Fig. 1 Fluctuation of water level regime
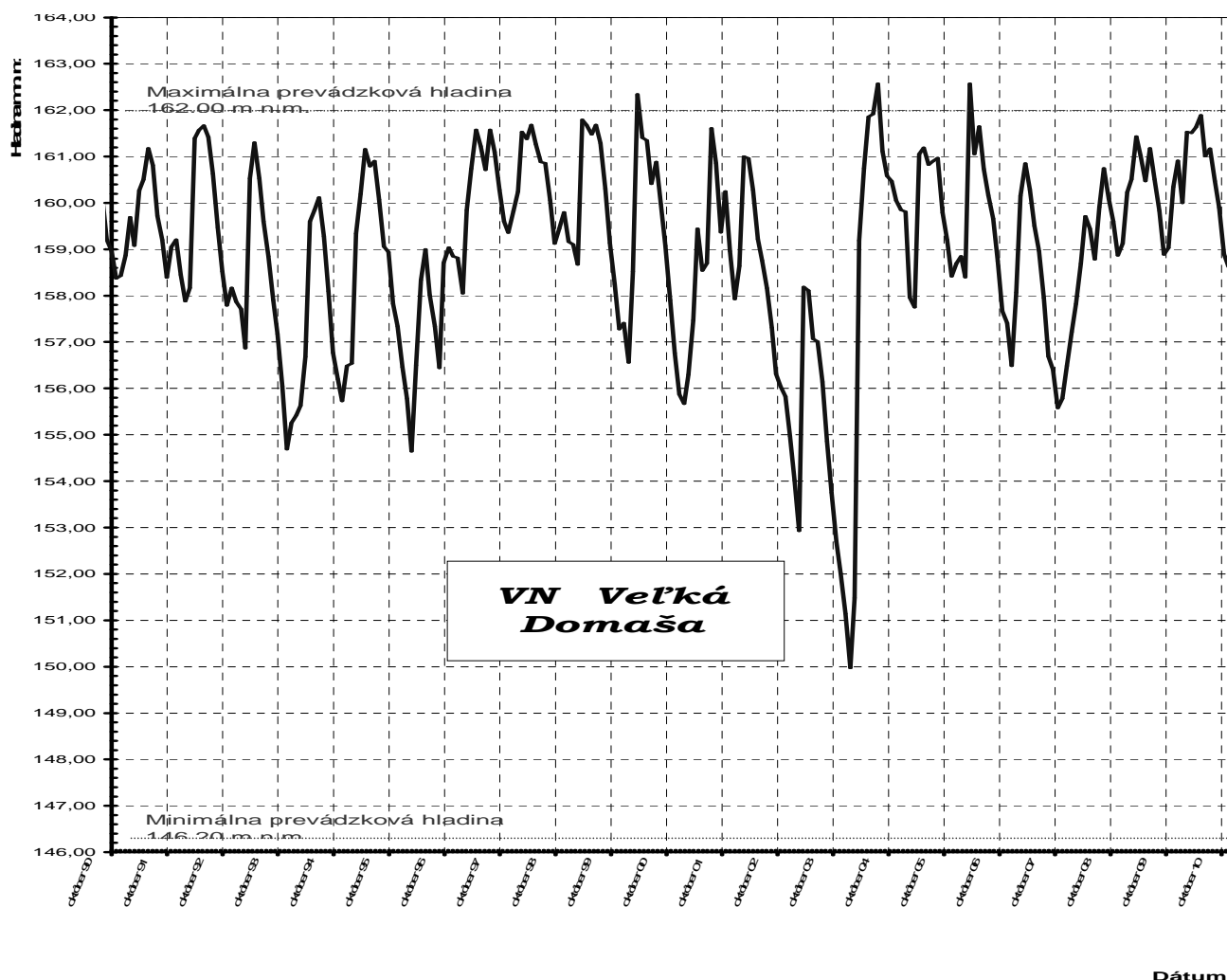
Materials and Methods

Have been identified:
- hydrological and physical properties of water (level regime, turbidity, conductivity, temperature, transparency, sedimentation)
- chemical properties (oxygen, ammonia, nitrates, nitrites, total phosphorus, soluble and insoluble substances, BOD5),
- biotic characteristics of quality litatívno - the quantitative ratios of aquatic plants, including plants, zooplankton, zoobenthos, fish.

Sampling was done at the top of the tank, near the bridge to Lomne as well as in the central portion of Zajacia debra-Hydrobiological Station UPJŠ in Presov.

River basin of Bodrog and Hornad in Kosice, company, Slovak Water Management provided long-term water quality data of water dam Velka Domas at profile Lomne bridge and dam wall.

Results

From the comparison of the results of the last two measurements respectively their essays (in 1977 and 1992) it is known that the sedimentation volumes coming into the order of the real volume levels correlate with the focus to be counted as well as loads of suspended solids and sediment on the eastern rivers. Quantities established deposit for the last 16 years practically did not affect the net volume of the tank (0.25 %). There is a loss of the total volume of -0.3 %.

Water quality profile Lomne maintains beta - mesosaprobity the inclination to alpha - mesosaprobite . In the central part of the tank occurs and the dam wall there is a slight improvement in water quality between beta - mesosaprobity (Terek, 2007).

At the top of the tank was determined periphyton in the growth of woody vegetation and showed a high degree of recovery and the dead stems of willow stand. Overall, it was discovered more than 60 taxa of cyanobacteria and algae. Similarly was determined weed and bush vegetation, which showed high species diversity (Terek, Balazs 2014 in press).

Fig. 2 Changes in content N-NH4 in each   year of follow-up respectively changes before 1987-90 and after the recession of agricultural activity (2003-20012) in the reservoir Domasa in profiles Lomne bridge (inflow) and dam wall (outflow)

Fig. 3 Changens in content N-NO3 in different periods of monitoring, respectively changes before 1987-1990 and after the recession of agricultural activities (2003-2012) in the reservoir Domasa in profiles Lomne bridge (inflow) and dam wall (outflow)
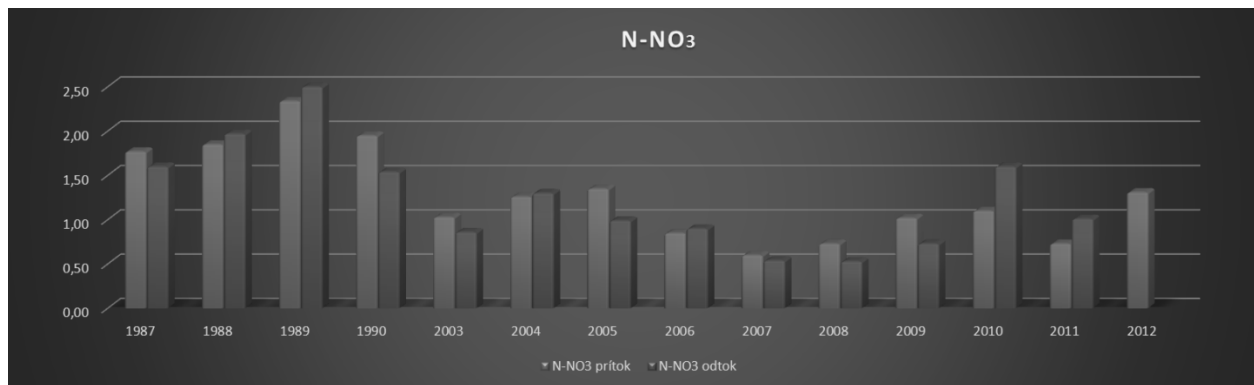
Fig. 4 Changes in content of total phosphorus in the various years of follow respectively changes before 1987-90 and after the recession of agricultural activities (2003 - 2012) in the reservoir Domasa in profiles Lomne bridge (inflow) and dam wall (outflow)
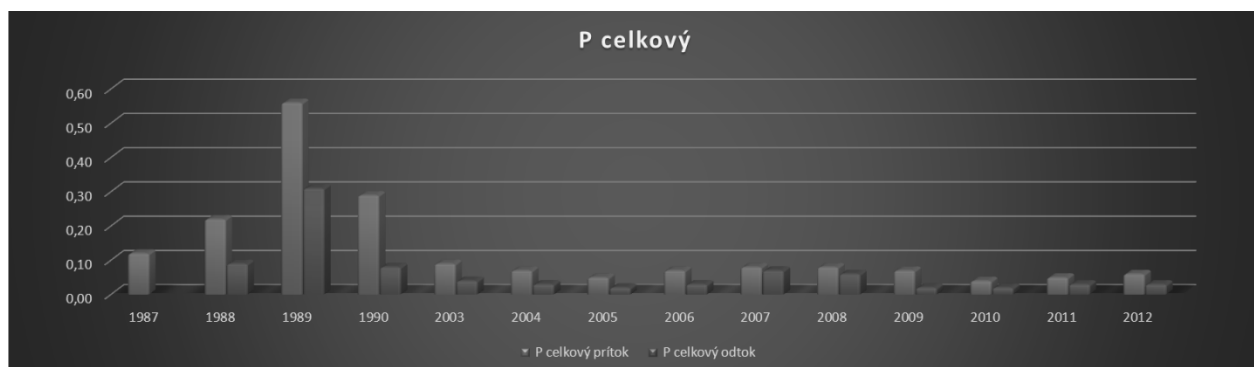
Fig. 5 Changes in individual values of (BSK5) BOD $_5$ years of monitoring, respectively changes before 1987-90 and after the recession of agricultural activity (2003-2012) in the reservoir Domasa in profiles Lomne bridge (inflow) and dam wall (outflow)
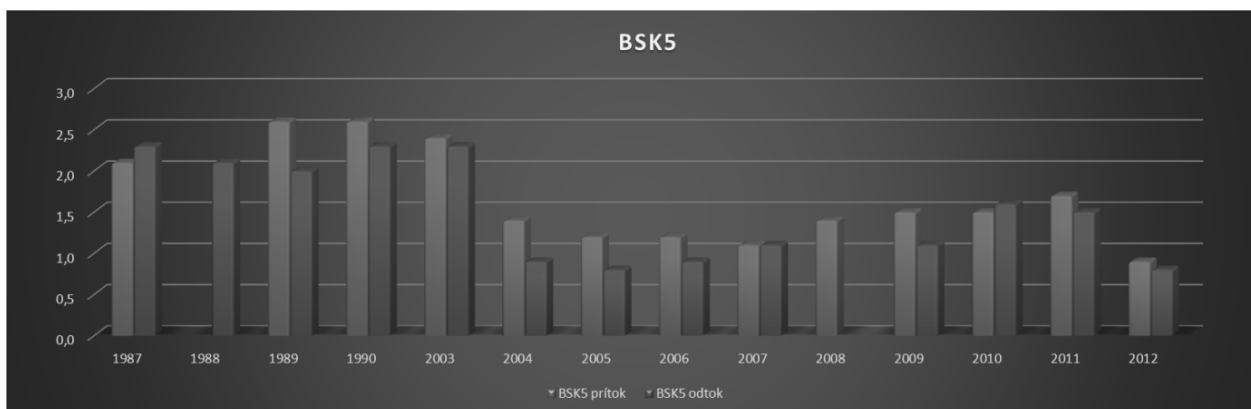
Suggestions for Troubleshooting

To improve the ability of the elimination of the area need to be considered from multiple flow furcations in terms of creating new branches in overgrown top of the water dam, where there were effective elimination of nutrients physical, chemical and biotic manner. Ingrown microscopic flora is a specific problem. In most of the discussion we talk about ingrown as a negative impact, because there occupancy of the volume retention tank. Function remains unnoticed. Creeks area of vegetation is the bearer of synergistic function selected for the elimination of nutrients and their involvement in substance cycles. In addition, acts as a mechanical and biological filter, where there is increased sedimentation of suspended sediment and improving water quality.

Status in 2004 with the number of 100 specimens of plants per 1 m2, thickness 2 cm, height 2.5 meters plant, the total contact area about 50 m2 and occupied hypothetical volume of 7.8% from the aquatic environment.

Status in 2007 with the number of 100 specimens of plants per 1 m2, thickness 0.6 cm and 60 cm plant height had contact surface of 11.3 m 2 and a volume of 1.6 % from the aquatic environment. Weedy vegetation provides spawning grounds for fish and creating conditions for richer fauna recovery. The solution is the use of the food chain „- filter- planktivorous fish - predatory fish " , respectively increase the proportion of predators that will participate in the elimination of planktivorous fish, thereby contributing to increased filter- function , involved in the reduction of the cyanobacteria. This approach „bio manipulation " - through diet Relations "food web management " can be practically guide primary production . In practice this means a ban on hunting predators. This path can serve as a means for improving water quality.

Removal of cyanobacterial biomass using herbivorous fish is still in the stage of experimentation, but appears as one of the easiest ways to combat overproduction of cyanobacteria and algae in our waters. Fish that have been tested in our waters is the silver carp *(Hypothalmichthys molitrix)* or bighead carp *(Aristichthys nobilis).*

When designing new water dams, it must be addressed individually how to adjust the upper surfaces of the container planting suitable plants. Includes the development of the forest management plan, where they are managed as in the special purpose forests. Especially it is necessary to change the structure of a homogeneous plant with a higher share of hard liquor. The major part of the existing stand of willows Timber thickness does not exceed 10-15 cm and their removal is problematic. They are particularly underrepresented alder stands where conditions are right for a production activity.

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Implementation of Field Teaching into Vocational Training of Environmental Managers

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Abstract

Today's current demands are to solve the problems of humanity which, according to a Nobel laureate Richard Smalley, include in the first place energy, water, food, environment and poverty. These cardinal problems comprise also global changes and adaptation to them. The main focus of the proposed report is the gradual implementation of scientific and practical knowledge into social practice, including the audiovisual materials designed primarily for the educational, edifying and presentation purposes. The objective is to justify the importance of implementation and subsequent practical participation in the field research at the areas of interest of the Domaša water reservoir and the Medzibodrožie Biosphere Reserve. The results should represent a contribution in making the vocational training of environmental managers educated at the Faculty of Management of the University of Prešov in Prešov more effective.

Key words
Environmental management, education, fieldteaching

Characteristics of the area of interest

There are two areas of interest, i.e. the instructional space proposed: the Domaša water reservoir and the Medzibodrožie Biosphere Reserve. Both localities might significantly participate in the formation of a FM UP in Prešov Environmental Management graduate and influence the environmental awareness of local inhabitants. The second area of interest should also solve the problems mentioned in the abstract of this report.

For the purposes of complex solution to the problems of using the area of Medzibodrožie based on the use of natural potentials and taking into account the sustainable development of the country, several authors propose to create an international 3-lateral Medzibodrožie Biosphere Reserve, or a Horná Panónia Biosphere Reserve (BR) (founded on the Latorica Protected Landscape Area) in Slovakia and other protected areas in Hungary and Ukraine. Further development of the area would be then managed by the UNESCO Man and the Biosphere Programme,while the BR with its core areas, buffer zone and transition zone would serve as a model of sustainable development of lowland landscapes in Central Europe (Midriak and Zaušková, 2008).

This BR would be a part of the previously planned Horná Tisa tetra-lateral international park declared in Miškolc (Hungary) in 1994 (in Terek, 2008).

The Eastern Slovak Lowland, particularly the Medzibodrožie area, used to be a subject of an intense interest related to the agricultural use and flood protection of this area. In the course of time, a number of human environment-related jobs were created (Ružička et al., 1986; Terek et al., 2008).

New holistic views of the countryside – not only as a protected area but also as a production and intensively used landscape – require unconventional interdisciplinary approaches. These trends follow the direction of possibilities of categorization of landscape features, components and evaluation from the viewpoint of highlighting the specific properties of the landscape including its inhabitants and interactions at various levels, as well as creatingspatial representations to promote synergistic phenomena and processes which influence improvement of the environment associated with the agricultural production recession and introduction of European Standards in the production processes.In addition to these findings, other socio-economic and social findings were gained along with those which arose from the comparison of the results from the last two decades or, in other words, after the change of the social system.BRs are more and more frequently labeled as „laboratories" in which new optimal strategiesfor the management of nature and human activities should be tested and demonstrated. Definition of our goals was based on an old-new fact that the problems existed and still exist. Moreover, they became complicated due to the rapid climate changes and are connected to an inadequate use of the flooded areas.

Despite the significant changes in the use of the Tisa river and its tributaries, there exist certain rational, i.e. environmentally acceptable methods of land use, which would follow the older economic

systems but first, these systems must be analyzed in detail, and the previously used practices must be revised, as they represent centuries old experience and naturel of the population.

## Specific properties of the selected locality

A characteristic quality of the area of interest (AoI) is the downward trend from the upper Paleocene towards the recent, which moves between 0.5 and 2 milimeters per year and results in creation of depressions – landforms sunken below the surrounding areas. Younger Tertiary volcanics are neo-volcanic products which form prominent mounds rising as loaves well above the ground level. The surface of the river floodplains and young depressions is covered by sandy, clay and loamy after-flood sludge, loess, loess loam and blown sands. A negative aspect of the soil formation is the process of gleying. The Medzibodrožie area is a plane with small differences in height and altitude from 95 to 105 metres above the sea level (94%), which is usually not affected by water erosion. Contrary to the surrounding landscape, there are hillocks (2%) at the Chlmecké pahorky (264m), Tarbucka (277m) and Vršok pri Somotori (151 m). The flat landscape is disturbed by the sand dunes with relative elevation of 5-10 m as compared to the surrounding environment, and in the area of Kapoňa it is up to 20 m. A specific phenomenon is wind erosion, especially in the areas with light sandy soils.

Despite the dense channel network, AoI has several system or local drainless depression areas, in which gravity drainage is impossible or considerably complicated, therefore if it is to be used for intensive agricultural use, it requires water management solutions. Anthropogenic barriers also have a deteriorating effect on the surface runoff. In some parts, the natural river system practically does not exist. A significant feature is the changing water column of streams which reach tremendous unstableness (max.1000x). Before the dams were built, at the time of floods the waters of individual rivers created large-flooded areas. From the viewpoint of recreational potential, AoI includes less valuable facilities and it may be stated that the areas intended for recreation do not fully satisfy the needs (Zlaté piesky, Tisa and Karčava). There are three important institutions located in the area: the Museum of Zemplín in Trebišov, the Regional Museum in Kráľovský Chlmec, and the Latorica Protected Landscape Area. The most significant activities are carried out by the Museum of Zemplín in Michalovce.

In the area of folk architecture, ethnographies are more or less similar, they share common features with the North Zemplín Region which begins at Ondavská Highlands, Vihorlat. There are also strong connections with the Carpathian Ruthenia, although there are certain specific features, which are manifested by use of the Hungarian language.

The Medzibodrožie area belongs to the warmest as well as driest regions of Slovakia. Average annual air temperature reaches 8.6-9.6 °C, precipitation is markedlyfluctuating (560 to 700 mm). This area is also interesting from the historical point of view. Archaeological findings prove that there were 20 cultures in total which used to live alternately in this territory. These findings also confirm the existence of agriculturesince as early as the Neolithic Age up to the 6th century B.C.;the economy of plowing dates back to the period 3300 years ago and this territory belongs to the earliest used areas also within the whole Europe (Terek, 2011).

Graph 1. Course of climatic variables gained at VS Somotor between 1970 and 1990 (evaporation represents 70-80% of the total annual precipitation).
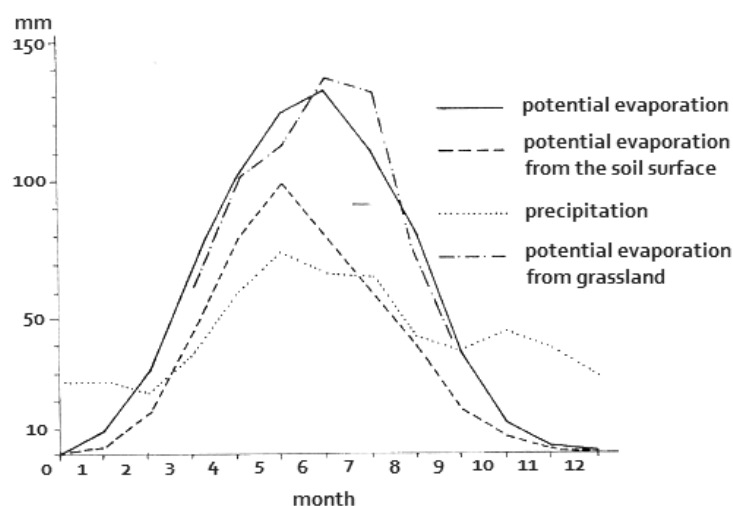
Partial research objectives
1. To track energy and material chains (nutrient – cyanobacteria – aquaticanimal – fish);
2. monitor the carbon cycle in the country, i.e. increase in the carbon production;
3. observe the soil and landscape potential, and process the project for land use optimization;
4. usemicroclimatic characteristics of diversity of landscape features;
5. reconsider the functions of the hydro-melioration facilities;
6. use Biosphere Reserves as teaching sites for sustainable development;
7. monitor the occurrence of invasive species;
8. reevaluate the protected areas of different categories;
9. study wetlands as the most importantlandscape stabilizers;
10. optimize unstableness of the flows of the Latorica, Úh, and Bodrog rivers as parts ofintegrated management of flood protection;
11. evaluate unused energy sources;
12. save the cultural heritage of the historical landscape structure;
13. study the possibilities of elimination of the point and diffuse (nonpoint) agricultural pollution.

In addition to the given scientific goals it is also necessary to:
- develop psychological and methodological approaches to increase environmental awareness,
- develop agricultural and environmental practices,
- develop a common statute „BR Medzibodrožie".

Specific properties of the Domaša water reservoir

The reservoir area at maximum retention level is 15.1 km^2, backwater length of 71.57 and 90.54rkm reaches almost 20 km (Abaffy, 1991). It was put into operation in 1966. The purpose of the water reservoir is to ensure the flow (Q=5.9 l. m^3.s^{-1}) for industrial, environmental and energy use, protect the affected area from flooding, and provide water for irrigation of 17,000 hectares of agricultural land, recreation and sports, farming and fishing. Another possibilityis to use it as a watter supply.

The Veľká Domaša - Slovenská Kajňa multipurpose water management system consists of the following objects:
1. Veľká Domaša accumulation tank, which fulfills the role of a central regulator in terms of the minimum and flood flows. It is formed by a valley dammed water reservoir of 71.57 rkm of Ondava and its backwater reaches 90.54 rkm of the flow.
2. Slovenská Kajňa expansion tank, created by a dam and earthmoving wings in 61.52 rkm of Ondava. The accumulation capacity of both tanks is 178.0 mil.m^3 and it enables fulfillment of the following water management functions:
   - storage (leveling minimum flows, utilization of hydropower potential, supply of water for industry and irrigation),
   - protection (against floods on the Ondava river and in the Eastern Slovak Lowland).

From a hydrological perspective, it is a reservoir with multi-annual balance of the flow. This kind is typically flooded differently throughout the year, therefore the water regime determines the ecological conditions in different parts of the tank. Bare bottom with a high amount of nutrients, sufficient moisture, and favorable lighting conditions provides good conditions for the development of vegetation. (In the tank with a one-year balance of the flows, regularly after spring waters the tank is filled to the maximum operating level, which ensures a steady cycle of flooding and uncovering the tank bottom. Such regular cycle encloses an environment suitable for the development of vegetation.)

The Ondava river flowing into the Domaša reservoir belongs to the rivers which bring the greatest amounts of silt from other Slovak rivers, which causes significant aggradation of substances and the subsequent recovery by the biota.

Hydrological and hydrochemical conditions of the Veľká Domaša water reservoir are well known and were paid attention to the same way as to other reservoirs in Slovakia. Majority of works try to solve the problem related to its water use (e.g. Hanzlíková, 1965,1980; Kokorďak, 1970; Boško, 1980; Jacko,

1980). Authors who focus on the biological conditions, particularly zooplankton and zoobenthos, include Terek (1983, 1987), Terek, Brázda (1983), and Žitňan (1969,1971).

The next stage is linked to the gradual deposition of suspended silt and sediments and subsequent successional processes which manifest themselves by woody plant vegetation overgrow, especially when the water level is low, as between 05/2003 and 07/2004. These conditions are particularly significant in tanks with multi-annual balance of the flow. This issue has its specificities involving a conflict of two environments: a landscape with natural flow and a large water body of the tank. The storage tank occupies an area of app. 2.5-3.5 km^2. According to Pirkovský (1963), the average amount of delivered suspended sediment can be estimated at 23,000 $m^3.r^{-1}$ and may reach up to 140,000 $m^3.r^{-1}$. The total volume of the tank is 179.5 $mil.m^3$, but according to Szesták (1998) it is 187.5 $mil.m^3$.

These anomalies have a great impact on biological recovery and evaluation of the functions of the studied groups of organisms. There are only a few literature sources regarding the problem of "turbidity and its effects on the body", and they are focused primarily on the planktonic filter-feeders, especially rotifers (Berzinš and Pejler, 1989), where negative interconnections were detected. This factor, although in connection to other water types, is mentioned by Grimalsky (1967) who found an inverse relationship between the occurrence of crustaceans, water flow and turbidity. According to Markovský (1955), dynamics of quantitative development is influenced both by the temperature and speed of the flow, as well as the amount of mineral and organic substances in the water. Large quantities of mineral substances create unfavorable conditions for the development of filter-feeders (cladocerans and rotifers), and large quantities of organic substances cause their mass occurrence.

Kirk and Gilbert (1990) conducted similar laboratory studies of impact of the suspended clay on the population dynamics of planktonic rotifers and cladocerans.Effects of the selected physicochemical properties of the benthic fauna are mentioned in the works of Krno, Šporka, Tirjaková and Bulánková (1995) and others. Other studies (e.g. Terek and Balázs, 2013) provide information on the influence of sedimentation processes and the subsequent phenomena in the upper part of the Veľká Domaša water reservoir. In the last two decades, pollution in the Ondava basin was reduced by one third (Terek and Novosad, 2010).

Optimization problems and solutions are based on experience gained from the works on water reservoirs, for instance Domaša (Terek, 1983, 1987, 2007, 2014; Terek and Brázda, 1983) or Zemplínska Šírava (Terek and Gábor, 2004), as well as numerous works elaborated in Eastern Slovakia. Water reservoirs are usually divided according to their dominant functions into energy, water supply, and recreation reservoirs. In addition they fulfill the whole range of environmental functions. Usually after several years, there appear problems related to insufficient knowledge of the phenomena and processes in water reservoirs and the surrounding river basins. Creation of the proposals for optimization was also based on the existing observations and monitorings (Terek and Balaž, 2013).

Recommended problem areas

1. Analysis of the condition of the river basin from geological and geographical point of view in relation to the quantity of the suspended solids.
2. Impact of water discharged from power equipment on the biota.
3. Landscape structure at the upper part of the reservoir at a low battery level regime.
4. Climatic conditions of the Ondava river basin and their impact on the reservoir filling.
5. Tourism and other environmental exploitation of the reservoir surroundings.
6. Tourist guide of the Domaša water reservoir.
7. Tourist guide of the Vranov and Svidník districts.
8. Assessment of changes in the riparian parts of the reservoir.
9. Negativeanthropogenic impacts on the surroundings of Domaša.
10. Point and diffuse pollution of the Ondava river basin.

Implementation of the abovementioned activities would contribute to increasing the quality of education and successfulness of gaining a position in practice. A wide platform for development and implementation of knowledge into social practice would be created, which would touch primarily the areas of agriculture, nature protection, landscape management, tourism, and rural area management. The created database and documentation materials will be assessed by professionals such as the Slovak

National Committee for UNESCO MaB Programme, committee of the Bodrog and Hornád River Basin in Košice, or the Department of Environment in Prešov and other interest groups.

Summary

From the history of climate we learn that the largest society development occurred the warming eras, while the cooling eras were accompanied by famines, civil disturbances, etc. The general idea is that the nature always finds a way to cope, or that everything has a beginning, a top, and an end. Do we have the right to leave everything to the nature although humans have their share in this matter? The current landscape as an artificial system needs an additional energy. We have sufficient knowledge of both localities in order to bring it into the country through the statute of Biosphere Reserve and mobilize the „reserves of the biosphere". A significant contribution to all this might be the innovative approaches to supervising the Bachelor and Diploma theses of the Environmental Management students of the Faculty of Management of UP in Prešov.

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