Proceedings
of the Faculty of Economics
of Matej Bel University in Banská Bystrica

Volume I

Economic Theory and Practice 2017

Banská Bystrica 2018
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Volume I

Economic Theory and Practice 2017

A collection of papers presented at the international scientific conference Economic Theory and Practice 2017 [ETAP 2017] held on 3 Oct 2017 and 4 Oct 2017 in Banská Bystrica to celebrate the 40th anniversary of the Faculty of Economics of Matej Bel University in Banská Bystrica.

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Foreword

The book that the kind reader has an opportunity to hold in their hands is the first volume of the Proceedings of the Faculty of Economics of Matej Bel University in Banská Bystrica. The series of proceedings is newly established and its aim is to assemble the most significant research output that is presented on the premises of the Faculty or originates under its auspices.

It is not happenstance that this newly created series comes into life right after the fortieth jubilee of the Faculty in 2017 and houses a collection of scientific papers that were presented at an event organized that year to celebrate this illustrious milestone in the history of the Faculty. The international scientific conference Economic Theory and Practice 2017 (ETAP 2017) organized and held in 2017 helped to commemorate the circumstances under which the system of economic studies had been formed in Banská Bystrica since 1973 and highlighted the say of the Faculty not only in providing economic education, but particularly in the field of scientific research. Albeit it was in 1973 that a separate unit of the Faculty of Commerce of the Bratislava School of Economics was established in Banská Bystrica, the formal history of our Faculty is somewhat fresher as it was in 1977 when its predecessor, the Faculty of Economics of Services and Tourism, was founded as one of the units of the Bratislava School of Economics.

ETAP 2017 followed from the tradition of conferences organized by the Faculty regularly at round anniversaries and afforded a great opportunity of exchanging and sharing knowledge and experience in the area of science and research. Nonetheless, the purpose of disseminating scientific knowledge was perhaps more effective as the anniversary event gathered not only scientists from Slovakia, the Czech Republic, Bulgaria, France, Latvia, Hungary, Poland, Spain, Ukraine and the United Kingdom, but made it possible to connect current and past employees, current and past students, friends and sympathisers of the Faculty.

The conference took place on 3 and 4 Oct 2017 under the aegis of Assoc. Prof. Ing. Vladimír Hiadlovský, PhD., the rector of Matej Bel University in Banská Bystrica, and was devoted to contemporary theoretical and practical issues of economics. The conference fulfilled a dual orientation and served the best interests of both academic theorists and economic practitioners in order to achieve a synergy. On one hand, ETAP 2017 provided a mechanism of mutual dissemination of scientific knowledge among those who benefit from it in their decisions and everyday business; and on the other hand, it acted as a venue where those whose professional life is tied with economics could discuss the problems they face. The conference was designated to cover major fields of economics and was attractive to scholars, researchers, corporate and government executives, managers, graduates or any professionals who had graduated from a study program in economics. The conference was divided into six sections: (1) business economics and management, (2) economic theory, (3) finance and banking, (4) public economics, (5) regional development and public administration, and (5) tourism.
Not all papers that were presented at the conference passed successfully through the review process. The book of proceedings in this volume comprises only 68 papers that succeeded in an independent double-blind peer review and were possibly revised to improve their quality before they were accepted. All the papers were required to comply with the publication ethics guidelines that are declared as part of this book.

The Scientific Committee of ETAP 2017 believes that the papers make a considerable contribution to science and help in enhancing the standards of scientific work. It is therefore a pleasure to present this singular collection of ETAP 2017 conference papers to the scientific community. The papers and the proceedings are simultaneously made accessible on the conference website http://www.etap.umb.sk.

Assoc Prof. Peter Kríštofík, Ph.D.
Chair of the Scientific Committee of ETAP 2017
Dean of the Faculty of Economics of Matej Bel University in Banská Bystrica
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The publication of an article in the peer-reviewed proceedings from the conference ECONOMIC THEORY AND PRACTICE 2017 (ETAP 2017) is an essential building block in the development of a coherent and respected network of knowledge. It is a direct reflection of the quality of the work of the authors and the institutions that support them. Peer-reviewed articles support and embody the scientific method, and therefore the following standards of expected ethical behaviour for all parties involved in the act of publishing are adopted. The adopted standards concern the author, the proceedings editor, the peer reviewer and the publisher. The Editorial Board of ETAP 2017 is committed to ensuring that advertising, reprint or other commercial revenue has no impact or influence on editorial decisions.

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Publication decisions The proceedings editor is responsible for deciding which of the articles submitted to the conference should be published. The validation of the work in question and its importance to researchers and readers must always drive such decisions. The editor is guided by the policies of the Editorial Board of ETAP 2017 and constrained by such legal requirements as shall then be in force regarding libel, copyright infringement and plagiarism. The editor may confer with other editors or reviewers (or society officers) in making this decision.

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Papers
COOPERATION BETWEEN SCIENCE AND BUSINESS
IN THE OPOLSKIE VOIVODSHIP
– BASED ON RESULTS OF REGIONAL RESEARCH

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Abstract
Experiences resulting from the cooperation between science and business in the Opole region show the existence of barriers that influence the decisions of partners about its commencement and development. Companies, getting adjusted to the modern market determinants resulting from knowledge-based economy, have to invest in knowledge management processes and creation of intellectual potential of an organisation. The objective of the article is to discuss selected issues which are the subject matter of the survey, which constitute an important source of knowledge about barriers in establishment of adequate cooperation in the area of efficient transfer of knowledge. The results of the study provided a foundation for the proposed recommendations, thanks to which better organisation of the future cooperation between science and business will be enabled. The article presents and discusses the results of questionnaire surveys conducted via computer-assisted telephone interviews and individual in-depth interviews as part of preparation of an expert opinion on the establishment and operation of the Competence Centre at the Opole University of Technology.

Key words
cooperation, barriers of cooperation, partners, knowledge management.

JEL classification
M2

1. Introduction

In knowledge-based economy, innovation activity plays the role of an efficient tool for acquiring competitive advantage, guiding the activities of companies towards growth and economic development (Matusiak, 2011). The innovation culture introduces a completely new quality into modern organisational structures (in the economic, psychological and social aspect) in all areas of operation of entities, organisations and societies (Perkmann et al., 2013). Entrepreneurs who undertake cooperation with research and development units create a dynamic environment of regional development, relying on knowledge, and become innovation creators (Adamska and Dymek, 2015). This process is possible exclusively by fostering involvement of all partners, which, on account of diversity of objectives that individual contractors set for themselves, has to be deemed a very complex task. The objective of this article is to discuss selected issues important for creating barriers in establishment of adequate cooperation in the area of efficient transfer of knowledge.

Apart from traditional resources (i.e. production factors), modern economy distinguishes two new ones in the theory of economy (resource dependency theory). The first of them is knowledge, the other entrepreneurship. The economic thought of the 20th century was
characterised by a reorientation of interests in the direction of new sources of competitive advantage of a modern entity in a knowledge-based economy, namely the intellectual capital and intangible assets (Kunasz, 2006).

Innovations, irrespective of the final results, are - in the first stage - created primarily via investments in intangible and legal assets. If such investments are efficient and, subsequently, protected via generation of patents, they are later transformed into fixed assets, generating real value of a company and become a guarantee for its stable development in the future (Lev, 2001).

2. Knowledge-based economy: fixed route of global economy

Knowledge inextricably linked to man - human capital in the structure of intellectual capital (Asiaei and Jusoh, 2015) and technology which results from the use of knowledge and skills of the human capital (OECD, 1996) are the basic factors for the development of a knowledge-based economy. The concept of knowledge-based economy results from a fuller recognition of the role of knowledge and technology in the development of global economy, which have always played a vital role in economic growth.

The processes of creating knowledge-based economy consist in gradual, systematic transfer from material-intensive economy to economy making efficient use of the potential of science and knowledge. Growing competition, which consists in creation and marketing of innovations of various character, nowadays requires the organisations to satisfy lack of knowledge, which is manifested in investments in the education of employees, increasing outlays on R&D and commencement of cooperation with the research service sector (Perkmann et al, 2013; Adamska et al., 2017).

Civilisation challenges that have formed the economic reality at the beginning of the 21st century have resulted in the fact that the European Union has undertaken activities aimed at stimulating socio-economic development of Europe in a comprehensive and integrated manner. In 2000, the Lisbon Strategy was adopted, as part of which the EU has set out specific directions of development for its’ members, noticing the necessity of economic and social modernisation.

The Lisbon Strategy was designed as a plan for economic development corresponding to the requirements of knowledge-based economy. Focusing on such issues as innovation, liberalisation, entrepreneurship and social cohesion, the Lisbon Strategy aimed at supporting the European economy (UKIE, 2002) in the processes of accomplishing competitive advantage. Unfortunately, these premises met with the world economic crisis of 2008, which caused a certain “disintegration” of the Lisbon guidelines, which, in consequence, have not been fully met. The EU members, considering the Lisbon Strategy helpful for the economic integration, proposed updating of the provisions in the new formula of “Europe 2020 Strategy”, which initiated a new decade of strategic management in the knowledge-based economy (IMO, 2010).

The companies, trying to meet the current market determinants based on knowledge, focused on creating and mastering the intellectual potential of organisations. Nevertheless, it is impossible in economic practice for all the necessary and significant resources of knowledge to be held by a company, especially in reference to small and medium-sized companies. Therefore, their development is conditioned by the capacity and the willingness to undertake efficient cooperation with institutions providing research services.
3. Competence centre as catalyst for cooperation barriers: presentation of selected issues

The Competence Centre at the Opole University of Technology is a unit which has been assigned the role of the so-called broker of knowledge transfer, whereas its’ major tasks include networking of partners and initiation of cooperation between science and business, including as part of projects with vital significance for development of the region, which comply with the Regional Operational Programme for the Opole Province for Years 2014 - 2020. Its’ efficient functioning is particularly important in the context of activities planned as part of the Regional Operational Programme for Years 2014 - 2020 which stand a chance for obtaining subsidies. In particular, this refers to priority axes:

I. INNOVATIONS IN ECONOMY (RPOWO, 2014):
- investments in the R&D infrastructure in companies, scientific units and universities in line with regional smart specialisations;
- support for the process of innovation generation (from the idea to the market) or its’ selected elements, i.e. scientific and industrial studies, development work (including the stage of demonstration work), pilot lines, activities in the area of early product validation, advanced professional capacity, first production.

II. COMPETITIVE ECONOMY, inter alia (RPOWO, 2014):
- implementation of product innovations, process, marketing and organisational innovations, in particular developed within the scope of priority axis I;
- investments in modern machines, devices and production equipment, with the aim of introducing new or improved products or services to the market;
- investments in development of companies increasing the scale of their operation, growth in the range of offer;
- support for the development of cooperation between companies based on modern ICT solutions (B2B);
- support for the implementation of product innovations, process, marketing and organisational innovations, in particular developed within the scope of priority axis I, via financial instruments.

With the aim of efficient adjustment of the offer of Competence Centre to the needs of the regional economy, surveys were conducted among regional entrepreneurs in order to identify their expectations with respect to cooperation with research and development units. Their innovation potential is one of the major factors of economic and social development, which conditions correct functioning of entities of knowledge-based economy.

The processes of transfer and commercialisation of knowledge related to the development of innovations and market applications of technology may be implemented in the following directions in various models: science - business, business - science - business and business - business. Thanks to efficient popularisation of the “knowledge transfer” idea, all of them have practical applications. The most traditional model of cooperation is the science - business model and the premises for the operation of the Competence Centre at the Opole University of Technology rely on this model.

3.2 Description of survey sample structure

Survey with the use of CATI (Computer Assisted Telephone Interview) was performed among owners of companies from the sector of small and medium-sized companies (including
large companies) from the Opole Province as part of the “Preparation of Expert Opinion on Establishment and Operation of Competence Centre at the Opole University of Technology as Part of the Project Co-Financed by the European Union” in the course of the project entitled “Efficient Transfer of Knowledge from Science to Industry in the Opole Province.” The research was carried out from November 2014 to June 2015.

The objective of the survey was to collect information about evaluation of hitherto cooperation, as well as information enabling identification of demand for services based on knowledge and identification of expectations with respect to the operation of the Competence Centre, including the direction and the type of studies performed by university units, within the scope of the offer of lifelong learning (counselling, training, specialist courses) and possibilities of use of the infrastructural facilities by external entities (PDSBiIN, 2015).

The survey was performed on a group of 350 entrepreneurs representing all regional specialisations identified in the Regional Innovation Strategy of the Opole Province by 2020 (Adamska et al., 2016). Layering of the sample was performed on the basis of the following criteria: regional specialisation and size of company: micro, small, medium-sized and large (Figure 1). Large companies were put together with medium-sized, because in the Opole Province we have less than 0.01% of them, so the results would not be representative.

Figure 1: Structure of the sample according to company size

![Figure 1: Structure of the sample according to company size](source: adapted from PDSBiIN (2015, p. 91)).

Selection of the survey sample corresponds to the characteristics of the structure of economic entities in the Opole Province in 2016 where micro and small companies constituted almost 99% (Table 1).

Primarily companies with stable market situation took part in the study, which have been operating for more than 10 years (77.0%). The remaining small percentage were relatively young companies, which have been operating on the market for 3 - 5 years, from 1 to 2 years and for less than a year. Service companies had highest share in the sample, which constituted almost a half of the companies (46.3%) that took part in the study; in the second place, there were commercial and commercial and service companies (22.1%). Production and service companies had smaller share in the survey sample (11.6%), as well as production and commercial companies (10.0%) and production and industrial companies (9.0%). Production and agricultural companies had smallest share in the sample (PDSBiIN, 2015).
Table 1: National economy entities according to the REGON register (quarterly data). Entities according to size classes for the Opole Province.

<table>
<thead>
<tr>
<th>Year</th>
<th>In total</th>
<th>0 - 9</th>
<th>10 - 49</th>
<th>50 - 249</th>
<th>250 - 999</th>
<th>1000 and more</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>100 295</td>
<td>96 108</td>
<td>3 434</td>
<td>666</td>
<td>77</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: adapted from https://bdl.stat.gov.pl/BDL.

Another important index taken into account when characterising the potential of a company was the range of its’ operation presented in Figure 2.

Figure 2: Structure of the sample according to range of operation of companies

Source: adapted from PDSBiIN (2015, p. 92).

For the necessity of analysing the survey results, declaration of over 1/4 of the respondents that they operate on international markets, where the level of innovation of offered products and services meets with competition in a global dimension, was important, as the structure of business sector as well (Figure 3).

Figure 3: Main business sectors represented in the survey

Source: adapted from PDSBiIN (2015, p. 90).
3.3 Presentation of selected issues pertaining to barriers in commencement of cooperation between science and business

Hitherto development of regional economy in the Opole Province indicates existence of limited possibilities for creating innovations exclusively with the use of internal potential of companies. The use of the pool of knowledge driving from external research and development units is therefore natural and even necessary (Adamska et al., 2016). The driving force for the growth of innovations are not only universities generating research results, but, in an equal degree, companies which implement and process the new technologies in the form of products and services offered on the market (Bromski, 2013). The processes of creating innovations and the capacity for commercialising knowledge are characterised by multidimensionality and a high degree of complexity, resulting from relations between science and business (in the triple helix model, it is also necessary to add the public sector, yet this was beyond the range of this survey) (Adamska and Dymek, 2015).

In the examined group, only a small number of entrepreneurs (13.65%) had research and development teams within their structure. Having a short- or long-term strategy pertaining to this area of operation was declared by 16.20% (PDSBiIN, 2015). Therefore, in a definite majority, the entrepreneurs (86.35%) who want to develop innovation processes in their companies have to take interest in the manner in which they can activate and develop their research and development activities with the use of external sources of knowledge (Vink et al., 2008). Declaration of over 2/3 of respondents testifies that they are willing to do that (66.0%): in their opinion, creation and implementation of innovative solutions plays a significant role in a company’s development (Figure 4).

**Figure 4: Evaluation of significance of innovation activity by entrepreneurs**

<table>
<thead>
<tr>
<th>Importance</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Important</td>
<td>41.13%</td>
</tr>
<tr>
<td>Very important</td>
<td>24.94%</td>
</tr>
<tr>
<td>Irrelevant</td>
<td>19.54%</td>
</tr>
<tr>
<td>Not important</td>
<td>14.40%</td>
</tr>
</tbody>
</table>

Source: adapted from PDSBiIN (2015, p. 95).

Nevertheless, the actual activity of companies in this area ends with the declaration that they are aware of deficiencies in knowledge resources and intellectual potential and that development of innovation is a sine qua non condition for acquiring competitive advantage. Only less than 6% of respondents confirmed that they have already cooperated with academic employees of the university of technology (Figure 5).

To describe the cooperation between science and business, information was collected about hitherto activities undertaken by the partners (Figure 6). Among the most frequent ones, the respondents included: exchange of experiences during fairs and conferences (26.76%) and training sessions and courses (22.45%). These activities may be included in the so-called low-budget, due to the fact that in a definite majority of cases, they do not call for significant financial involvement on the part of entrepreneurs.
Scientific type events constitute one of the key tasks implemented by the academic milieus, whereas cooperation with business is one of the strategic objectives forming a part of long-range university strategy. Therefore, a conclusion may be drawn that this type of cooperation is primarily initiated by scientific institutions and not by business partners. Definitely, the activity on the side of entrepreneurs is greater if participation in training sessions and courses is taken into account, which offer a great opportunity to acquire and expand knowledge and increase employees’ competences.

As a result of answers collected during individual in-depth interviews, most important factors were identified (according to the respondents), characterising the lack of activity on the part of entrepreneurs with respect to the commencement of cooperation with the R&D and questions addressed to academic employees of universities. These factors constitute the most
significant barriers in establishment of relations between science and business. Justifications for the absence of an active stance on the part of entrepreneurs with respect to the commencement of cooperation with the R&D are obvious and constitute standard answers encountered during contacts with business (Figure 7).

The greatest number of respondents (39.0%) does not feel such necessity in the context of current needs of their companies. This declaration is astonishing, bearing in mind earlier declarations that creation and implementation of innovative solutions plays a significant role in a company’s development (Fig. 4). Many entrepreneurs also pointed out to the absence of knowledge about institutions or persons to whom they could apply with this issue as the barrier (23.0%); simultaneously, 72.79% respondents claimed that they have not searched for information about R&D services offered by universities so far, in spite of the formally declared interest in cooperation in this area (PDSBiIN, 2015). This means that universities have to carefully implement the information strategy about their research offer and publish information about the possibilities of cooperation in a manner most accessible for entrepreneurs.

Figure 7: Justification for lack of activity on the part of entrepreneurs in the area of commencement of cooperation with R&D

The third most frequently listed answer was the company’s finances (21.0%) as the main factor justifying the lack of possibility for commencing cooperation. The absence of sources of financing is a key barrier for every type of investment; what is more, it may be of vital importance in making decisions about developing the area of intangible assets.

However, benefits which the partners may obtain from the cooperation play a huge role (Figure 8). The most important benefit, in the entrepreneurs’ opinion, which has a material dimension, is improvement in the quality of products and services. Therefore, the future cooperation should develop in directions enabling creation of new production technologies, improvement of production processes, certification of materials’ laboratories and implementation of modern management concepts. These final aspects form another advantage indicated in the survey, i.e. a possibility of developing own human resources.
Figure 8: Benefits and results achieved in the course of cooperation indicated by the respondents

<table>
<thead>
<tr>
<th>Benefit/Result</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving the quality of the products and services offered</td>
<td>39.13%</td>
</tr>
<tr>
<td>Opportunity to develop own human resources</td>
<td>30.43%</td>
</tr>
<tr>
<td>Establishing a partnership</td>
<td>26.09%</td>
</tr>
<tr>
<td>Increasing the prestige of the company</td>
<td>19.39%</td>
</tr>
<tr>
<td>Improving the profitability of your business</td>
<td>17.39%</td>
</tr>
<tr>
<td>Increasing sales revenue</td>
<td>17.39%</td>
</tr>
<tr>
<td>Development of prototypes</td>
<td>17.36%</td>
</tr>
<tr>
<td>Reducing costs in the company</td>
<td>13.04%</td>
</tr>
<tr>
<td>Gaining new customers / increasing market share</td>
<td>8.70%</td>
</tr>
<tr>
<td>Increasing the employment of research staff in the company</td>
<td>8.70%</td>
</tr>
</tbody>
</table>

Source: adapted from PDSBiIN (2015, p. 104).

Along with development of a company’s prestige and possibility of establishing partnership, they determine the advantages influencing the implementation of social objectives of intangible nature. These are the advantages which form a part of the intellectual capital of the organisation and exert significant impact on the formation of market value of organisations. They set important tasks ahead of research and development units: support for the development of human capital by proposing training sessions, courses or post-graduate studies dedicated to a company, establishment of a network of experts and interdisciplinary research teams and building a pool of knowledge about the possibilities of cooperation among entities. Through this activities the partnering relationship between science and business is build. The partnering relationship is mainly based upon: trust, dedication to common goals, and having an understanding of each other’s individual expectations and values. Expected benefits include improved efficiency and cost-effectiveness, increased opportunity for innovation, and the continuous improvement of quality products and services (Kao et al., 2016).

4. Conclusion

The presented characteristics of cooperation between science and business in the light of a survey conducted in the Opole Province show the existence of significant awareness of entrepreneurs about the role of R&D institutions in the processes of creating new and valuable knowledge. Entrepreneurs notice the necessity of using services that utilise knowledge, yet simultaneously, their activity in this area is conditioned primarily by the financial potential and the current needs of the company. Their passive stance also results from lack of knowledge about the offer and possibilities of cooperation with research and development
units. This means that R&D units have to look for new solutions also in the area of popularising knowledge among entrepreneurs of the region and organise cooperation in a manner corresponding to the expectations of all partners.

The foundation of knowledge-based economy is development and absorption of innovations as part of mutually beneficial cooperation between the sector of science and business and other public and private institutions. In reality, from the stakeholders’ point of view, preparation and coordination of cooperation, existence of willingness to cooperate and mutual activity of universities and companies significantly influence the capacity for creating and implementing innovations on the market. The main recommendation for future cooperation are: building on bridge of effective, bidirectional communications, emphasis on the commercialization of research, wide presentation of the university’s research offer, considerations about individual goals and common goals of co-partner and preventing bureaucratization during the implementation of cooperation.

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References


CHANGE MANAGEMENT THROUGH PROJECTS: ISSUES AND PERSPECTIVES

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Abstract
The paper suggests an overview of the interdependencies between Change Management and Project Management concerning the processes of organizational change. It is widely recognized that implementation of well targeted and coordinated projects within the organization can attain significant organizational changes leading to effectiveness and/or efficiency gains. A selection of issues regarding the achievement of organizational changes through projects is considered. Illustrations about current status of project management and its connections to organizational changes are provided using survey evidence for Bulgarian business organizations operating in the IT sector. A special focus is put on a range of issues in respect of the current practices for achieving organizational shifts through projects. In light of the survey evidence from IT sector organizations implementing changes, several major perspectives of the organizational change through projects are outlined and discussed.

Key words
organizational change, project management, IT sector, Bulgaria

JEL classification
M19, M15, O22

1. Introduction

Achieving success of organizational changes in the conditions of global economy provides a competitive advantage of the organization in a turbulent business environment. When a change is needed the organization has to choose appropriate instruments to manage the change processes. Nowadays organizations implement changes by targeted projects in order to realize effective results and organizational advance. It is especially valid for the contemporary project-oriented organizations which incorporate change management into project management in an integrated system. This way, a key issue in modern project management becomes the achievement of effective and/or efficient organizational change through projects.

The implementation of changes is realized as a continuous process framed in the project life cycle context. Based on the project management principles, change is intended to transform the organization from its current state to a desired target status. These planned alterations can achieve the decided goals through specifically oriented project activities. In line of this, organizational change through projects assumes several aspects enfolded into two areas: (i) identification, exploration, assessment, analysis, and documentation of problem
situation, followed by (ii) initiation of project by which the problems are to be resolved and targets achieved. Typically, such goals are oriented to the organizational development by enhancing the competitiveness of the organization. In the same time, these targets cannot be achieved without the engagement of human resources – moreover, the employees are frequently identified as both the subject and object of change. This requires special attention and appropriate managerial mechanisms to be put in place.

The paper is focused on issues related to the interaction between organizational changes and project management in Bulgarian organizations. The aim of this paper is to reveal some features of the project management practices oriented to organizational transformations in Bulgarian IT sector. This sector is the most dynamic one – as far as it is continuously absorbing new products and technologies – so we consider it as most appropriate for analyzing the topic of interest based on the experience of its managers and personnel. The results are derived from questionnaire survey conducted among representatives of Bulgarian business organizations operating in the IT sector. Survey data is used to evaluate some issues regarding the current status of project management in the context of organizational changes performed in this sector. A special focus is put on the effectiveness of project communications in IT sector organizations that implement organizational changes, as a crucial prerequisite for effective organizational change.

2. Literature review

Specialized literature on change management frequently focuses on a variety of issues related to successful achievement of organizational changes through implementation of targeted projects. Project-based activities are considered as a business priority for warranting success of the planned changes (Parker et al., 2013). There is a plenty of evidence that contemporary organizations realize a growing number of project-based activities which assume particular elements of change (Söderlund, 2010). Literature sources on organizational management have confirmed the necessity of integrating project management in order to attain effectiveness of change management processes (Pollack, 2016; Hornstein, 2015).

There is no doubt that change is an expected outcome of a project realization, however, the two disciplines – project management and change management – operate with different thesaurus, methodologies, and tools (Hornstein, 2015). The international Project Management Institute defines project management as a coordinated implementation of knowledge, skills, and techniques to execute project activities oriented to deliver the required project outcomes (PMI, 2017). Recent studies have questioned the importance of the project design stages, especially of the monitoring and evaluation stages, which is expected to facilitate project success (Staneva et al., 2015). One of the leading authors on Project Management indicates the significant role of the organizational change for the expansion of project management practices nowadays (Kerzner, 2017). Nevertheless, researchers that contribute to project management literature put relatively little attention on the issues of organizational change (Crawford et al., 2014).

The classical work of Kotter (2012) defines change management not as a single act but a continuous process that includes a sequence of stages. He focuses on the leadership of change which has to boost the proper understanding of the necessity of this change, in order to minimize uncertainty, maximize the expected satisfaction, and induce motivation of the human resources to be prepared for the changes, to support and to implement them. According to Moran and Brightman (2000) change management assumes a recurrent renewal
of major organizational components: strategy, structure, and competencies to fulfil the shifting needs of its stakeholders.

In the literature there are several definitions that present the change management as a process or a system of competences or capabilities. For example, Hiatt and Creasey (2012) characterize change management as a process oriented to shifts in the people side of system aimed in the achievement of anticipated business results. On the other side, they emphasize on a specific competency of the managers that leads the personnel through the switch from current to future status. The change management model ADKAR has been developed by the consulting company Prosci (founded by Jeff Hiatt in 1994, connected to PMI) which put the underpinning of successful change implemented in project management perspective. The building blocks and main components of the ADKAR model are Awareness, Desire, Knowledge, Ability, and Reinforcement. The model was developed in 2006 using information from over 900 organizations analyzed for over a 10-year period. As a main cause of project failures the study identifies the “human side of change” (Hiatt and Creasey, 2012). Nevertheless, the model continues to emphasize on the processes rather than personnel.

Two decades ago, however, a specific perspective has been conceptualized in the project management literature that focuses on the changes in the project itself, e.g. project objectives, scope, budget, etc. In that perspective change management is related to an integral process that identifies potential impacts of internal and external factors on project outcomes, forecasting of potential project transformations, planning and implementing preventive managerial actions, and an overall coordination of project components shifts (Voropajev, 1998). The current study, though, conforms to the general organizational perspective on change management that emphasizes on the capabilities of the organization to identify a desired future state inherently linked to the organizational strategy. This perspective focuses on planning, executing, and controlling the transformational actions necessary to reach this point. We find project management as a naturally appropriate mechanism for achieving such a transformation. By integrating change management with project management a universal enhancement of the organizational potential can be accomplished – in terms of human resources, production, investment, marketing, innovations, leadership etc. – to effectively meet the challenges of the dynamic business environment (Kuzmanova, 2012).

In the contemporary project management approach there are views on the nature of project management emphasizing on its natural link to changes (Griffith-Cooper and King, 2007). These authors indicate that change is inherent to all areas of Project Management Body of Knowledge with a special focus on the management of human resources – particularly, on mechanisms for overcoming the employees’ resistance. The existence of “change agents” in the organization facilitates the effective planning for the implementation of the anticipated changes. In this respect, some studies identify important interlinks between the typical roles in project management and change management. For example, Padar et al. (2017) clarify the overlapping between seven different roles in change management and fourteen project management roles – the study evaluates the degree to which one role in the former corresponds to another role in the later domain.

The capacity of an organization to successfully accomplish changes depends on the level of organizational maturity. The literature suggests different capability maturity models that explain the mechanisms of success of change management, the major influencing factors, and related stages of change execution. Such a model is developed in the study of Shih et al. (2013) that analyze the organizational change applying “capability maturity model integration”. The authors outline four stages of special importance for the success of changes.
At the first stage (“planning”) the degree of commitment of senior managers is identified as the most important factor that induces favorable attitudes toward the transformation. The human side is also recognized here at the second stage (“getting started”) where effectiveness of changes is warranted by the elimination of resistance to changes from the employees. Next, on the third stage (“letting go”) the support from organizational units’ managers is considered as a core factor to the achievement of desired results. Finally, at the fourth (“completion”) stage performance measurement instruments are adopted for evaluating the success of changes to generate new organizational competences and capabilities.

The degree of maturity in project management related to implementing changes is related to the availability of organizational standards, knowledge, and procedures as well as infrastructure for execution of projects. In this respect, the establishment and development of project management offices emerges as an exclusive organizational challenge for contemporary project-oriented organizations. Such organizations elaborate specific methodologies implemented by specialized structural units in order to apprehend the dynamic complexity of organizational changes (Alexandrova et al., 2015).

The theory provides a range of arguments in support of the benefits from the integration of project management and change management approaches. Little empirical research in fact confirms these propositions. One of the rare exclusions is the study of Crawford and Hassner-Nahmias (2010) which is based on information concerning “change projects” executed in the framework of introducing or upgrading IT applications in organizations from different sectors. Using case studies the authors reveal that a competition between project managers and change managers arises in respect to the leading role in executing the transformation processes. Such a rivalry appears as a major obstacle to the expected synergy between the two approaches. This derives the question about the required managerial competences that will ensure the effectiveness of “change projects”.

Limited number of studies provides insights about the management of changes realized by involvement of targeted IT projects. Perroti et al. (2010) argue in favor of the need for a structured change management methodology. Its implementation should ensure an efficient mode for project execution which can support the efforts of the project team dealing with organizational transformations. The authors provide evidence from projects related to utilization or upgrade of ERP systems at the organizations (Perroti et al., 2010). In a more general view, the implementation of organizational changes frequently compels a design and introduction of a comprehensive Information System. Its integrated databases are expected to provide reliable real-time information that should facilitate a necessary situational analysis. This way a targeted IT development project can definitely contribute to the decision making process in an uncertain business environment (Anguelov and Stoyanov, 2012).

As mentioned above, various studies reveal an expanding interest in the utilization of project management as a tool for conducting organizational changes. Nevertheless, empirical evidence about the diverse aspects of such processes is not often available. The current study attempts to contribute to the empirical literature on this subject based on survey evidence about practices in Bulgarian IT sector organizations. It illustrates the extent of the spread of organizational change management through the involvement of projects in the respective sector.
3. Research methodology

The survey has been conducted in the period March-May 2017 using a questionnaire as a research instrument. The original sample contains 500 enterprises from the ICT sector registered with main activity in several branches of primary interest – units mainly from subsectors classified with ISIC codes 582 (Software publishing), 61 (Telecommunications), 62 (Computer programming, consultancy and related activities), 63 (Information service activities /data processing, hosting, web portals, etc./), 8220 (Activities of call centers). The questionnaire form has been sent to randomly selected enterprises where the email addresses of sampled units were provided by the National Statistical Institute. The sample comprises about 5% of the total number of active companies in ICT sector (500 of about 10,000) listed at the Business Register of the National Statistical Institute. The response rate is 23.6% (i.e. 118 questionnaires returned) of which 10 questionnaires have been excluded from analysis due to substantial non-response. The results presented hereafter are derived from the answers recorded in the rest 108 questionnaire forms.

The survey instrument contains predominantly close-end questions organized into three sections considering selected issues of organizational change through project management in the respective organizations. Aside from the usual descriptive information related to the respondents and companies, these sections concern: understanding of the organizational change; experience in project-oriented activities targeted in organizational change; impact of communications, organizational culture, and team working on the effectiveness of organizational changes. The attitudinal and evaluation questions utilize Likert scales with 3 or 5 ordinal responses.

4. Survey results

On the basis of self-declared status, the distribution of the respondents by their positions shows that the majority of them work as experts in the respective ICT company (fig.1). Additionally, each sixth respondent is a project manager – this way both groups provide the required high expertise of the participants pool in the studied area.

Figure 1: Distribution of respondents by position at the enterprise.

Source: the authors.
Moreover, having 13 percent representatives of the top management ensures also an important point of view on the strategic perspectives of the change management through projects. “Others” category includes mainly project team members and other personnel. Considering the length of the professional experience of the respondents, however, almost half of them are predominantly young people with experience up to 5 years (fig.2). The rest of the interviewed are relatively evenly distributed by medium and long term of their professional work, where about 20 percent have experience of more than 15 years more in the IT sector.

Figure 2: Distribution of respondents by length of their professional experience

Source: the authors.

Figure 3: Main areas of organizational change through projects

Source: the authors.

Answers on a set of items concerning the areas of change achieved through projects have been required in order to evaluate the change targets (fig.3). Based on the obtained responses, the introduction of new technologies has been identified most frequently (by almost three fourths of the interviewed) as one of the main areas of organizational changes accomplished using targeted projects. Next, almost two thirds of the survey participants have indicated the introduction of new products as a typical field of change through project realization.
Interestingly, the same result is obtained regarding the organizational transformations with strategic goals – this definitely shows that the studied enterprises recognize the importance of organizational changes linked to the strategic decision making in this highly competitive sector. According to the respondents’ opinion, changes oriented to the corporate culture are still not so popular in the explored organizations as far as this area is indicated by only one third of the survey participants.

A range of issues concerning the implementation of organizational changes through projects executed within the studied enterprises have been explored by a set of statements. Each respondent was requested to evaluate the extent to which a statement is valid having in mind the practices at her/his employer organization (table 1).

Table 1: Implementing organizational changes by projects

<table>
<thead>
<tr>
<th>To what extent do you agree with the following statement about your organization when implementing changes by projects?</th>
<th>Fully agree</th>
<th>Partially agree</th>
<th>Neither agree nor disagree</th>
<th>Partially disagree</th>
<th>Fully disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes achieved through projects reflect the strategic goals/ plans</td>
<td>35.5 %</td>
<td>54.2 %</td>
<td>8.4 %</td>
<td>1.9 %</td>
<td></td>
</tr>
<tr>
<td>Top management ultimately values the effect of changes</td>
<td>21.5 %</td>
<td>47.7 %</td>
<td>19.6 %</td>
<td>10.3 %</td>
<td>0.9 %</td>
</tr>
<tr>
<td>The changes have been clearly defined/explained</td>
<td>36.4 %</td>
<td>41.1 %</td>
<td>15.0 %</td>
<td>6.5 %</td>
<td>0.9 %</td>
</tr>
<tr>
<td>The phases of the changes are properly planned</td>
<td>29.2 %</td>
<td>39.6 %</td>
<td>17.9 %</td>
<td>13.2 %</td>
<td></td>
</tr>
<tr>
<td>Information about changes has been timely provided and generally precise</td>
<td>21.5 %</td>
<td>34.6 %</td>
<td>16.8 %</td>
<td>25.2 %</td>
<td>1.9 %</td>
</tr>
<tr>
<td>Project funding has a key role in the success of the organizational change</td>
<td>41.1 %</td>
<td>38.3 %</td>
<td>16.8 %</td>
<td>3.7 %</td>
<td></td>
</tr>
<tr>
<td>Change is possible only of personnel is properly trained</td>
<td>43.0 %</td>
<td>45.8 %</td>
<td>6.5 %</td>
<td>4.7 %</td>
<td></td>
</tr>
<tr>
<td>Efficiency of the change is possible only in the presence of &quot;agents of change&quot;</td>
<td>35.5 %</td>
<td>27.1 %</td>
<td>24.3 %</td>
<td>12.1 %</td>
<td>0.9 %</td>
</tr>
</tbody>
</table>

Source: the authors.

Two aspects have gained a significant support from the survey participants – 89 percent of respondents have agreed with the statements that key roles for effective changes through projects can be attached to (i) proper training of the personnel and (ii) adequate project funding. Here it should be noted that over 40 percent of respondents have ultimately (fully) confirmed the validity of these aspects regarding their companies. About 90 percent of the interviewed indicated that changes in their organizations are aligned to their strategic goals, however, quite a large share (54 percent) endorse this only partially. At the same time, the strategic dimension of change is the less frequently identified aspect (by only 2 percent) as not typical issue regarding the changes implemented by projects. Furthermore, only 4 percent of the respondents feel that project financing is not an important driver of the change management success. Another issue of substantial importance – positively evaluated by over
three fourths of the interviewed – is the clarity of the description of the planned organizational changes to be achieved by a targeted project. However, this objectively important aspect has obvious reserves for improvement, taking into account that about 7 percent do not see such a practice in their organization and additional 15 percent do not have an opinion on this matter. This clearly indicates an unsatisfactory degree of integration of change and project management in this respect and reveals a potential for its further amplification.

Similar situation is observed regarding two other issues, albeit with slightly lower extent of support (about 69 percent of positive feedback). The first one is the attitude of the top management towards the expected benefits of the changes – here it should be noted that respondents feel somewhat unconfident in the ultimate top management support (about 48 percent agree only partially on this statement, 20 percent do not express an opinion, and each ninth do not provide a positive feedback). The next issue is related to the proper planning of the changes at their phases – similarly, here about 40 percent confirm only partially such practices at their organizations which indicate additional reserves for advance in this respect. This additionally uncovers and aspect of enhancement of the integration of change and project management regarding the project planning phase.

On the basis of the feedback, it is important furthermore to outline several major perspectives for improvement concerning the following change management aspects. First of all, most adverse feedback has been obtained in respect of the dissemination of all necessary relevant information about the intended changes through the initiated project. One quarter of the respondents declare that such information generally is not provided in a timely manner and with the required degree of accuracy. Additionally, each sixth survey participant did not feel enough informed to evaluate the issue. This offers evidence about the perspective of improvements in respect of better dissemination policies that should properly, timely, and correctly inform the internal stakeholders about the targeted benefits of the organizational change to be accomplished by projects.

Interesting result is obtained regarding the importance of the so called “change agents” that should facilitate the success of the organizational change. In particular, such agents are expected to ensure that the personnel understand the vision about the advantages of the organizational transformations anticipated in the project schedule. However, about one quarter of the respondents do not express any opinion concerning this issue – most likely, they are not acquainted with the key function of the “change agents”. Moreover, one of eight survey participants does not recognize the active role of such agents at her/his organization. This reveals a particular perspective for enacting and empowerment of “agents of change” on key positions at Bulgarian IT enterprises – when assigned a role of project team manager of member – in order to facilitate effective transformations.

Albeit less frequently, the active and visible support for changes from top management can still be identified as a perspective for potential organizational advance. Yet, about 11 percent of the respondents do not find such a clear attitude among the top managers of their organizations. The fact that one fifth of the survey participants do not feel informed to evaluate this issue is indicative about the ambiguous stance of the top management on the expected effects of the organizational changes to be achieved by targeted projects. This way, the perspective of top management involvement stays as a core challenge before the future enhancement of the organizational capacity to effectively integrate project and change management for implementing successful changes through projects.

The problems of project communications in the organizations implementing changes by projects are derived as a special perspective of the current study. It is generally considered
that effective communications and awareness to change are crucial for the achievement of organizational transformations. There is no doubt that accurate project communications must provide the personnel affected by the changes with relevant information about what, why, when, and how is going to change. This aspect reveals a core dimension of a successful integration of change and project management. Even more important here is the degree of incorporation of human resources into the anticipated changes through projects based on deep understanding of both common and individual benefits from them. This was also identified as a potentially constructive perspective of the integration of change and project management practices that needs to be elaborated by project managers and project team members when involved in organizational changes.

5. Conclusion

The current study provides evidence in support of the proposition that organizational change is effective if integrated into targeted projects, i.e. implemented as well planned, structured, and goal-oriented project-based activities. There is no doubt that organizational change achieved through such projects require a clear and affirmative support by the top management – without it the obstructions to effective organizational shifts could be problematic. Communication from top management is crucial for the goals of describing the vision of change and inducing commitment among the internal stakeholders of the organization. In general, change management through projects cannot be successful if ignoring the ‘human side’ of organizational changes. along with this, the specifics of the operation of IT enterprises requires even higher degree of flexibility and implementation of managerial innovations, including frequent process reengineering and update through targeted projects, which is considered as critical for the degree of competitiveness of IT organizations.

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References


THE CONCEPT OF AN AIRPORT CITY AS THE BASIS FOR THE DEVELOPMENT OF AIRPORTS: THE CASE OF POLAND

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Abstract
Contemporary airports serve many various functions besides passenger and cargo air transport. They may constitute consumption and investment business centers, thus generating new jobs and additional revenues in the region. Thanks to evoking additional demand, they become catalysts of change, causing a positive domino effect for the socio-economic development of the region. That is why in many places around the world airports function no longer as traditional ports, that is stations devoted exclusively to servicing passenger traffic, but as Airport Cities. For regional authorities, and for the managers of airports, on the one hand, this is an effective direction for the development of smaller regional airports, but on the other hand, it is extremely capital consuming, therefore initial analyses of competitive strategic potentials of a given airport must be carried out first. The main goal of this article is to present a strategic assessment of the competitiveness of Polish regional airports (PRAs) as the foundation for their development towards the direction of Airport Cities, under current conditions, and against global challenges. The original econometric model which has been created for the purpose of this research, taking into account their regional catchment areas as well as individual effects that are not a variable in time. In addition, other parameters have been included, which describe and characterize the effectiveness of management system of individual PRAs.

Key words
airport city, airport strategic management, regional airport, Poland

JEL classification
R11, R58, L9

1. Introduction

Air travel is an integral component of the world in the 21st century, whereas air transport is becoming increasingly important. Currently, transport of passengers constitutes over 85% of world air transport. It is estimated that all airlines worldwide carry billions of passengers annually, with the total distance equalling several million kilometres. The International Air Transport Association (IATA) expects 7.8 billion passengers to travel in 2036, a near doubling of the 4 billion air travelers expected to fly this year. The prediction is based on a 3.6% average Compound Annual Growth Rate (CAGR) noted in the release of the latest update to the association’s 20-Year Air Passenger Forecast. The worldwide air transport industry provided almost 60 million jobs, and its share in the global GNP amounted to 3.4% (Air Passenger Forecast, 2016).

From these optimistic, upward trends in the growth of air transport, follows the necessity to place particular focus on its basic nexus, that is, the airports. The significance of airports in
regional development, especially in the tourism sector, is indisputable (Panasiuk, 2014). Facilities, which provide services for air traffic (i.e., the airports), have developed from terminals that allow passengers to move from one stage of the journey to the next, and currently they are becoming large business centres that undergo rapid development. Airports have the tendency to attract investors, who are inclined to start their own business in places that constitute a good communication hub with the world. This, in turn, leads to the creation of new jobs and further economic growth of the region. Large airports worldwide do not only provide exclusive service for tourism, but they also serve as airport-centred cities, which satisfy all passengers’ needs and expectations. Therefore, these facilities are appropriately referred to as “Airport Cities,” which denotes the idea for a business model of a regional airport. It should be emphasized that this new developmental trend is not strictly reserved for large international airports, but it is also becoming visible in the Polish air transport market, where regional airports clearly dominate. This direction for the development of regional airports in Poland is an immense undertaking, not merely in capital terms, but also in social and political terms, particularly as concerns regional sustainable development perspective. Therefore, the problem should be analysed from a regional strategic managerial point of view not from urban development concepts of airport city only.

The search for the development model of regional airports, in conjunction with the development of regions in which they are located, is a valid and legitimate direction of research, both in the European Union (van de Vijver et al., 2015) and in other geographic areas. Highly interesting studies entail the mapping of regional airports from the angle of economic strength of the given region, and the whole country (Fuellhart et al., 2016). Another significant premise of the regional airports’ development is the intense competition in the air transport services market. This aspect of the effectiveness analysis of Australian regional airports was presented, including the analysis of regional airports’ competitiveness factors (Yahua et al., 2017). In Europe, low-cost carriers (LCCs) play a key role in the aviation market because “they have changed the traditional business relationship between airports and airlines”. (Carlucci et al., 2018, p. 2) The quoted authors have constructed a model for studying the efficiency of Italian regional airports, taking into account original strategic factors of management quality, in conjunction with economic effectiveness of the regional airport industry. In the case of Polish airports, LCCs enjoy tangible market power. Redefinition of the LCCs business model should influence the redefinition of Polish regional airports’ development strategies, with reference to specific conditions of competition that regional airports are facing.

Previous research into regional airports is mostly oriented towards airport efficiency in conjunction with various factors of the airport industry. Managerial foundations of strategic competition in the current air transport market have not been sufficiently addressed to date.

When searching for the foundations of Polish regional airports’ (PRAs) development, we have assumed that the Airport City concept can be efficient, provided that macro-analysis factors will be taken into account, combined with the development level of the region, in which the given airport is located, as well as individual factors – internal ones, among them the strategic management system of airport.

Therefore, at the first stage, the current competitive standing of the airports in the context of air transport market should be examined, which subsequently would lead to the establishment of an Airport City in the given region.

The goal of this paper is to present the strategic assessment of the competitiveness of
Polish regional airports (PRAs) as the foundation for their development into the direction of Airport Cities, taking into account the economic conditions in Poland, and considering global challenges. The original econometric model which has been created for the purpose of this research includes the strategic assessment of competitive position for individual regional airports (PRAs), taking into account their regional catchment areas as well as individual effects that are not variable in time. In addition, other parameters have been included, which describe and characterize the effectiveness of management system of individual PRAs. This research focuses on presenting the evaluated levels of competitiveness of Polish PRAs within the air transport market. This will serve as the foundation for their development towards an Airport City model, considering Poland’s economy and its competitiveness in relation to international airports.

2. The airport city concept

In the early days, airports were perceived as places that are exclusively reserved for the operation of take-offs and landings of planes. With time, changes have occurred, which led to the increasing demand for air transport. As a consequence, airport infrastructure has grown tremendously. Passengers awaiting their plane’s departure constitute a large number of potential clients, therefore large international airports – apart from the standard shops, restaurants and numerous bars – offer also more luxury facilities such as sleeping rooms, mini-golf courses, karaoke bars and beauty spas. Traditional airports, which provide services mainly for tourism, are slowly becoming obsolete. The development of “Airport Cities” is perceptible; they offer new forms of conveniences such as hotels, car parks and shopping centres. Current subject literature mentions the concept of “Airport City” or “Terminal City,” which represents a place that provides not only passenger check-in, but also satisfies other numerous needs of current and potential passengers (customers). Airports are quickly changing into independent cities that may be seen as multi-task tourist-business centres, which include both the area of the airport, and its catchment area. The definition of Airport City takes into account the airport itself, as well as the entire structure that is outside the aviation business, but providing services on its behalf, and utilizing its proximity (see e.g. Appold and Kasarda, 2011; Kasarda, 2008). Successful development of a given airport based on the Airport City concept is significant for the whole region in which the airport is located.

We should also briefly mention the “Aerotropolis” concept (Romeo, 2013), which includes the area of economic impact of the airport, and which extends up to 100 km from the airport. Aerotropolis employs several thousand people and generates several percentage points of the nation’s GNP (see Figure 1) However, the actual effective impact of the multi-airport system depends on its basic element, which is the Airport City.

Contemporarily, Airport Cities are operating on every continent. Such large airports as Dubai, Frankfurt or Amsterdam-Schiphol are difficult to classify as traditional airports, because they resemble cities rather than terminals that merely provide transfer of passengers.

The majority of the studies, which were reviewed by Zak and Getzner (2014), indicate significantly positive economic effects associated with the functioning of the airport in Central Europe, in particular with regard to the effects on employment and gross added value for the region in which the airport is located. Economic and social considerations constitute a sufficient premise for the development of regional airports also in Poland. The world-tested concept of Airport City should be the business idea basis for their development. The implementation of this concept, however, requires costly, long-term investment, with varied
social and political impact in the regional context. Therefore, it is assumed that the first stage should consist in a strategic assessment of competitiveness of individual regional airports in the air transport market, both domestic, and pan-European.

Figure 1: Multi-airport system

Source: the authors based on Kasarda (2008).

2.1 Foundations for assessing the competitiveness of Polish regional airports

The strategic facility of the so-called point air transport infrastructure comprises of an airport, in other words – an airfield with facilities, equipment, and ground services that are adjusted to air transport (passengers, luggage, cargo and mail). Different types of airport classifications are designated by Polish legislation as well as the European Union standards. One of the classifications subdivides airports into national, municipal and private. This particular categorisation largely overlaps the division of airports into central, regional and local. In this case, the following criteria have been established: the size of the air transport (large airports-hubs, medium-regional ones, and small-local); the type of air transport (passenger and cargo); the number of aircraft movements (take-offs and landings); and the functions served by individual airports (i.e. the service of international air transport on long haul, medium haul and short haul routes).

Current division and distribution of airports in Poland is a direct consequence of numerous historical and political processes. The aviation network in Poland has been developing intensively prior to World War II, and the first Polish airports have been strongly linked to military operations. During the interwar period, the majority of the airports served military purposes, and it was only recently that they have been transferred to civil aviation. Until the 1990s, the Warsaw-Okęcie airport (in the capital of Poland) was the dominant airport for civil aviation. The remaining airports played a minor role. The Warsaw airport role was to serve as a transfer hub (for Poland) and for a number of years it had a major share in the check-ins and the total number of passengers in the country. Currently, its role is beginning to decrease, along with the growth of air transport in other Polish regions. Some people have hypothesised that the airport in Warsaw could even shut down due to exceeding its traffic capacity.
Today, regular air traffic in Poland is operated by several airports, which are distributed around the entire country. Here is the list of the official civil airports in Poland: Warszawa-Okęcie (WAW) which is considered the major central airport, as well as a number of regional airports, such as: Bydgoszcz-Szwyderowo (BZG), Gdańsk-Rębiechowo (GDN), Katowice-Pyrzowice (KTW), Kraków-Balice (KRK), Łódź-Lublinek (LCJ), Poznań-Lawica (POZ), Rzeszów-Jasionka (RZE), Szczecin-Goleniów (SZZ), Wrocław-Strachowice (WRO), Zielona Góra-Babimost (IEG), Warszawa-Modlin (WMI), Lublin-Świdnik (LUZ), Radom-Sadków (RDO), and Olsztyn-Mazury (SZY). The official register of airports also includes local airports such as sport airfields, and airports belonging to flying clubs. In addition, military airports and private airports remain in operation.

The capital airport (WAW - Warsaw-Okęcie) still enjoys the prevalent position, and serves over three times more passengers than one of the largest regional airports in Poland, that is Kraków-Balice. Despite the fact that connections to and from Warsaw constitute an essential part of air traffic, the position of the Warsaw airport as the nation’s hub is decreasing every year, also due to very aggressive policy implemented by the competing German airports (Frankfurt, Munich and Berlin).

It is assumed that particularly essential competitive space may be determined by overlapping incumbent areas of the neighbouring airports (i.e. their catchment areas). The aforementioned assumption resulted in focusing the strategic competitiveness analysis on both the meso-(regional) and micro- areas, in other words, on the regional and direct competitors. In the subsequent phase of the analysis, the authors constructed a map of strategic groups for individual Polish airports, taking into account not only Polish airports, but also European airports outside Poland, which directly compete with Polish airports. Here is a complete list of these groups:

- Competitors of the WAW airport: KRK, KTW, WRO, LCJ, including also airports situated in Germany: Berlin –BER and Munich –MUC, in Czech Prague –PRG, and in Austrian Vienna –VIE;
- Competitors of the BZG airport: GDN as well as WAW, POZ, WRO;
- Competitors of the GDN airport: BZG, SZZ, WAW, including also an airport situated in the Kaliningrad Oblast, Russia – KGD;
- Competitors of the IEG airport: POZ, WRO;
- Competitors of the KRW airport: KTW, RZE, WRO, including also airports located in Slovakia: Poprad-Tatry – TAT, Žilina, – ILZ, Banská Bystrica– SLD, as well as Ostrava in the Czech Republic – OSR and Lviv in Ukraine – LWO;
- Competitors of the KTW airport: KRK, WRO, WAW, LCJ, including also Poprad-Tatry in Slovakia – TAT, and Žilina in Slovakia – ILZ;
- Competitors of the LCJ airport: WAW, as well as KTW, WRO, POZ;
- Competitors of the POZ airport: BZG, IEG, as well as WRO, LCJ, SZZ,
- Competitors of the RZE airport: KRK, KTW, including also airports situated in Ukraine – Lviv –LWO, Ivano-Frankivsk –IFO;
- Competitors of the SZZ airport: BZG, GDN, as well as Berlin airport – BER;
- Competitors of the WRO airport: SZZ, POZ, WAW, as well as Berlin airport –BER.

In Poland, it is very likely that the role of a hub airport will be reserved for the planned Central Communication Port. It would be interesting to attempt a forecast how the situation of Polish airports will change when the new airport starts operating on a larger scale. We should also consider the impact of the Berlin airport competition on the operation of Polish regional
airports (Wrocław, Poznań, Szczecin). The map of strategic groups of Polish airports has a large practical significance when making targeted business and marketing decisions (for example, for the Polish National Carrier - PLL LOT). This also pertains to low-cost foreign air carriers (LCCs), already very active in Polish regional airports.

In order to establish, maintain and strengthen their competitive position, the managers of Polish regional airports should systematically and actively monitor both the efficiency of their own management systems, and those of their competitors, while vigorously building positive relations between regional stakeholders.

2.2 Model for the strategic assessment of airport competitiveness

Our studies pertaining to the competitiveness of Polish regional airports focused on designating factors, which shape the competitive position of these airports. According to the principles of the aforementioned strategic competitiveness analysis, a list of potential factors that shape the competitiveness of Polish airports has been drafted and submitted to econometric analysis, in order to designate specific associations that occur among these sets of factors. The dependent variable in the devised model is represented by the coefficient of the number of passengers served by the given, individual airport per 100 inhabitants of the region (voivodship) in which that airport is situated. This type of measure has been applied in order to determine the competitiveness of Polish regional airports in terms of their share in the market of air passenger transport. The structure of this measure enabled the assessment of the competitive position with regard to the airport’s catchment area.

The extent of quantitative analysis has been limited by the temporal data accessible for Polish regional airports. Consequently, this prevented us from performing an assessment of the impact of long-term macro-economic factors, which affect the competitiveness of Polish airports (this especially concerns those factors which are associated with business cycles). Nevertheless, the dataset of potential variables, which elucidate the model, comprised of features (factors) pertaining to micro- and meso-catchment areas of Polish airports (see Table 1).

Among the factors pertaining to the management system of the airport, the possible regressors of the constructed model include:

- the number of routes operated by a given airport,
- the range of airport fees (both domestic and international),
- the share of low-cost airlines, charter flights, and the total number of all flights in a given airport.

Among the variables, which pertain to the regional environment, we need to consider the following:

- the measures of socio-economic development of the region in which the airport operates,
- the per capita GDP for the region in which the airport is located,
- the number of people employed in the aviation sector, per 100 inhabitants of the region,
- the network of roads [in km], and railways [in km] per 100 km² of the region’s area,
- the measure of tourist attractiveness in regions that are served by the airport,
- the number of tourists per 100 inhabitants of the region in which a given airport is situated.
Table 1: Potential explanatory variables for the constructed model, including their abbreviated meaning

<table>
<thead>
<tr>
<th>t</th>
<th>Temporal variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>the number of routes served by the airport (symbol: routes_served)</td>
</tr>
<tr>
<td>X2</td>
<td>the number of carriers serving the airport (symbol: carriers)</td>
</tr>
<tr>
<td>X3</td>
<td>passenger fee amount for domestic traffic in the airport in PLN (symbol: fees_domestic)</td>
</tr>
<tr>
<td>X4</td>
<td>mean passenger fee amount in the airport in PLN (symbol: fees_avg)</td>
</tr>
<tr>
<td>X5</td>
<td>the percentage of operations carried out by low-cost carriers as a share of total operations performed in the airport (symbol: lowcost_op [%])</td>
</tr>
<tr>
<td>X6</td>
<td>the percentage of operations carried out by charter carriers as a share of total operations performed in the airport [%] (symbol: charter_op [%])</td>
</tr>
<tr>
<td>X7</td>
<td>the percentage of operations carried out by traditional carriers in all operations performed in the airport [%] (symbol: trad_op [%])</td>
</tr>
<tr>
<td>X8</td>
<td>the percentage of domestic operations in all operations performed in the airport [%] (symbol: fees_domestic [%])</td>
</tr>
<tr>
<td>X9</td>
<td>the percentage of international operations in all operations performed in the airport [%] (symbol: fees_intl [%])</td>
</tr>
<tr>
<td>X10</td>
<td>GNP per capita in the region (voivodship), where the airport is situated in thousand PLN per capita (symbol: GDP PC [thous. PLN/inhab.])</td>
</tr>
<tr>
<td>X11</td>
<td>the number of workers employed in the R&amp;D sector per 10 thousand inhabitants (symbol: R&amp;D [employees/10 thous. inhabit.])</td>
</tr>
<tr>
<td>X12</td>
<td>the number of tourists visiting the region, in which the airport is situated, per 100 residents of this region (symbol: tourists [pers./100 inhab.])</td>
</tr>
<tr>
<td>X13</td>
<td>the number of kilometers of public roads per 100 km2 region (symbol: roads [km/100 km² of the area])</td>
</tr>
<tr>
<td>X14</td>
<td>the number of kilometers of railway lines per 100 km² region (symbol: rail [km/100 km² of the area])</td>
</tr>
</tbody>
</table>

Source: the authors based on Bednarczyk and Grabińska (2015).

The derived model with fixed individual effects, which describes the conditioning of the pax/100 inhabitants coefficient (that includes 5 regressor features – 4 features with values variable in time, and a linear trend) assumes the following form:

\[ y_{it} = \alpha_t + \beta_1 t + \beta_2 \cdot x_{1it} + \beta_3 \cdot x_{6it} + \beta_4 \cdot x_{11it} + \beta_5 \cdot x_{12it} + e_{it} \]  

(1)

where \( y_{it} \) is dependent value that represent value of the coefficient, which pertains to the number of passengers served per 100 inhabitants of the given region for \( i \)-th airport in \( t \)-year, \( t \) is linear deterministic trend taking on values between 1 to 4, \( x_{1it} \) is number of routes served by for \( i \)-th airport in \( t \)-year, \( x_{6it} \) is percentage of operations performed by low-cost carriers in \( i \)-th airport in \( t \)-year (%), \( x_{11it} \) is region’s GDP registered in the \( t \)-year, in which the \( i \)-th airport is located (PLN/inhabitants) and \( x_{12it} \) is coefficient pertaining to the number of people employed in Research and Development (people/10 thousand inhabitants).

The data used in the analysis were of the panel type. This allowed us to analyse the significance of the impact of individual factors (constant in time) characteristic for individual Polish airports. In total, 11 facilities have been taken into account and that number corresponds exactly to the number of civil airports that operated in Poland at that time. Hence 11 airports were treated as objects (\( n =11 \)), the characteristics of which were observed during four consecutive years, from 2007 to 2011 (\( T =4 \)). Therefore, the combined number count for
the $nT$ sample equalled 44 object-periods (see Figure 2).

The results of the econometric analysis indicate that the principal share in elucidating variability of the assumed measure – the number of passengers per 100 inhabitants of the region – apparently comprises individual effects that are constant in time, and are specific to each airport. Summing up, we can formulate a conclusion that the impact of individual effects on airport competitiveness is a resultant variable that explains characteristic factors, which are constant in time. Consequently, the non-measurable factors, which are constant in time, are the following:

- historically established position of particular airports – the dominant role of the central airport as well as airports situated in the largest cities and regional agglomerations (i.e. Kraków, Katowice, Gdańsk, Wrocław),
- location of a given airport and its proximity to other airports - distance of the analysed airport to the nearest airport which is a competitor (the impact of this component is visible especially in the case of Łódź airport, where strong negative impact was observed.

The econometric analysis also indicates that among the considered characteristics, the factors that were variable in time and significantly shaped the level of competitiveness of individual airports included: the number of routes operated by the airport and the share of low-cost carrier (LCCs) operations in the total number of operations in that airport.

The second aforementioned factor, which shapes the competitiveness of airports and is measured by the number of passengers per 100 inhabitants, is strongly correlated (at least in the period when this study was performed) with the high level of the Poles’ paid-work migrations to Western Europe, serviced by flights primarily operated by LCCs.

Among important factors that are susceptible to changes in time and have been taken from the set of factors pertaining to the regional environment of the Polish airports (treated as possible model regressors), the following have been highlighted: region’s GNP per capita and the number of people employed in the R&D sector. In the latter case, this was calculated per 10 thousand inhabitants of the region in which the given airport is situated. The first variable can be treated as an approximate measure of the socio-economic development of the region served by the airport, whereas the second variable becomes an approximate measure of the level of scientific and technological development. In addition, an increasing trend in the coefficient of the number of passengers per 100 inhabitants was observed. It should be noted that in the present analysis this was the assumed measure of the level of competitiveness.

The extent of the gathered quantitative data pertaining to the operation of Polish airports is limited, and unfortunately this impedes an in-depth empirical analysis that would allow us to study the conditions for competitiveness. Based on the performed analysis, the authors formulated a proposition that the competitive position of Polish airports is primarily affected by the strength of the region – the level of its socio-economic development, its potential, and its development perspectives. The competitive strength of the region is affected by a broad spectrum of conditions, as well as social, economic and spatial processes. Conditioning factors of the native region, the infrastructure and technological supply of the airport itself, are impeded by Poland’s recent history. Indeed, it would be difficult to accomplish more in the short time that has passed since Poland entered political and economic transition. It should be stressed that despite the fact that air transport in Poland developed back in the 1920s, subsequent historical conditions (destruction caused by World War II, followed by thwarted economic growth and stagnation in the communist era) had such a grave impact that it was not until the last two decades that Polish airports began to play a more significant role in the
national economy.

Figure 2: Econometric analysis – structure and system

![Figure 2: Econometric analysis – structure and system](image)

It has already been stated that success and subsequent strong competitive position of Polish airports depends on many factors, which affects the selection of proper strategy in terms of competition in the global market of air transport. It could be an interesting and surely a promising trend in the development of Polish regional airports to redefine them into the so-called Airport City business model.

3. Conclusion

Development perspectives for the entities such as Airport City should be seen through the lens of air transport development projections in general, in global, European, as well as local (domestic) perspective. The Polish air transport system, similarly as in other national economies in Europe, became part of the EU system.

At present, Poland is witnessing a considerable growth of the aviation infrastructure. The largest Polish airport of Warsaw-Okęcie will soon reach its maximum capacity limit, whereas Poles travel by air increasingly often. According to the existing plans, the Central Communication Port is to become an international transport hub that will attract passengers not only from Poland, but also from the whole region. The key reason behind the decision to build the Communication Central Port is to create a transportation node. It should be a place where air and railroad routes meet, so that the transportation systems will be fully integrated.

To conclude, it should be emphasized that currently airports are becoming facilities of a brand new type. Aside from being economic entities, which generate profit, they are also
capable of attracting new companies and are consequently becoming catalysts of regional development. Airports are morphing into large and important economic facilitators of their catchment regions at the urban, regional, and not surprisingly, even international scale (Rouzbeh and Siegmann, 2016, p. 805).

Therefore, Polish airports are treated as multi-modal hubs, with strategic importance for a given region. This particular role of airports may be translated to strengthening the competitive position of the native region of a given airport. On the other hand, it may be added that the factor that conditions the proper development of a given airport is a strong competitive position of its native region. Therefore economic entities, which manage the airports, should seek support among regional authorities - stakeholders, and this is also a reason why it is particularly important to appreciate the role of self-governments and regional authorities in strengthening competitive position of a given airport. The foundation for accomplishing competitive advantage is to encourage cooperation among all of the subjects, which are interested in the development of the airport in a given region.

Finally, we should emphasize that – despite the fact the Airport City concept is the most probable vision of development for new regional airports in Poland – considering the present economic conditions, this particular solution is both risky and expensive. This is especially true in the case of self-government administration of voivodships, forced to finance multi-million budgets for the current operations of the newly established airports. A plausible solution is to continue the development of these airports, but this needs to be based on their current and actual competitive position, as well as switching the main emphasis to cargo transport. Worldwide Airport Cities have begun to serve specific functions pertaining to the service of foreign trade, and consequently they have developed into regional logistic centres. The principles and models of Airport City Cargo, in the context of Polish economic situation, remain a sophisticated and multi-layered challenge, which requires carrying out separate analyses. In 2016, Polish airports served 34 million passengers, and the Civil Aviation Authority has estimated that a total of 39 million passengers are expected to use Polish airports in 2017. According to the Civil Aviation Authority, in 2035 Polish airports will carry 94 million passengers, triple the 2016 figure, and it is expected that the numbers will continue to grow (Air traffic forecast in Poland, 2017). However, the existing infrastructure is not able to meet the challenges of such volume, and that is why the new Central Communication Airport is being planned. It would mean the construction of a central airport integrated with rail and road networks, which would enable serving passenger and cargo traffic between the East and the West, as well as the North and the South, and the establishment of the main logistic hub on the route between Europe and China, the new Silk Road. The expanded concept of the Airport City along the lines of Aerotropolis creates huge opportunities for development from the perspective of both the region and the entire country.

References


REBALANCING IN TEV MINIMIZATION REVISITED

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Abstract

This paper is an investigation into the validity of several rebalancing strategies that are employed in conjunction with the tracking approach to portfolio selection based on minimization of tracking error variance (TEV). In a case study oriented on the S&P 500 Index and its constituents, four periodic rebalancing strategies, six threshold rebalancing strategies are juxtaposed and their performance is evaluated against the performance of the buy-and-hold strategy and of the underlying index itself. The investigation is carried out using monthly data from July 2009 to July 2014 (the in-sample period) and from July 2014 to August 2017 (the out-of-sample period) and for 40 constituents of the S&P 500 Index qualified on the footing of market capitalization as suitable candidates for portfolio tracking. It was not possible to recommend an optimal rebalancing strategy.

Key words

portfolio tracking, tracking error variance minimization, transaction costs, periodic rebalancing, intervention rebalancing, transaction costs

JEL classification

G1

1. Introduction

In making investment decisions a great deal of emphasis is placed upon choosing the "right" allocation of assets in the portfolio. Usually several variants are pondered over and the final decision is dictated by the investor's trade-off between return and risk. At the moment of portfolio selection, the portfolio composition may be optimal in light of the investor's preferences, his expectations about future returns, volatility and correlations that are always at work, although oftentimes intuitively. Nonetheless, some time afterward, the situation may be (and is likely to be) subject to change and the portfolio ceases to be optimal as the risk-return trade-off no longer holds. This change compels the investor to rebalance the portfolio, to reconsider the initial allocation so that the return-risk characteristics remain consistent over time. As it happens, portfolio rebalancing is an ineluctable part of practical investing at financial markets and is the centre of attention in the paper. The paper builds on an earlier study by Boďa and Kanderová (2014) who investigated in a small case study the performance of different rebalancing strategies applied in conjunction with the most popular approach of passive portfolio selection, i.e. tracking error variance (TEV) minimization. Their small case study considered a case of tracking the Standard and Poor's 500 (S&P 500) Index using 40 of its constituents pre-selected on the basis of market capitalization, and compared several
rebalancing strategies. Period rebalancing strategies implemented as regular monthly, quarterly, semi-annual and annual revisions were evaluated against intervention rebalancing strategies with 2.5 %, 5 %, 10 %, 15 %, 20 % and 25 % tolerance bands. Having set the in-sample period from January 2006 to January 2011 and the out-of-sample period from January 2011 to February 2014 and having employed data of a monthly frequency, Bodňa and Kanderová (2014) recommended periodic rebalancing as universally most reliable insofar as periodic rebalancing strategies outperformed the S&P 500 Index in three of four cases in respect of the return-to-volatility ratio and yielded mean returns higher than the S&P 500 Index did. Strangely enough, they found the 2.5 % threshold rebalancing strategy superior.

The key limitation of this prior effort is its focus on a certain historical period, which is – from the perspective of nowadays – outdated and the findings may not hold. The underlying S&P 500 Index changed its composition and there have been a multitude of changes (such as in market trends, in co-movement of trends etc.) that might be effective and cause that the practical advice for investing may be different. This paper arises in an attempt to revisit the original findings using the identical set-up with an updated set of data that might reflect that the original findings could be circumstantial without more universal validity. To be more precise, the goal of the present study is to investigate which rebalancing strategy employed for tracking the S&P 500 Index using the TEV criterion is more advisable alongside the lines of mean return and volatility against a more recent data set running from July 2009 to July 2014 (the in-sample period) and from July 2014 to August 2017 (the out-of-sample period). The study also reflects the updated composition of the S&P 500 Index; yet, in all else, the configuration is left unchanged.

The next section makes brief notes and a methodological exposition on issues associated with portfolio tracking and rebalancing, and is followed by a section that details the configuration of the case study and presents its results. Eventually, the last section discusses and concludes.

2. Portfolio selection based on TEV minimization and portfolio rebalancing

Portfolio selection based on the notion of tracking is to construct the portfolio in such a fashion that it retains trend and performance characteristics of a suitably chosen benchmark (usually a market index). This permits the investor to exploit the market dynamics and the capability of markets to outperform the majority of professional institutional or individual investors. Toward this end, the idea of tracking error is of utmost importance and the desire is to minimize it so that the portfolio mimics (tracks) the benchmark as best as possible. Tracking error arises as a difference between portfolio and benchmark returns and although there are various definitions of tracking error available, it is most frequently expressed in terms of variance (e.g. Rudolf et al., 1999). The variance of deviations of portfolio returns from benchmark returns is called "tracking error variance" (TEV) and the ambition is to minimize; hence the title of the paper. Performance and empirical properties of TEV minimization was already subject of research, e.g. Jansen and van Dijk (2002) explored reliability of portfolio tracking based on TEV minimization whilst considering only small portfolios of equities, the existence of transaction costs and additional constraints on investing.

Several tracking strategies are utilized in practical portfolio management differing according to investment style and according to risk profile. This paper explores only the
approach to portfolio tracking that resides in partial replication of a financial index. In partial replication, only a small proportion of assets represented in the index is chosen according to certain criteria (e.g. according to market capitalization) and the weights on assets are determined as they are implied by their representation in the index at the cost of loss in optimality or efficiency. In this present study, the weights of individual assets are determined by TEV minimization.

Asset allocation is not a one-time decision, but it is a continuous process requiring constant revisions of the portfolio composition. The selected tracking portfolio can be optimal regarding tracking error several months, but in a longer time horizon, tracking portfolio returns may deviate considerably from benchmark returns or their pre-determined target level – which requires rebalancing of these portfolios. Portfolio rebalancing brings about a number of benefits. First of all, when compared to the buy-and-hold strategy, it reduces risk substantially without any damage to mean returns that tend to remain on the same level or increase by a slight margin (see Dichtl et al., 2016). In addition, rebalancing pushes down risk concentration and downside risk. Both Bouchey et al. (2012) and Willenbrock (2011) suggest that a well diversified portfolio at the beginning of the investment period, after some time it may happen that it is more concentrated (i.e. less diversified). However, if the portfolio is rebalanced during the investment period, then concentration can be avoided and the portfolio can preserve its diversification in the course of the entire investment period. Especially Bouchey et al. (2012) argue in favour of rebalancing premium, which yields extra return by creating positive portfolio growth even though the overall asset growth is kept flat by pursuing the “buy low, sell high” strategy.

However, every rebalancing associates itself with a certain amount of transaction costs that affect the net return on investing. This fact must be taken into account and transaction costs must be compared against extra returns earned by portfolio rebalancing. De Jong and Driessen (2013) established that in portfolio rebalancing 1 % transaction costs can be off-set by earning an 0.2 % extra annual return on a risky asset. Masters (2003) explains circumstances under which rebalancing becomes effective in terms of tracking error minimization, which is the key benefit and aim of rebalancing as such. This benefit grows the more the portfolio deviates from its target allocation: the fact that rebalancing costs are linear and rebalancing gains are quadratic, at a certain point rebalancing gains begin to outweigh costs and the net reckoning is that rebalancing is beneficial. There are also attempts to include transaction costs explicitly into the portfolio tracking optimization task, which is the focus of the studies by Adcock and Meade (1994) or Konno and Yamamoto (2003).

There are two major groups of rebalancing strategies, i.e. period rebalancing and threshold rebalancing (e.g. Dichtl et al., 2016). Period rebalancing strategies are characteristic by a regular periodic reallocation of assets. Revisions are introduced into the existing portfolio periodically (e.g. on a monthly, quarterly, yearly basis) regardless of whether the portfolio deviates from the benchmark significantly or whether these deviations are negligible. Threshold rebalancing strategies are also frequently put to use on a periodic basis (such as monthly, quarterly or yearly) and require that the portfolio is checked for a possible deviation from the benchmark and rebalanced only if it deviates significantly, after exceeding a pre-determined threshold.

The choice of a suitable rebalancing strategy is a result of several factors that comprise the market environment, asset class characteristics (correlation between classes of assets, volatility, expected return and time horizon). The issue of validity of rebalancing strategies
was explored by Arnott and Lovell (1993), Plaxco and Arnott (2002), Tsai (2001) and Harjoto and Jones (2006). The configuration of these studies differs to a great extent and it is difficult to make a valid comparison of their findings. For instance, Arnott and Lovell (1993) recommend monthly periodic rebalancing for investors with long-term investment horizons. On the other hand, Plaxco and Arnott (2002) favoured quarterly period rebalancing, whereas Tsai (2001) could not make a firm recommendation in favour of any rebalancing strategy. This author, however, fails to recognize transaction costs, which is also an issue with Harjoto and Jones (2006) who found that rebalancing is superior to non-rebalancing.

This paper follows the study by Boďa and Kanderová (2014) and its ambition is to keep the entire setting intact except updating the span of the in-sample (i.e. estimation) and out-of-sample (i.e. investment) periods. The initial portfolio is optimized and rebalancing is done with respect to S&P 500 Index serving the role of benchmark and is footed upon TEV minimization. Several strategies are considered for the sake of comparison and tracking portfolios are constructed out of 40 shares represented in the S&P 500 Index and pre-selected on the basis of their (maximum) market capitalization. The update of the in-sample and out-of-sample period necessitated that these S&P 500 Index constituents were reconsidered in line with the changes in market capitalization and in changes in the index. Period rebalancing strategies based on regular monthly, quarterly, semi-annual and annual portfolio revisions are compared with threshold rebalancing strategies, in which 2.5%, 5%, 10%, 15%, 20% and 25% tolerance bands are set. The task of portfolio selection based on TEV minimization is standard and is described in detail by Boďa and Kanderová (2014) and Rudolf et al. (1999), amongst others. The model of portfolio rebalancing and transaction costs application is adopted in full as proposed and described by Boďa and Kanderová (2004) in order to allow a meaningful comparison. That being said, this is at the cost of one serious simplification, which may expose the entire methodology to some criticism. In fact, at revision times transaction costs should also be paid and they should decrease the value of the portfolio. For simplicity, the model under consideration assumes instead that there exists a separate account, from which these transaction costs are covered. Only the final value of the tracking portfolio is confronted with the volume of transaction costs (in an inflation-free world), and the net value of the investment is computed by subtracting the transaction costs total from the portfolio value.

In expositing this methodology, assume that a history of T historical observations of logarithmic returns is available and that the tracking portfolio is to be composed of k assets. The portfolio weights found by means of the quadratic program answering to TEV minimization are denoted by $\omega_1, \ldots, \omega_k$. Denote the moment of portfolio construction by subscript $\tau$ (obviously satisfying $\tau \geq T$), denote the prices of individual assets at time $\tau$ by the symbols $P_{\tau,1}, \ldots, P_{\tau,k}$ and the price of the benchmark as $P_{\tau,B}$. If the initial investment is $\Psi_\tau$, the following portfolio holdings are suggested: $h_{\tau,1} = \Psi_\tau \cdot \omega_1 / P_{\tau,1}, \ldots, h_{\tau,k} = \Psi_\tau \cdot \omega_k / P_{\tau,k}$. At the same time, a fictional investment into the benchmark is done and the holding $h_{\tau,B} = \Psi_\tau / P_{\tau,B}$ is made. The symbol $\Psi$ will also denote the value of the tracking portfolio at any time denoted carefully in the subscript. Adding “B” in the subscript after the time instance will indicate that the value of the benchmark investment is had in mind. Finally, assume that there is a percentage rate of transaction costs $\varphi \in (0,1)$ that applies to the value of investment changes. Symbols that were introduced for a particular time extend naturally in their validity also for some future times. In consistency with the previous outline, there are several possibilities how to maintain this portfolio by the investor until the end of the investment horizon.
– The investor may choose not to reevaluate the composition of the portfolio at all and opt for the buy-and-hold strategy. In such a case, transaction costs are incurred only at the moment of portfolio creation in the amount

\[
\varphi \sum_{i=1}^{n} |h_{t,i}| \cdot P_{t,i},
\]

which reduces into \(\varphi \cdot \Psi\) when there is a ban on short sales (or when all holdings are positive).

– Another possibility is to rebalance the portfolio at regular time intervals of length, say, \(\Delta \tau\) \((\Delta \tau > 0)\), no matter what the situation on the market is and how the tracking portfolio copies the index. In this case, at the next time \(\tau + \Delta \tau\), the new portfolio composition is identified using the updated window of data. This updating is done on a sliding basis, keeping the length of observations to be \(T\). New holdings are thus produced, \(h_{\tau + \Delta \tau, 1}, \ldots, h_{\tau + \Delta \tau, k}\), and the portfolio must be revised accordingly. In addition to the initial transaction costs resulting from the first portfolio construction given by (2), at the moment of revision, \(\tau + \Delta \tau\), rebalancing transaction costs arise in the amount

\[
\varphi \sum_{i=1}^{n} |h_{\tau + \Delta \tau, i} - h_{\tau, i}| \cdot P_{\tau + \Delta \tau, i},
\]

This, of course, goes on a sliding basis at rebalancing times \(\tau + \Delta \tau, \tau + 2\Delta \tau, \ldots\) until the end of the investment horizon.

– Finally, another possibility is to set a threshold and to monitor discrepancy between the value of the tracking portfolio and the value of the investment into the benchmark. For this, some maximum tolerance threshold \(\delta\) \((with \ \delta > 0)\) must be set. If at some future time \(\tau + \pi\) \((with \ \pi > 0)\) the situation \(|\Psi_{\tau + \pi} - \Psi_{\tau + \pi, B}|/\Psi_{\tau + \pi, B} > \delta\) first happens to be the case, this is the impetus for an intervention and the portfolio is rebalanced. With this intervention portfolio, additional transaction costs are associated in the same manner as explained about the formula (3). However, one must bear in mind that to warrant consistency, it is necessary to rebalance also the index to the new value of the intervention tracking portfolio. Only then comparisons of values makes sense.

3. **Empirical exercise, its practical aspects and results**

In order to assure higher stability over time, the study by Boďa and Kanderová (2014) utilized data observed on a monthly frequency. The original in-sample-period spanned 5 years from January 2006 to January 2011 and included 60 effective observations of monthly returns, and the out-of-sample period represented another 3 years from January 2011 to February 2014 counting 36 monthly instances in which the tracking portfolio might be rebalanced. The present study employs 5 years from July 2009 to July 2014 counting 60 monthly observations of returns as the in-sample period, and 3 years from July 2014 to August 2017 covering 36 observations of returns as the out-of-sample period. This is a shift by 3 and a half years. The 40 shares qualified for the present study were selected from amongst the constituents of the S&P 500 Index at the end of July 2014, but using the market capitalization valid at the end of 2014. The list of shares participating in the exercise is provided in Table 1 and their categorization under the Global Industry Classification Standard (GICS) taxonomy is indicated. Only seven shares are identical with those considered by Boďa and Kanderová (2014).
Table 1: The shares participating in the empirical exercise

<table>
<thead>
<tr>
<th>Company name</th>
<th>GICS sector</th>
<th>Company name</th>
<th>GICS sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comcast Class A Comm.</td>
<td>Consumer Discretionary</td>
<td>AIG Inc.</td>
<td>Financials</td>
</tr>
<tr>
<td>Time Warner Inc.</td>
<td>Consumer Discretionary</td>
<td>JPMorgan Chase &amp; Co.</td>
<td>Financials</td>
</tr>
<tr>
<td>Home Depot</td>
<td>Consumer Discretionary</td>
<td>Wells Fargo</td>
<td>Financials</td>
</tr>
<tr>
<td>The Walt Disney Co.</td>
<td>Consumer Discretionary</td>
<td>Goldman Sachs Group</td>
<td>Financials</td>
</tr>
<tr>
<td>Twenty-First Century Fox</td>
<td>Consumer Discretionary</td>
<td>Morgan Stanley</td>
<td>Financials</td>
</tr>
<tr>
<td>McDonald's Corp.</td>
<td>Consumer Discretionary</td>
<td>American Express Co.</td>
<td>Financials</td>
</tr>
<tr>
<td>Target Corp.</td>
<td>Consumer Discretionary</td>
<td>U.S. Bancorp</td>
<td>Financials</td>
</tr>
<tr>
<td>Lowe's Cos.</td>
<td>Consumer Discretionary</td>
<td>MetLife Inc.</td>
<td>Financials</td>
</tr>
<tr>
<td>Procter &amp; Gamble</td>
<td>Consumer Staples</td>
<td>Johnson &amp; Johnson</td>
<td>Health Care</td>
</tr>
<tr>
<td>Wal-Mart Stores Inc.</td>
<td>Consumer Staples</td>
<td>Pfizer Inc.</td>
<td>Health Care</td>
</tr>
<tr>
<td>Altria Group Inc.</td>
<td>Consumer Staples</td>
<td>Merck &amp; Co.</td>
<td>Health Care</td>
</tr>
<tr>
<td>The Coca Cola Co.</td>
<td>Consumer Staples</td>
<td>Amgen Inc.</td>
<td>Health Care</td>
</tr>
<tr>
<td>PepsiCo Inc.</td>
<td>Consumer Staples</td>
<td>Abbott Laboratories</td>
<td>Health Care</td>
</tr>
<tr>
<td>Mondelēz Int'l</td>
<td>Consumer Staples</td>
<td>United Health Group Inc.</td>
<td>Health Care</td>
</tr>
<tr>
<td>Exxon Mobil Corp.</td>
<td>Energy</td>
<td>Medtronic Inc.</td>
<td>Health Care</td>
</tr>
<tr>
<td>Chevron Corp.</td>
<td>Energy</td>
<td>Eli Lilly and Co.</td>
<td>Health Care</td>
</tr>
<tr>
<td>ConocoPhillips</td>
<td>Energy</td>
<td>Bristol-Myers Squibb</td>
<td>Health Care</td>
</tr>
<tr>
<td>Schlumberger Ltd.</td>
<td>Energy</td>
<td>Anthem Inc.</td>
<td>Health Care</td>
</tr>
<tr>
<td>Citigroup Inc.</td>
<td>Financials</td>
<td>General Electric</td>
<td>Industrials</td>
</tr>
<tr>
<td>Bank of America Corp.</td>
<td>Financials</td>
<td>United Parcel Service</td>
<td>Industrials</td>
</tr>
</tbody>
</table>

Source: the authors.

The initial investment in the amount of U.S. $100,000 was made at the beginning of July 2014 (coincident with the end of the in-sample period). Shorts sales were permitted and the rate of transaction costs was set to $\delta = 0.1\%$. The following strategies were examined:

- The buy-and-hold strategy, in which case the portfolio created at the beginning of July 2014 was not rebalanced during the three-year out-of-sample period.
- The periodic rebalancing strategies, under which the portfolio created at the beginning of July 2014 was rebalanced annually, semi-annually, quarterly and monthly.
- The intervention rebalancing strategies, under which the initial portfolio was rebalanced only if it deviated from the benchmark S&P 500 Index by more than 2.5\%, 5\%, 10\%, 15\%, 20\% and 25\%.
- The investment into the index as at the beginning of July 2014 without rebalancing in order to enable comparison of the tracking strategies in terms of their performance.

In computations and preparing graphical presentations, the software R version 3.4.1 (R Core Team, 2017) was employed with several of its libraries, `quadprog`, `timeSeries`, `PerformanceAnalytics` and `tseries`.

The results and the behaviour of the rebalancing strategies considered under TEV minimization are summarized graphically in Figures 1 and 2 and numerically in Table 2. For comparative purposes, Table 3 is reprinted from the study by Boďa and Kanderová (2014) and states information in the same arrangement that answers to the original set-up.

Figure 1 displays how the initial investment of $100,000 trended over time for the buy-and-hold tracking error strategy, and the four periodically rebalanced strategies as well as for the fictive investment into the index. Similarly, Figure 2 provides this information for the five six threshold investment strategies and for the investment into the index. Final portfolio values without the effect of transaction costs in both graphs are shown at the left endings of the gray vertical strips (this is when the strategies quit at the end of July 2017). At the right
endings of the gray vertical strips, net final portfolio values are displayed inclusive of transaction costs.

Figure 1: The price development of the periodic rebalancing strategies

![Portfolio values of rebalancing strategies launched at the beginning of July 2014 at $100000 (regular rebalancing)](chart1)

Source: the authors.

Figure 2: The price development of the threshold rebalancing strategies

![Portfolio values of rebalancing strategies launched at the beginning of July 2014 at $100000 (maximum deviation rebalancing)](chart2)

Source: the authors.

Tables 2 and 3 contain information on the performance of the rebalancing strategies for the present study and for Boďa and Kanderová (2014). The first three lines of information for each strategy is the final portfolio value, the total transaction costs and the net final portfolio value. The other three lines inform on the common performance (irrespective of the performance of the benchmark index) and the last three lines shows the performance relative to the index. For the sake of completeness, excess returns are defined as exceedances of portfolio returns over benchmark returns.

The rebalancing strategies studied in the present paper can be assessed from several perspectives: (a.) performance evaluation of the rebalancing strategies in comparison to the index neglecting transaction costs on the basis of mean returns and volatility, (b.)
performance evaluation of the rebalancing strategies in comparison to the index with regard given to transaction costs on the basis of net portfolio values, and (c) mutual performance comparison of the rebalancing strategies on the basis of mean excess returns and excess volatility.

Table 2: Performance of the rebalancing strategies considered in this study

<table>
<thead>
<tr>
<th>Periodic rebalancing strategy</th>
<th>Buy-&amp;-hold</th>
<th>Yearly</th>
<th>Half-yearly</th>
<th>Quarterly</th>
<th>Monthly</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final portfolio value ($)</td>
<td>115,665</td>
<td>118,834</td>
<td>114,579</td>
<td>113,047</td>
<td>115,798</td>
<td>123,307</td>
</tr>
<tr>
<td>Total transaction costs ($)</td>
<td>221</td>
<td>520</td>
<td>694</td>
<td>1,108</td>
<td>1,708</td>
<td>100</td>
</tr>
<tr>
<td>Net final portfolio value ($)</td>
<td>115,444</td>
<td>118,314</td>
<td>113,886</td>
<td>111,940</td>
<td>112,089</td>
<td>123,207</td>
</tr>
<tr>
<td>Mean return (p.m.)</td>
<td>0.42%</td>
<td>0.49%</td>
<td>0.39%</td>
<td>0.35%</td>
<td>0.37%</td>
<td>0.60%</td>
</tr>
<tr>
<td>Standard deviation (p.m.)</td>
<td>3.58%</td>
<td>3.14%</td>
<td>3.12%</td>
<td>3.17%</td>
<td>3.18%</td>
<td>2.93%</td>
</tr>
<tr>
<td>Mean to standard deviation ratio (p.m.)</td>
<td>0.1162</td>
<td>0.1571</td>
<td>0.1247</td>
<td>0.1106</td>
<td>0.1162</td>
<td>0.2042</td>
</tr>
<tr>
<td>Mean active return (p.m.)</td>
<td>-0.18%</td>
<td>-0.11%</td>
<td>-0.21%</td>
<td>-0.25%</td>
<td>-0.23%</td>
<td>NA</td>
</tr>
<tr>
<td>Active standard deviation (p.m.)</td>
<td>-4.88%</td>
<td>-4.62%</td>
<td>-4.60%</td>
<td>-4.64%</td>
<td>-4.66%</td>
<td>NA</td>
</tr>
<tr>
<td>Information ratio (p.m.)</td>
<td>-0.0375</td>
<td>-0.0228</td>
<td>-0.0456</td>
<td>-0.0534</td>
<td>-0.0492</td>
<td>NA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threshold rebalancing strategy</th>
<th>2.5 %</th>
<th>5 %</th>
<th>10 %</th>
<th>15 %</th>
<th>20 %</th>
<th>25 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final portfolio value ($)</td>
<td>114,984</td>
<td>112,554</td>
<td>115,665</td>
<td>115,665</td>
<td>115,665</td>
<td>115,665</td>
</tr>
<tr>
<td>Total transaction costs ($)</td>
<td>574</td>
<td>403</td>
<td>221</td>
<td>221</td>
<td>221</td>
<td>221</td>
</tr>
<tr>
<td>Net final portfolio value ($)</td>
<td>114,410</td>
<td>112,151</td>
<td>115,444</td>
<td>115,444</td>
<td>115,444</td>
<td>115,444</td>
</tr>
<tr>
<td>Mean return (p.m.)</td>
<td>0.40%</td>
<td>0.34%</td>
<td>0.42%</td>
<td>0.42%</td>
<td>0.42%</td>
<td>0.42%</td>
</tr>
<tr>
<td>Standard deviation (p.m.)</td>
<td>3.22%</td>
<td>3.27%</td>
<td>3.58%</td>
<td>3.58%</td>
<td>3.58%</td>
<td>3.58%</td>
</tr>
<tr>
<td>Mean to standard deviation ratio (p.m.)</td>
<td>0.1237</td>
<td>0.1035</td>
<td>0.1162</td>
<td>0.1162</td>
<td>0.1162</td>
<td>0.1162</td>
</tr>
<tr>
<td>Mean active return (p.m.)</td>
<td>-0.20%</td>
<td>-0.26%</td>
<td>-0.18%</td>
<td>-0.18%</td>
<td>-0.18%</td>
<td>-0.18%</td>
</tr>
<tr>
<td>Active standard deviation (p.m.)</td>
<td>4.56%</td>
<td>4.70%</td>
<td>4.88%</td>
<td>4.88%</td>
<td>4.88%</td>
<td>4.88%</td>
</tr>
<tr>
<td>Information ratio (p.m.)</td>
<td>-0.0438</td>
<td>-0.0555</td>
<td>-0.0375</td>
<td>-0.0375</td>
<td>-0.0375</td>
<td>-0.0375</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3: Performance of the rebalancing strategies considered by Boďa and Kanderová (2014)

<table>
<thead>
<tr>
<th>Periodic rebalancing strategy</th>
<th>Buy-&amp;-hold</th>
<th>Yearly</th>
<th>Half-yearly</th>
<th>Quarterly</th>
<th>Monthly</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final portfolio value ($)</td>
<td>137,793</td>
<td>128,715</td>
<td>138,912</td>
<td>141,666</td>
<td>140,159</td>
<td>134,310</td>
</tr>
<tr>
<td>Total transaction costs ($)</td>
<td>218</td>
<td>573</td>
<td>841</td>
<td>1,126</td>
<td>1,731</td>
<td>100</td>
</tr>
<tr>
<td>Net final portfolio value ($)</td>
<td>137,575</td>
<td>128,142</td>
<td>138,071</td>
<td>140,540</td>
<td>138,428</td>
<td>134,210</td>
</tr>
<tr>
<td>Mean return (p.m.)</td>
<td>0.92%</td>
<td>0.72%</td>
<td>0.94%</td>
<td>1.00%</td>
<td>0.96%</td>
<td>0.84%</td>
</tr>
<tr>
<td>Standard deviation (p.m.)</td>
<td>4.22%</td>
<td>3.84%</td>
<td>3.79%</td>
<td>3.96%</td>
<td>4.00%</td>
<td>3.60%</td>
</tr>
<tr>
<td>Mean to standard deviation ratio (p.m.)</td>
<td>0.2226</td>
<td>0.1878</td>
<td>0.2480</td>
<td>0.2512</td>
<td>0.2414</td>
<td>0.2343</td>
</tr>
<tr>
<td>Mean active return (p.m.)</td>
<td>0.07%</td>
<td>-0.12%</td>
<td>0.10%</td>
<td>0.15%</td>
<td>0.12%</td>
<td>NA</td>
</tr>
<tr>
<td>Active standard deviation (p.m.)</td>
<td>5.51%</td>
<td>5.28%</td>
<td>5.16%</td>
<td>5.33%</td>
<td>5.41%</td>
<td>NA</td>
</tr>
<tr>
<td>Information ratio (p.m.)</td>
<td>0.0133</td>
<td>-0.0230</td>
<td>0.0187</td>
<td>0.0286</td>
<td>0.0225</td>
<td>NA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threshold rebalancing strategy</th>
<th>2.5 %</th>
<th>5 %</th>
<th>10 %</th>
<th>15 %</th>
<th>20 %</th>
<th>25 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final portfolio value ($)</td>
<td>143,250</td>
<td>127,406</td>
<td>127,207</td>
<td>137,793</td>
<td>137,793</td>
<td>137,793</td>
</tr>
<tr>
<td>Total transaction costs ($)</td>
<td>1,289</td>
<td>508</td>
<td>513</td>
<td>218</td>
<td>218</td>
<td>218</td>
</tr>
<tr>
<td>Net final portfolio value ($)</td>
<td>141,961</td>
<td>126,897</td>
<td>126,694</td>
<td>137,575</td>
<td>137,575</td>
<td>137,575</td>
</tr>
<tr>
<td>Mean return (p.m.)</td>
<td>1.03%</td>
<td>0.69%</td>
<td>0.69%</td>
<td>0.92%</td>
<td>0.92%</td>
<td>0.92%</td>
</tr>
<tr>
<td>Standard deviation (p.m.)</td>
<td>3.85%</td>
<td>4.07%</td>
<td>3.97%</td>
<td>4.12%</td>
<td>4.12%</td>
<td>4.12%</td>
</tr>
<tr>
<td>Mean to standard deviation ratio (p.m.)</td>
<td>0.2665</td>
<td>0.1699</td>
<td>0.1731</td>
<td>0.2226</td>
<td>0.2226</td>
<td>0.2226</td>
</tr>
<tr>
<td>Mean active return (p.m.)</td>
<td>0.18%</td>
<td>-0.15%</td>
<td>-0.16%</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.07%</td>
</tr>
<tr>
<td>Active standard deviation (p.m.)</td>
<td>5.49%</td>
<td>5.45%</td>
<td>5.39%</td>
<td>5.51%</td>
<td>5.51%</td>
<td>5.51%</td>
</tr>
<tr>
<td>Information ratio (p.m.)</td>
<td>0.0335</td>
<td>-0.0277</td>
<td>-0.0288</td>
<td>0.0133</td>
<td>0.0133</td>
<td>0.0133</td>
</tr>
</tbody>
</table>

Source: the authors.

As follows from Figures 1 and 2 as well as Table 2, none of the rebalancing strategies (including the buy-and-hold strategy) outperformed the index in any of the indicators being review. In comparison to the buy-and-hold strategy a higher mean return as well as a net final portfolio value is found only with yearly periodic rebalancing. The rebalancing strategies with thresholds 10 %, 15 %, 20 % and 25 % yield the same outcome as the buy-and-hold strategy, which implies that the range of ± 10 % is extremely wide to be effective. It is discernible from the trajectories of portfolio values in Figures 2 that the constructed tracking portfolios
rebalanced under a threshold strategy with these threshold 10 %, 15 %, 20 % and 25 % managed to copy trends set by the S&P 500 Index and did not depart much, although they obviously outperformed in the second half of the out-of-sample period. Still, on the other hand, by comparing mean return to volatility the most successful strategies are yearly and semi-annual periodic rebalancing and 2.5% threshold rebalancing. All these three strategies were capable of outperforming the buy-and-hold strategy in terms of the mean-return-to-volatility measure. Eventually, using the information ratio for assessment, only two rebalancing strategies outperformed the buy-and-hold strategy, and these were yearly periodic rebalancing and 5% threshold rebalancing.

The best mean active return was found with yearly periodic rebalancing, albeit all the periodic rebalancing strategies and the 2.5% and 5% threshold rebalancing strategies indicated a lower volatility of active returns when brought to comparison with the buy-and-hold strategy. The lowest volatility of active return applied to the 2.5% threshold rebalancing strategy. A higher value of the information ratio in comparison to the buy-and-hold strategy was detected only in the case of yearly periodic rebalancing and 5% threshold rebalancing.

Referring to Table 3, the previous study by Boďa and Kanderová (2014) found that except yearly rebalancing all the periodic rebalancing strategies outperformed the index in terms of mean returns. Nonetheless, all the periodic rebalancing strategies revealed higher volatility of returns than the index did. Comparing mean returns to volatility, the highest performance was found with semi-annual, quarterly and monthly periodic rebalancing, and 2.5% threshold rebalancing. In terms of net portfolio values, the index was outperformed by any periodic rebalancing strategy except the one based on yearly rebalancing, and by the threshold rebalancing strategies with thresholds 2.5 %, 15 %, 20 % and 25 %. Eventually, when screening for active returns, their mean and volatility, the best periodic rebalancing strategy as revealed by the information ratio was quarterly rebalancing, even though the lowest volatility of active returns were attributed to yearly rebalancing. Similarly, for threshold rebalancing the most recommendable strategy in terms of mean return or the information ratio was for threshold 2.5 % despite the fact that the smallest volatility was found for the portfolio rebalanced with threshold 10 %.

4. Summary and conclusion

The present paper is a continuation of research expended in order to understand rebalancing issues that are in fact applicable to any investment strategy, although here the attention is only restricted to TEV minimization. The paper compares the buy-and-hold investment strategy with four periodic and six threshold rebalancing strategies in terms of net returns to portfolio volatility (here the term "net returns" is employed to indicate returns inclusive of transaction costs). To this end, the earlier study by Boďa and Kanderová (2014) is revisited and the in-sample and out-of-sample periods are refreshed and updated by three years and a half. With the exception to accounting for changes in the composition of the S&P 500 Index in consequence of this update, the other settings were kept intact and so the conclusions of the earlier study could be verified and examined for somewhat more universal validity.

For convenience of presentation, the results of Boďa and Kanderová (2004) and of this study are summarized in Table 4. It is worthwhile noting that the differences in the results arise on account of two reasons. First, the in-sample and out-of-sample periods are updated and shifted by three and a half years. Second, the 40 assets out of which the tracking
portfolios are composed are in consequence of this shift different because both the S&P 500 Index was revised and the market capitalization of its constituents changed considerably.

Table 4: Summary of the results achieved by Boďa and Kanderová (2014) and by this study

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Strategies outperforming the index</th>
<th>Strategies outperforming the buy-and-hold strategy</th>
<th>The best strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boďa and Kanderová (2014)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In-sample period</td>
<td>Net final portfolio value</td>
<td>Q, M, HY; 2.5%, 15%, 20%, 25%, BaH</td>
<td>HY, Q, M, 2.5%</td>
</tr>
<tr>
<td>Jan 2006 - Dec 2010</td>
<td>Mean return</td>
<td>Q, M, HY; 2.5%, 15%, 20%, 25%, BaH</td>
<td>HY, Q, M, 2.5%</td>
</tr>
<tr>
<td></td>
<td>Standard deviation</td>
<td>None</td>
<td>Y.HY, Q, M, 2.5%</td>
</tr>
<tr>
<td>Out-of-sample period</td>
<td>Mean to standard deviation</td>
<td>Q, M, HY; 2.5%</td>
<td>HY, Q, M, 2.5%</td>
</tr>
<tr>
<td>Jan 2011 - Feb 2014</td>
<td>Mean active return</td>
<td>NA</td>
<td>HY, Q, M, 2.5%</td>
</tr>
<tr>
<td></td>
<td>Active standard deviation</td>
<td>NA</td>
<td>Y.HY, Q, M, 2.5%, 5%, 10%</td>
</tr>
<tr>
<td></td>
<td>Information ratio</td>
<td>NA</td>
<td>HY, Q, M, 2.5%</td>
</tr>
<tr>
<td>This study</td>
<td>Net final portfolio value</td>
<td>None</td>
<td>Y</td>
</tr>
<tr>
<td>In-sample period</td>
<td>Mean return</td>
<td>None</td>
<td>Y</td>
</tr>
<tr>
<td>Jul 2009 - Jul 2014</td>
<td>Standard deviation</td>
<td>None</td>
<td>Y.HY, Q, M, 2.5%, 5%</td>
</tr>
<tr>
<td>Out-of-sample period</td>
<td>Mean active return</td>
<td>NA</td>
<td>Y</td>
</tr>
<tr>
<td>Jul 2014 - Aug 2017</td>
<td>Active standard deviation</td>
<td>NA</td>
<td>Y.HY, Q, M, 2.5%, 5%</td>
</tr>
<tr>
<td></td>
<td>Information ratio</td>
<td>NA</td>
<td>Y, 5%</td>
</tr>
</tbody>
</table>

Legend: "Y", "Q", "M", "HY" represent yearly, quarterly, monthly and half-year periodic rebalancing, "2.5%", "5%", "10%", "15%", "20%" and "25%" denote individual threshold rebalancing strategies and "BaH" stands for the buy-and-hold strategy.

Source: Boďa and Kanderová (2014), the authors.

In the out-of-sample period reviewed by this study (i.e. from July 2014 until August 2017) none of the rebalancing strategies outperformed the S&P 500 Index in contrast to the results found in the earlier study by Boďa and Kanderová (2014) for a different out-of-sample period (from January 2011 to February 2014) when almost all the rebalancing strategies outperformed the index in all the indicators under assessment. The only exception was yearly periodic rebalancing.

Whilst comparing the success of the considered rebalancing strategies with the success of the buy-and-hold strategy for the out-of-sample period from July 2014 to August 2017 only yearly periodic rebalancing gave higher net final portfolio values, mean returns and mean active returns, which disagrees with the results for the out-of-sample period from January 2011 to February 2014 according to which rebalancing carried out more frequently (specifically, on a semi-annual, quarterly and monthly basis) and rebalancing with a 2.5% threshold outstripped the buy-and-hold strategy. That being said, all periodic rebalancing strategies and threshold strategies with a strict intervention rule (i.e. for thresholds 2.5% and 5%) outstripped the buy-and-hold strategy in both out-of-sample periods. The best strategy in terms of volatility is the semi-annual periodic rebalancing strategy.

For both out-of-sample periods, less frequent rebalancing (with a semi-annual and yearly frequency) or rebalancing with a strict intervention rule (with a low threshold such as 2.5% or 5%) were found dominant, which is in part compliant with the findings of Nesbitt (2010). This study found that strategies based on monthly, quarterly, semi-annual and yearly rebalancing failed because these time-period strategies generated lower returns (including transaction costs) than both the benchmark and the non-rebalanced portfolio with the only exception of annual rebalancing. All the same, the cited study favours threshold strategies over periodic rebalancing strategies.
It is distracting that on the basis of the aforementioned results it is not possible to recommend an optimal rebalancing strategy. This may be partly owing to the fact that transaction costs and their effect on performance were severely simplified in considerations. Here in the paper no distinction was made between transaction costs for purchase and for sale, which can present a bias to the general validity of conclusions. For instance, Tokat and Wicas (2007) maintain that rebalancing strategies perform better on trendless markets, and it would thus be desirable whether the variation in results for different periods is not caused by this different market environment.

Acknowledgements
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References


SOCIO-ECONOMICAL ASPECTS OF THE COLLABORATIVE ECONOMY IN SLOVAKIA

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Abstract

The terms “collaborative economy” or “sharing economy” have been commonly used in recent years to refer to a proliferation of initiatives, business models and forms of work. To observe this new phenomenon, it is necessary to take into consideration new perspective on social, economic, environmental and political processes that can be created from a number of assets and skills, in innovative ways and at an unprecedented scale. The use of digital technologies for collaboration, communication, coordination, and value creation purposes is included under the same umbrella of the collaborative economy. The market-focused on digital innovation is able to disrupt existing business models and support economic activity. The situation in the area of the collaborative economy in Slovakia seems to be different from that of Western European countries. Data from the sharing economy are not registered with the Statistical Office of the Slovak Republic and there are no analysis examining its impact. We introduce the short summary of case studies examining the collaborative economy platforms in Slovakia and some of its issues with taxation.

Key words

collaborative economy, sharing economy, digital technologies, taxation

JEL classification

M21, O14, H21

1. Introduction

Collaboration is not a new phenomenon; it has always been a part of economic development and represented the way of common entrepreneurial activities and business models of firm’s functioning.

The collaborative economy gives the great variety and diversity of collaborative business models that rely on the exploitation of under-utilised assets (Petropoulos, 2017). The terms „sharing economy“, „on-demand economy“, „peer economy“, or „collaborative economy“ are often used synonymously and it is difficult to provide a single definition. The collaborative economy uses the internet to match people who want to share assets and services whereas the most developed collaborative economy sectors can be considered transport and automotive, accommodation services, financial services, the goods and redistribution market, and services and labour hire.
Recent developments in technology and the use of digital platforms have allowed wider and faster interactivity and connectivity between producers and consumers, which has enabled shared production and consumption around common objectives (P2P Foundation, 2012).

Digital platforms, often labelled as part of the "sharing economy", are becoming increasingly relevant to both the daily lives of private individuals and to researchers. As these tools are transforming various communities (of interest, place, practice and circumstance) to establish new forms of connection, welfare, labour and service, there emerge fundamental questions around the perils of creation and use (Avram, 2017).

As de Waal et al. (2017) said - all kinds of urban practices that use the physical city as an interface to connect citizens with one another are now partly remediated through online platforms. Whether it is hailing a taxi in the street, buying a book in a local bookshop, or finding a date in a bar or club, as a popular advertisement has put it: ‘there’s an app for that.’ These apps are often integrated in a larger ecosystem based on the collection of user data and the referral of consumers to particular services. Similarly, many new platforms such as Nextdoor.com have emerged that allow citizens in neighbourhoods to exchange services, ideas and resources.

Deloitte Report Review (Deloitte Access Economics, 2015) found that the collaborative economy businesses generally facilitate connections between individuals and small and medium-sized businesses; allowing them to directly exchange goods or services for monetary or other consideration.

Botsman (2015) defines the collaborative economy as an economic system of decentralised networks and marketplaces that unlocks the value of underused assets by matching needs and haves, in ways that bypass traditional middlemen. Authors also identify five key criteria for a platform to be considered a collaborative economy platform:

- The core business idea involves unlocking the value of unused or under-utilised assets whether for monetary or non-monetary benefits;
- The company should have a clear values-driven mission and be built on meaningful principles including transparency and authenticity, which inform short and long-term strategic decisions;
- The providers on the supply side should be valued, respected and empowered, and the companies behind the platforms should be committed to making the lives of these providers economically and socially better.
- The customers on the demand side should benefit from being able to access goods and services in more efficient ways, with payment for access instead of ownership.
- The business should be built on distributed marketplaces or decentralised networks that create a sense of community, collective accountability and mutual benefit.

As the collaborative economy phenomenon expands, different perspectives on its meaning, innovative capacity and other potential benefits abound. According to (Celikel et al., 2016) there is no commonly agreed definition of what the collaborative economy fully entails. There is a myriad of definitions depending on the viewpoint. In their report authors present an attempt to clear this fog around the concept by adopting a working definition. Accordingly, the term collaborative economy refers to business models where activities are facilitated by online platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals. The collaborative economy involves three categories of actors: (1.) service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis or service providers acting in their
professional capacity (professional services providers); (2.) users of these; and (3.) intermediaries that connect — via an online platform — providers with users and that facilitate transactions between them (collaborative platforms). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.

Peer-to-peer online platforms afford novel collaborative practices related to the sharing and exchange of both tangible and non-tangible goods and services such as space, skills, time and money. Well-known examples of these platforms include the hospitality exchange services Couchsurfing and Airbnb. Airbnb is focused on short-term peer to peer rentals with a well-defined “price tag” attached to them, whereas Couchsurfing fosters hospitality that is offered with the expectation of no direct compensation, on the basis of generalized reciprocity within the community (Ikkala and Lampinen, 2015).

The collaborative economy has grown rapidly in recent years. The European Commission in its strategy for the single market recognizes the potential of the collaborative economy in creating new employment opportunities, offering flexible working arrangements and generating new sources of income. For consumers, the collaborative economy can provide benefits through new services, an extended supply, and favourable prices. It can also encourage more efficient use of resources and asset-sharing, which can contribute to environmental sustainability. Furthermore, collaborative economy initiatives could build community participation and advance social innovation. According to Celikel et al. (2016) the collaborative economy promises benefits for individuals, organisations and the economy at large. At the same time, it challenges traditional market operators, existing regulatory frameworks and fiscal models and workers’ rights.

As Celata et al. (2017) said, we argue that mobilising a sense of community is not only instrumental to promising a more intense consumption experience; it is crucial to eliciting users’ active participation in the self-regulation of peer-to-peer exchanges and for dealing with relevant trust issues, especially when sharing implies co-presence and/or non-monetary compensation.

The broad variety of different types of collaborative economy platforms with different policy and regulatory implications requires a clear, commonly agreed conceptualisation of the collaborative economy. There are still a number of knowledge gaps that, unless filled, might compromise finding optimal policy and regulatory solutions for a balanced approach to the collaborative economy. Substantial research efforts are needed to build a robust evidence base for several aspects of the collaborative economy.

To investigate the collaborative economy we used the ethnography methodology. According Silverman (2011) the ethnography is based on direct observation and represents different concepts and practices primarily case studies, fieldwork and participant observation. Due to the added value of ethnography this methodology has the potential to become a prominent approach in applied research. The high potential of case studies explains Eckstein (2000) and he notes that case studies use deductive logic to test propositions, adjudicate among rival explanations, revise existing theories and establish causal relationships; in other words, they are suited to verification and not just discovery of new theory. As Eisenhardt (2002) argues, it is possible to build theory using case studies and many of the characteristics of the research such as problem definition and construct validation are similar to the hypothesis testing in quantitative type of research. Strength of this approach is also possible to identify in the fact that it allows for fresh conceptual understanding that is also grounded in
empirical data. Data collecting has been accomplished within the international COST action CA 16121 project titled From Sharing to Caring: Examining Socio-Technical Aspects of the Collaborative Economy during the period from June to September, 2017.

Slovakia has not been at the forefront in using collaborative economy, it occupies 17th place among 28 EU countries. Although more collaborative efforts may exist, in next part we present the short summaries of selected case studies examining collaborative economy platforms present and functioning in Slovakia today. Challenges that the rise of the collaborative economy raises for taxation policies are discussed afterwards.

2. Collaborative economy in Slovakia

The situation in the area of collaborative economy in Slovakia is a bit different from that of the Western European countries, because this topic belongs to little surveyed. Data from the area of sharing economy are not registered with the statistical office and there are not any analysis for examination its impact. In Slovakia, sharing as a source of income is minimal. There is currently no analysis to examine its effects. The first sharing economy businesses appeared in Slovakia in 2015. There is no definition of collaborative economy in Slovakian legal framework.

In Slovakia, there are established mobile platforms for public transport in cities – such us: Hopin (from 2012) in Bratislava, Košice and Michalovce, Liftago (from November 2015), Uber – but only in our capital city Bratislava (from August 2015), Taxify (from December 2016) in Bratislava. The platform BlaBlaCar (from January 2016) is used to move passengers over longer distances.

Hopin

HOPIN Taxi is the first Slovak application for ordering taxis, free for smartphone and tablet. Today, it has a branch office in several cities in Slovakia, Czech Republic, Ukraine and Slovenia. However, Bratislava is a city where the HOPIN crew are indeed very numerous and taxis with this mark can be found at every step. The number of taxis is the most advantage of the service.

Liftago

Liftago is a Czech start-up that creates a technology platform for optimizing urban transport in Czech Republic and also in Slovakia. It was established in 2015 in Prague. The aims of the company are Smart Cities, where people lose their car ownership and also parking problems. The objective of Liftago is to create a free market that can be used by current transport providers as well as future technologies. In the outlook of the coming years, in addition to improving the conditions in the taxi market, there are other alternative methods of bike-sharing, car-sharing and more.

Liftago Taxi is the first shipping service launched by the company Liftago. It is a taxi aggregator that connects licensed taxi drivers with passengers through free mobile applications or via a third person (hotel software, restaurant or dispatching company). The mechanism aims to tackle the problem of inefficiency in this urban transport sector. The project is beneficial to all habitants because it is designed to improve traffic in the city.

Liftago for passengers is available for iOS and Android for free. Application for drivers requires an Android operating system and is also free. Liftago is based on the business
transaction model, where the source of revenue is the transaction fee of the chauffeur (or a dispatching center) for a brokered order.

Liftago also differs from existing startups such as Uber or Lyft by making use of the already existing transport capacities of existing taxi drivers as well as free market access when the price is not fixed by Liftago but by the transport provider on the basis of offer and demand.

**Uber**

Uber is a passenger transport service that uses modern technology (mobile applications) instead of classic dispatching. The service originated in San Francisco, California, and currently has over 1 billion users worldwide. It offers the following benefits to passengers:

- **Simple reservation** - Just book a mobile app that is available for free for Android, iOS (iPhone/iPad) and Windows Phone
- **Estimated price in advance** - Customer can see the approximate price in the app before booking itself. So he do not have to worry about any unpleasant situations in the form of overpayment
- **Non-cash payment** - Payment for service is always automatically debited from customer credit card.
- **Low prices** - The cost of driving is much lower than for "classic" taxi services.

Taxi drivers however complain Uber does not follow the rules for taxi services. According to the law on road traffic, every vehicle collecting a fee for transporting up to nine people, including the driver, is a taxi service and needs to follow several rules. The driver must have a driving licence for at least three years as well as the licence for service. All vehicles need to be properly marked, have a taximeter and be insured. Moreover, as of 1.4.2015 they need to have electronic or virtual cash registers. The first test drives, however, showed that many Uber drivers don’t meet these requirements. Taxi drivers consider it unfair that while they need to follow rules, those driving for Uber don’t have to. Uber claims not to be a taxi company, but rather a mobile platform provider, operating a mobile application for ride sharing between drivers cooperating with Uber and registered customers. This is less than clear, however, as Uber’s fees per ride are higher than other traditional ride sharing companies, where the remuneration only covers part of the expenses for the car and fuel (i.e. BlaBlaCar). For many Uber drivers, it is the pay which lures them to the site.

**Taxify**

An application Taxify will launch its operation in Bratislava on December 2016. It aims to treat its customers better than other similar services and offer lower prices. Founded in Estonia 2013, Taxify is the second biggest European taxi application, active in 21 cities in 15 countries. People in Bratislava can currently order a taxi service via four mobile applications: Uber, Hopin, Liftago and Taxify.

**BlaBlaCar**

BlaBlaCar is the Internet platform and the largest community for long-distance cooperation in the world. BlaBlaCar was designed by French entrepreneur Frédéric Mazzel in December 2003 and the current company Comuto SA, which operates the platform, established it in 2006. BlaBlaCar combines drivers and travelers who are willing to travel together between cities and share travel costs. BlaBlaCar has more than 600 employees and more than 45 million members in 22 countries.
In the first year of BlaBlaCar's operation in Slovakia, customers were transported by 41,700 different routes throughout the country. Slovak people travel not only cross Slovakia, but they also use international travel - most often on the route from the capital city to Prague or Vienna. Last year's results also confirm that passengers use the service for longer distances. The average length of the route last year was 317 km. The busiest season was last year for drivers and co-drivers a pre-Christmas week and a summer season. The reason is that before the Christmas holidays, people have the problem of taking up place in public transport without prior reservation, and during the summer they are popular traveling by co-operation to various kinds of summer festivals.

**Airbnb**

Airbnb is a web-based service for rental accommodation. Users must register before using the site services to create a personal profile page. Each property is associated with a host, whose profile contains recommendations from other users, guest reviews, guest response, and personal messaging.

Web-based service for rental accommodation Airbnb was established in 2015 in Slovakia. In February 2017, more than 2,000 accommodation offers were registered from our country. The number of Slovaks using the service in the past year grew by 143%. Most clients come to Bratislava, Košice and Piešťany. More than 44,000 visitors visited the capital last year, a year-on-year increase of 184%.

3. **Identifying interesting cases**

**Sharilo**

Portal Sharilo was established in February 2016. On the very idea of the portal, the founder of Sharilo.com, Martina Jurkovičová, arrived during her studies in London.

Sharilo.com is a project that has the foundations laid on the pillars of the shared economy. Registered entrepreneurs can share common spaces or rent unused transport capacities to help businesses create another form of income. For example, if you have an unused office in your business or you can rent a car. Thus, business becomes both more economic and more environmentally friendly.

On website, the landlord can offer facilities, office space, and transportation. The interested person will book the rental date and pay the price via the payment gateway on the Sharilo portal. Then he will take over the agreed matter and complete the lease protocol. Twelve percent of the agreed amount goes to the mediation portal. Payments to PayPal, which provides financial transfers, transaction security, and costs associated with portal administration, will be covered. If tenant was not happy with the rent, he can file an objection and half of the amount paid will be refunded to him. Tenants can also rate the rental on the web, creating trust between users.

Protection against fraudsters should be ensured by the fact that each new user is checked from publicly available sources at registration. Companies with financial problems are excluded. The renting can cause damage to a thing or office, so the portal recommends insure things.

**yuVe, yuVeneer**

yuVe is an innovative service where only smartphone with Internet access is enough for its full use. It was established in 2016. Its progressive features include an intelligent localization
system that only makes available those types of service that are sufficiently covered in the customer's surroundings.

The customer selects the type of service he desires, shoots and describes, and can also film what problem he needs to solve. Such a request, stating the required deadline, will be sent. The company receives information about the number of vendors operating in its vicinity. Each request is active on the system for 20 business days, or until it is terminated by customers. After accepting one of the offers, the system will make contact details available to each other. Upon completion of the delivery, the customer performs the supplier's rating, serving to classify it for the needs of other customers.

This is the first system to search and select craftsmen and service providers, which is based strictly on smartphones. Every customer is able to find and select a supplier very easily and quickly for different types of work. YuVe is designed for customers and version for smartphones with Android was released in November 2015 after the end of the basic registration of suppliers. The iPhone version was available in early 2016.

The application and registration that is part of it is very simple and can be downloaded from the Play Store, respectively.

Once the request has been submitted, customer will receive a report of how many vendors have been contacted. He can check out the received offers or suppliers' ratings from other customers, and choose the one that's best for him. After completing the work, he will evaluate the supplier objectively and truthfully so that other customers can rely on his opinion.

yuVeneer is also a smartphone application where registered vendors receive requests and bids. The yuVeneer application is for companies, tradesmen, but also for skilled home-grown men who want to provide their quality services to others. In total, suppliers can register for almost thirty areas such as flooring, heating, waterworks, electricians, gardeners, cleaning staff, even property valuers and many others.

4. Taxation in collaborative economy

The rise of the Collaborative economy brings complex issues that need to be addressed including the taxation of sharing activities. Like all economic operators, those in the collaborative economy are also subject to taxation rules. These include personal income, corporate income and value added tax rules. However, issues have emerged in relation to tax compliance and enforcement: difficulties in identifying the taxpayers and the taxable income, lack of information on service providers, aggressive corporate tax planning exacerbated in the digital sector, differences in tax practices across the EU and insufficient exchange of information.

In this regard, Member States should aim at proportionate obligations and a level playing field. They should apply functionally similar tax obligations to businesses providing comparable services. Raising awareness on tax obligations, making tax administrators aware of collaborative business models, issuing guidance, and increasing transparency through online information can all be tools for unlocking the potential of the collaborative economy.

At the same time, the collaborative economy has created new opportunities to help tax authorities and taxpayers with their tax obligations. This is, in particular, thanks to the increased traceability allowed by the intermediation of online platforms. It is already an ongoing practice in some Member States to have agreements with platforms for the collection of taxes. For example, in the accommodation sector, platforms facilitate the payment of
tourist taxes on behalf of service providers. There are also cases where tax authorities use the traceability allowed by online platforms to collect taxes from the individual providers.

An example of good cooperation between tax authorities and collaborative businesses comes from Estonia. In cooperation with ride-sharing platforms, the aim is to simplify the tax declaration process for drivers. Transactions between the driver and the customer are registered by the collaborative platform, which then only sends the data that is relevant for taxation purposes to the authorities, who will then pre-fill taxpayer tax forms. The main idea is to help taxpayers fulfil their tax obligations effectively and with minimum effort (Com2016 356 final).

Value added tax

Regarding the indirect taxation of these services, the European Commission has issued its opinion through the document “A European agenda for the collaborative economy” in which it states that the services provided through platforms giving rise to the sharing economy are in principle VAT taxable transactions.

Supplies of goods and services provided by collaborative platforms and through the platforms by their users are in principle VAT taxable transactions. Problems may arise in respect of the qualification of participants as taxable persons, particularly regarding the assessment of economic activities carried on, or the existence of a direct link between the supplies and the remuneration in kind (for instance in case of ‘bank’ type arrangements where participants contribute goods or services to a common pool in exchange for the right to benefit from that pool). An overview of initiatives can be found in the Staff Working Document accompanying this Communication.

The European Commission is preparing several initiatives to enhance the capacity of tax administrations within the framework of the Action Plan on VAT. This includes extending to the supply of goods the VAT one-stop shop for electronic services, starting a pilot project to improve cooperation between tax administrations, and publishing a guide for cooperation between tax authorities and businesses in e-commerce.

Member States are encouraged to facilitate and improve tax collection by using the possibilities provided by collaborative platforms. Collaborative platforms should take a proactive stand in cooperating with national tax authorities to establish the parameters for an exchange of information about tax obligations, while ensuring compliance with legislation on the protection of personal data and without prejudice to the intermediary liability regime of the e-Commerce Directive.

Member States are invited to assess their tax rules to create a level playing field for businesses providing the same services. Member States should also continue their simplification efforts, increasing transparency and issuing online guidance on the application of tax rules to collaborative business models (Com2016 356 final).

Local taxation

Collaborative economy is becoming an important player in local economies, e.g. in transportation and tourism. It is unlikely that local governments could ignore them. However, sharing activities are largely free from central and local government regulations in Slovakia. This creates particular tension when professionalized and regulated firms complain of unfair competition. In the taxi industry, for example, traditional taxi drivers must get quantity of permits, certificates and "necessary" bureaucracy; Uber drivers, by contrast, need only to meet conditions common for any car driver. Likewise, traditional hotels and boarding
houses beside fulfilment of hygienic, space, etc. requirements must pay accommodation taxes; Airbnb hosts, by contrast, often do not.

Local government, mainly in big cities, have begun investigating such services and they are likely to adopt some kind of regulations including taxation.

In this type of transactions usually bookings and payments are made from the users to the providers through the platform provided by the facilitator. Usually the providers of services are individuals and not companies, which make the assessment and taxing of such activities more difficult. In the case they are taxable, local Governments need to manage the collection of those taxes and also assess the tax rules compliance by the individuals providing those services. It is also important to determine under what agreements subject may operate in the field of business, what obligations should bear, who will cover tax burden.

Regarding the cooperation between collaborative platforms and local authorities for the collection of taxes, it is important to highlight the case of Airbnb, which is partnering with local authorities around the world to collect and remit the local accommodation tax that some of its hosts are due to pay. This is a very important first step and it may define the relation that the collaborative platforms will have to adopt with local authorities in Slovakia in order to be able to carry on their activities in each location.

5. Conclusion

The collaborative economy creates new opportunities for consumers and entrepreneurs. The foresight project elaborated by European Commission offered four future scenarios for the collaborative economy in the EU in 2030. The scenarios and know-how developed so far within this project provide a valuable basis for further work. They can be put to use, for example, to:

- carry out a more in-depth analysis of the future development of specific types of digital labour market platforms and the working conditions and possibilities for social protection of platform workers,
- analyse in more detail the role of the collaborative economy approach for the provision of public services,
- explore the possible developments and implications of other sectors of the collaborative economy such as the renting or lending of assets or transport,
- investigate in depth the implications of different governance approaches on the development and impacts of the collaborative economy,
- explore the implications of new technologies such as the block chain technology on the future trajectory of the collaborative economy,
- analyse the role of the collaborative economy in the transformation towards a sustainable EU economy (Bock, 2016).

The Commission considers that it can therefore make an important contribution to jobs and growth in the European Union, if encouraged and developed in a responsible manner. Driven by innovation, new business models have a significant potential to contribute to competitiveness and growth. The success of collaborative platforms are at times challenging for existing market operators and practices, but by enabling individual citizens to offer services, they also promote new employment opportunities, flexible working arrangements and new sources of income. For consumers, the collaborative economy can provide benefits through new services, an extended supply, and lower prices. It can also
encourage more asset-sharing and more efficient use of resources, which can contribute to the EU’s sustainability agenda and to the transition to the circular economy (Com2016 356 final). At the same time, the collaborative economy often raises issues with regard to the application of existing legal frameworks, blurring established lines between consumer and provider, employee and self-employed, or the professional and non-professional provision of services. This can result in uncertainty over applicable rules, especially when combined with regulatory fragmentation stemming from divergent regulatory approaches at national or local level. This hampers the development of the collaborative economy in Europe and prevents its benefits to materialize fully. At the same time, there is a risk that regulatory grey zones are exploited to circumvent rules designed to preserve the public interest.

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CROSSING THE IRON CURTAIN OF HIGH-INDEXED JOURNALS IN ECONOMICS

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Abstract

This paper is focused on the structural and cultural challenges for researchers of central Europe in obtaining high-impact scores for publications. It has been found that in the area of economics, 97% of the economic journals in the top quintile are based in only three countries. For researchers from central Europe, this presents an additional challenge of not having any local high-indexed journals and as such, is forced to seek out publications in distant countries, thus reducing the relevancy of the information in the home community. In addition, this challenge is made more difficult because of the stylistic issues of writing in English, the culturally segmented market that is the EU, and the lack of social networks in more western countries. School administrators often pressure researchers to churn out many articles in an attempt to make numbers based on quantitative measurements for evaluation – a practice known as “publish or perish”. This results in a gaming strategy where the mere act of publishing becomes more important than the research itself, and a necessary survival tool. This research compares the publications of two Central European universities and attempts to assess their impact as judged by the significance of the journal the articles were published in. It will focus exclusively on the field of economics, a discipline that is on the cusp of both hard and soft science and uses both quantitative and interpretative (qualitative) data.

Key words

writing in English, publish or perish, high impact factors, H-index, Scopus, Web of Science

JEL classification

A14, A23, A30

1. Introduction

"No university would employ me in today's academic system because I would not be considered "productive" enough".

Peter Higgs, Nobel Prize Laureate in Physics

The coveted goal of most university teachers whose job description usually includes research is to gain acceptance through the vigour of academic research which would have an impact felt beyond academia. Society would hopefully benefit from such knowledge and our academics would be rewarded with both the prestige of recognition and a secure place in a university’s hierarchy. The medium of choice for this transference of knowledge is the academic journal, peer reviewed by contemporaries who will bless the validity of its content. The quality of each journal is also scored by measuring the number of articles that have received citations over a given period of time.
An important philosophical point to any type of literature is that it finds an audience. If an article is written, edited, printed, disseminated, and is then never read, its relevancy is completely lost. Unfortunately, the process of writing has usurped readership as the intended audience is irrelevant to the needs of making a decent score in an evaluation process—a practice known as “publish or perish”. The researcher is encouraged to churn-out many articles in an attempt to “make the numbers” set by school administrators, who often use it for evaluation. As such, the reader becomes an afterthought. It is a philosophical fact, if an article is rarely or even never read, then its relevancy is reduced to a mere pretension, yet the expectation to write and to publish in this fashion is deemed to be of paramount importance. According to Lokman (2007), some 90% of papers that are published in academic journals are never cited and as many as 50% of papers are never read by anyone other than their authors, referees, and journal editors. He later conceded that this figure only applied to the humanities (Remler, 2014). Even citing of an article is no guarantee of readership as researchers can use the “I’ll cite you if you cite me” strategy.

For many parts of the world, a demographic shift has meant a lower number of students of university age. This means an even higher pressure to publish as research displaces teaching. For administrators, the easiest way to evaluate researchers/professors is to engage in an already mentioned quantitative measurement process of “publish or perish”. For researchers in Central Europe1 universities, there is additional pressure to catch up with their western counterpart, in terms of both quantity and quality. As termination becomes a very real threat to an academic’s professional existence, gaming and strategizing could take precedence over quality research. This turns researchers into publish-or-perish entrepreneurs, who often become more or less cynical about the higher ideals of the pursuit of knowledge (Bauerlein et al., 2010). According to Fang et al. (2012), the percentage of scientific articles retracted because of fraud has increased ten-fold since 1975.

The European Union presents another set of challenges when it comes to research as Europe, unlike other developed countries of the world, is quite segmented culturally, economically, and in the countries ages. In other words, Europe is a hodgepodge with established winners and struggling upstarts. For researchers of central Europe there are many obstacles to overcome, especially in terms of limited resources and a lack of local quality representation in academic journals. As many cold war divisions have long past, others still exist. Using both quantitative and qualitative analysis, this paper will focus on the disparities that exist in the academic publishing world, specifically the clustering of the most prestigious journals in just three countries.

The starting point will be the analysis of the publication of two universities from a central European country. It will review both the H-index scores and publication countries of each publications. This paper is solely focused on the study of economics, a soft science and a field with a wide selection of sub-categories. As it is not our intent to “name and shame”, we have chosen to keep the measured institutions anonymous. Though the identities of these universities are barely veiled, we feel the outcome would most likely be similar for any Central European country. As such, the institution in question would be representative of an overall problem and the institution’s identity is inconsequential.

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1 For this article, we define Central Europe as countries currently in the EU but formerly behind the ‘iron curtain’, specifically, the Czech Republic, Slovakia, Poland, Hungary, Bulgaria, Slovenia, Croatia, Latvia, Lithuania, and Estonia.
2. The current publishing environment for economic journals in the world

For young people all over the world, a very popular notion is the thought that it is only a university education that can give a person panache, both economically and socially. As such, the internationalization of higher learning has led to many new players all over the world and with it, a new industry of publications to meet the demand to publish. After all, universities must be led by active researchers and scientists. According to Mabe (2003), the number of refereed scholarly journal publications grows at a rate of 3.26 percent per year meaning a doubling after 20 years.

By using the Scimago journal and country (Scopus) database from 2016, 853 can be found in the area of economics, econometrics, and finance journals from around the world. Of these journals, 68% are from just three countries: The United States, the United Kingdom, and the Netherlands. 60.3% are from Western Europe. Only 3.9% of economic journals are from the Asiatic region. With so many journal possibilities to publish in and to read, it becomes important to distinguish which of them are worthy. For an ease in ranking, we decided to use the H-index journal ranking to gauge the level of performance by country. For a researcher to have an impact in their discipline, readership becomes important. As such, the term high-impact needs to be defined. For our research, we decided to use the Pareto’s 80/20 rule as a gauge, i.e. 80% of events come from 20% of the causes. With this concept in mind, the ideal goal of a researcher is to be published in journals in the top 20 percentile or the top 171 journals of the world. This gives a minimum H-index score of 41, i.e. only a score of 41 and over could truly be considered high-impact. Of the journals in the top 20 percentile, 67 are from the UK, 58 from the US, 44 from the Netherlands, 5 from Germany, and 1 from the Singapore. This means that 97% of the high-impact journals are from only 3 countries creating what is effectively a 3-nation oligopoly in academic publishing in economics. If we graph the top 50 journals from these 3 nations, a parabolic shape of relationship can be seen with a few extremely high ranking journals in each country and a quick decent to a lower depth (see Figure 1).

Figure 1: H-index ranking of top 50 economic journals in the US, UK, and NL

For countries of Central Europe, the H-index scores are quite low (H-index average of 7.8). There has been a procession of western “experts” to guest-lecture in Central European
universities espousing a common theme to budding PhD students: avoid low impact journals as they are a waste of time and leave to more progressive (western) countries, at least for a certain amount of time. This would mean forgoing any local or national publications and presumably move to the country of origin for high-impact publications. Figure 2 shows the highest ranking economic journal by Central European countries of the EU and ranking in Scopus. With the exception of Lithuania, most are well below the Pareto threshold. Yet, Central Europe is not alone. The other major western European economies of Italy, France and Spain also have low H-index with respective scores of 14, 14, and 9. Austria, the home of the Austrian School of Economics has only one economic journal focused on agricultural economics. The same is true of the oriental giants of Japan, South Korea, and China which H-index scores are mired in single digits and these three countries have a combined total of 7 economic journals. Clearly, local journal writing is not a major priority for various university systems in the world.

For central European universities, it needs to be asked if publishing practices have devolved into an evaluation process rather than the dissemination of knowledge. If publications are in a low read/no read situation, then its value is questionable. But a larger concern is why there has been a centralization of economic research to just 3 countries, two that are predominately coastal and metropolitan.

Figure 2: Pole ranking of the top economic journal by country of Central Europe vs. the top journals of the US, the UK, and the Netherlands.

Source: the authors.

3. A comparative study of two universities in a Central European country

This research looks at the publication activities of two universities in Slovakia - one “national university” located in the capital Bratislava (University A) and one regional university located in the middle of the country away from the capital city (University B). These two universities were chosen because they represent the economic split found in central European countries as the capital cities have had faster economic growth and more
international access than the outlier regions. The “national university” is a large institution with six faculties dedicated to the study of economics or subjects closely related to economics (one faculty was located in another city of the country). The regional university has only one faculty dedicated to this subject. The sub-fields within the studies are not entirely the same as each university has their own variation on the subject matter. It needs to be said that both universities attract students from all over the world, yet it is rare to find students from Bratislava attending the regional university.²

In an ideal world and according to the Pareto concept, it should be found 20% of the articles being published in the top 20 percentile. There are two publishing possibilities: 1. scientific articles in an established current journal or 2. scientific articles that are registered in the Web of Science or Scopus database. For our research, we used only the Scopus database (Scimago³) as most articles were listed there and there was a consistent H-index score. According to the top 20% rule, a journal would need an H-index score of 41 to be considered high-impact. We looked at the publication activity for the years 2010-2017 for both universities. For the sake of expediency and consistency, we only compared the articles to the current 2016 ranking of the journal. Though journal rankings do somewhat vary over the years, a would-be researcher would likely look at the current year to gauge its status and strength and the pole positions of journals. It needs to be noted that there is a lot of cross-collaboration between different universities, thus it cannot be said that the works are solely the property of one institution. Not all articles were published in the economic field as there is a lot of interdisciplinary collaboration.

In total, there were 625 published articles from both universities. We were able to locate 565 articles and their journals of record in the Scopus database giving us a measurement of 90.24% of the articles—454 from the national university and 111 from the regional university. As 97% of the high-impact journals (the top 20%) were located in the US, the UK, and the Netherlands (NL), we looked at these countries first (see Table 1). Three journals were from other countries and not all were in the field of economics.

<table>
<thead>
<tr>
<th>Country</th>
<th>University A (Capital city)</th>
<th>University B (Regional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of articles</td>
<td>Average H-index score</td>
</tr>
<tr>
<td>The Netherlands (31)</td>
<td>21</td>
<td>92.1</td>
</tr>
<tr>
<td>United Kingdom (24)</td>
<td>17</td>
<td>72.6</td>
</tr>
<tr>
<td>United States (6)</td>
<td>5</td>
<td>68.6</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Germany (1)</td>
<td>1</td>
<td>194</td>
</tr>
<tr>
<td>Switzerland (2)</td>
<td>2</td>
<td>45</td>
</tr>
<tr>
<td>Poland (1)</td>
<td>1</td>
<td>43</td>
</tr>
<tr>
<td>Total (65)</td>
<td>47</td>
<td>82.5</td>
</tr>
</tbody>
</table>

Source: the authors.

² In each subject, the hometowns of David Cole’s students are recorded. In the last 10 years, there have only been 2 students from the capital city Bratislava and its immediate surrounding area.
10.4% of the national universities and 16.3% of the regional universities were in the top 20% of the world’s economic journals, with 48.4% being published in the Netherlands. The scores for both Universities are at an impressively high level in this category.

One problem with a publication outside of the country is the need for a subject that has a global appeal. The internal problems of small countries in CE have lesser interest when it is outside of this venue. We looked at the subject matter of the high-level journals and made broad categories as can be seen in Table 2. As statistical/mathematical research is less country specific, this one category resonates above all others. 19% of the articles were interdisciplinary and the works were published in journals completely outside of the business, finance, and economic areas.

Table 2: Broad subject categories of papers published in high-impact journals

<table>
<thead>
<tr>
<th>University A (Capital city)</th>
<th>University B (Regional)</th>
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<tbody>
<tr>
<td><strong>Economics, financial &amp; business related areas</strong></td>
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<tr>
<td>Behavioural</td>
<td>Behavioural</td>
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<td>Statistical/Mathematic/Measurement</td>
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<td>SMEs</td>
<td>SMEs</td>
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<tr>
<td>2</td>
<td>2</td>
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<tr>
<td>Public Economics</td>
<td>Regional Development</td>
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<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Cultural/Intercultural</td>
<td>Corporate Social Responsibility</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Human Resources</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ecological</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Migration</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Interdisciplinary areas where economics was a supporting role</strong></td>
<td></td>
</tr>
<tr>
<td>Agricultural</td>
<td>Health and Medicine</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Education</td>
<td>Forestry</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Manufacturing techniques</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Health and Medicine</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Metallurgy</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Note: These categories are rather subjective as it is difficult to definitively suggest a broad category based on the titles of the articles.
Source: the authors.

While a few researchers were able to get high level publications, most articles were published in lower-impact journals with 89.4% from the national university and 83.8% from the regional university in this category. The national university publishes their own internal economic journal and 23.2% of their publications were made there. The regional university’s single biggest source for publication is a joint-collaboration with a university from another CE country with 18.2% of their publications made there. Interestingly, 20.4% of the journals from the national university were published outside of the EU, in Ukraine. The most popular Ukrainian journal was “Actual Problems of Economics” (53 articles) published monthly with an average of 50 articles per publication. This journal was delisted from the Scopus databased in 2016 for Publication concerns. Table 3 shows the publication sources of journals in the low-impact category. 76.6% of all articles were published in “iron-curtain” or formerly socialist Europe. As the Czech and Slovak Republics used to be one country, it could still be considered a “common academic market” with substantial intellectual interchange and as such, 42.5% of all publications could be considered historically domestic. 19.1% of all publications were published in non-EU member countries of Europe. Considering the
The east/west divide of the past was profoundly economic, it is interesting to see that it still exist today, at least in the academic field of economics. We surmise that this divide is driven by a combination of established networks, cost, and expected desired outcomes i.e. a higher probability of being published with lower effort.

When both the score for high and low impact are combined, the H-index average for the national university is 15.7 and the regional university 26.4. A few high-ranking articles with H-index scores well over 100 helped to significantly boost the overall scores of each school.

Table 3: Articles published in low-impact journals

<table>
<thead>
<tr>
<th>Country (in descending order)</th>
<th>University A (Capital city)</th>
<th>University B (Regional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of articles</td>
<td>Average H-index score</td>
<td>% of Total from low-impact</td>
</tr>
<tr>
<td>-----------------</td>
<td>---------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Slovakia (157)</td>
<td>140</td>
<td>11.3</td>
</tr>
<tr>
<td>Ukraine (98)</td>
<td>93</td>
<td>7.6</td>
</tr>
<tr>
<td>Czech R. (83)</td>
<td>54</td>
<td>12.1</td>
</tr>
<tr>
<td>Romania (24)</td>
<td>22</td>
<td>9</td>
</tr>
<tr>
<td>United States (23)</td>
<td>21</td>
<td>17.1</td>
</tr>
<tr>
<td>Germany (16)</td>
<td>11</td>
<td>12.3</td>
</tr>
<tr>
<td>UK (15)</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Poland (15)</td>
<td>12</td>
<td>15.6</td>
</tr>
<tr>
<td>Netherlands (12)</td>
<td>10</td>
<td>21.5</td>
</tr>
<tr>
<td>Lithuania (10)</td>
<td>9</td>
<td>16.8</td>
</tr>
<tr>
<td>Slovenia (8)</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Turkey (6)</td>
<td>4</td>
<td>11.8</td>
</tr>
<tr>
<td>Croatia (5)</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>Serbia (5)</td>
<td>2</td>
<td>15.5</td>
</tr>
<tr>
<td>Russia (4)</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Hungary (4)</td>
<td>4</td>
<td>10.8</td>
</tr>
<tr>
<td>Switzerland (2),</td>
<td>1</td>
<td>23</td>
</tr>
<tr>
<td>China (1), Chile (1), Bulgaria (1), Macedonia (1), Greece (1), Italy (1), Taiwan (1), India (1)</td>
<td>6</td>
<td>11.7</td>
</tr>
<tr>
<td>Total (499)</td>
<td>406</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Source: the authors.

With so many top-level journals concentrated in just three countries, we feel that there is a need for at least one meritorious national or regional journal in Central Europe. Though this journal(s) may not have the same impact factor (high index number) as journals in the top quintile, it could over time gain local significance especially with local readers and researchers. What is not meant by this is loyalty of readership; contrarily, the point is the desired qualities of authenticity and tangibility of the research objects/topics. For this to happen, this journal(s) would need to be free of political, judgmental or crony biases that can lower the standards.
4. The problems with readability in both locally and internationally produced journals

To get to the highest level journals, not only does the research need to be excellent, it also needs to be impeccably written. This adds another conundrum to the local journals in that they are, by comparison, hard to read and in aggregate, hard to understand. For central Europe, an often overlooked problem in academic writing is the change in status of language preference. North-west European nations had long ago established English as the “lingua franca” for scholarly work and for life in general. It needs to be remembered, that English was a 3rd tiered language (behind Russian and German) in Central Europe up until 1990. It can also be said that the drive for English proficiency has been harder than expected to achieve, especially in reading and writing.

It often happens that the articles written in, or translated into, English are not rejected by foreign journals for reasons that could be categorized as “inappropriate language”. Grammar and lexis may be correct but the problem is the text structure, style and the way the research results are presented. In other words, there is usually quite a big difference between the paper writing patterns used by “western” academics and the Central European ones. The common requirement to start with is the literature review, which should provide theoretical background for the author’s findings and conclusions, often ends up in listing of rather trivial facts and secondary references, sometimes proving very weak relation to the subject matter. This makes (reading of) the article boring and may even discourage the reader up to the point of giving up on reading it completely. One may raise the objection that the theory is there for those not familiar with it and the others may simply skip that part and find the core information immediately. The problem with such approach is that these vague phrases sort of put the valuable part(s) of a paper into the shade and diminish their chances of being discovered by fellow scientists. To repeat the obvious, the mission of the scientific journals is to share the findings, newly discovered facts and innovations. In this context, citations from the publications of the important authors on the subject do appear in the western articles, too. However, usually they are not concentrated on a few introductory pages. They appear in the text where necessary and are clearly connected to the new ideas or activities described in the paper. Relevant linking is made towards the relevant data on the relevant spots in the text – thus making the claims relevant to the subject discussed.

If we add an “academic” (often pseudo-academic) obfuscating style typical with long sentences containing many words with -ism and -ion suffixes, it is very likely the message is lost even to those venturing to open the journal. Moreover, the point can also be hidden under the heap of hard data and statistics presented in far too many, far too long charts and graphs. They may give the paper an extremely expert and sophisticated look but, in large measure, make it unreadable.

Another issue to deal with is that some of the local journals are making it a specific requirement to write in English in a bid to attract more international readership. This creates a catch 22 situation; writing in English guarantees limited readership in the home country and the local journal has limited appeal abroad especially when the subject matter concerns a local problem. Therefore it seems universities and accreditation commissions should think twice and choose the best evaluation criteria for the publication quality: foreign journals simply mean the subject has to be global (i.e. relevant in the foreign countries as well) while the local journals might accept or even prefer the subjects relevant to the place. What need to be decided are the real priorities, not pretended ones, of research that reach beyond research. Do we want serious research requests from the existing local institutions that need help with the

63
challenges in their sectors? Do we want practical applications? Or do we (only) want the illusive success of foreign publication without the above? Obviously, there are many countries, even the EU members, who have picked the first option (see Figures 1 and 2). They do not waste their energy on making their own local journals look international, being aware of the “oligopoly” situation in the market. Their top researchers doubtlessly publish in the top-ranking journals, too – but the situation implies a large portion of the local academic work will be focused on solving local problems that do not necessarily catch the attention of the global audience. Unless there is a natural overlap really worth spreading around the world, they make a rational choice of settling for its local impact.

There has always been the suggestion that academics live in a secluded world separated from the practicalities of the real world – the so-called Ivory Tower. Lee Sigelman (2006) has found some merit in this argument. By studying past issues from the American Political Science Review (impact factor H-index of 140), 20% of the articles from the 1930s – 1940s focused on policy recommendations – currently, only 0.3% do. Another important aspect is funding of the publications. Foreign journals usually charge high fees which puts a lot of strain on the researchers. Unless they have the project/grant money available, venturing to send a paper to be just reviewed (with a high risk of rejection) by a high-impact journal requires a considerable private investment. According to D. Card and S. Dellavigna (2013, p. 144), the average length of an article in the top 5 journals is 48 pages, three times longer than those from the 1970’s. The number of articles published per year in these journals has declined by 20%. At the same time, the number of submissions to these journals has doubled since the 1990’s. To increase chances of publication, most articles are produced in teams with multiple co-authors. Given the skill and research problems outlined above, too few of our researchers, and even local peer reviewers could manage this feat.

4.1 The inherit danger with the acceptance of a low/no readership reality

The new mantra for professors and doctoral students is to produce quality research to justify continued employment. The problem with high quality publications, as mentioned above, is the inherit risk of not getting published and also the fees for publication. A lower risk strategy may be to publish locally where scrutiny is less and so is the cost.

In this low/no read environment the value comes not from the sharing of knowledge, rather it is found in the collection of evaluation points. This poses the question, “is it more important to write what counts or to write what is counted?” (McCulloch, 2016). This quantity strategy to research is reliant on speed which can isolate the researcher from the economic agent that is being study. This can lead to research triviality where the problems are vaguely presented and the presented solution is nebulous. The following is a fictitious example, but based on reality, i.e. (to-be-) published article(s):

The regions around the capital cities of Visegrad countries have the highest level of economic growth and lower unemployment because they have higher levels of innovations.

The poorest regions have lower economic growth and higher unemployment because they have lower levels of innovation.

Solution: Poorer regions need more spending on innovations.

The above example presents a circular logic with no real solutions. It ignores social factors such as demographic shifts, lack of infrastructure, and the fact that factories that once existed
were long ago closed down and not replaced. A common mistake is to focus on a data set of numbers without considering if the numbers are actually applicable to a real-world condition.

The necessity to produce many papers has been greatly facilitated by technology which in itself has led to an isolated culture of solitude and lack of human interaction. According to Ofcom (2015, p. 32)’s adults’ media and attitudes report, the average person in the UK (Age 16-24) spends 27 hours a week on the various internet platforms. This profound emersion in face-to-screen technology has also altered the perception of how research is conducted. There is an endless array of tables and graphs available on the internet giving opportunity for running a Wilcoxon signed-rank test, Friedman test, Pearson chi square analysis, Spearman rank correlation, etc. without the need to engage in any economic agent in person. When the research is based on questionnaires, the economic agent is usually engaged through e-mail (and lately, through Facebook) rather than face-to-face contact. A common tool to use is the Likert scale giving the respondent a limited choice of answers and not including opportunities for more elaborate responses or for describing the given circumstances of their enterprise. More troubling is that the questions themselves are often excluded from the article, so the veracity of the analytical conclusion cannot be confirmed.

For many readers, a common time-saving strategy is to read the conclusion first to see if the rest of the paper is worth reading. This is why it is important to have a clearly defined result. Sometimes, however, the final analysis contains a cliché response or reversion back to an expected norm that is not borne-out by the research as seen in the following fictitious example: “According to our analysis based on our questionnaire (not included in the paper) green manufacturing is not a common practice in this country. If manufacturers fail to adopt a greener strategy, they will soon be out of business.”

A Likert scale questionnaire, especially one that is poorly written, is not likely to yield such a definitive response such as to say, “in aggregate, the national manufacturers are not green minded” especially if the questionnaire was distributed to a variety of industries across a wide variety of sectors.

Writing trivialities are a waste of valuable time and resource. Worse still is making an argument that is incorrect. A major problem in the economic area is the bias of quantitative data over qualitative analysis. From the point of view of the peer reviewer, numerical analysis of data is paramount with a focus on numerical and statistical information and the final results. Qualitative research provides social and cultural information that may be ignored by using a purely quantitative approach. It needs to be remembered that man is a social creature, not a computer. As such, understanding the logical and illogical actions of man in his environment is just as important as the numerical data.

5. The need for guidance

Long ago, manufacturers have understood the need for quality production. These principles were elegantly laid out by Edward Deming and his 14 principles for production and have gained world-wide acceptance. A few of these points include: a need to eliminate numerical quotas; improve constantly planning, production, and service; institute leadership aimed at helping others; break down barriers between department and staff; and remove barriers to pride of workmanship.

For the academic world these points could be easily applied to research. Firstly, quality research often takes times, sometimes years. When a good idea for research is discovered, it needs to be supported. Leaders and managers need to help guide this research by reinforcing
the notion of what is good research and a good narrative, especially when it is in another language. As research is likely to crossover to other fields, it needs to be possible to create multi-disciplinary teams. A salient point is that the researcher must believe in their work and feel it can have significance for society. Not doing so, invites a corrosive cynicism that will permeate the entire culture, even down to the students. There needs to be pride in the research. An often heard researcher’s phrase to the translators/language correctors is “don’t worry, it needn’t be perfect; it is not such an important journal” (an acknowledgement that it will not likely be read).

There are many recommendations that could be offered about style, writing in English, and research expectations, but the single most important suggestion would be the creation of an expert review board from different disciplines to audit a selection of articles for the purpose of quality improvement. It is assumed that this is the function of the peer reviewer, however, this person is not always unbiased. Today’s local peer reviewer is tomorrow’s reviewee. With so many papers being written by Central European researchers, the reviewer themselves may be pressured to accept a lower standard. Also, the peer reviewer may only be making an accept/reject judgement of a paper and is less intent on offering suggestions for improvement. The point of this review board should not be to punish or instil fear, rather it is to provide guidance to desirable research. It can also be used to steer resource and manpower to projects that have great significance. In doing so, this will add higher relevancy to the locally produced journals.

6. Conclusion

The pinnacle of education is the university whose teachers, professors, and practitioners are focused on cutting edge research. The researcher does best when the subject has both gravity and pertinence. Gravity refers to the seriousness of the subject matter, especially for the researcher, and pertinence relates to the importance of the information to the intended audience. As it has become necessary to evaluate good research, the truly high-impact journals gain even more relevance as the lower level journals continue to languish. Whether by design or by accident, 97% of the top level journals are now published in just three countries: the USA, the United Kingdom and the Netherlands. This effectively means that, at least geographically and culturally, an oligopoly arrangement exists with too few players in the top-tier of journals in economics. This also suggests some linguistic implications that move the base for the non-English-speaking scientists further away from the ultimate goal which is publication in a high-impact journal.

From our research of publications from the two investigated universities in Slovakia - one “national university” located in the capital and one regional university located away from the capital city, we can see that a few researchers have made it to the top level. Many articles, however, are published in lower-impact journals as judged by the H-index scale in relation to the Scopus data base. With 76.6% of the articles being published in former socialist Europe, there still seems to be a divide. The choice of staying behind the “iron curtain” is likely a factor of both cost and less rigour in terms of time involved in research, stylistic acceptance of language, an allowance of mediocrity - the latter point being necessary in order to make the needed evaluation points.

The need to play catch-up with more established Western Europe has compelled university administrators to use quantitative analysis of publishing outputs to judge a professor’s merit. To meet this target, professors must continuously produce - the well known “publish or
perish” requirement - and even do so in a language not their own. To facilitate this need, there are many opportunities to publish and newer ones created every year. This pressurized environment has led to a gaming strategy of meeting a targeted number which could lead to less-than-stellar research. An even worse scenario would be if truly excellent research, without proper funding, could only be published in a lower level journal and does not find an audience. Better still would be if truly significant findings could be acted upon to impact society in a positive way. To reach this goal, the paper includes suggestions on establishing a premium local/regional journal(s). It should guarantee genuinely high quality publications backed with true peer-review process, and as such serve as an opportunity resort for relevant research with practical-usage potential. However, we do not condemn individual striving for “western” high-impact publications, generally considered the merit award. Contrarily, the proposed expert review board should help “polish” the papers aiming for top-level foreign journals by doing the top-level job of detecting their faults and recommending improvements. Thus the struggle to reach the balance between international excellence and local relevance might finally be successful.

References


FINANCIAL SHARED SERVICE CENTERS
IMPACTING THE CONTENT OF FINANCIAL EDUCATION
IN SLOVAK UNIVERSITIES

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Abstract
Author summarizes the position of the fast growing sector of Slovak economy – business centers of multinational corporations (Shared Services Centers, Global Business Centers) as a part of global companies’ organization. There are approximately 50 business centers in Slovakia now and number of their employees exceeded already 30,000. This size is making them eligible for governmental support, and the paper provides an overview of the first actions of support by Slovak government. The paper provides the opinion of author regarding qualification needs determined by existence of the new employers (business centers) vs. educational reality in Slovak universities. Author identified the needs for change in the content of the educational programs. Author has experience both from working for global business center and university, understands both sides, and finds the acceptable compromise (keeping in mind that university cannot prepare graduates only for ne sector but they shall respect the sector of global business centers as the strong employers group which cannot be ignored anymore).

Key words
business center, shared service center, finance education, accounting education, finance transaction, centralization, decentralization

JEL classification
A23, D23, M16, M41

1. Introduction

The paper summarizes the structure and economic importance of the economic sector of shared services centers (SSC) established by multinational companies in Slovakia. In the first part it summarizes very briefly the historical development of the idea to centralize routine financial transactions in one location, and explains the original reasons for centralization. In the same part the paper provides an overview of the most attractive locations for SSCs globally and regionally, and comments the position of Bratislava among them, as well as the reasons for this position. Next part provides and overview of the new governmental support for the SSC sector in Slovakia. The core contribution is summarized in the last part – it compares the current topics taught in finance & accounting courses in Slovak universities with the needs of SSC sector as the strong employer of the university graduates. At the end of this part the author clusters the main proposals for changes in the educational programs structure. The proposals and contribution are based on empirical comparisons coming from the author’s broad experience on both sides – as the university teacher and as senior finance manager of one of the biggest shared services centers in Bratislava (although he publishes this paper on behalf of the Slovak Association of Corporate Finance & Treasury).
2. Brief historical overview

Business centers of the multinational companies (Shared Service Centers, Global Business Services Centers – SSC/GBS) are not the new phenomenon either abroad or in Slovakia. They occur in the terminology of corporations 30 years (since the end of 1980s). Now there are about 50 SSCs with over 30,000 employees in Slovakia (Kvašňák, 2016, p. 15) depending if we count only international or also domestic ones, only financial or also non-financial ones. Some sources allege more than 60 centers (SARIO, 2017, p. 3). Such a power is comparable to telco industry and total number of employees is twice as high as for the biggest Slovak employers (Slovak Railways, Slovak Post) and three times higher than US Steel, Volkswagen or Tesco. Annual growth in terms of employment achieved 11% (AmCham, 2016, p. 2), and the government expects until 2020 the employment will reach 50,000 (Ministry of Economy, 2016, p. 2). Retaining this power is important for Slovakia, because massive leave to cheaper countries would hurt Slovak economy a lot. Slovak government already came with the first steps to motivate SSCs to stabilize, and further develop their activities in Slovakia.

During 1970s/80s management consultants recommended the decentralization stressing many advantages of it (identification of core and non-core units and functions, separation of non-core functions by outsourcing, and of course, accounting and finance were in many cases seen as non-core functions). On the other side the decentralization showed quite soon the lack of the economies of scale, hidden costs and issues related to coordination of the corporation as the whole (lack of control over the important financial transactions). The crash of Iron Curtain at the end of 1980s brought new impulses to globalization, the natural consequence of which was overall change of the approach in terms of organizational models. Decentralized models in growing companies led to lack of control over the organization and its finance transactions – decentralized companies were not able to harmonize the processes globally, and this generated huge hidden costs. Some big companies felt deeply into financial problems. These trends forced big corporations to review their decentralized models and re-define which activities must be under central control, which activities can be cheaper when globally harmonized, and which activities would be rather insourced back from the third parties in order to bring back the control. More and more global corporations implemented the centralized models for finance function, and the importance of the business centers increased in terms transaction volumes and number of centralized functions. While in the first decade (1990s) only a few functions were centralized (IT services, call centers, payments to vendors) in later decades also the rest of routine transactions were subject of centralization (accounts receivable, order processing, month-end-closing) and after 2010, also non-routine activities were partially centralized (some HR activities, some legal services, some treasury decisions, as well as financial analysis & planning including budgeting level, controlling of costs, etc.).

SSC sector appeared in Slovakia in 1991, when Henkel established SSC in Bratislava, followed until 1995 by IBM, Accenture, and Siemens. Second half of 1990s brought centralized services of AT&T and Orange Business Services. The SSC sector started to be more publicly visible and known when Dell established SSC in Bratislava (2001). We cannot mention all companies having their centers in Slovakia but it’s worth to mention at least some of them (Adient, Allianz, Amazon, CBRE, Danfoss, Deutsche Telekom, Embraco, Faurecia, 1) Despite of being a big economic power, neighborhood countries deal with even bigger numbers. For instance in Polish Krakow different sources speak about 60 shared services centers with approximately 60,000 employees with the perspective to grow up to 100,000 until the year 2020.
Hewlett-Packard, Johnson Controls, Lafarge Holcim, Lenovo, Mondelez, O2, PwC, SwissRe, T-Systems). Besides Bratislava there are SSCs in Košice, Banská Bystrica, and six other locations (Peřková, 2017, p. 12). But in fact there are only two really important locations – Bratislava and Košice. Czech Republic and Poland have even more business centers2). Consulting company Tholons publishes annually the list of Top 100 most desired outsourcing destinations using 6 criteria for ranking (Tholons ranking are shown in the Tables 1 and 2):

- Skills, Talent & Quality: labor pool, skills availability, graduate output, complexity;
- Business Catalyst: government benefits & incentives, competitive landscape, untapped labor pool, employment profile;
- Costs: costs of living;
- Infrastructure: connectivity, road & transport, operations, training, class-A offices;
- Risk & Quality of Life: political/social/natural/commercial risk, social infrastructure (hospital, education, etc.), non-work culture, available recreation & leisure facilities;
- Digital & Innovation: open innovation ecosystem, startup diversity & maturity, number of startups, innovation policy and incentives, unicorns.

As for two tables below, Table 1 represents only extract for top cities of our region (Central and Eastern Europe), and Table 2 shows top 30 cities globally (of the total ranking of 100 cities).

Table 1: Tholons Services Globalization City Index – extract for Central & Eastern European Cities (CEE stands for Central & Eastern Europe)

<table>
<thead>
<tr>
<th>Ranking 2017</th>
<th>Ranking 2016</th>
<th>City</th>
<th>Country</th>
<th>Region</th>
<th>Skill &amp; Quality</th>
<th>Business Catalyst</th>
<th>Cost</th>
<th>Infrastructure</th>
<th>Risk &amp; Quality of Life</th>
<th>Digital &amp; Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>9</td>
<td>Krakow</td>
<td>Poland</td>
<td>CEE</td>
<td>1,1</td>
<td>1,2</td>
<td>1,0</td>
<td>0,6</td>
<td>0,9</td>
<td>0,6</td>
</tr>
<tr>
<td>17</td>
<td>14</td>
<td>Prague</td>
<td>Czech Rep.</td>
<td>CEE</td>
<td>0,5</td>
<td>0,9</td>
<td>0,8</td>
<td>0,9</td>
<td>0,9</td>
<td>0,9</td>
</tr>
<tr>
<td>23</td>
<td>25</td>
<td>Warsaw</td>
<td>Poland</td>
<td>CEE</td>
<td>0,6</td>
<td>0,8</td>
<td>1,0</td>
<td>0,6</td>
<td>0,8</td>
<td>1,0</td>
</tr>
<tr>
<td>25</td>
<td>24</td>
<td>Budapest</td>
<td>Hungary</td>
<td>CEE</td>
<td>0,7</td>
<td>0,8</td>
<td>1,0</td>
<td>0,6</td>
<td>0,7</td>
<td>0,9</td>
</tr>
<tr>
<td>38</td>
<td>58</td>
<td>Moscow</td>
<td>Russia</td>
<td>CEE</td>
<td>0,8</td>
<td>0,5</td>
<td>0,5</td>
<td>0,7</td>
<td>0,7</td>
<td>1,1</td>
</tr>
<tr>
<td>43</td>
<td>52</td>
<td>Sofia</td>
<td>Bulgaria</td>
<td>CEE</td>
<td>0,4</td>
<td>0,5</td>
<td>1,1</td>
<td>0,5</td>
<td>0,8</td>
<td>0,9</td>
</tr>
<tr>
<td>46</td>
<td>52</td>
<td>Cluj-Napoca</td>
<td>Romania</td>
<td>CEE</td>
<td>1,6</td>
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<td>1,1</td>
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Average evaluation of each criterion: 0,7 0,6 1,0 0,6 0,7 0,6

Source: adapted from Tholons (2017, pp. 17-20).

2) Krakow is the city with approximately 1 million inhabitants, the 2nd largest city in Poland, but the quality of life (except of the pollution), services, working and living conditions are causing that Krakow is more popular place to work and live than Warsaw.
Table 2: Tholons Services Globalization City Index – Top 30 cities globally

<table>
<thead>
<tr>
<th>Ranking 2017</th>
<th>Ranking 2016</th>
<th>City</th>
<th>Country</th>
<th>Region</th>
<th>Talent, Skill &amp; Quality</th>
<th>Business Catalyst</th>
<th>Cost</th>
<th>Infrastructure</th>
<th>Risk &amp; Quality of Life</th>
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Average evaluation of each criterion: 0.9, 0.9, 1.1, 0.7, 0.8, 1.0

Source: adapted from Tholons (2017, pp. 17-20).

The research results showed significant shifts in positions of cities in comparison to 2016 (Tholons, 2016, pp. 2-5), mostly caused by including digitalization to main criteria. But the reason why Bratislava felt down by 26 positions is mostly in low level of ranking in 3 criteria: (a) digital & innovation, (b) business catalyst, (c) infrastructure, while ranking in costs remains very high and ranking in risk & quality of life is still quite high.

The most desired destination in Europe used to be Krakow but it was overcome by Dublin in 2017. Six of the Top 10 cities are located in South & East Asia, five of them in India (incl. No. 1 location – Bangalore). For the first time one of Top 10 positions belongs to Latin America (Sao Paolo). The best European destinations are in positions No. 7 and 8. As for Central & Eastern Europe (CEE) Top 5 positions belong to Krakow, Prague, Warsaw, Budapest, and Moscow. Bratislava felt down from 49 to 75 in one year. Second most popular Slovak destination (Košice) is not even in Top 100 ranking. Averages of CEE localities show that Bratislava is around the average of the region in the most of criteria although much worse than Krakow in Talent, Skill & Quality, Business Catalyst, and Costs.

3. Why to centralize in transactions to business centers and why in Slovakia?

The concept of “shared services” refers to the idea of consolidating a support service and providing it from one central location rather than duplicating the role across the organization (Swientozielskyj, 2015, p. 4). From one point of view SSC is the opposite to outsourcing - while outsourcing transfers non-core activities to the third party, SSC means processing of transactional activities by centralized internal unit. From other point of view is outsourcing very similar to SSC – in both cases selected transactions / functions are transited to other organization (either third party or internal unit). For business units whose transactions are centralized or outsourced, the results are similar – they pay to someone else for processing.

3) Bangalore is the capital of the Indian State of Karnataka, and so-called Electronic City, compared often to US Silicon Valley.
their transactions. Despite of the similarity, some companies which outsourced their transaction, later on decided to insource them back (to SSC) in order to get the control back.

There are many reasons why centralization is advantageous - far not the only reason is the reduction of salary costs. If this would be the only reason, then most of US, Japan, and West European companies would centralize routine transactions to the cheapest countries of Asia, Africa, and Latin America instead of Dublin or Shanghai (which are not the cheap at all). Of course, cost reduction is a strong reason but much more important is favorable cost-benefit ratio, i.e. what quality of workforce can be obtained for reasonable costs. The reasons for centralization in SSC can be classified into several groups (Montoya and Daniel, 2012, pp. 79-88):

- Economies of scale and better cost management: Centralized transactions are either processed by very specialized staff or processed in massive scale allowing further automation, harmonization, and simplification. Cost management is easier due to better visibility of costs groups and categories in several centralized cost centers.
- Centralized flows of information: Centralized and harmonized reporting allows comparing efficiency of different units (compare “apples to apples”) and give better overview of financial transactions across the corporation.
- Global process harmonization: Main process streams (Procure-To-Pay, Order-To-Cash, Record-To-Report) are harmonized globally, and have one global process owner for each stream – harmonized process leads to easier automation. On the other side finance process unification has its constraints not only in local legal rules, taxation rules, but also in local payment habits, business culture, etc.
- Improved level of compliance: Harmonized process is governed by global rules and policies which are easy auditable although they bring less flexibility to the corporate operations but lower flexibility is balanced by better control and less space for fraud.
- Unification of technologies and higher operational efficiency: When processing finance transactions in mass scales, the space for automation is incomparably higher.
- Ease of extension: Once the process is harmonized for several countries, additional countries can be transited easier because the “standard process” already exists and only the gaps between local and standard process must be resolved.

And why Slovakia can be desired destination for multinational corporations when they look for the best location to establish their SSC? The main reasons usually are:

- Favorable salary to workforce quality ratio (level of education and experience);
- Still reasonable costs for renting high quality offices;
- Active labor market offers qualified employees for reasonable costs;
- Good accessibility of big international airport(s);
- Location very close to other Central European countries and labor markets;
- Good time zone allowing to cover locations in Europe, Africa, Middle East, and with some adjustments of working shifts also at least east cast of Americas and parts of Asia.

As for regions covered from shared services centers in Bratislava, all of them focus on Europe (or EMEA – Europe, Middle East & Africa), but many of them also cover also other regions. The American Chamber of Commerce found in their research (AmCham, 2016, p. 3) what percentage of business centers in Slovakia cover the regions: 100% Europe, 54% North America, 50% Africa, 46% Middle East, 38% Latin America, 35% Asia and Pacific.

Coverage of regions is in direct relation to the structure of languages prevailing in daily operations of SSCs in Slovakia. The American Chamber of Commerce (AmCham, 2016, p. 3)
published percentage of specific language used by SSC employees: 100% English, 85% German, 69% French, 65% Italian, 58% Spanish, 50% Russian and Polish, 46% Hungarian and Portuguese, 31% Dutch, and 15% Swedish, Finnish, and Turkish. Other sources identify different language structure but it’s affected by the fact if English is used as the only language (towards clients in English speaking countries) or as the second language besides the other one. From this point of view SARIO (2017, p. 4) said that 15% of employees use only English, 57% use other core language combined with English⁴, 26% use other non-core language combined with English⁵, and 1% use other exotic language combined with English⁶.

Not all languages are available in Slovak labor market, therefore SSCs hire intensively also in other EU and non-EU countries. The share of non-Slovak employees in SSCs is currently about 12% (SARIO, 2017, p. 3) – the work environment is really multicultural.

Currently the average age of SSC employees in Slovakia is approx. 32 years (SARIO, 2017, p. 3), and the share of university-educated employees is 78% (AmCham, 2016, p. 2). All this means that SSCs offer jobs to critical group of population (young and university-educated) in terms of unemployment structure. For many of employees SSC is their very first employer, and without having these companies in Slovak market a lot of young graduates would be searching their first job abroad. On the top of this, SSCs show young graduates very high standard of work conditions, A-class offices, first class benefits, etc. Still many young people believe in popular myth that the jobs in Slovak SSCs are “monkey jobs” where people are doing all day long repeatedly very routine operations – but we can contradict by statistics of SARIO governmental agency saying that 75% of Slovak SSCs provide both high value added and routine jobs (of course not 100% of jobs in 75% SSCs are high value added) - in finance some examples of high value added jobs can be in controlling, financial planning, budgeting, financial analysis, and in a few cases also some jobs in treasury). SSCs are not boring places to work. Although young graduates start in routine jobs (the same way as in Big Four auditing companies), they can be promoted quickly, and they will be offered to work on global size projects of mergers, acquisitions, spin-offs, finance transformation, etc.

4. Governmental support of shared service centers

For a long time Slovak government almost ignored the big importance of shared services centers for Slovak economy. Probably it was due to the fact that in terms of revenues (and contribution to GDP growth) these direct foreign investments cannot be compared with big automotive plants. But step-by-step Slovak government realized that in terms of employment of young and high-educated people multinational companies play even more important role than any automotive plant. But the government literally went from words to actions only a year ago – in 2016 (Kvašňák, 2017, p. 4) when Slovak government amended foreigners law and foreign investment law, and also adopted the strategic resolution in order to support strategic shared services centers.

Act on Investment Support (Act No. 561/2007 OJ) was the first legislation act allowing the governmental support to shared service centers (already in 2013, although the overall strategy

⁴) As core language SARIO (2017, p. 4) understands German, French, Italian, Czech, Bulgarian, Hungarian, Polish, Romanian, Russian, Slovenian, Spanish.

⁵) As non-core language SARIO (2017, p. 4) understands Albanian, Arabic, Croatian, Danish, Dutch, Finnish, Flemish, Greek, Hebrew, Chinese, Japanese, Lithuanian, Macedonian, Norwegian, Portuguese, Serbian, Swedish, and Turkish

⁶) As exotic language SARIO (2017, p. 4) understands other languages than core and non-core named above.
of the government for this sector was missing until 2016. The Act defined in its terminology part 7 “strategic services center” as the center providing high-value-added services, hiring qualified experts, the core activities of which are finance, procurement, IT, HR, and customer care. Strategic services centers are eligible for governmental support if (a) they invest to tangible and/or intangible fixed assets in the amount at least 400,000 EUR of which at least 50% is covered by the equity of investor, (b) at least 60% of their employees are university educated, and (c) their investment intent is to create new jobs. The conditions (a) to (c) named above are in case of SSCs the same regardless of the region, but related governmental decree defines the maximum intensity of the governmental support based on regions: in the East and Central region the support is up to 35% of the relevant costs, in Western region it’s 25%, and Bratislava region is not eligible for the support at all (Fiľa and Krištofík, 2017, p. 10).

The important act supporting the strategic SSCs is the Act No. 404/2011 (The Act on Stay of Foreigners in Slovak Republic). Its amendment adopted in March, efficient since May 2017, determines that applications to permit (for temporary stay) must be processed up to 30 days if the applicant works for SSC, while for standard applicants the deadline is 90 days. The same act gives mandate to the Ministry of Economy to publish the list of strategic SSCs. The initial list created in June 2017 had 18 centers but as of August 31 (last edition so far) there are already 23 centers in the list.

The main legislation change in the support of SSC sector came in 2016 with the adoption of the new strategic document in order to support SSC sector. The governmental resolution No. 287/2016 (Ministry of Economy, 2016) was adopted in July 2016 as “The Strategy of Support of Shared Service Centers in Slovakia”. It was prepared by Slovak Ministry of Economy in close cooperation with Business Centers Forum of The American Chamber of Commerce in Slovakia and with governmental agency SARIO (Slovak Investment & Trade Development Agency). The strategy predicts that until 2020 the number of new jobs created in shared services centers will reach 20,000. But Slovakia has to compete for each new such an investment not only with neighborhood countries but also with Romania, Bulgaria, and Asian countries. Therefore Slovakia must adopt legislation and regulations supporting in maximum level competitive advantages of Slovakia. The strategy emphasizes the fact that investment to business centers plays an important role in direct foreign investment volumes. Strategy defines shared services centers as affiliates of foreign and Slovak companies, providing intercompany financial services to their mother and sister companies and/or to the third parties. In the next chapter the strategy analyses the existing market in the sector of shared service centers, and emphasizes the fact that 76% of their employees have university education, and 95% of employees use either English or German language in their work but at the same time 90% of SSC employees are Slovaks (while in Czech Republic 60% of SSC employees are foreigners). And the level of salaries in SSC sector in 2015 was twice as high as overall average of the country (in SSC it was 1,660 EUR gross per month). Shared services centers have well-balanced gender structure of their employees (46% of employees are women), and promotion of women is also very intensive in this sector - 41% of their

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7) Section 3 point g) of the Act No. 561/2007 (Official Journal of the Slovak Republic).
8) Slovak Republic Governmental Decree No. 219/2015 (Official Journal of the Slovak Republic).
9) Section 33 paragraph 8 point d) of the Act No. 404/2011 (Official Journal of the Slovak Republic).
managers are women (Ministry of Economy, 2016, pp. 6-7). The strategy defines also main contributions of SSC sector to Slovak economy:
(i) Increasing stability and added value of existing foreign investment,
(ii) Support to non-industrial economy with higher value added,
(iii) Increased employment of experts in regions,
(iv) Employment of young people,
(v) Efficient requalification and continual training of employees,
(vi) Being an alternative to working abroad.

The strategy determines the action plan with three pillars and six actions in order to support SSCs in Slovakia (Ministry of Economy, 2016, p. 13-19):
(i) Assuring sufficient quantity of workforce for SSCs by:
   (a) education and professional trainings,
   (b) simplifying of hiring high-qualified employees from abroad,
(ii) Creating environment supporting SSC growth and development by:
   (a) creating the list of supported SSCs,
   (b) improvement of the awareness about the sector,
(iii) Active support of the new investment in SSCs by:
   (a) programs oriented to SSCs respecting their specifics,
   (b) active approach to new investment in SSC sector.

Slovak Investment & Trade Development Agency (SARIO) published its own action plan for SSCs support (also with three pillars broken down to 21 actions (SARIO, 2016, pp. 1-4).

5. Opportunities and challenges for Slovak economic education

One of disadvantages for Slovakia (comparing to Czech Republic) is lower number of university graduates in total, and therefore centers are establishing the cooperation with several universities in different forms – teaching of courses by SSC managers, joint educational and research projects, organization of conferences and trainings, visits of SSC accompanied with recruitment of new employees, sponsoring of the graduation thesis, and also the internships allowing students to try to work in SSC – the last form of cooperation is relevant also for secondary schools (Ministry of Economy, 2016, p. 7-8).

Slovak universities providing economic and finance education shall understand the needs of SSC sector as the challenge and opportunity to bring the economic and finance education closer to the needs of employers. On one side it is absolutely clear and understandable that universities cannot prepare economists, business and finance staff only for one specific sector of economy but at the same time it is necessary to say that such an employment power as represented by SSCs today, must not be ignored and has to leave some footprint in the structure of economic and finance educational programs.

Currently the SSC sector in Slovakia suffers with lack of qualified workforce, and fresh graduates can easily cover this gap in the labor market if they will be well prepared for SSCs needs. As we identified above, also Slovak government and SARIO agency see changes in education and professional trainings as the very first action needed.\footnote{Governmental strategy asks for harmonizing educational programs of Slovak universities with the labor market needs by improvements in teaching of foreign languages, business skills, digital skills, soft skills, and to emphasize the needs of practice in education, as well as involving SSCs experts into review of existing educational programs, and appointing them the members of Accreditation Board of the Ministry of Education.}
6. Discussion

Currently the courses of Corporate Financial Management focus on decentralized finance functions of joint-stock company (only a short time is dedicated to centralization of finance transactions). Too much time is dedicated to the topics like issue of stocks and bonds, capital structure, investment analysis, etc. (although most of the graduates will come use them after several years if ever). Less time is dedicated to economies of scale gained by centralization of finance transactions and mass processing of financial operations, cost reduction programs (incl. finance transformation) as well as to payment methods used abroad (as domestic inter-country payment methods, e.g. checks, bills of exchange, promissory notes, letters of credit - if they are taught, it’s in relation to cross-border payments). Specifics of finance in different industrial sectors aren’t emphasized even for sectors creating the Slovak economy backbone (e.g. automotive where finance is related to very specific supply chain management).

Corporate Accounting courses in Slovak universities usually go one of two directions: either strongly focusing on Slovak accounting while international accounting (IFRS) is quite weak or the other way round. Focus to Slovak and IFRS accounting shall be more balanced, and because most of SSCs in Slovakia use US/UK GAAP, these must not be neglected. Also the knowledge of globally used ERP systems is not taught that much to finance students.

General Management courses have not enough hours dedicated to negotiation and verbal communication (personal or by phone) is not prioritized. It’s not only the role of Management course but also of other finance courses to test also verbal skills in exams and in seminars. Students lost verbal communication skills, and as future leaders and managers they will be selling the ideas verbally to their teams). Short time is dedicated to multicultural environment (work in multinational teams) and business culture challenges during mergers & acquisitions. Project Management focus on general project skills although the most difficult part in international projects is to overcome the resistance of negatively impacted people.

IT courses (and usage of IT skills in finance & accounting courses) do not stress enough the big data analysis in Excel and to basic programming in Excel (macros). This knowledge is many times more important than knowledge of finance functions in Excel, because graduates need to get rid of manual work by simple automation by creating easy or mid-level macros.

The following topics represent main changes identified in educational programs leading to better preparation of graduates for SSC sector:

(i) More hours about US/UK GAAP comparing them to Slovak accounting and IFRS (this would be useful also for Big Four auditing companies).
(ii) More hours on foreign taxation (not only for cross-border transactions but also national taxation systems of the main EU and non-EU countries).
(iii) Fluent communication in two foreign languages (incl. English) - not to be “language schools” for basics, but give specific finance vocabulary (rather by finance teachers in their courses, because language teachers can’t explain different meanings of the same finance terms e.g. in continental and Anglo-Saxon world).
(iv) Strengthen knowledge about domestic payment methods in big EU / non-EU countries (SSCs are daily processing domestic payments between their foreign affiliate and vendors /customers in the same foreign country).

Governmental agency SARIO is emphasizing very similar topics in its Action plan (and these actions are in the very first five positions of 21 actions overall).
(v) Emphasize specifics of finance in main industries (e.g. automotive, construction, telco, IT, retail, etc.) and explain differences between finance of services vs. manufacturing (in accounting, performance measurement, interpretation of financial ratios, etc.).

(vi) Provide comparisons of big ERP systems and understanding of general similarities and differences among them (smaller systems are based on similar principles).

(vii) Knowledge in practical programming in Excel (macros), and analysis of big data - graduates will analyze data with thousands of lines, create pivot tables, combine data by V-Lookup, etc. (automation in SSCs and costs savings many times comes from replacement of manual operations by macros.

(viii) Multicultural environment (work in multinational teams) – it’s important in relation to foreign colleagues in order to communicate efficiently and to build the team spirit, respect the colleagues of different origins (in terms of personal openness, being more direct, being more emotional than Slovaks, etc.).

(ix) Management of specific finance transformation projects (how to centralize financial operations, how to change the process from individual & manual to mass scale & automated, how to engage people losing their jobs abroad and have their cooperation and willingness to share the information, etc.).

(x) Continuous improvement culture and facing permanent changes (how to overcome stress coming permanent change, permanent push for improvement, constantly facing unfinished tasks, facing impossibility to be too detailed oriented if multitasking and “asap” culture, how to overcome the lack of prioritization in company culture.

(xi) Communication with internal customers giving them the same level of importance as to external ones, and facing “SSC paradox” (the balance between respecting internal customers paying for SSC service vs. being compliance gatekeeper (rejecting things needed by internal customers if they’re not compliant with policies).

(xii) Management of service delivery (measuring quality of non-manufacturing process, setting KPIs, managing delivery through service level agreement – SLA).

(xiii) Go one level down in terms of for what graduates shall be prepared for - give only basics of topics that will be used only several years later by a few graduates (Like top financial decisions) and use the spare hours rather for practical knowledge that will be used by big percentage of graduates immediately after graduation (it doesn’t mean not to teach complicated and high-decisions topics, juts to dedicate to them only adequate time in order to understand the basic thoughts behind them).

It is understandable that the above mentioned topics cannot be the main stream of finance and accounting education, and the ambition of this article is not to reverse the current structure of education upside down. But we have to say that these topics deserve more space in finance and accounting education than they have now.

7. Conclusions

The review of existing finance and accounting education programs is desired both by labor market in Slovakia and by Slovak government. This paper summarizes in its core part on side the deviations of standard courses from the current market needs, and on the other side gives specific proposals clustered in 13 points - author sees them as high urgency needs. The paper is so far not going into details of comparison of different programs in different Slovak universities and faculties, and he is not ranking them from SSC needs point of view. Author just summarizes general standard of finance & accounting courses in average (not saying that
in all courses all the universities in country offer the same), and rather identifies what SSCs need and expect from university graduates. Author empirically summarizes his experience both as university teacher and as a senior manager of one of SSCs. The further more detailed research and comparative studies can be done if there will interest on both sides. Also the fact that review of educational programs and their harmonization with SSC needs is the action required directly by Slovak government, shall convince the universities that at least some change is needed and desired.

References


THE CONCEPT OF TOURISM DESTINATION GOVERNANCE 
AND ITS APPLICATION 
(CASE STUDY IN KUTNA HORA, THE CZECH REPUBLIC)

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Abstract
Exploring the interconnection between tourism destination management and territorial development is increasingly being absorbed by the concept of Tourism Destination Governance today. Still based on cooperation between stakeholders, it applies the concept of corporate management to a tourism destination and from its outset it has become a very important part of local and regional development. Good governance of a tourism destination is a very complex process that consists of many sub-processes and principles, and given the diversity of individual destinations there is no specific guidance applicable to broad-spectrum use. The aim of this paper is to analyze the principles of good governance and their application in the town of Kutna Hora (the Czech Republic) and to propose recommendations for their more effective and efficient implementation. Based on the critical literature review we identified five key elements of destination governance: responsibility, transparency, incorporation, leadership and trust. Primary data were obtained by qualitative research using the empirical method of questioning. The paper is based on semi-structured interviews conducted among stakeholders involved in the development of tourism in Kutna Hora. We have come to the conclusion that the most problematic principle of good governance in Kutna Hora is mutual trust. Both private and public sector representatives agreed that it is the lack of trust that influences the effective and efficient cooperation between stakeholders involved in the development of tourism in the selected destination most.

Key words
destination, governance, territorial development, cooperation, principles

JEL classification
L83

1. Introduction

Tourism is an important social, cultural and economic phenomenon. Globally, still greater amount of destinations is investing in an effort to make it a key driver of their socio-economic progress. In spite of occasional shocks, tourism has, in a timely manner, a continuous growth. International tourist arrivals have according to UNWTO risen globally from 25 million in 1950 to 1186 million in 2015. World tourism now accounts for 7% of world exports in goods and services, and is ranked third right behind fuel and chemicals, ahead of food and the automotive industry.
The development of tourism, thanks to its multiplier effect, makes it possible to maintain or, to create new job opportunities and financial resources for the development of individual territories. It is therefore often considered, on a regional scale, to be a selective driver of economic development. Its ever-growing importance in regions brings with it higher demands to ensure quality organization and destination management.

In recent years, there have been obvious changes in destination management approaches, especially in countries that have long been involved with destination management such as Austria and Switzerland. Leading research teams from these countries are moving from the primary and basic approach of Destination Management across the concept of Destination Governance to the most recent Destination Leadership approach. The theoretical basis for the concepts of destination governance and destination leadership was laid by leading researchers Bieger et al. (2011). Debates on so-called Destination Governance have been driven mainly by a change in perspective. New questions arose as to how efficient and effective destination management should be tackled. While the concept of Destination Management is more focused on rational and static aspects of destination management, Destination Governance and Leadership also seek answers to the questions: "How to govern a destination?" and "Who should be the leader?" (Pechlaner et al., 2015).

In essence, this is an ongoing debate on the effective management and organizational structures of two basic models of tourism destinations, namely community and corporate models (Bieger et al., 2011). Destination stakeholders seek balance between competition and cooperation within the destination and the ability to find the optimal organisational structure is one of the key success factors (Gajdosik et al., 2017). Scientific studies of these two core destination models have led to the recognition that it is just corporate structures that contribute to effective implementation of plans, strategies and overall development. Thus, the theory of corporate governance came into play (Svensson et al., 2005; Beritelli et al., 2007; Hristov and Zehrer, 2007; Beaumont and Dredge 2009; Baggio et al., 2010).

A specific way to carry out good governance in a tourism destination is subject to extensive discussions. Taking into account the rights and interests of stakeholders, networking appears to be an effective model for managing a destination (Zhang, 2011). When the partnership network works, it works as a system that can organize and integrate destinations, benefit the involved companies, increase the performance and quality of the destination, and also stimulate the provision of "healthy and unforgettable experiences" to tourists (Zach and Racherla, 2011, p. 98). Another possible perspective of destination governance is the creation of clusters and innovation systems (Svensson et al., 2005) or the approach of a complete scientific system with an emphasis on the role of the social sciences (Baggio et al., 2010). Many researchers, however, agree that networking is the most commonly used way to good tourism destination governance (Zhang, 2011; Zach and Racherla, 2011; Bobkova, 2015; Mariani, 2016; Zemla, 2016).

Application of the Tourism Destination Governance concept carries the compliance with certain rules and principles. The Committee of Ministers of the Council of Europe established a total of 12 principles of good democratic governance at local level in March 2008. In essence, we can say that the principles of good governance of the tourism destination in the submission of various researchers are transposed from these basic principles and in some way correspond with them. According to Beritelli (2011, p. 8 In Gajdosik, 2015), good destination governance proposes models of effective management and planning in a mutual trust based destination. Morrison (2013 In Gajdosik, 2015) lists six elements of destination management,
namely accountability, transparency, incorporation of stakeholders, clear structure, efficiency and strength.

Gajdosič himself (2015, p. 27) draws on these views and identifies these five basic elements of good destination governance:

- taking responsibility of the management organization for its activities,
- transparency of managerial organization activities,
- incorporation – involvement of stakeholders into management and marketing activities in the destination,
- leadership of the management organization,
- trust in the destination.

The aim of the paper is to analyze the application of five identified good governance principles: responsibility, transparency, incorporation, leadership and trust in the selected destination.

2. Methodology of research

The aim of this paper is to analyze the principles of good destination governance and their application in the town of Kutna Hora (Czech Republic) and to propose recommendations for their more effective and efficient implementation. Primary sources of information were used. The principles of good destination governance were examined on the basis of qualitative research using the empirical method of questioning. The paper is based on semi-structured interviews conducted among stakeholders involved in the development of tourism in Kutna Hora.

The town of Kutna Hora is a very popular, picturesque UNESCO town located in the heart of Bohemia. It is dominated by two cathedrals, namely the St. Barbara Cathedral and the Cathedral of the Assumption of the Virgin Mary in Sedlec, Kutna Hora.

In order to achieve the objective of this paper the first step was to identify the stakeholders in tourism development in Kutna Hora. Tourism has a multi-disciplinary character, which means that many sectors and activities belonging to the private or public sector are involved in the provision of services to visitors. The service providers are usually listed in the four main categories of stakeholders in a destination, such as the public sector, the private sector, the voluntary sector and the local population.

Secondly the specification of selected good governance principles was done. Each principle has been assigned a statement which was then been ranked by selected stakeholders on the Likert scale. The main instrument of data collection were semi-structured interviews with important stakeholders involved in the development of tourism in Kutna Hora and its surroundings. Interviews can be considered the most commonly used qualitative research method to find comprehensive and detailed information. For the purpose of a personal or telephone interview, 12 subjects were addressed during the summer of 2017. This research sample was based on the recommendations of the local destination management representatives. We assume that they are well aware of the most important subjects in tourism development in the town. Among the addressed were representatives of the public, private and non-profit sector, providers of accommodation and catering services, guiding and information services, operators of local cultural monuments, representative of local and regional government and destination management organization, event organizer. The addressed
stakeholders had to evaluate on the range of -2 to 2 the five statements that characterize the principles of Destination Governance (Table 1).

Increasing value increases the degree of consent to the statement and vice versa. (-2 - completely disagree, -1.5 - disagree, -1 - rather disagree, 0 - I do not know, I can’t say, 1 - I rather agree, 1.5 - I agree, 2 - I totally agree).

Table 1: Linkages of Destination Governance Elements and submitted statements during interviews

<table>
<thead>
<tr>
<th>Destination Governance Element</th>
<th>Statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>In Kutna Hora, the relationship between private and public sector bodies is based on the mutual trust.</td>
</tr>
<tr>
<td>Incorporation</td>
<td>The organization I represent is involved in management and marketing activities in Kutna Hora.</td>
</tr>
<tr>
<td>Responsibility</td>
<td>Destination Management in Kutna Hora (Tourism and Marketing Department of Kutna Hora) takes responsibility for the activities and results in tourism development in Kutna Hora.</td>
</tr>
<tr>
<td>Transparency</td>
<td>I consider the management and marketing activities of Kutna Hora destination management organization to be transparent.</td>
</tr>
<tr>
<td>Leadership</td>
<td>Mutual cooperation in Kutna Hora has a positive contribution to my organization.</td>
</tr>
</tbody>
</table>

Source: adapted from Gajdosik (2015).

Final part of the paper introduces the evaluation of the interviews and presents the main barriers to the development of tourism in the town of Kutna Hora.

3. Results

The concept of Tourism Destination Governance changes the view of the activities in the destination and raises questions about the effectiveness of the destination management. While Destination Management is focused on goal setting and achievement, the concept of Destination Governance focuses on processes and structures in the destination. Destination Governance thus defines the prerequisites, rules and mechanisms for policymaking and strategies that encompass all entities in the destination and creates room for the application of the principles of social responsibility (Gajdosik, 2015).

3.1 Definition of stakeholders in Kutna Hora

In order to specify the main stakeholders in the development of tourism in Kutna Hora and their relations, it is necessary to first mention and define Tourism Fund of Kutna Hora (hereinafter referred to as the Fund). The Fund is a voluntary community and partnership of the town, private providers of tourism services, subsidized organizations of the Central Bohemian Region, tour operators and other private entities interested in tourism, who associate funds on a special purpose account and then, on the basis of a joint marketing plan, coordinate promotion and presentation of Kutna Hora and its surroundings. The aim of the Fund is to collect funds, which are subsequently used to promote and present the Kutna Hora destination and to co-finance tourism projects.
The source of revenues of the Fund is City Council of Kutna Hora (2015):
- funds from the City Council of Kutna Hora (accommodation and spa tax),
- financial donations,
- income from advertising co-operation (sales revenue).

The specific contributors and the contributions for the years 2014-2017 are shown in Table 2. The list of them is an important part of the complete list of stakeholders in Kutna Hora.

Table 2: Budget revenues of the Tourism Fund of Kutna Hora (KH) in CZK 2014 – 2017

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>City Council of KH</td>
<td>400,000</td>
<td>400,000</td>
<td>500,000</td>
<td>600,000</td>
<td>+100,000</td>
</tr>
<tr>
<td>Roman Catholic parish - the Archbishopric of KH</td>
<td>200,000</td>
<td>200,000</td>
<td>300,000</td>
<td>200,000</td>
<td>-</td>
</tr>
<tr>
<td>Roman Catholic parish KH Sedlec</td>
<td>200,000</td>
<td>200,000</td>
<td>200,000</td>
<td>200,000</td>
<td>-</td>
</tr>
<tr>
<td>Accommodation and recreation tax</td>
<td>100,000</td>
<td>270,000</td>
<td>**</td>
<td>**</td>
<td>-100,000</td>
</tr>
<tr>
<td>Local Action Group “Linden for the countryside”</td>
<td>50,000</td>
<td>100,000</td>
<td>100,000</td>
<td>100,000</td>
<td>+50,000</td>
</tr>
<tr>
<td>GASK</td>
<td>35,000</td>
<td>35,000</td>
<td>42,350</td>
<td>42,350</td>
<td>+7,350</td>
</tr>
<tr>
<td>Czech Museum of Silver</td>
<td>35,000</td>
<td>35,000</td>
<td>42,350</td>
<td>42,350</td>
<td>+7,350</td>
</tr>
<tr>
<td>KH Guide Services Ltd.</td>
<td>&lt; 25,000</td>
<td>25,000</td>
<td>25,000</td>
<td>25,000</td>
<td>increase</td>
</tr>
<tr>
<td>Smaller contributors</td>
<td>in thousands</td>
<td>in thousands</td>
<td>20,000*</td>
<td>20,000*</td>
<td>increase</td>
</tr>
<tr>
<td>Total estimated</td>
<td>&gt; 1,020,000</td>
<td>&gt; 1,265,000</td>
<td>1,229,700</td>
<td>1,229,700</td>
<td>+209,700</td>
</tr>
</tbody>
</table>

* Museum revealing a mysterious face, Museum Lego, Museum Alchemist workshop
** Total amount collected per whole year is included in City Council’s contribution

Source: adapted from Department of Tourism and Marketing Kutna Hora (2017).

A contributor to the Fund may only be a stakeholder in the Kutna Hora destination and its surroundings (usually the Kutna Hora Region). A member of the Board of Directors can become the one, whose financial contribution to the Fund during the calendar year is at least CZK 20,000 excluding VAT and operates in the tourism area of the destination Kutna Hora and its surroundings. The interests of the stakeholders contributing to the Fund with a lower amount is defended by the representative of the Tourism and Marketing Department of Kutna Hora. The Board of Directors of the Fund is made up of representatives of individual tourism entities, with the following key (City Council of Kutna Hora, 2015):
- 1 representative of the City Council of Kutna Hora,
- 1 representative of the Tourism and Marketing Department of Kutna Hora,
- 1 representative of the Roman Catholic parish - the Archbishopric of Kutna Hora,
- 1 representative of the Roman Catholic parish Kutna Hora Sedlec,
- 1 representative of the Kutna Hora Guide Services,
- 1 representative of the Czech Museum of Silver, allowance organization,
- 1 representative of the Central Bohemian Gallery (GASK), allowance organization,
- 1 representative of accommodation facilities,
- 1 representative of the Local Action Group “Linden for the countryside”,
• 1 representative of the Tourism Committee of the City Council of Kutna Hora (with advisory voice),
• 1 representative of Kutnohorsko.cz, NGO (with advisory voice).

The representative of all accommodation facilities is chosen by themselves. Because of the time and administrative difficulty and in some way disadvantageous position vis-à-vis other accommodation providers in this town, there is not much interest among providers of accommodation services in this position.

From the meeting with Kutna Hora destination manager also other private stakeholders evolved. Of the total of 41 accommodation providers, the three most important entities in the town were selected for further research. As was the case for catering facilities with a total of 42 subjects. Next to this group are: the newly reconstructed Municipal Brewery Kutna Hora, Kutna Hora Wine Cellars and the Kutna Hora Guide Services with a wide portfolio of guide services.

3.2 Application of the principles of good destination governance in Kutna Hora

To find out how the principles of destination governance are applied in the development of tourism in Kutna Hora, we used the primary sources of information that we obtained through qualitative research. The results of the research confirm that the greatest stumbling block in the mutual cooperation of stakeholders in Kutna Hora is the element of trust within the destination. This assumption is perceived by the representatives of both the private and the public sector in the destination (Table 3).

<table>
<thead>
<tr>
<th>Destination Governance Element</th>
<th>Private sector</th>
<th>Public sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trust</td>
<td>-0.5</td>
<td>-0.5</td>
</tr>
<tr>
<td>Incorporation</td>
<td>1.25</td>
<td>1.5</td>
</tr>
<tr>
<td>Responsibility</td>
<td>-0.25</td>
<td>1.25</td>
</tr>
<tr>
<td>Transparency</td>
<td>1.00</td>
<td>1.75</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.13</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Source: the authors.

The highest value in case of private sector reaches the element of incorporation of stakeholders, which is also the second highest value for the public sector. The highest value within the public sector was measured at the element of transparency. Positive is the fact that this value is positive and relatively high even within the private sector. It demonstrates confidence in the transparency of activities of destination management organization in Kutna Hora, the Tourism and Marketing Department.

Based on the analysis of the application of good destination governance principles in Kutna Hora, we have come to the conclusion that the greatest obstacle to mutual cooperation among stakeholders in the destination is mutual trust. At this point, both private and public sector representatives agreed.

3.3 Barriers to development of tourism in Kutna Hora

The survey revealed that despite the efforts of some stakeholders, unfortunately, until now, the functional partnership network in Kutna Hora has not been established. Based on the
conducted research we can sum up the most significant barriers affecting the establishment and functioning of regional network.

In Kutna Hora, the respondents consider these main obstacles to creating a partnership network from the most important to the least significant:

- communication, local competition and personal conflicts make it impossible for individuals and organizations to work together and share ideas and innovation,
- trust, many times responsibility for the implementation of specific activities in the public and private sector is unclear,
- interests, some stakeholders in the destination take effort to be independent and to take on their own initiative in some activities (e.g. marketing); some have different ideological views.

4. Conclusion

The interconnection of exploration of tourism destination management and management of territorial development is a relatively new topic in terms of professional research. The concept of Tourism Destination Governance, however, has proven to be a very important part of local and regional development from the outset. Still, it is also based on cooperation among stakeholders from public and private sector. And put it simply, it applies the concept of corporate governance to tourism destination. Nevertheless the application of the concept of Tourism Destination Governance concept carries the compliance with certain rules and principles. Among the existing principles we identified and further researched five most important principles of good destination governance which are trust, incorporation, responsibility, transparency and leadership. The paper analyses the application of these five principles in the town of Kutna Hora.

The qualitative research was carried out by semi-structured interviews with stakeholders involved in tourism development in Kutna Hora. Together with the local destination management a research sample of 12 significant stakeholder representatives was created for this purpose. The subjects were carefully chosen with respect to their role in tourism development in Kutna Hora. Based on the research we have come to the conclusion that the greatest obstacle to mutual cooperation between stakeholders involved in the development of tourism in the selected destination is mutual trust. At this point, both private and public sector representatives agreed. As the two sectors also agreed on the transparency of the activities of the management and marketing organization (Department of Tourism and Marketing of Kutna Hora), we believe that the strengthening of mutual trust in the destination is primarily in the hands of City Council of Kutna Hora. It would be appropriate to create a broader platform for cooperation for all stakeholders involved in the development of tourism in Kutna Hora, to ensure regular meetings, to demonstrate clearly and convincingly to private parties the desire for mutual cooperation and the achievement of common goals - a constant supply of satisfied visitors to Kutna Hora and its sustainable development.

References


SHAPING FUTURE LEADERS THROUGH GLOBAL EDUCATION

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Abstract

Global education deals with a wide range of topics, develops the key transferable skills and shapes the attitudes and values that are vital for future leaders. It addresses the global problems we face today that require advanced skills and sensitive approaches. Although there are some elements of global education present in the curriculum of the Faculty of Economics, like the environmental issues or acculturation studies, its significance, complexity and potential are yet to be recognized and appreciated both by teachers and students. In our article we focus on global education content within the curricula of the economic faculties. We also draw attention to the so-called process dimension of the global education that involves participatory and experiential pedagogy. The goal of this paper is to assess the level of relevance that both students and teachers at the Faculty attach to global education issues in their education and teaching and reflect this in the view of its potential for both the education process and its outcomes.

Key words

global education, development education, higher economic education, globalization

JEL classification

A22, A23, I23

1. Introduction

As for the educational mission of the Matej Bel University, it declares within its mission statement that “…by developing new knowledge through productive scientific and artistic research, the university contributes to the formation of intelligent, moral, authentic and socially responsible individuals and thus to the creation of a learning society”. The mission of the Faculty of Economics is more specific to its field of study ”to prepare proficient and flexible economists (managers) that will be competitive on the international labour market and will be able to shape the future.” In our article, we wish to focus on the role global education can play in fulfilling the missions of both the university and one of its biggest faculties and establish to what extent the students and teachers are aware of this potential in view of what they study or teach.
Global education responds to and reflects various aspects of globalization and internationalisation and their effects on the economic, political and social processes. Consequently, global education itself is complex and multidimensional and it has developed to encompass several types of education that deal with the respective group of global problems.

In the words of Mistrík (2014, p. 8), global problems are the undesirable and unexpected consequences of globalization, “i.e. unification of the globe through political relations, through economic development and through media contents”. It is those global problems that call for the need of development education. They can be divided into three groups – social problems, environmental problems and political problems”. The author articulates the general objective of development education (global education) as follows: Firstly, it is the development of global awareness and perception of the current situation from a global perspective. This requires change of thinking about the world and recognition of global causes and consequences in our everyday lives. The role of a leader, educated person, is to help solve the everyday problems having those global contexts in mind. Next, it is necessary to accept global responsibility, i.e. the sense of responsibility for global development of the humankind and finally, it is the development of responsible attitudes towards the consequences of global problems. Development education, as part of the global education, should also prepare experts for development aid and cooperation and deepen the motivation to provide practical aid in different parts of the world (Mistrík, 2014).

The globalization has been dealt with by many distinguished social scientists, like Giddens or Bauman and Giddens (see Giddens, 2000) puts emphasis on development of active citizenship and underlines the need to use all principles of democracy and positive contribution of citizens’ initiatives. In his view, the state should focus on the development of human capital. Globalization can be seen as a new hope as well as an unprecedented threat. It affects various areas of life. The idea of sustainable development counts on positive change in people’s value orientation and that requires multidisciplinary approach. Pursuing the sustainable development necessitates not only the change of people’s value orientation but also changes in political and economic systems and legislation.

The Slovak National Strategy for Global Education (2012, Section 1.1.) states that ‘Global Education (GE)’ is to be perceived as an overarching principle that includes development education (education concerning developing countries and poverty in the world), environmental education, multicultural education, peace studies, and education relating to the development and maintenance of human rights in the global context.” In the National Strategy, there is also reference to the term ‘Global Development Education’. “Global Development Education is an educational approach leading to a deeper understanding of diversity and inequality in the world. It allows us to better understand the roots and causes of such inequalities, as well as the opportunity to search for and identify possible solutions....”.

In the Maastricht Declaration on global education (GE) in Europe, environmental education is replaced by education for sustainability, and education for peace is complemented with conflict prevention and all the types of GE are considered to be the global dimensions of education for citizenship. Mistrík (2012) uses the term “development education” that is many times used interchangeably with “global education” or “global development education”. In our paper we deal with the global education in its broadest sense and when using the term development education, we do so with respect to the authors that prefer using this term or deal with the matter mainly from the perspective of development aid and cooperation.
Going back to the mission of the Faculty, we can see that global education should be applied across the curriculum to prepare globally responsible professionals to “shape the future” in a variety of roles, not only as leaders, but also as experts in their fields or scientists pursuing academic and teaching careers. In addition, the Faculty of Economics may also raise the experts directly in the field of administering and managing development aid and cooperation, which is also the “international labour market”.

2. Core elements of global education

What we call global education today has almost 50-year-long tradition in the UK and North America, where it started as an initiative of teachers, non-governmental organizations and later also governmental educational agencies on elementary and secondary levels of education at first. In order to understand the complexity and potential of global education for university students, we will look at its core elements or dimensions (Pike and Selby, 1998 In Hicks, 2003, pp. 268-269).

1. Issues dimension - deals with the five major problem areas (and solutions to them): inequality/equality; injustice/justice; conflict/peace; environmental damage/care; alienation/participation, i.e. active citizenship;

2. Spatial dimension - examines the local–global connections that exist in relation to these issues, including the nature of both interdependency and dependency. The relations are explored mainly between the countries of the rich North and the poor South.

3. Temporal dimension - looks into the interconnections that exist between past, present and future in relation to such issues, exploring the roots of the present problems in order to avoid them in the future;

4. Process dimension - focuses on a participatory and experiential pedagogy which promotes active learning and engagement of students in the learning process. The objectives of this pedagogy are not only passing on new knowledge but also formation of the values and attitudes of students in favour of politically aware local – global citizenship.

These principles translate into the three areas that a well balanced GE curriculum (Oxfam, 1997 In Hicks, 2003) should reflect, i.e. the knowledge and understanding of global topics (social justice & equity, peace and conflict, globalization and interdependence, sustainable development, diversity), skills necessary to function as a global citizen and leader in their own field (co-operation and conflict resolution, ability to argue effectively, ability to challenge injustice and inequalities, and most importantly, critical thinking) and formation of desirable values and attitudes (value and respect for diversity, concern for the environment and commitment to sustainable development, commitment to social justice and equity, belief that individuals can make a difference, sense of identity and self-esteem, empathy).

The theoretical and research works dealing with GE have gone even further and have drawn attention to the need of changing concepts of knowledge and learning in educational policies and practices in contemporary ’21st century’ societies (see Andreotti, 2009, p. 5). The author cites the common arguments that are used to justify this need, one of them being the change in the profile of 21st century learners that perceive knowledge, learning and education in different ways than the teachers who were brought up in 20th century concepts. This in turn requires teachers and education practitioners not only change the ways they behave or do things, even the ways they think, but also to change the ways they ‘know’ and ‘see’. This concerns also the knowledge about the knowledge construction itself (Andreotti, 2009).
Whereas some of the GE principles and values can be seen as ideologically biased and thus irrelevant in the neo-liberal and conservative environments, at the same time there is much to be drawn upon in terms of educational goals reflecting the challenges of the current world. It is clear that within higher education, there will be a varying degree of emphasis on the three areas of the GE curriculum depending on the study field and the value orientation of the institution. However, the emphasis GE puts on individual responsibility for one’s life and the world, personal engagement and critical assessment of all the current issues can be hardly denied as not deserving the effort across the board.

3. Global education on tertiary level of education in Slovakia

As was mentioned above, the terminology of global and development education has not been clarified and unified neither globally nor among the authors and practitioners in Slovakia. Jančovič et al. (2015) claims that „in Slovakia, ‘Global education’ mostly refers to both formal and informal educational programmes focused on reflection of globally interconnected issues like inequality, climate change, human rights, and so on. On the other hand, ‘development education’ is understood as the education of development professionals at various levels.“ The author also mentions the term ‘global development education’ that has been used in theoretical discussion describing the mixed approaches in education.

The GENE National Report on GE in Slovakia names key institutions involved in GE in Slovakia. These are the Ministry of Foreign and European Affairs (MFEA), Ministry of Education, Science, Research and Sports (MESRS), Slovak Agency for International Development Cooperation (SAIDC) and the Platform of Non-governmental organisations dealing with international development and humanitarian assistance (NGDO Platform). The MFEA and SAIDC are the institutions that directly deal with development aid and cooperation and so they realize the need for the experts in the field but also the general public awareness of the issue. The Ministry of Education is responsible for implementing the National Strategy for GE into the school system. The development NGOs have the experience and expertise not only directly from the field of development work, but also in the area of global and development education, which both ministries draw upon. The key role of NGDO Platform in pursuing the GE both in its implementation and policy making has been acknowledged also by Jancovic (2015).

One of the aims of the Slovak national strategy’s annual Action Plan for Global Education for 2012 – 2016, is to integrate global education aims and topics into mainstream primary, secondary and tertiary education and build the capacities of teachers to deliver these study programmes, along with strengthening the development research agenda in universities. Jančovič et al. (2015) asserts that no Slovak university is providing an academic course in international development, and the courses related to global education are often marginal in the study programmes (optional/elective courses). This applies also to the Faculty of Economics that has introduced the course Development cooperation and aid as an optional course available to students of Territorial studies study program. Up to now, there has not been enough demand for this course from the students for the Faculty to teach the course, though.

The university which has been actively promoting GE topics and methodology across the curriculum is the Technical University in Zvolen, namely the Faculty of Ecology and Environmental Sciences (FEES) and it has done so in cooperation with the NGO Centre for Environmental and Ethical Education Zivica and with the financial support of the Slovak Aid
(Gallayová and Gallay, 2015). The Technical University is also involved in the project that builds the capacity for implementing GE in the curricula of tertiary education in Slovakia through training the university teachers from different fields and higher education institutions from all over Slovakia, again in cooperation with Zivic and with the support of the Slovak Aid. The authors of this article have also been involved in this project and this article is one of the ways they try to pursue the matter further, along with the innovation of their courses in line with the core principles of GE.

Jančovič et al. (2015) document the development of the results of a project titled ‘Capacity-building of human resource for health in Slovakia for international development aid’ (CABIS-IDA), which ran from 2010 to 2012 at Trnava University in Slovakia. As the authors conclude, the project confirmed the need of including development education in the offer of Slovak university programs, as the formal education program for development professionals is missing in Slovakia. At the time of publishing the paper, the study program had not been adopted as a whole into the mainstream education, although some elements of it has been used in GE related university courses. The goal of the project was to create a curriculum for a training programme in development education at university level and pilot it within the project. The main achievement of the project was the successful pilot of a training programme for teachers that has become a resource for further work on a development education curriculum. For the authors, introducing a participative methodological approach of DE into the university curriculum represented an attempt to change deeply rooted role patterns and understanding of learning, and was an important and innovative outcome of the process. What the authors highlight about the development education is that “it brings a very different approach to teaching methods than is the norm in Slovak universities”, which they see as bringing „new light and innovation into the Slovak system of education and the culture of learning“.

Zaťková (2015) analyses the reasons for inclusion of GE and GDE into the curricula of the Slovak faculties of economics and describes the situation at their Faculty of Economics and Management at the Slovak University of Agriculture (FEM SUA) in Nitra. Within the KEGA funded project implemented at FEM SUA it was found that at that time (2012 – 2015), there was no course including GE or GDE at its title at the faculties of economics in Slovakia. However, there were faculties that ran compulsory or optional courses related to global and development issues and one of them was also the Matej Bel University Faculty of Political Sciences and International Relations. Having said that, the author admits that the issues of GE and GDE are present in most courses taught within economic and business study programs and these are not new in the economic curriculum in higher education. In addition, there are courses within economic study programs that lend themselves to more involvement with GE, like Political Science, Sociology, Business Ethics, Ecology and Environment, EU Integration, Intercultural relations, Sustainable development and others.

As we can see from the above, the agenda of Global (Development) Education is slowly finding its way into the curricula and teaching on tertiary level mainly through the activities of teachers and researchers that find this area both inspiring for their teaching and useful for the graduates’ profiles. One may argue that the actual involvement with GE in its complexity is difficult to assess, as it is not only the topics but (primarily) the methods and values that are important components of GE contribution in the educational process. In the next part we look more closely on the perception of both the topics and the skills the GE promotes among the students and teachers of our Faculty of Economics at Matej Bel University.
4. Relevance of GE issues to the students and teachers at the Faculty of Economics MBU

Material and methods

After analysing the topics of the National strategy for GE for 2012-2016 published in 2011 in 2011 we found that at our Faculty of Economics, we cover almost all areas of GE through the different courses offered to students to some extent, apart from the area of ‘Health’. In order to examine how relevant these topics are to our students and teachers with respect to their study programs and courses, we used the international questionnaire survey. The survey is part of the Ethical Internationalism in Higher Education Research Project (http://eihe.blogspot.sk, further as EIHE) and it has been carried out in 22 universities abroad and 2 universities in Slovakia. In our paper we focus on two of the questions in the questionnaire. One asks about the level of relevance of GE topics to the study program in case of students and the courses taught in case of teachers. The other focuses on the extent to which different skills and dispositions are considered as relevant to our students/teachers within their study programs and courses. When asking about the relevance of the issues and skills to their study program/teaching, we aim to learn how important students and teachers consider these issues and skills to be with respect of their education outcomes, i.e. what and what for they study at the Faculty of Economics.

The survey was completed anonymously by the students of all study programs and both degrees either online or in a printed form. Teachers completed only the respective questions 4 and 5 of the EIHE questionnaire and these were completed online using Google Forms. Apart from the relevance of the GE topics and skills/dispositions declared by the respondents we wanted to see whether there is a difference of the perceptions between the students of the two degrees (Bachelor and Master) and between the students and teachers. We used respective statistical tests to establish in which topics/skills there are statistically significant differences among the aforementioned groups.

The respondents marked the level of their agreement/disagreement with the statements on a 6-degree scale from definitely disagree, disagree, agree, definitely agree, to I am not sure and I don’t know. The survey was conducted among random sample of students of the Bachelor and Master degrees in the academic year 2015/16 and among a random sample of teachers in September 2017. We received completed questionnaires from 115 Bc students and 49 Ing (Master) students. The representativeness of the respondents’ sample was tested by Chi Square Test and it proved to be representative for the degree of study (p-value = 0.545). 38 teachers responded to the two questions we asked them to fill in.

Results for students

First, we explored the data from the students’ survey. By using the Friedman test we found that students of EF UMB do not consider all topics/skills as equally important with respect to their field of study. We continued with the non-parametric Wilcoxon test to see which topics/skills are considered to be more relevant to the EF students’ fields of study than the others.

We found that out of the 24 topics, there are four that are less relevant for EF students than the rest. These are terrorism, disease epidemics, over-surveillance, and racism.
Using Man-Whitney test we have found a statistically significant difference among the Bc. and Ing. degree students only at topics of poverty and terrorism. The Ing students found these more relevant to their study programs than Bc students. In the Table 1 we can see the percentage distribution of respondents’ answers regarding the relevance of the topics to their study program.

Table 1: Relevance of global themes to the students’ fields of study

<table>
<thead>
<tr>
<th>Global themes that are relevant to my field of study</th>
<th>Bc</th>
<th>Students’ degree</th>
<th>Ing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I agree</td>
<td>I disagree</td>
<td>I am not sure/I don't know</td>
</tr>
<tr>
<td>economic growth</td>
<td>90.8%</td>
<td>3.3%</td>
<td>5.8%</td>
</tr>
<tr>
<td>trade barriers</td>
<td>85.0%</td>
<td>6.7%</td>
<td>8.3%</td>
</tr>
<tr>
<td>global mobility</td>
<td>59.2%</td>
<td>14.2%</td>
<td>26.7%</td>
</tr>
<tr>
<td>technological advancements</td>
<td>67.5%</td>
<td>16.7%</td>
<td>15.8%</td>
</tr>
<tr>
<td>access to education</td>
<td>75.8%</td>
<td>14.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>international cooperation</td>
<td>88.3%</td>
<td>5.0%</td>
<td>6.7%</td>
</tr>
<tr>
<td>international solidarity</td>
<td>67.5%</td>
<td>14.2%</td>
<td>18.3%</td>
</tr>
<tr>
<td>poverty</td>
<td>55.8%</td>
<td>25.0%</td>
<td>19.2%</td>
</tr>
<tr>
<td>climate change</td>
<td>54.2%</td>
<td>31.7%</td>
<td>14.2%</td>
</tr>
<tr>
<td>human rights</td>
<td>80.0%</td>
<td>12.5%</td>
<td>7.5%</td>
</tr>
<tr>
<td>discrimination</td>
<td>59.2%</td>
<td>23.3%</td>
<td>17.5%</td>
</tr>
<tr>
<td>government overspending</td>
<td>81.7%</td>
<td>8.3%</td>
<td>10.0%</td>
</tr>
<tr>
<td>loss of jobs</td>
<td>75.8%</td>
<td>14.2%</td>
<td>10.0%</td>
</tr>
<tr>
<td>gap between rich and poor</td>
<td>65.0%</td>
<td>18.3%</td>
<td>16.7%</td>
</tr>
<tr>
<td>unequal relations of power</td>
<td>54.2%</td>
<td>17.5%</td>
<td>28.3%</td>
</tr>
<tr>
<td>over-consumption</td>
<td>76.7%</td>
<td>8.3%</td>
<td>15.0%</td>
</tr>
<tr>
<td>corporate greed</td>
<td>62.5%</td>
<td>19.2%</td>
<td>18.3%</td>
</tr>
<tr>
<td>waste of resources</td>
<td>89.2%</td>
<td>8.3%</td>
<td>2.5%</td>
</tr>
<tr>
<td>terrorism</td>
<td>35.8%</td>
<td>41.7%</td>
<td>22.5%</td>
</tr>
<tr>
<td>disease epidemics</td>
<td>29.2%</td>
<td>51.7%</td>
<td>19.2%</td>
</tr>
<tr>
<td>over-surveillance</td>
<td>22.5%</td>
<td>50.0%</td>
<td>27.5%</td>
</tr>
<tr>
<td>distribution of wealth</td>
<td>80.8%</td>
<td>10.0%</td>
<td>9.2%</td>
</tr>
<tr>
<td>racism</td>
<td>35.8%</td>
<td>39.2%</td>
<td>25.0%</td>
</tr>
<tr>
<td>migration</td>
<td>60.0%</td>
<td>24.2%</td>
<td>15.8%</td>
</tr>
</tbody>
</table>

Source: the authors.

As the data show, some topics are far more relevant to student respondents than the others. Topics that include the key words connected with the core curriculum of the students of economics, like economic growth, international cooperation, government, jobs, resources,
wealth and consumption fare much better than those connected more explicitly with global problems. We can look at the example of the two topics that mean basically the same – gap between rich and poor and the distribution of wealth. While there is not statistically significant difference between these two answers for the EF students, we can clearly see the difference (65% to 80.8% in favour of distribution of wealth) between the respondents. We can only assume why this is the case. Could it be that we deal with the topics predominantly from one perspective – the perspective of the rich? Another result that we can see as disturbing is the low percentage of respondents considering climate change as relevant to their studies, while this is the issue that is affecting the very existence of our world as we know it, not to mention the business and the current economic systems. Last but not least we can notice that with many topics there is a high percentage (over 20%) of the “I am not sure/ I don’t know” answers. This suggests that students may have not dealt with the respective issues in any of their courses at school or they cannot see the links between these global problems and their future.

As for the question regarding the relevance of skills and dispositions to the students’ field of study, the Friedman test showed that there are no significant differences in how relevant these seem to the EF students, although in the sample of respondents we can see that some skills/dispositions are seen as far more relevant than the others and there are some interesting results to note.

Table 2: Relevance of skills and dispositions to the students’ fields of study

<table>
<thead>
<tr>
<th>Skills and dispositions relevant to my field of study</th>
<th>Bc</th>
<th></th>
<th></th>
<th></th>
<th>Ing</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I agree</td>
<td>I disagree</td>
<td>I am not sure/I don't know</td>
<td>I agree</td>
<td>I disagree</td>
<td>I am not sure/I don't know</td>
<td>I am not sure/I don't know</td>
<td></td>
</tr>
<tr>
<td>Row N</td>
<td>%</td>
<td>Row N</td>
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<td>Row N</td>
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<td>------------------------------------------------------</td>
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<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>thinking critically</td>
<td>87.5%</td>
<td>5.8%</td>
<td>6.7%</td>
<td>90.0%</td>
<td>6.0%</td>
<td>4.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>working well with people from different cultures</td>
<td>90.0%</td>
<td>5.8%</td>
<td>4.2%</td>
<td>92.0%</td>
<td>4.0%</td>
<td>4.0%</td>
<td>4.0%</td>
</tr>
<tr>
<td>engaging with conflicting perspectives</td>
<td>64.2%</td>
<td>8.3%</td>
<td>27.5%</td>
<td>80.0%</td>
<td>8.0%</td>
<td>12.0%</td>
<td></td>
</tr>
<tr>
<td>considering the impact of my actions on society</td>
<td>81.7%</td>
<td>7.5%</td>
<td>10.8%</td>
<td>74.0%</td>
<td>10.0%</td>
<td>16.0%</td>
<td></td>
</tr>
<tr>
<td>questioning what I have taken for granted</td>
<td>44.2%</td>
<td>26.7%</td>
<td>29.2%</td>
<td>36.0%</td>
<td>44.0%</td>
<td>20.0%</td>
<td></td>
</tr>
<tr>
<td>becoming an entrepreneur</td>
<td>74.2%</td>
<td>10.0%</td>
<td>15.8%</td>
<td>84.0%</td>
<td>6.0%</td>
<td>10.0%</td>
<td></td>
</tr>
<tr>
<td>empathizing with those who are disadvantaged</td>
<td>67.5%</td>
<td>16.7%</td>
<td>15.8%</td>
<td>82.0%</td>
<td>4.0%</td>
<td>4.0%</td>
<td>14.0%</td>
</tr>
<tr>
<td>analysing power relations</td>
<td>60.8%</td>
<td>8.3%</td>
<td>30.8%</td>
<td>64.0%</td>
<td>20.0%</td>
<td>16.0%</td>
<td></td>
</tr>
<tr>
<td>making ethical decisions that benefit society</td>
<td>71.7%</td>
<td>9.2%</td>
<td>19.2%</td>
<td>74.0%</td>
<td>12.0%</td>
<td>14.0%</td>
<td></td>
</tr>
<tr>
<td>promoting innovation in the marketplace</td>
<td>86.7%</td>
<td>3.3%</td>
<td>10.0%</td>
<td>94.0%</td>
<td>4.0%</td>
<td>2.0%</td>
<td></td>
</tr>
</tbody>
</table>

*Source: the authors.*

Using Man-Whitney test we can say that there is a statistically significant difference between Bc and Ing degree students in how important it is for them to empathise with those
that are disadvantaged. The result is positive, as the Ing degree students demonstrate more empathy than Bc degree students. Whether it might due to the influence of their studies may become apparent when comparing the answers of teachers in this respect.

However, there are also some conflicting results here. Thinking critically, along with working well with people from different cultures and promoting innovation are considered to be the most relevant skills or dispositions stated by our student respondents. However, the two other skills/dispositions that are very closely connected with critical thinking, i.e. engaging with conflicting perspectives and questioning what I have taken for granted are the least relevant. Yet these describe processes that should occur hand in hand with critical thinking. Based on this we assume that a large part of the respondents does not understand fully or precisely what critical thinking actually is. It is positive, though, that the respondents find it relevant to consider the impact of their actions on society, although the percentage drops in the second degree of study. Becoming an entrepreneur and making ethical decisions that benefit society are important for almost ¾ of our respondents, which is also positive.

Results for teachers

As with the data from the students, we used the statistical non-parametric tests with the data from teachers to be able to say what applies to the teachers as a whole rather than only to the respondents. We also used the statistical tests to establish statistically significant differences in the responses of students and teachers as well as the statistically significant differences among the degree of relevance assigned to the topics and skills/dispositions by the teachers.

Using the Wilcoxon test for both the topics and skills/dispositions relevance we found that as for the topics, it is not possible to establish the statistically significant difference among their relevance to the teachers of the Faculty. In case of the skills/dispositions, the test shows that thinking critically is seen as more relevant than all the others skills/dispositions by our teachers.

As for the statistically significant differences between the answers of students and teachers, we used Man-Whitney test again to find there are several topics and skills/dispositions in which the answers differ significantly with $p < 0.01$. The topics are: technological advancements, human rights, unequal power relations and corporate greed. Interestingly, it is only technological advancements that teachers consider more relevant than students, whereas with the other topics, it is vice versa. It is up to the discussion why human rights, unequal power relations and corporate greed are considered less important by the teachers than by students. Perhaps these are the issues commonly dealt with the young who are more radical in their views. Regarding the technological advancements, the explanation of the difference is also difficult. The reason for teachers to be more sensitive to this topic might be the possibility to see the rapid advancement of technologies and the changes these have brought in the course of their lifetime that may not be so apparent to younger generation.

With the skills/dispositions, there is significant difference at the following items: critical thinking, engaging with conflicting perspectives, considering the impact of my actions on society, questioning what I have taken for granted and making ethical decisions that benefit the society. Table 3 shows the percentages of the respondents’ answers. We can see that in all the differences between the skills/dispositions that are statistically significant between the students and teachers, it is the teachers that find them more relevant. This is natural, as the
teachers should be those that encourage and develop these skills and dispositions with their students. However, in analysing power relations the result is quite opposite, although it did not prove to be statistically significant. Teacher respondents do not consider analysing power relations as important as student respondents, which is interesting.

Table 3: The relevance of the skills/dispositions to my field of study (students) / to the courses I teach (teachers)

<table>
<thead>
<tr>
<th></th>
<th>Students</th>
<th>Teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>I agree</td>
<td>I disagree</td>
</tr>
<tr>
<td>thinking critically</td>
<td>88.2%</td>
<td>5.9%</td>
</tr>
<tr>
<td>working well with people from different cultures</td>
<td>90.6%</td>
<td>5.3%</td>
</tr>
<tr>
<td>engaging with conflicting perspectives</td>
<td>68.8%</td>
<td>8.2%</td>
</tr>
<tr>
<td>considering the impact of my actions on society</td>
<td>79.4%</td>
<td>8.2%</td>
</tr>
<tr>
<td>questioning what I have taken for granted</td>
<td>41.8%</td>
<td>31.8%</td>
</tr>
<tr>
<td>becoming an entrepreneur</td>
<td>77.1%</td>
<td>8.8%</td>
</tr>
<tr>
<td>empathizing with those who are disadvantaged</td>
<td>71.8%</td>
<td>12.9%</td>
</tr>
<tr>
<td>analysing power relations</td>
<td>61.8%</td>
<td>11.8%</td>
</tr>
<tr>
<td>making ethical decisions that benefit society</td>
<td>72.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>promoting innovation in the marketplace</td>
<td>88.8%</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

Source: the authors.

The results of our surveys above inform the faculty about where we stand regarding our expectations and attitudes with respect to some aspects of global education. In the final part we summarize why we see GE as a relevant and useful contribution to our educational process.

5. Conclusion

There are only a few study courses that would lack a global dimension today. Indeed, everything including „international“ in its name naturally features a global dimension. Then there are courses that deal with global and development issues more than the others. The authors of this paper themselves deal with global issues, like effects of climate change on tourism patterns, ecotourism, etc. in Geography of Tourism, Environment or Acculturation Studies. Indeed, the complex and sensitive topics need to be discussed and students need to be able to critically assess the different approaches there are to these agendas. It seems obvious that dealing with global problems requires participatory and experiential learning so that students themselves come to the conclusions and will be able to re-evaluate them when the situation changes.
Having said that it is clear that there is still room for further inclusion of the GE topics into the curriculum and put more emphasis on practising the desired skills through suitable teaching methods. GE also creates space for the formation of attitudes and values important to ensure the sustainable development in all areas of our life, namely the responsibility for one’s own life along with the responsibility for the world.

One of the key skills pursued in GE is critical thinking. Klooster (2002) characterizes critical thinking as independent thinking (individual and non-transferable), and the ability use the basic information and experience. Critical thinking is about curiosity, ability to actively solve problems, about searching for arguments and verifying one’s ideas with those of the others. The significance of critical thinking is rising as we are more and more exposed to the vast amount of information and manipulation that is so easy to spread with the help of new technology. Critical thinking is considered as the key competence for 21st century and the highest level of mental activity. It includes attitudes, habits, values and behaviour. Although the importance of critical thinking is widely acknowledged by both students and teachers at our Faculty, we could see that students do not fully understand what it involves and thus we need to put more emphasis on its development and practising.

Focused and purposeful pedagogical formation of university students also through the global and development education is an important part of creating culturally based competencies and behaviour patterns (Korthagen, 2004). They also include the system of values and attitudes that stabilizes every community. The university study is a specific period of life when one’s competencies are developed in a targeted and implicit way. The quality of graduates depends on the education system which is purposeful and responds to mass attendance also by emphasising the cultural competence (Earley and Mosakowski, 2004; Egan and Bendick, Jr. 2008).

We realize that the concepts and requirements regarding global education presented here may sound overwhelming. Therefore we include some practical tips how to start implementing some of the GE principles into teaching of social sciences courses (McJimsey et al., 2013 In Zaťková, 2015):

• use an interdisciplinary approach within and beyond your studies and make links to multicultural education,
• take advantage of technology, including Internet and e-mail,
• utilize primary sources from other countries, from constitutions to literature to artefacts,
• include internationally experienced persons; students, teachers and others in the community,
• emphasize interactive methodology, such as a model United Nations and cross-cultural simulations and role plays,
• address global issues with an approach that promotes multiple perspectives and intellectual honesty and action,
• encourage new avenues for research in the international arena and encourage teachers to participate and/or make use of this research in their classrooms.

The efforts of individual teachers should be supported also by so called hidden curriculum, i.e. the school as an institution should demonstrate the responsible, open and democratic attitudes to its functioning in all areas, from the environment, choice of local suppliers to the promotion of diversity among its faculty and students. Development or global education also opens the question of the social role of university as a place of freedom of thinking, solidarity based on knowledge and engaged ethics (Cenker, 2014, p. 5). We believe that gradual
adoption of some of the GE principles will contribute to improvement of the educational process and the competent and responsible graduates ready to shape the better future for us all.

Acknowledgements

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References


DEVELOPMENT OF TOURISM DESTINATION PRODUCTS:
INSIGHTS FROM STAKEHOLDERS IN SLOVAKIA

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Abstract

Creation and existence of a destination product which integrates services of different stakeholders is considered to be the basis of tourism development. Difficulties in creation of the destination product come from the fact that each stakeholder in a destination acts as an independent legal entity focusing on different objectives in the cultural, social and economic sphere. Cooperation between stakeholders and favorable legislation are the basic preconditions for creation of a competitive destination product. The aim of the paper is to analyze conditions for creation of destinations products in destinations in Slovakia. The paper focuses on the willingness of Slovak destination stakeholders to integrate services into a destination product and also analyzes current legislation conditions on product development as a package in tourism destinations. The research results based on a sample consisting of 112 tourism businesses show a low level of integration of stakeholders’ offer into the destination product and a low level of cooperation between stakeholders. Moreover the Slovak destination management organizations have limited possibilities to create product as a tour package.

Key words

cooperation, destination product, Slovakia, stakeholders

JEL classification

M30, L83, Z32

1. Introduction

Tourism destinations, not individual stakeholders, are nowadays viewed as competitive units on the national and international tourism market. The basic precondition to create destination product is the willingness of stakeholders to cooperate and integrate provided services into one product. Destination management organizations should be the leaders in cooperation. The most frequent functions of the European destination management organizations include tourism development and planning, destination branding, commercial marketing activities and promotion, research and product development (Kamann, 2008, p. 70).

High growth potential of Slovak tourism, on the one hand, and strong atomization of destination stakeholders, a low level of coordination, marketing and promotion of tourism, on the other hand, have been emphasized in more strategic documents as the most serious weaknesses causing low pace of the Slovak tourism development (Ministry of Construction and Regional Development of the Slovak Republic, 2006). This could be caused by the short tradition of destination management and consequently lack of experience with the development of the destination products through cooperation between destination stakeholders. The system of tourism organization was created in Slovakia in 2011 to eliminate
those weaknesses. Act No. 91/2010 Coll. on Support of Tourism has encouraged the creation of local and regional destination management organizations (Gajdošík et al., 2015).

2. Theoretical background

Tourism destination is a target of tourists’ travel and stay. Tourism product of a destination is created by several stakeholders; therefore the fragmented nature of the product requires a substantial degree of cooperation. The way how to create such a product is the strengthening of the cooperative behavior in destinations.

A stakeholder’s theory defines the stakeholders as “any group or individual who can affect or is affected by the achievement of the organization objectives” (Freeman, 1984, p. 46). When applying stakeholder’s theory on examining a destination, several types of stakeholders can be found (Beritelli and Bieger, 2014; Jamal and Getz, 1995; Reinhold et al., 2015; Sheehan and Ritchie, 2005; UNWTO, 2010). They can be classified into several groups (Flagstad and Hope, 2001, p. 456), e.g. as community based stakeholders, service providers, employees, market based stakeholders, owner based stakeholders, financial stakeholders and others. However, due to the constant change in tourism supply and demand and specificities of each type of destination, it is not possible to list all stakeholders.

In order to compete on the international market, it is important that stakeholders cooperate with each other (Wang and Krakover, 2008). For this reason tourism networks are creating in destinations. The issue of tourism networks has been researched by many experts; e.g. Baggio (2008), Baggio et al. (2010), Beritelli et al. (2013) and others. The role of tourism networks is to connect SMEs in mutual cooperation resulting in establishing the unique tourism offer. Tourism networks can be classified as business networks, where networking is the tool to enhance company performance, policy networks that provide the access to resources, and co-operating networks reaching the balance between competition and collaboration (van der Zee and Vanneste, 2015).

There are several motives why the destination stakeholders act together and support the cooperation. They can be divided into four categories.

- Strategic motives. Cooperation helps to approach new markets, to establish competitive advantages for tourism destinations and to create synergy effects.
- Cost-related motives. Cooperation creates the benefits from pooling the resources. Cooperation may minimize costs of new technologies, innovations and marketing communication.
- Information motives. By acting together, destination stakeholders are more informed and can easily share their know-how.
- Marketing motives. The aim of cooperation is a creation of destination product and creating a single image of a destination (Fyall et. al., 2000; Fyall and Garrod, 2005; Wang and Fesenmaier, 2007).

These motives explain the main reasons why the destination stakeholders cooperate. The motives are also associated with the benefits and costs of cooperation. The benefits of cooperation include the opportunity to learn about the activities of other stakeholders and taking into account their views, risk-sharing, strengthening the cohesion of a destination (Nechvílová et al., 2006), more efficient use of resources, increasing the competitiveness through joint planning, brand creation and development of a complex product (Wang and Fesenmaier, 2007) as well as greater recognition of the importance of non-economic issues.
and interests strengthening the range of tourism products available (Bramwell and Lane, 2000). Costs of cooperation are related to the time and energy. Not including the main stakeholders reduces the effect of cooperation. Cooperation is also hiding the risks associated with information leakage, the opportunity cost, misuse of cooperation for the benefit of one stakeholder and the risk of lost funds (Palatková, 2011). The motives, benefits and costs of cooperation create conditions for formation of cooperative destination management and marketing including tourism destination product.

Page and Connell (2006, p. 319) pointed that since tourism services and products are an amalgam of different elements of tourism supply of businesses, an organizing framework is needed to integrate these components of supply into a means by which tourists can easily understand tourism products. One mechanism to do this is (according to those authors) to develop the concept of a destination around which the marketing, advertising and development of tourism products and services is undertaken. This often requires an organization such as a destination management organization to lead this process. Operations of destination management organizations are based on the principles of cooperation between stakeholders as well as current legal conditions in the state. There have been some indications of destination management structures in the territory of the present Slovak Republic in the past (Plzáková and Studnička, 2016); however Slovak system of destination management organizations was firstly officially built by adopting the Act on Support of Tourism in 2011. It has encouraged the creation of local and regional management organizations in destinations (Gajdošík et al., 2015). This legislation document regulates the tourism support in the Slovak Republic, the competencies and responsibilities of natural persons and legal entities operating in tourism, creation of conceptual documents and financing of tourism development (Act No. 91/2010 Coll.). Defined system of financing (including financial support from the government) pushed destination stakeholders to voluntary collaboration and common actions. Currently there are 36 local and 5 regional destination management organizations created under the above-mentioned Act (Ministry of Construction of the Slovak Republic, 2017). Organizations are responsible for tourism development, destination management and marketing including creation and promotion of tourism products.

3. Research methodology

The aim of the paper is to analyze the conditions for the creation of destinations products in destinations in Slovakia. The aim was divided into 2 partial ones:

- to analyze the willingness of destination stakeholders to create destination product,
- to analyze the legal conditions enabling the creation of destination product.

General system applicable for the evaluation of the possibilities of stakeholders to create destination product is missing in theory. Therefore, the methodology based on scoring system was created. The uniqueness of the system lies in the strong focus on tourism businesses and their ability to integrate services into destination product. The scoring system is based on selected qualitative criteria showing the level of cooperation of analyzed businesses with other stakeholders in the territory (destination) (Table 1).

The selection of criteria and their relevance to the main objective were carried out and evaluated in an expert panel using a Delphi method (the scores were allocated; the relevance was scaled). Assessment of criteria based on the category of tourism business. This different scoring assessment of individual criteria came out of different real possibilities to contribute to the destination product. There were 3 categories of businesses based on the main
activity of supported business: accommodation facilities, catering facilities providing just food and beverage services; facilities providing supplement services e.g. ski resorts, sport areas, etc. There were observed together 47 criteria; assessment of criteria was based on the relevance on the scale from 0 (not applicable) to 1 taking into consideration the applicability and relevance of each criteria in connection to certain category of business. The achieved level of integration of business offer (provided services) into the destination product was analyzed according to the point assessment (Figure 1).

Table 1: Framework of scoring system criteria for the evaluation of the tourism businesses’ contribution to the destination product

<table>
<thead>
<tr>
<th>Categories of criteria</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Packaging of services of other providers in product of a business</td>
<td>Food and beverage services, wellness, recreation services, sport activities/services of other provider packaged on the product; gastronomic event organized by other provider in the package; trips organized by other provider in the package, activities/services of ski resort, accommodation services of other provider, other services of cooperating subject.</td>
</tr>
<tr>
<td>2. Cooperation with destination stakeholders in marketing activities</td>
<td>Cooperating partners: Tourism services providers, artists, traditional and local craftsmen, regional producers, local farmers, local food producers, travel agencies and tour operators, local authorities (municipality), the office of self-governing region, Slovak Tourist Board, local tourism public-private partnerships, associations of tourism professionals, local action groups, regional development agencies, destination management organizations, clubs and societies, tourist information centers, Slovak Chamber of Commerce, schools</td>
</tr>
<tr>
<td>2.1 Cooperation in promotion and distribution of services</td>
<td>Membership in destination management organization, cooperation with destination management organization without membership</td>
</tr>
<tr>
<td>2.2 Cooperation in product creation, incl. common organization of events:</td>
<td></td>
</tr>
<tr>
<td>2.3 Cooperation with destination management organization</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Fulfillment of criteria was surveyed based on primary data collected by questionnaires, distributed by the Supreme Audit Office of the Slovak Republic in 2016. Research sample consists of 112 tourism businesses. Gained information was processed using multi-criteria method (scoring system).

Figure 1: Analysis of contribution of tourism business to the destination product

Evaluation of the contribution of tourism business to the integrated destination product

Points achieved in scoring system converted to the percentage of the maximum score

Achieved level of integration of business offer into the destination product

Source: the authors.

Second part of research is focused on legal conditions for the creation of the destination product. It uses secondary information from Slovak legislation documents.
4. Research results

4.1 Willingness of destination stakeholders to create destination product

Based on the Scoring System, the level of integration of the stakeholder offer into the destination product is measured. The level 100% determines the maximum possible level of contribution of the destination stakeholder to the complex tourism product. When analyzing destination stakeholders in Slovakia, the result of their complexity taking into account the category of the business is presented in Table 2.

Table 2: Intervals for the levels of integration of business offer into the destination product according to the category of the facility and reached score in point assessment

<table>
<thead>
<tr>
<th>Level of integration of stakeholder offer into the destination product</th>
<th>Point assessment according to the category of business</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accommodation facilities</td>
</tr>
<tr>
<td>0% - 25%</td>
<td>0.00 – 1.45</td>
</tr>
<tr>
<td>26% - 50%</td>
<td>1.46 – 2.90</td>
</tr>
<tr>
<td>51% - 75%</td>
<td>2.91 – 4.35</td>
</tr>
<tr>
<td>76% - 100%</td>
<td>4.36 - 5.80</td>
</tr>
</tbody>
</table>

Source: the authors based on the data from the questionnaire survey.

The current contribution of Slovak stakeholders to the destination product is very low. The majority of stakeholders (almost 79%) achieved the level of integration of the offer into destination product lower than 50% (42% of them has the level of integration lower than 25%; 37.5% in the range from 26 to 50%) (Table 3).

Table 3: Share of stakeholders according to achieved level of the integration of the offer into the destination product

<table>
<thead>
<tr>
<th>Achieved level of integration</th>
<th>Share of destination stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>0% - 25%</td>
<td>42.0%</td>
</tr>
<tr>
<td>26% - 50%</td>
<td>37.5%</td>
</tr>
<tr>
<td>51% - 75%</td>
<td>19.6%</td>
</tr>
<tr>
<td>76% - 100%</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

Source: the authors based on the data from the questionnaire survey.

Special attention was devoted to the cooperation of destination stakeholders with artists, traditional local craftsmen (traditional), local farmers, local food producers (e.g., wine producers) and other local producers contributing to better use of local sources and uniqueness of destination product. The lowest activity of destination stakeholders was achieved after analysis of cooperation between stakeholders in promotion, distribution of services (products) and in creation of products for visitors (including common organization of events) (Table 4).
In the creation of a destination product, including organization of events, destination stakeholders cooperate mostly with regional craftsmen, but there is only 27.7% of such stakeholders. In case of cooperation in promotion and distribution of services (regional products) the most stakeholders cooperates with local food producers.

Table 4: Share of tourism businesses cooperating with local producers

<table>
<thead>
<tr>
<th>Cooperating partner</th>
<th>Cooperation in promotion and distribution</th>
<th>Cooperation in creation of common product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artists</td>
<td>25.0%</td>
<td>25.0%</td>
</tr>
<tr>
<td>Local craftsmen (traditional)</td>
<td>24.1%</td>
<td>27.7%</td>
</tr>
<tr>
<td>Other local producers</td>
<td>17.9%</td>
<td>17.0%</td>
</tr>
<tr>
<td>Local farmers</td>
<td>17.9%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Local food producers</td>
<td>26.8%</td>
<td>22.3%</td>
</tr>
</tbody>
</table>

Source: the authors based on the data from the questionnaire survey.

Almost one half (47.3%) of analyzed stakeholders do not cooperate with any type of partner (regardless of the type of cooperation). 8.9% of businesses cooperate only with one type of partner and only in one form of cooperation and 43.8% of stakeholders cooperate with multiple partners in multiple forms.

Destination management organization is considered to be an integral unit of all stakeholders’ interests. 38.4% of analyzed destination stakeholders are members of destination management organization operating within the territory, 26.8% cooperate with some destination management organization without membership and about one third (34.8%) of stakeholders do not cooperate with any destination management organization.

4.2 Legal conditions of development of product as a package in Slovak destinations

Second part of the research is focused on real possibilities to create destination product as a package consisting of more services sold to the visitor. Such a product can be considered either as a tour package or a single package of services.

Creation tour package is limited in Slovakia by the Act No. 281/2001 Coll. (on tours, business activities of tour operators and travel agencies). This legislation defines the “tour” as a travel package consisting of combination of services that takes more than 24 hours or includes an overnight stay. The package is defined as pre-arranged combination of at least two of the following services: transport; accommodation; other services that account for a significant part of the package (e.g. a ski pass during vacation, sight-seeing tours, visit of museums, etc.). The package must be sold for an inclusive price. Only tour operators are eligible to create and sell such package; travel agencies are able to sell packages of travel agencies according to the Act. No. 281/2001 Col.

All subjects (including destination management organizations) must have the permission for business activities of tour operators or travel agencies in case of creation and sell of pre-arranged package of services mentioned above. Destination management organizations in Slovakia are running as voluntary public-private partnerships with limited human and financial sources. Limitations of running a travel agency were identified in following areas:
• strict rules to acquire the business license (requirements of certain capabilities of person responsible for running the business, e.g. knowledge, education, practice in running such a business);
• cash-flow and/or expense limitations (high disbursements coming out of compulsory insolvency insurance of the business).

Therefore the creating and selling of tour packages is limited within Slovak DMOs.

More possibilities to create single packages of services have businesses running accommodation facilities authorized to provide wide range of services as a supplements to accommodation. All subjects are able to sell individual services or products of other providers/producers if having business license for the procurement of the third party service/business license for retail (sell of small goods if they are part of the package - regional product, souvenir, etc. on the reception, during the tasting, etc.) (Act No. 513/1991 Coll. Commercial Code, Act No. 455/1991 Business Registration Act). Combinations of services can be created only with consumption shorter than 24 hours and must exclude accommodation (except businesses running accommodation facilities).

Legal conditions enabling creation of single packages of services are divided into 3 model situations according to the category of stakeholder providing the product (excluding tour operators and travel agencies):
1. Provider of created tourism product is business running accommodation facility;
2. Provider of created tourism product is business running other services (e.g. facilities providing catering, sport and recreational services, etc.);
3. Provider of tourism product is destination management organization eligible to do business (business license is the authorization for organizations to do the business even they are in the legal form of non-profit organizations as the majority of regional and local destination management organizations in Slovakia; organizations must apply for the certain license and fulfill all requirements to run such business).

The model (Figure 2) describes current legal conditions enabling creation and provision of destination product composed of services provided by various destination stakeholders. Model describes situations when the business or destination management organization does not have the business license to run business activities of tour operator or travel agency (creating tour package) and they are limited to the sale of services of other providers consumed no longer than 24 hours excluding accommodation just for the purpose of services procurement or retail.

It is necessary to notice that there are some destination management organizations running tour operator and travel agency license in Slovakia (e.g. Trnava Tourism); even though the majority of them is not able to fulfill the criteria for running travel agency as well as for running other “easier” business activity such as procurement of services (organizations are mostly missing human resources to run business activities).
Figure 2: Model of destination product development as a single package of services

<table>
<thead>
<tr>
<th>1. Business is running accommodation facility</th>
<th>2. Business is running other services</th>
<th>3. Destination management organization (in legal form eligible to do business)</th>
</tr>
</thead>
</table>

**POSSIBILITIES TO CREATE DESTINATION PRODUCT AS A SINGLE PACKAGE**

- **Combinations of services that are complementary to accommodation** - own services as well as services of other subjects (bought from another entrepreneur for the purpose of doing business in the facility or for the purpose of services procurement or retail).

  **EXAMPLE:** package of accommodation and traditional crafts workshop of craftsman.

- **Combinations of own services as well as services of other subjects excluding accommodation** (bought from another entrepreneur for the purpose of doing business in the facility or for the purpose of services procurement or retail). The package is not consumed longer than 24 hours.

  **EXAMPLE:** package of lunch in own restaurant with traditional crafts workshop of local craftsman.

- **Sale of services of other providers** – separately or in combination excluding accommodation (services are bought from another subject for the purpose of services procurement or retail). The package is not consumed longer than 24 hours.

  **EXAMPLE:** facultative trips around the destination, sightseeing, visit of museum, workshop of local craftsman etc.

**PROCESS OF PROVISION**

- Craftsman is invoicing supplying service (e.g. workshop) to the facility;
  - Service is “free” for the guests of the facility (to attract more guests).
  - Service is paid by guest in the final bill (facility is invoicing the guest for the third party service; might include the brokerage for delivering the service);

- Service providers are invoicing supplying services to the organization:
  - Services are paid by the visitor to the destination management organization (organization is invoicing the visitor for the third party service; **should** include the brokerage for delivering the service).

**LEGAL PRECONDITIONS**

- Business license for the provision of own services included in the package;
- Business license for the procurement of the third party service;
- Business license for retail (sell of small goods if they are part of the package - regional product, souvenirs, etc.).
5. Conclusion

The aim of the paper is to analyze the conditions for the creation of destinations products in destinations in Slovakia. Firstly the willingness of destination stakeholders to create destination product through cooperation with other stakeholders was analyzed. Results show the current level of integration of destination stakeholder’s offer into destination product.

The majority of analyzed stakeholders (almost 79 %) achieved the level of integration of their offer into destination product lower than 50 %. Their contribution to destination product is very low. Special attention was devoted to the cooperation of stakeholders with artists, traditional local craftsmen (traditional), local farmers, local food producers. Almost one half (47.3 %) of analyzed stakeholders do not cooperate with those destination stakeholders. As the products, especially those including traditional elements, are able to distinguish Slovak destinations on the tourism market; and to indirectly support creation of added value and employment in the regions, destination stakeholders ignore their potential.

Second part of research analyzed legal conditions enabling creation of destination product as a package. The analysis shows a limited possibilities of DMOs in Slovakia to create tour packages, as the legal conditions are very difficult for them. Therefore the model of creating destination product as a single package of services was proposed.

Acknowledgements

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References


FITTING AND FORECASTING MORTALITY RATES FOR THE SLOVAK REPUBLIC USING STOCHASTIC MODELS

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Abstract

In foreign literature, several stochastic approaches have been developed and used to forecast mortality rates. So far, only the pioneering Lee-Carter model has been applied to Slovak conditions. The objective of this paper is to find out which of two models, the Lee-Carter model and the Hyndman-Ullah model, is more suitable for the description of Slovak mortality rates. A comparative assessment is made and the empirical results are presented using a range of graphical visualizations. The paper reveals that the Hyndman-Ullah model is a better fit and forecasting tool for mortality rates for the Slovak Republic, especially in a longer forecast horizon. It is due to smoothed data and the application of the technical coefficients fitting the model. The results gained in this paper can be utilized in models that require demographic predictions.

Key words
demographic predictions, mortality function, stochastic models

JEL classification
J11, C53

1. Introduction

The growing aged population, especially in developed countries, over the past decades, has given rise to significant changes in both social structures and economic conditions. Government as well as the insurance and pension industry need to adjust their existing policies according to the ever increasing aged population.

Since Lee and Carter (1992) launched their pioneering work in the modelling and forecasting of mortality for a single population (also called independent mortality forecasting), there has been a surge of interest along the lines of Lee-Carter method, leading to better forecasts of age-specific mortality.

While Lee-Carter model and its modifications and extensions provide effective multivariate statistical tools to forecast future mortality, the functional data models (FDM), developed in recent decades, offers a new modelling framework on mortality. Ramsay and Silverman (2005) define functional data as set of smooth data curves and the corresponding analysis can then be conducted under certain continuum similarly as conventional multivariate analysis. Under FDA framework, the observed age-specific mortality in a particular year can be regarded as discrete points of a smooth function. Hyndman and Ullah (2007) developed their functional data model, combining nonparametric smoothing, FDA and time series...
techniques. In their model, the curves of the age-specific mortality are decomposed into a mean function and the summation of a set of orthonormal basis functions which can be solved as the eigenfunctions of the covariance function of the observed data. This modelling framework of decomposing the random part of the process into several principal components is viewed as a generalization of the Lee-Carter model where only the first principal component is considered. Compared with Lee-Carter model, the advantage of having more principal components in long-term forecasting has been numerically verified by Hyndman and Ullah (2007).

As Rosner et al. (2013, p. 10) identifies, the changes affecting the mortality rate in the four main areas: technology, medicine, the environment, and social conventions. Among the most important factors are access to primary care for the entire population (especially access for the elderly, the disabled and the poor), the development and availability of medicines, plenty of clean water and regular waste disposal, a rapid increase in living standards. The long-term development of mortality rates is also influenced by advances in diagnostics, improving prenatal care, increasing healthcare spending and efficiency of use, environmental pollution, changes in physical activities of the population, increasing the nutritional value of food, increasing the number of accidents and increasing violence, the emergence of new forms of disease, the fight against obesity, the fight against drugs (including alcohol), raising awareness of self-responsibility, health education, changes in perceptions of life and other factors.

The motivation for writing this paper was the effort of enriching the current research in the area of estimating and predicting mortality rates for the Slovak Republic. In the field of stochastic forecasting models there were only two studies of the Slovak mortality by Barlák (2014) and Vlk and Pastor (2015), both of which applied the breakthrough model of Lee and Carter (1992). The aim of this study is to extend the area of estimation and forecasting mortality rates in the Slovak Republic by both, Lee-Carter model and Hyndman-Ullah functional demographic model. Moreover, both models are applied to Slovak conditions assuming real and smoothed data, while the smoothing models technique used are P-splines. Based on selected criteria, we determine which one is best suited for application in Slovak conditions. The results of our study will enrich academic research and also research of institutions investigating demographic developments in Slovakia in the long run such as the Council for Budget Responsibility, the National Bank of Slovakia or the Institute of Informatics and Statistics. The results of our study can also be useful for national regulator, commercial insurance companies, health insurance companies and social insurance companies.

The paper is divided into five parts. The introductory part of the paper defines the authors' motivation to estimate and predict the mortality rate for the Slovak population by stochastic models. The second part of the paper is devoted to the general characteristics of the models used in the mortality prediction. The third part contains the sources of data and the methodology of applied stochastic models. The fourth part is devoted to the application of the Lee-Carter and Hyndman-Ullah models on the real and smoothed datasets. The conclusion reveals the original contribution of the paper, the Hyndman-Ullah model applied on smoothed data indicates the best results of long-term mortality predictions in Slovakia.
2. Models used for mortality forecasting

According to Rosner et al. (2013, pp. 10-12), the models used to extrapolate mortality could be broadly divided into three categories: extrapolating, procedural and explanatory.

Extrapolation models are based on the estimation and preservation of historical mortality trends for the future. Simple extrapolation methods assume that conditions that have led to a change in mortality rates in the past would continue and have the same impact on mortality in the future. However, the simple extrapolation models can omit significant advances in medicine which have led to a consequential reduction in mortality in the past. A set of extrapolation models can be divided into parametric and targeting ones. Parametric models a priori presuppose the recognition of a functional form of mortality, including model parameterization and subsequent trend prediction in these parameters. However, the shape of a past function may not sufficiently describe the development of mortality in the future. These models includes penalized or P-spline extrapolation. Target models include a fixed long-term aim or a set of aims for improving future mortality in the future.

Process models focus on the factors that cause death and try to model mortality rates in the bio-medical perspective. The main drawback of these models is that they generally assume independence between explanatory variables, whereas in fact, factors that affect death are interdependent.

Explanatory models, in addition to biomedical factors influencing the mortality rate, take into account also other factors, including socio-economic status and the lifestyle of the population. Socio-economic status is usually measured by the proxy variable, and in most studies population education is used as a variable indicating socio-economic status (Kruger et al., 2003). This variable has more resonance capabilities than population income, race, and so on. In the case of the income of the population as an explanatory variable of mortality, it is difficult to determine the direction of dependence, i.e., whether higher mortality rates result from lower incomes, or lower incomes of the population is affected by degraded health (Lauderdale, 2001, p. 560). Among the lifestyle factors that most strongly affect mortality rates include smoking and obesity (Preston and Wang, 2005, p. 642).

3. Methodology and data

We use the population data of the Slovak Republic as of December 31, one-year age cohorts from 1950 to 2014. The data was obtained from the mortality database compiled by the University of California Berkeley and Max Planck's Institute for Demographic Research. The database contains mortality calculations, mortality tables, population size and population births, broken down by age units and by gender. In our paper, one-year age cohorts are sorted by gender are used.

Free R software (R Core Team, 2013) were used to produce estimates and predictions of mortality functions, using some features of the demography package and authors compiled source codes.

In the following part of the paper, we will present the methodology of Lee & Carter and Hyndman & Ullah models, which will be used for estimation and forecasting the future mortality development in Slovak Republic.

The Lee-Carter model uses the analysis of major components to investigate the future mortality development, when extends the mortality rate to the linear combination of the age-specific constant $ax$ (i.e. the current mortality table), the mortality rate index consisting of $\beta$, ...
parameter describing the sensitivity of the age-specific rate of mortality to changes over time specified using the mortality index at time $\kappa_t$, which expresses the general mortality rate at that age, and $\varepsilon_{x,t}$ (residuals for age $x$ and year $t$). (Coughlan et al., 2007)

$$\log m(t,x) = ax + \beta_x \kappa_t + \varepsilon_{x,t}, \quad t = 1,2,3,...T, \quad x = 1,2,3,...,n. \quad (1)$$

According to Hyndman (2013), the LC model assumes a homoscedasticity error. In spite of the fact that model parameters estimation is possible by the method of least squares or by maximum likelihood method, Singular Value Decomposition (SVD) is used to estimate parameters within the paper. Details of the calculation by SVD can be found in Lawson and Hanson (1995). Correctness of the procedure was confirmed by the work of Koissi et al. (2005), which demonstrates a higher accuracy of SVD, especially in comparison to the least squares method, but also compared to the maximum likelihood method.

The model parameters are calibrated for the best possible fit with historical data. Parameter $a_x$ is calculated as the average of the logarithm mortality rates over the observed period:

$$a_x = \frac{1}{T} \sum_{t=1}^{T} \log(m_{x,t}). \quad (2)$$

Petrová (2010) further states that the parameters $\beta_x$ and $\kappa_t$ can be obtained by singular decomposition, where for matrix $Z_{x,t}$:

$$Z_{x,t} = \log(m_{x,t}) - \hat{a}_x = \beta_x \kappa_t \quad (3)$$

and by singular decomposition of the matrix three matrices are obtained described by eq. 4.

$$SVD(Z_{x,t}) = ULV' = L_1 U_{x1} V_{x1} + ... + L_n U_{xn} V_{xn} \quad (4)$$

where the $U$ matrix represents the age component, the matrix $L$ is the diagonal matrix of singular values, and the matrix $V$ represents the time component. Subsequently $\beta_x = U_{x1}$ and $\kappa_t = L_1 V_{11}$. The value of residuals is equal to:

$$\varepsilon_{x,t} = \log(m_{x,t}) - \hat{a}_x - \hat{\beta}_x \hat{\kappa}_t. \quad (5)$$

The Lee and Carter breakthrough model is intensively used by many authors until these days. Its many variations and improvements are covered by the studies of Hyndman and Ullah (2013), Renshaw and Haberman (2006) or Li et al. (2009).

Hyndman and Ullah (2007) proposed a nonparametric modeling approach based on the functional analysis of the main components of Ramsay and Silverman (2005). The FDM model also comes out from logarithmic mortality rates, where $z_i(x) = \log(m_{x,i})$ and is function of:

$$z_i(x) = f_i(x) + \sigma_i(x)\varepsilon_{i,t} \quad (6)$$

where $f_i(x)$ is age function, $\sigma_i(x)\varepsilon_{i,t}$ symbolize amount of noise, which is changing with $x_i$ in year $t$, thus correcting the assumption of homoskedasticity from the Lee-Carter model.

In the following section, Lee-Carter and Hyndman-Ullah mortality models will be applied to Slovakia's conditions, with the aim of determining which one is best suited to.
4. Application of stochastic mortality models to Slovak conditions

The following part of the paper brings an application of both, the Lee-Carter (LC model) and the Hyndman-Ullah functional demographic models (Hyndman-Ullah model – FDM) to the conditions of the Slovak Republic. Coherent forecasting for the male and female mortality in the UK by the same methodology was researched by Wu (2016, p. 34).

4.1 Lee-Carter model

Figure 1 brings an overview of the major components of the Lee-Carter model. The top row is an estimate of the parameter \( \hat{a}_x \), the interaction and the estimate of the parameter \( \hat{b}_x \) for women. On the x-axis, in the first two figures the age of the women can be found and on the y-axis, the first is the logarithm of the mortality rate, in the latter case the degree of interaction. The third graph characterizes the development of the mortality rate index \( \hat{b}_x \) while a figure plotting the estimated (fitted) values between 1950 and 2014 and then predicting the evolution of the mortality index by 2074. The bottom line characterizes these main components for the male population, with obvious differences in the development of all components. In the case of estimates of mean mortality rates between years 1950 to 2014 in individual age cohorts \( \hat{d}_x \), we see a typical infant mortality rate for the female and male population, i.e., mortality in the first year of age. In other age cohorts, the development of average logarithmic mortality rates is changing, and the most striking differences are visible in age cohorts from 15 to 25 when the mean logged death rates of men are significantly higher. Above these age cohorts, developments in both population groups are similar. For middle images in Figure 1, the rate of interactions in the female population is more variable than in the male population. The death rate over time decreases in the female population more dynamically than in the male population.

Figure 1: Overview of the main Lee-Carter model components for women (top row) and men (bottom row)

Source: the authors.
Figure 2 displays the logarithm mortality rates for all age groups in the period from 1950 to 2014 and also predictions of future demographic development based on Lee-Carter's model by 2074. In the three-dimensional graphs of graph 2 x-axis represents the age cohorts of the population of Slovakia. In the case of historical fitting data, X-axis records age cohorts from age 0 to age 110 years. X-axis on predictions figures, age cohorts are aged 0 to 100 years old. The y-axes in the graphs of Figure 2 for historical fit data represent the time series from 1950 to 2014 and, for predicted data, the time series 2015 to 2074. The z-axis in all figures represents the logarithm mortality rate.

On Figure 2 a decrease in the mortality rate in period 1950-2014 can be observed, especially in the age group of 0-1 years and in age groups 90, 91, ... 99+. However, we can see a decrease of the mortality rate in all age groups.

Figure 2: Historical development of logarithmic mortality rates in the Slovak Republic from 1950 to 2014 and forecast of future developments till 2074 for women (left) and men (right) by Lee-Carter models

As mentioned, the model is fitted with a singular matrix decomposition, which, as Lee and Carter (1992) suggest, is due to the fact that the model can not be solved by standard regression methods because there are no regressions and the right side of the equation contains only the parameters, which are necessary to estimate and index $\kappa_t$. This is also the reason why the authors normalize the parameter $\beta_i$ and parameter $\hat{\kappa}_t$ with $\sum_{t=1,...,n} \kappa_t = 0$ and
\[ \sum_{t=n}^{x_p} \beta_t = 0, \] what implies that \( a_x \) is the average of historical logarithm mortality rates \( \log m(t, x) \).

The result is a fitted model based on which future demographic developments can be predicted. The results of the model for the Slovak Republic by gender between 1950 and 2074 are shown in Figure 3. We can also see on the figures the current mortality development in the Slovak Republic between 1950-2014, depending on gender and age. The Lee-Carter model does not use the smoothing function that we can see on a higher degree of variability.

Figure 3: Historical and predicted development of mortality rate in the Slovak Republic between years 1950-2074 – women (left) Historical and predicted development of mortality rate in the Slovak Republic between years 1950-2074 – men (LC model)

Source: the authors.

Different visualizations of the problem are provided in Figure 3, with graphs showing real historical mortality rates and predicted development of the Lee-Carter model in Slovakia based on gender. The x-axis is again represented by age cohorts of Slovak population aged 0 to 100 years. The y-axes represent a logarithmic mortality rate. The development of individual mortality functions is shown over time, so the chart captures their gradual development from 1950 to 2074. The earliest and highest rates of mortality are shown in a pale colour that gradually darkens towards 2014. Then the charts are again bright in colour, the prediction from 2015, with a darkening prediction horizon.

4.2 Hyndman-Ullah model

On the following charts, we show a fitted Hyndman-Ullah model and also forecast of future developments. The model is fit for the period 1950-2014 and the subsequent prediction shows the expected evolution of the model parameters by 2074.

The functional demographic model of Hyndman-Ullah, unlike the Lee-Carter model, uses several estimates of technical coefficients to specify the model. In our case, we use a five-stage fit model.
Figure 4: Overview of the main components of Hyndman-Ullah model for men.
The top row of graphs in Figure 4 shows the main effect of the Hyndman-Ullah model for men, and consequently individual interactions. Based on the results of individual interactions, predictions of technical coefficients are shown in the bottom line, which serve to refine fitting of the Hyndman-Ullah model.

In the three-dimensional graphs of Figure 4, as in the case of the Figure 2, the x-axis represents the age cohorts of the population of Slovakia. In the case of historical fitted data the x-axis records age cohorts from age 0 to age 110. For x axis forecast, age cohorts are aged 0 to 100 years old. The y-axes for historical fit data represent the time series from 1950 to 2014 and for predicted data the time series 2015-2074. The z-axes in all figures is a logarithm mortality rate. In the chart, between 1950 and 2014, the decline in mortality rates may be observed in the age group of 0-1 per year and in age groups 90, 91, ... 99+. However, we can see a decrease in all age groups. At the same time, in images of estimated mortality rates for both women and men, the decline in mortality rates over the 1950-1955 period can be observed. It is likely to be under the influence of improving health conditions, health habits, improved dietary conditions, which, of course, also affect the overall decline in rates mortality rates throughout the period under review. The main difference between LC and FDM is visually evident. Since the Hyndman-Ullah model is working with unexplained data, the estimated results are also less volatile and therefore more suitable for predicting the future development of mortality rates.

Figure 5: Historical development of logarithmic mortality rates in the Slovak Republic from 1950 to 2014 and forecast of future developments till 2074 for women (left) and men (right) by FDMs

Source: the authors.
Figures 5 show real historical mortality rates and predicted logarithm mortality rates according to the Hyndman-Ullah model in Slovakia based on gender. Axis x represents age cohorts of Slovak population aged 0 to 100 years.

The axes for Figures 5 represent a logarithm mortality rate. The development of individual mortality functions is shown over time, so the graph captures their gradual development from 1950 to 2074. The oldest and highest mortality rates are shown in a pale colour that gradually darkens towards 2014. Then the graphs are again bright in colour, the prediction from 2015, with a darkening prediction horizon. Predictions of the Hyndman-Ullah model differ significantly from the predictions of the Lee-Carter model. Hyndman-Ullah model predictions are smoother due to smoothed data and more reliable due to the use of technical coefficients when fitting a model. Thus, we can conclude that Hyndman-Ullah model is more suitable for the prediction of mortality functions in Slovakia than with the Lee-Carter model. The results of the forecast of mortality rate in the Slovak republic by gender dependence can be observed at the Figures 6.

Figure 6: Historical and predicted development of mortality rate in the Slovak Republic between years 1950-2074 – women (left) and men (FD model)

Since the presence of outliers can strongly affect the resulting model, the robust Hyndman-Ullah model can be applied above the data. In our case, however, we start from modified and smoothed data where we do not expect the occurrence of outliers that would be inconsistent with demographic developments so far and therefore we do not apply the robust model.

5. Comparison of applied models and discussion

Applied models were compared on the basis of general criteria such as model type, its simplicity, ability to interpret parameters, model explanatory strength, prediction ability, scenario generation, or data requirements. The selection of criteria was based on the Rosner et al. (2013, p. 21). The intensity of these criteria was evaluated in the 1 to 5 scale, 1 representing the most appropriate model based on the criterion and 5 the least appropriate model based on the given criterion.

In the criterion of simplicity, a model that is more simple to use and its results are easier to interpret is the most appropriate in practice. With the ability to interpret parameters, we
assume that intuitive and understandable interpretation of parameters is also an advantage of using the model. The explanatory power of the model lies in the best possible estimate of the mortality function based on historical data so we evaluate model structure and fitting power. Forecasting ability should be consistent with the recent past and take into account relevant trends. The ability to generate future development scenarios includes volatility and trends from previous periods and gives the opportunity to create scenarios, taking into account uncertainty within stochastic modeling. The last evaluated criterion is the data requirements. All applied models are stochastic. The simplest is the Lee-Carter model built on real unsmoothed data. It is part of the paper as it represents a breakthrough model and is the only one that has been used so far over the data set of the Slovak Republic (Barlák, 2014; Vlk and Pastor, 2015). Its improvement is the FDM model, thought its design is slightly more complicated due to the use of technical coefficients. Smoothed variants of the Lee-Carter and FDM models are least simple as their application demands smoothing data through P-splines. For all applied models, we can interpret their parameters, for example: The Lee-Carter model contains a parameter $\beta$, describing the sensitivity of age-specific mortality rates to changes over time. Explanatory power and model forecasting ability were, from our point of view, decisive criteria for the success of applied models.

Table 1: Comparison of the applied models

<table>
<thead>
<tr>
<th>Model</th>
<th>LC model smoothed</th>
<th>FDM model smoothed</th>
<th>LC model smoothed</th>
<th>FDM model smoothed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
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<td>Stochastic</td>
<td>Stochastic</td>
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<td>2</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Parameters interpretation</td>
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<tr>
<td>Model structure and fit</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Forecasting ability</td>
<td>3</td>
<td>3</td>
<td>2</td>
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<tr>
<td>Ability to generate scenarios</td>
<td>1</td>
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<tr>
<td>Data requirement</td>
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Source: the authors.

From the point of view of the explanatory power of the models, the least successful is Lee-Carter model based on unsmoothed data, as its determination coefficient for women is 72.9% and for men is 63%. The FDM model, which uses several estimates of technical coefficients is slightly better in terms of explanatory power. In this case, we use a five-stage fit model. The coefficient of determination for women was 74.4% and for men 63%. The best results in terms of the explanatory power of the models have stochastic models built up above the smoothed data. The Lee-Carter determination coefficient for women is 93.8% and for men 89%. The FDM determination coefficient for women is 93.8% and for men 90.8%. Therefore, the functional demographic model of Hyndman and Ullah is the most successful in terms of explanatory power. The predictive ability of the model is based on its explanatory power and therefore the FDM model is rated as the most appropriate. All applied models can be used to generate variants of future development scenarios. Equally, the models are rated in the data requirements as they are based on the same database and include the mortality rates of the Slovak population.
6. Conclusion

In the paper, the proposed Lee-Carter model and Hyndman-Ullah model are applied to sex-specific data for the Slovak Republic, and the forecasting results suggest that, in terms of overall accuracy, the model Hyndman-Ullah model outperforms the Lee-Carter model.

Hyndman and Ullah (2007) developed their functional data model, combining nonparametric smoothing, FDM and time series techniques. In their model, the curves of the age-specific mortality are decomposed into a mean function $3$ and the summation of a set of orthonormal basis functions which can be solved as the eigen functions of the covariance function of the observed data. This modelling framework of decomposing the random part of the process into several principal components is viewed as a generalization of the Lee-Carter model where only the first principal component is considered. Compared with Lee-Carter model, the advantage of having more principal components in long-term forecasting has been numerically verified by Hyndman and Ullah (2007).

A decisive criterion in our assessment of the suitability of applied models was the explanatory force of the models expressed by the coefficients of determination of the individual models as well as their predictive power. The prediction of the Hyndman-Ullah (FDM) model is more accurate due to the use of smoothed data and more reliable due to the use of technical coefficients when fitting the model. The model attaches a higher weight to the last analyzed cohorts, which we consider to be decisive in the long-term prediction of further development. The extrapolation models based on estimation and preservation of historical mortality trends for the future we used. Unlike process models, these do not suffer from distortions that arise from the assumption of independence between explanatory variables.

The results in this paper can be used to compile models that require demographic predictions such as Dynamic Generalized Equilibrium Overlapping Generations models. They can for example provide answers to questions related to the long-term economic growth and sustainability of the pension insurance system in Slovakia.

As to directions for further research, coherence is another important issue to be studied. Hyndman et al (2013) defines coherence as the convergence of the ratios of the forecast age-specific death rates from any two subpopulations to appropriate constants.

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References


TOOLS OF FINANCIAL CONTROL AND THEIR USE IN FINANCIAL MANAGEMENT IN BUSINESS PRACTICE

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Abstract

Financial control is an integral part of financial management. It creates prerequisites for successful fulfillment of business objectives. Prerequisite for successful implementation of financial control is the implementation of an appropriate range of tools for financial control. Financial control tools enable financial managers to formulate goals of verification and inspect the progress and results of the financial activities of the company. The aim of this paper is to define basic financial control tools and to present the results of a survey aimed at identifying the use of financial control tools in enterprises of different sizes with domestic and foreign investment. The survey was conducted using the method of interview with questionnaire form. Selection of respondents was random. The research results indicate a relationship between the size of the company, the share of foreign investment in the share capital and the extent of use of financial control tools in process of financial management.

Key words
control, financial management, financial control, tools of financial control

JEL classification
G39, M19, M42

1. Introduction

Financial control, as an integral part of financial management, creates prerequisites for successful fulfillment of business objectives. It aims to investigate the impact of realized financial activities on change of company's financial situation; it detects if the formulated objectives are being fulfilled and whether the activities are carried out in accordance with applicable legislation and other relevant regulations. Condition for successful implementation of financial control is the implementation of an appropriate range of financial control tools. These enable the financial manager to formulate goals, to verify their fulfilment and inspect the progress and results of financial activities of the company.

2. Objective and methodology

The aim of this paper is to present the results of a survey aimed at identifying the use of financial control tools in enterprises of different sizes with domestic and foreign investment.

Survey was conducted by means of interview method using the questionnaire. We selected sample of respondents by a simple random choice. Questionnaire survey was completed by 227 enterprises located in Slovak Republic. The sample consisted of 10.71% of respondents with a share of foreign capital in the share capital higher than 50% (foreign enterprise) and 89.29% of respondents with a predominance of domestic capital (domestic enterprise). The
survey engaged businesses of all size categories by the number of employees. The highest share was created by micro-enterprises (41.96%). Small businesses got 32.14% in the sample, medium businesses got 17.41% and representation of large enterprises was 8.48%.

We investigated the use of financial control tools in the corporate practice by the share of subjects who used selected tool, in the total business entities (respondents) and also on the basis of the frequency of tools using.

3. Tools for financial control used in a company

Control as an integral part of the management process and one of the basic management functions (Bělohlávek et al., 2001; Lang, 2007; Sedláčk, 2009; Veber, 2009; Vodáček and Vodáčková, 2009; and others), focuses on monitoring, comparison and consideration of particular activities in the company. It detects the extent to which the company managed to meet defined goals. Despite the fact that there are differences among individual processes and activities in the company that need to be controlled, the basic control process is the same and consists of at least four main partial phases (Majtán et al., 2007, p. 267): (1) determination of control field, (2) creation of performance standards, (3) measurement of the actual performance, (4) the assessment of performance.

Control process in the company can be focused on financial or physical values. It is necessary to control the quantitative parameters, the economic aspects of the controlled activity and its results, but also the qualitative and temporal aspects of business activity.

Financial control - one of the basic functions of financial management - provides feedback on realized financial activities. It is an integral part of the financial management process. Its task is the continuous assessment of all information about the realization of financial processes, the results of financial operations, about their management and the way of meeting set financial goals and also the preparation of materials before accepting decisions and actions to ensure financial goals.

From the content point of view, financial control aims (1) to study the impact of realized financial activities on the change of company's financial situation compared to the previous period, or compared to the expected, assumed or planned situation; financial control examines the causes affecting the progress of financial processes - so it forms an organic part of economic control, which we refer to as financial analysis, (2) to determine if the financial activity is carried out in accordance with relevant laws, regulations, directives and other relevant rules. In this case, the financial control focuses on compliance with financial discipline, it forms an organic part of administrative and legal control, and we call it financial review or even review of financial management (Háčik, 1993).

When defining the term financial control tools, we consider the structure of financial control to be important as to the content.

Financial managers use a wide range of tools for implementation of financial control in accordance with chosen methods. We perceive the financial control tools as a set of tools that allow the financial manager to implement financial control. They answer following questions: with what to check the status and development of the financial situation in the company and with what to formulate the desired target quantities that will be compared with the actual situation. Financial control tools enable to formulate target control quantities, to determine the actual state and development of financial situation, to quantify and display ascertained anomalies and deviations and their causes and to regulate the course of financial activities in
order to eliminate undesirable development of the financial situation of company. We consider following tools to be basic for financial control in the company:

• primary financial indicators in the form of financial outputs and internal accountancy outputs, which inform us about the real state of financial management of the company,

• secondary financial indicators in the form of outputs of financial analysis and financial control, which take the form of absolute indicators (status, flow, cumulated or differential) and financial ratios,

• financial plans and budgets, strategies and company development prognosis which contain numeric or verbal expressions of planned corporate financial objectives in the form of absolute financial indicators and ratios,

• medium values of financial sector indicators, information about competition, statistical information about development of economy, stock market news and information, independent reports and prognosis, media news and other external sources of financial information,

• financial statements and reporting which have standardized or more precisely non-standardized form of arrangement of planned and actual primary and secondary financial indicators,

• legislative standards - there is a set of tools which have obligatory character for the company,

• internal directives, which have optional character for the enterprise; there are managing, controlling and accounting directives, regulations and decisions, they can affect financial operations and performance of the company directly or indirectly,

• contractual documentation, which include commercial contracts, invoices and business policy of the company, credit contracts, employment contracts, issuing conditions of securities, memorandum of association and other,

• software - accounting and control software, applications and programs for financial and economic analysis, financial control and controlling, spreadsheets, statistical programs, management information systems and others. These serve to accelerate, specify and automatize financial control processes.

The basic tools of financial control can be divided into groups according to their common features, the way of use, degree of binding effect, type of financial control or by individual phases of the control process.

The focus of financial control may be concentrated on one or more spheres of the financial activities of the company, at the same time. Selecting of the area of financial control partly predetermines the type of control quantities, which will be compared to ascertained reality. The control variables can be formulated (1) in the form of the required variables in absolute or relative values, (2) in the form of increments respectively losses in comparison with the previous or baseline period, (3) in the form of zero state, (4) in the form of quantities according to the prescribed condition. The most widespread control variables in accordance with the fundamental business objective are profit and net cash flows of the company. Control variables can also be represented by indicators formulated in financial plans, budgets, business strategies and development prognosis. These formulate the desired and planned financial indicators in absolute values. Ratios (financial ratios) are used very frequently, especially indicators of liquidity, profitability and indebtedness or indicators of return on investment (Boďa and Štefanič, 2016; Burešová and Dvořáková, 2013; Dluhošová and Zmeškal, 2014; Hiadlovský and Kráľ, 2014). Control quantities can also be formulated in
legislation, contractual documentation or in internal guidelines. They determine the required state, which is desirable to achieve and maintain in company. Manager gains the information about the real state of controlled field of financial management from the company accounting. According to Article 8 of Accounting Act No. 431/2002 Coll. as subsequently amended, the company is obliged to "keep the accounting correctly, completely, provable, clearly and in a manner which ensures the permanency of accounting records." It follows that corporate accounting should give a true and authentic view of the financial situation of company. Enterprises keep financial accounting obligatorily. It provides a picture of the enterprise as a whole. Companies keep internal (intra-organizational) accounting for the needs of intra-organizational management. The financial statements of company summarize the real state of financial management in absolute form. Outputs of financial analysis and financial controlling give us the relative form of real state. Nowadays, bookkeeping makes easier the use of special accounting software products, which enable manager to quickly find the required information.

When detecting and analyzing the deviations, there is a comparison of the desired control variables with indicators presenting the real financial situation of the company. There is also a quantification, to what extent the identified truth really deviate from the fixed control variables. Detection of deviations size, analysis and detection of causes of their origin, is a priority objective of each control process. Several software tools, such as accounting programs modules, separate mathematical and statistical programs respectively spreadsheets, can be used for simplification and automation of recurring mathematical and statistical procedures (actions). Detection and analysis of deviations also allows the use of selected graphs, reports and statements.

Graphs, reports and software products are also used in the phase of presentation and communication of deviations. They enable to point to substantial deviations and to draw attention to their cause of origin and to address the place of their origin.

The aim of the proposal for correction measures is to ensure that undesirable deviation will not appear in the future. Financial plans, budgets and business strategy are the tools that can be applied at this stage of financial control, their correction may be needed. Also, there may be a need to correct internal corporate directives and for example commercial contracts. Sets and various diagrams enable to create transparent preview of the necessary correction measures.

During financial control there seems to occur the combined use of several tools simultaneously. They complement each other and they allow fulfilling specified objectives. Their separate application may not bring the desired results and effects.

4. Use of financial control tools in corporate practice

We have identified the use of financial control tools in practice of businesses of all size groups and with various foreign-owned capital. We used the questionnaire survey to get the necessary information. We present the results of the survey focusing on the application of selected facultative tools for financial control: (1) in-house managing, controlling and accounting directives, (2) primary financial indicators in the form of outputs from the financial and internal accounting, (3) financial plans and planning that allow to formulate target values, (4) secondary financial indicators in the form of outputs from the financial analysis and financial controlling presented in the form of internal corporate statements and
reports, (5) accounting and controlling software - management records facts about financial management and implement financial control with them.

4.1 Use of internal directives in financial control

A set of internal managing directives in corporate practice is the methodical basis of financial control. Task of these directives is to define areas of financial control, temporal periodicity of its realization, personal responsibility, methodical sequence of steps (phases) of financial control implementation and also to define a basic set of another tools for financial control.

We studied the use of internal managing, controlling and accounting directives. Internal managing directives were worked out by 92.86% of all respondents, 95.83% of foreign enterprises and 92.5% of domestic enterprises. The medium-sized enterprises have highest share (94.87%) of the companies that have developed in-house managing directives partly or completely. Small companies have the lowest percentage (90.28%). From the respondents who have worked out in-house managing directives, only less than a half (46.15%) have developed in-house controlling system in writing. This share is higher (69.57%) in enterprises under foreign control. The biggest attention to the control system in the company is dedicated in large enterprises under foreign control (87.5%), the lowest attention to it is paid in the micro enterprises with a predominance of domestic capital (23.81%). The most commonly presented components of the internal control system are: internal control (69% of respondents) and internal audit (36.26% of respondents). Internal accounting directives were developed by 96.63% of those businesses that have worked out internal managing directives. The results of survey show that accounting directives in enterprises get much more attention compared with a controlling system.

4.2 Application of accounting information in financial control

Information about ongoing activities in the company - recorded in the corporate accounting - is the essential basis for decision-making, management and control. If the information is sufficiently detailed and precise, management and controlling of activities in company can be more effective. Act No. 431/2002 Coll. states that businesses shall keep financial reporting. Paragraphs 17 and 18 define the content of financial report. Companies can keep internal accounting in accordance with internal accounting rules in the form of analytical records or in separate sectors of accounting class 8 and 9. We have found out that internal accounting is kept by 63.7% of interviewed respondents. Average share of legal entities controlled by foreign capital, which lead internal accounting, is higher (85.71%) than the average share of legal entities with a predominance of domestic capital on capital share (82.73%). Internal accounting is kept in average by 60.76% of natural persons. 81.94% of respondents who keep internal accounting, have it in the form of analytical records to synthetic accounts of financial accounting, and only 10.42% keep internal accounting in separate sectors of accounting class 8 and 9. Respondents also stated other forms of accounting, e.g. accounting kept externally in the form of outsourcing. The highest share (94.74%) of the total number of respondents in a given size category, which keep internal accounting, is achieved by medium-sized enterprises; the lowest percentage (56.79%) are achieved by micro enterprises.

Natural persons mainly keep the books in a single-entry bookkeeping system. They watch movement of cash and equivalents in cash book. 25% of natural persons make an overview of cash flow and 73.68% of natural persons keep analytical records of cash flow. Analytical
records of cash flow is kept by 83.89% of respondents - legal persons, but only 46.84% of these respondents also prepares a cash flows overview.

4.3 Implementation of financial plans and financial planning in financial control

Financial plans and budgets formalize the requirements of enterprise owners and company management. They formulate future desired state into a form of binding document. Their fulfilling consists of many partial activities that need to be regularly monitored and controlled. Included financial plans and financial indicators thus become the desired control variable, which are compared to actual achieved financial indicators.

When doing research of financial plans use and corporate practice planning, we were interested in the type of realized financial planning, frequency of financing plans control, intended absolute indicators and financial ratios.

Financial planning is carried out by 79.02% of respondents (77% of domestic enterprises, foreign enterprises - 95.83%). Share of enterprises which use financial planning grows with the growth of the company size category (63.83% - micro, small - 88.89%, 89.74% - medium, large enterprises - 94.74%). Short-term financial planning is carried out by 71.19% of respondents, long-term plans by 33.33% of respondents, project planning is used by 18.64% of respondents. 23.73% of the respondents do not control their financial plans (25.97% of domestic enterprises, 8.7% of enterprises under foreign control). The highest share of respondents control their plans on monthly basis (34.15%) and irregularly as needed (28.05%). When we compared the frequency of checking in enterprises with various ownership structure, we found out that monthly checkings are carried out by a higher share of foreign enterprises (66.67%) than domestic enterprises (29.37%). Higher share of domestic enterprises (30.07%) irregularly check their plans in comparison with foreign enterprises (14.29%). From the statistics above we can deduce that there is a higher form of organization of control processes in enterprises under foreign control.

53% of respondents think, that planning of costs and returns is important, 44% think of revenue, 42.5% expenses, profit (28.5% of respondents), net cash flows (26% of respondents), liabilities (19.5% of respondents), long-term assets (12% of respondents). Substantial changes in the arrangement of importance of items between business of individual size categories and the share of foreign capital on capital have not been recorded. Planning of relative indicators (besides the absolute economic indicators) is also very important for the company. We focused mainly on planning of basic financial indicators which monitor an area of liquidity, profitability, productivity, activity, indebtedness, assets structure, investment and market value of the company. The question was answered by 45.98% of respondents. The highest share of respondents said that they planned the liquidity ratios (16.63% of all respondents, 17.03% of domestic and 13.54% of foreign enterprises, 12.5% of micro enterprises, 15.44% of small, 16.67% of medium and 34.09% of large enterprises). Activity indicators and productivity are planned by 11.14% of respondents, 10.76% of domestic and 14.04% of foreign enterprises. Assets structure indicators and its sources of coverage are planned by 9.85% of respondents and indicators of profitability and return by 9.47% of respondents. More than a fifth of respondents plan the share of (financial) claims and liabilities (26.21%), the difference of free cash and payables (25.24%), immediate ability to pay (24.27%), return on sales (23.30%) and first-degree liquidity (21.36%). 25% of enterprises under foreign control plan a net working capital, operating margin, return on assets, the share of financial assets and (financial) claims, stock turnover period, labor productivity and profitability of the
investment. 33.33% of these enterprises are planning the return on sales and the share of assets and liabilities. More than one fifth of domestic enterprises plan the difference in volume of free money and payables (26.37%), the share of assets and liabilities (25.27%) and the return on sales (21.98%).

4.4 The application of financial analysis indicators and controlling in financial control

Results of financial-economic analysis of enterprise provide important information for checking and evaluation of the state and the financial position of the company to the management of enterprise. They serve as a basis for further decisions on company activity. Comprehensive financial-economic analysis is conducted by 75.58% of companies, by 95.83% of foreign and by 73.06% of domestic enterprises. Share of enterprises which make complex financial and economic analysis of a company, grows with the growth of the company size category. It is made by 57.78% of micro enterprises, by 84.29% of small, by 89.47% of medium and by 100% of large enterprises. The highest share of respondents (32.32%) analyzes the financial situation of company with annual frequency, 26.83% of respondents as needed, 17.68% per month, 14.02% every quarter and 9.15% of respondents half-yearly.

Enterprises can control the financial management comprehensively, with use of all available financial indicators, or partially, with use of selected indicators suitable for checking only selected areas and results from financial management. We studied the use of 70 basic indicators of financial analysis used for financial control. In financial control, most of respondents focus on checking of their solvency by means of selected liquidity indicators (52.9% of respondents on average), mainly using the indicator of immediate solvency. On average, 46.2% of respondents control their investment mainly by means of indicator for return on investment. On average, 44.5% of respondents use indicators to control the structure of assets and sources of funding, particularly the share of current assets on total assets. Indicators of activity and productivity are used by 42.7% of respondents on average, mainly the share of financial claims and liabilities. Indebtedness ratios are used by 35.7% of respondents on average, especially the share of trade liabilities on short-term liabilities. On average, 33.4% of respondents check their profitability, mainly by means of operating margin indicator. The lowest average share of respondents (13.4%) use indicators of market value in the financial control. We came to conclusion, that the most widely used indicator from this groups is net profit indicator per share.

Five financial indicators which are used in financial control by the highest share of respondents are classified by size category and the assets participation of foreign capital and we summarized them in Table 1. We can see that the most frequently used indicators are return on investment, payback period, the share of claims and liabilities. The highest share of respondents uses them monthly, yearly or rather irregularly.

Besides checking the financial situation, it is important for the company to know the development of financial indicators and their structure. This information can be obtained from results of horizontal and vertical analysis of financial statements. Vertical and horizontal analysis in financial control is used by 62.5% of enterprises under foreign control, 46% of domestic enterprises, 28.72% of microenterprises, 55.56% of small businesses, 69.23% of medium-sized enterprises and 68.42% of large enterprises. The highest share, 68.22% of respondents, focuses on horizontal analysis of profit, 67.29% of respondents check the development of cost and structure of revenues and expenses, 61.68% of respondents make
vertical analysis of its assets and liabilities, 60.75% make horizontal analysis of liabilities and 58.88% of respondents make horizontal analysis of assets.

Table 1: Five indicators used in financial control by the highest share of respondents

<table>
<thead>
<tr>
<th>Financial indicator</th>
<th>Group of respondents (enterprises)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>return on investment</td>
<td>81%</td>
</tr>
<tr>
<td>payback period</td>
<td>77%</td>
</tr>
<tr>
<td>claims/ liabilities</td>
<td>76%</td>
</tr>
<tr>
<td>immediate solvency</td>
<td>68%</td>
</tr>
<tr>
<td>free money - payables</td>
<td>61%</td>
</tr>
<tr>
<td>first-degree liquidity</td>
<td></td>
</tr>
<tr>
<td>current assets / total assets</td>
<td></td>
</tr>
<tr>
<td>operating margin</td>
<td></td>
</tr>
<tr>
<td>return on sales</td>
<td></td>
</tr>
</tbody>
</table>

Note: The percentage indicates the share of the number of respondents which answered the question; FE = foreign enterprise; DE = domestic enterprises.
Source: the author.

When checking the financial situation, the enterprise can, besides quantifying the classic ratios, which monitor individual aspects of financial health, also use forecasting models, which concentrate the results of the financial analysis into a single result. Just as individual ratios and absolute financial indicators, these models can be a useful tool to control the financial situation of the company. They can be used in subsequent, continuous and preliminary financial control. Forecasting models in financial control are used by 29% of domestic enterprises, 29.17% of enterprises under foreign control, 25.53% of micro, 25% of small businesses, 38.46% of medium-sized and 47.37% of large enterprises. The highest share of respondents (71.21%) who use these models, use them to check the current financial situation. 30.30% of respondents use them also for the control of financial situation of the past period and 25.76% of respondents use them to check suitability of their financial plans settings.

The most used mathematical and statistical methods are graphical methods (60.42%) and calculation of averages (39.58%). Graphical methods are used by 57.26% of domestic and by 80% of foreign enterprises. The average values of indicators in financial control are calculated by 38.71% of domestic and by 45% of foreign enterprises.

When calculating deviations, enterprises can compare really achieved financial indicators with various quantities. These indicators can be achieved in immediately preceding period, in the same preceding period, in the initial period or indicators planned for controlled period. Except for these, deviations can be added to the results of competitors in the same or another sector, or with medium values of the whole industry. Deviations are detected by all enterprises under foreign control and by 71% of enterprises with a predominance of domestic capital on share capital. The highest share of respondents compares the actual financial ratios for the current period with results for the immediately preceding period (51.39%) and the results achieved in the same period of the previous accounting period (44.44%). 13.89% of respondents compare the results of its financial management with the results of competitors in the same sector, 12.04% with financial indicators scheduled for a controlled period.

Explaining the causes of deviations is one of the most important phases of controlling process. Deviations can be examined by their decomposition. The highest share of enterprises
stated that when explaining deviations they use pyramidal decomposition of synthetic financial indicators to analytic.

Visualization of the anomalies can be provided by a variety of graphs. The highest share of respondents (65.06%) use bar graphs, 39.76% use Gantt chart which allows you to compare actual and planned financial indicators. 21.69% of respondents use line charts and Z-diagram, which follows the common, cumulated and sliding totals of items and their differences with the previous period.

4.5 Accounting and control software used in financial control in corporate practice

Development of information technology makes it possible to rationalize the work in the area of financial control in the company. Software products which can be used by enterprises, help to identify deviations faster, more accurate and more frequently. They are really helpful in obtaining, processing and storing of information necessary for financial management and financial control.

The highest share of respondents (64.38%) use accounting software in financial management control, 61.19% use spreadsheet, 9.59% use complex management information system (MIS) - (MIS Charlie, SAP, Softip - Jeeves, IS MAX, own programs), 5.02% use software made according to requirements of the company, 3.65% use statistical software. Customized software and complex MIS are mainly used by large companies which can afford to invest in such expensive software products. 5.48% of respondents do not use any of the examined software products for financial control. The reason was they do not need it because of the extent of turnover, they are not very long on the market, owner of the company manages finances alone and their accounting and economic agenda are managed by an external accounting company. As we can see from the results of research, the most common is the use of accounting software. Name of a particular accounting software was specified by 66.24% of respondents who answered the question. These respondents use products of 24 software companies. The most widespread products are products of Kros, a.s. used by 32.58% of respondents, MRP - Company, s.r.o. used by (19.10%), accounting program Pohoda by Stormware, s.r.o used by 8.99% of respondents, products of Softip are used by 7.87%, QI program by Jeremy, s.r.o. used by 3.37% and products Helios Spin by Asseco Solutions, a.s., Basic.sk by SofCom, s.r.o. and products of Elall, s.r.o. are used by 2.25% of respondents. We analyzed the functions and applications of the accounting software that can be used for financial control. We focused on those features that we consider to be most important in financial control or rather the product thanks to these features differs from another competing products. The results of the functions analysis show that many of them are not suitable for the implementation of financial control. From the software which will be suitable for financial control, we expect that it will mainly enable (1) keeping records and filtering of accounting information according to user-defined criteria, (2) the creation and printing of reports and statements according to user settings, (3) calculation of the preset financial ratios and the creation and calculation of own absolute indicators and financial ratios, (4) planning of absolute and proportional financial indicators, (5) creation of budgets of costs and benefits, (6) calculation of budgets according to the selected relational variables, (7) the calculation of actual deviations from the plan, (8) representation of the state and development of financial indicators (9) selection of period and the number of periods for calculations and comparison, (10) the implementation of internal directives and their interactive representation, (11) possibility of contract restriction settings and (12) software update in accordance with
applicable legislation and internal directives. None of the analyzed software products have got implemented tools for financial control to such an extent.

5. Conclusion

Checking the progress and results of the financial management of the company are one of the key functions of financial management. Range of tools used by financial control manager and the way how they are applied, affect the quality of financial control outputs, which are important basis for financial management and decision making. The results of research we did on a sample of companies of all sizes and both with domestic and foreign ownership interest confirmed our assumptions that companies use particular financial control tools on insufficient level. The use of financial control tools of the company rises with the growth of company size measured by the number of employees. The extent of financial control tools application in enterprises with lower number of employees, is on a lower level than it is in larger companies. Thanks to the research we found the dependence of the total extent of use of financial control tools on the share of foreign capital on the capital. With the growth of the size category of the business entity and the growth of the share of foreign capital on the capital of the company, the share of subjects which use tools for financial control is increasing and there is also increase in the extent of use of financial control instruments. It means that the number of used types and frequency of their application is increasing. Causes of dependencies between the extent of financial control tools application and company size, or the share of foreign capital on the capital, we can see in the following facts: (1) education, experience of entrepreneur, that affect his ability to use financial control tools, (2) the concentration of the business, which affects the difficulty of activities records, which are under financial management and control, (3) the system of organization and management of the company, which is reflected in delegating duties related to financial management and control of the individual job positions, (4) accounting system, which affects the detailed nature of information that are under financial control, (5) property equipment of company with an emphasis on software that allows to automate and accelerate the process of financial management and control and reduces errors caused by human factor, (6) costs of applying the tools of financial control (costs for acquisition of computer and software equipment, personnel costs, costs related to external accounting, costs associated with implemented financial analysis of a company, fines from inspection, fees for advisory services, trainings, etc.).

References


MANAGEMENT OF TOURISM DESTINATION IN SLOVAK PRACTISE

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Abstract

After the establishment of the sovereign Slovak Republic, there were numerous government efforts to regulate tourism management. They culminated in 2010 when the National Council of the Slovak Republic accepted Act No. 91/2010 Coll. on Support of Tourism, which was corrected by Act No. 556/2010 and valid from 1 December 2011. The practice has shown that deficiencies are within the competence of regional and local destination management organizations. The aim of the article is to examine activities of regional and local tourism destination organizations and to identify deficiencies according to the objectives of tourism development and the division of obligations between regional and local tourism organizations. The article presents an analysis of destination management organizations activities in Slovakia on the regional and local level. It points out the competencies of regional and local tourism destination management organizations with an emphasis on the presentation of regions and areas on the national as well as the international tourism market.

Key words

regional destination management organization, local destination management organization, competencies

JEL classification:

L83, M31, R11

1. Introduction

In countries with developed tourism, the evolution of tourism organizational structure has the tradition over 50 years (Šebová, 2014). In Slovakia, the Act. 91/2010 Coll. on Support of Tourism has encouraged the creation of micro-regional (local) and subsequently regional tourism organizations in destinations (Gajdošík et al., 2015). This Act regulates tourism support in the Slovak Republic, conditions for the establishment and termination of tourism organizations as well as the rights and obligations of natural persons (individuals) and legal persons operating in the tourism sector.

It is the first systemic solution of issues regarding tourism, which creates a legislative frame for the lunch and effective operation of local and regional tourism organizations. Its main aim was to boost cooperation in the tourism sector in Slovakia, by creating and supporting financially local and regional tourism organizations, responsible for the development of tourism within a respective region or defined territory.

This legislative act was a stimulus for the establishment of formal networks of organizations in the tourism sector in Slovakia. It established the tourism organizational structure at national, self-government (regional) and micro-regional (local) levels, and defines
the principles of providing financial subsidies for tourism organizations (Gajdošíková et al., 2016).

2. Activities of tourism destination management organizations in Slovakia

Act no. 91/2010 Coll. on Support of Tourism sets out the rights and obligations of local and regional tourism organizations in Slovakia. As can be seen in Table 1, multiple responsibilities are duplicated, non-specific and insufficiently ordered. Regional and local destination management organizations perform some tasks in duplicate, the level of cooperation between them is questionable.

Table 1: Rights and obligations of local and regional tourism organizations

<table>
<thead>
<tr>
<th>Obligation/organization</th>
<th>Regional tourism organization</th>
<th>Local tourism organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tourism planning and development</td>
<td>supports the activities of its members in creation and implementation of the tourism development strategy in the SGR*</td>
<td>supports the activities of its members in creation and implementation of the tourism development strategy within its area of competence</td>
</tr>
<tr>
<td></td>
<td>cooperates in the development and implementation of the tourism development concept of the SGR</td>
<td>prepare and submit tourism development projects and ensure their implementation</td>
</tr>
<tr>
<td></td>
<td>in cooperation with the SGR institutions, develops and implements the annual plan of activities</td>
<td>compiles and implements the concept of tourism development, based on its own analysis, regional and national tourism concepts</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>draws up an annual plan of activities approved by the general assembly</td>
</tr>
<tr>
<td>Development of primary and secondary tourism supply (including product creation)</td>
<td>promotes cultural, social and sporting life and preserves the natural and cultural heritage</td>
<td>promotes cultural, social and sporting life and preserves the natural and cultural heritage</td>
</tr>
<tr>
<td></td>
<td>organizes events for residents and visitors</td>
<td>organizes events for residents and visitors</td>
</tr>
<tr>
<td></td>
<td>promotes the sustainable development of tourism to protect and preserve the environment and respect the way of life of the local population and property rights</td>
<td>promotes the sustainable development of tourism to protect and preserve the environment and respect the way of life of the local population and property rights</td>
</tr>
<tr>
<td></td>
<td>initiates or ensures the conception, management and presentation of tourism products</td>
<td>initiates or ensures the conception, management and presentation of tourism products on its territory</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>in cooperation with municipalities, members of the local tourism organization and representatives of the professional sphere monitors the tourism products, activities and values of the destination in their territory,</td>
</tr>
<tr>
<td></td>
<td>may set up a tourist information centre</td>
<td>may set up a tourist information centre</td>
</tr>
</tbody>
</table>

*Self-governing region.

Source: Act No. 91/2010 Coll. on support of tourism and the authors.
Table 2: Rights and obligations of local and regional tourism organizations

<table>
<thead>
<tr>
<th>Obligation/organization</th>
<th>Regional tourism organization</th>
<th>Local tourism organization</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marketing and promotion</strong></td>
<td>creates and implements marketing and tourism promotion for its members at home and abroad</td>
<td>creates and implements marketing and tourism promotion for its members at home and abroad</td>
</tr>
<tr>
<td></td>
<td>initiates or ensures the creation, management and presentation of tourism products, including through the tourist information centre</td>
<td>initiates or ensures the creation, management and presentation of tourism products, including through the tourist information centre</td>
</tr>
<tr>
<td><strong>Quality system</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Tourism monitoring</strong></td>
<td>-</td>
<td>in cooperation with the municipalities that are its members, draws up and implements the annual plan of activities and the monitoring report on the development of tourism in its territory</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Representation of members' interests / consultation</strong></td>
<td>promotes the common interests of its members</td>
<td>promotes the common interests of its members</td>
</tr>
<tr>
<td></td>
<td>provide its members with the advisory consulting services</td>
<td>provide its members with the advisory consulting services</td>
</tr>
<tr>
<td></td>
<td>cooperates with SGR institutions</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>cooperates with the state institutions involved in the fulfilment of the tasks of tourism, with the authorities of the SGR and with the organizations operating in the territory of the region in matters of tourism development</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operational activities</strong></td>
<td>performs activities according to the statutes and in accordance with the strategic documents of the SGR</td>
<td>update the integrated information system in its area of competence, including through the tourist information centre</td>
</tr>
<tr>
<td></td>
<td>prepares a budget which will be approved by the highest authority of the regional organization</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>prepares an activity report, which publishes on its website and annual financial statements</td>
<td>prepares an activity report, which publishes on its website and annual financial statements</td>
</tr>
<tr>
<td></td>
<td>records tourist information centres in the SGR each year by the March, 15th</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>documents proving a number of financial resources derived from members for the previous year</td>
<td>each year by the March, 15th, the organization submits to the ministry documents proving a number of financial resources derived from members for the previous year</td>
</tr>
</tbody>
</table>

*Self-governing region.

Source: Act No. 91/2010 Coll. on support of tourism and the authors.

Regional level of cooperative destination management is represented by a self-governing unit (SGR) and regional destination management organization (DMO). The task of self-
governing units in tourism development is in creating the organizational preconditions and providing the financial support (Gajdošík, 2014). Regional DMO can be established by SGR and at least one local DMO. In Slovakia, there are 8 self-governing units that could create regional DMO. The regional DMO also tries to support sustainable regional development, creates integrated marketing of the region and cumulates the financial resources for tourism development. Up to now, there are 5 regional DMOs in Slovakia (in the Bratislava region, Trenčín region, Žilina region, Prešov region and Košice region).

If there is no regional DMO, some of the obligations are performed by the local DMO (only within the area of its competence). Local DMOs represents the lowest level of cooperative destination management in Slovakia. According to the Act No. 91/2010 Coll. on Support of Tourism, the local DMO can be created by the business entities and at least 5 municipalities if the number of overnight stays in the territory is more than 50,000. The local DMO can be created also by the cooperation of less than 5 municipalities, when the number of overnight stays exceeds 150,000. Nowadays in Slovakia, there are 36 local DMOs.

3. Aim, material and methodology

The aim of the article is to examine activities of regional and local tourism destination organizations and to identify deficiencies according to the objectives of tourism development and the division of obligations between regional and local tourism organizations.

The study is based on the opinions of domestic authors dealing with the activities of destination management organizations in Slovakia (Šebová, 2014; Gajdošík, 2014; Gajdošík et al., 2015; Šebová, 2015; Gajdošíková et al., 2016; Maráková et al., 2016; Maráková and Medveďová, 2016). The empirical part is based on annual reports of selected tourism organizations for 2016.

Selected tourism organizations of the Bratislava region are analysed in the article, namely the regional tourism organization Bratislava Region Tourism and its member local organization the Bratislava Tourist Board. Tourism organizations have to compile an activity report and publish it on their website. Website analysis showed that there are some organizations not publishing annual report. Therefore, it is not possible to identify a region where annual reports of both regional and all local organizations would be available. The annual reports of other local organizations in the region of Bratislava, namely Senec, the Male Karpaty and Zahorie were not available for the year 2016.

The activities of the tourism organizations are divided into 8 sections based on the obligations of Act No. 91/2010 Coll. on Support of Tourism. The research focused on tourism planning and development, the development of the primary and secondary tourism supply, marketing and promotion, tourism monitoring, the quality system of tourism services, education, representation of members' interests and operational activities. To evaluate the activities, the analyses of secondary sources was used. For each activity, organization received one point, regardless of activity' concentration, influence and difficulty. Points were counted without adding weight to individual activities.

4. Results and discussion

Selected annual reports have an inconsistent structure of activities. There is a lack of knowledge of basic patterns and relationships in tourism, as well as the creation of tourism product. There is also a discrepancy between headline and content. This applies equally to the
utilised marketing communication tools. Therefore, our own structure of activities was designed.

Tourism planning and development

In 2016, the examined tourism organizations did not specify the preparation of any planning documents, conceptions or strategic materials, which would be focused on issues of tourism development. Preparation of conceptual materials and documents is a part of tourism organization activities. These documents are demanded for the municipal and self-government (regional) councils, the board of directors, general assembly, or preparation of a request for state subsidy from the Ministry of Transport and Construction. This type of activity was not included in annual reports.

Support of primary and secondary tourism supply

Tourism supply consists of primary and secondary sources. The primary sources are natural, cultural and historical attractions, including organized events. The secondary offer is a set of tourism infrastructure and general infrastructure. The development of the primary and secondary supply of tourism by selected organizations is captured in Table 3.

Table 3: Development of primary and secondary tourism supply

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary and secondary tourism supply</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tourism infrastructure</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Tourist information centre</td>
<td>-</td>
<td>(year-round) 2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(seasonal) 4</td>
</tr>
<tr>
<td>Tourism product development</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Events</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Event support/sponsorship</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Visitor service</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

The Bratislava Tourist Board has two tourist information centres (TIC) operated throughout the whole year and four seasonal (e.g. at the airport, train station). The Bratislava Region Tourism does not operate any tourist information centres. Organized events were a part of the primary destination offer. At these events, the tourism organization acted as co-organizers, partners or only as media partners. The supported events were described in more details by the Bratislava Tourist Board. From their description, we were able to identify the character of the organization's involvement in event preparation (by contributing to program elements or organizational work). Providing additional transport or guiding services during the event were not essential, it was only a part of improving the visitor service.

Marketing and promotion

Destination marketing organization activities are focused, particularly on marketing. Promotion is a part of the marketing mix and not an equivalent to marketing. This problem has been caused by the Act on Support of Tourism, which puts both terms at the same level. Unspecific description of selected marketing activities complicated the analysis, as well as a lack of important features that could determine the character of the activity. We analyse marketing activities based on the classification of the World Tourism Organization (UNWTO)
and European Travel Commission (ETC) Handbook on Key Performance Indicators for Tourism Marketing Evaluation (2017, p. 156-157). Examined marketing activities are divided into three groups: consumer marketing activities (offline and online), event centred marketing, and business-to-business marketing activities. The consumer offline marketing activities are shown in Table 4.

Table 4: Mainly offline marketing activities

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promotions in offline media (newspapers etc.)</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Outdoor/poster</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Press/PR in offline media</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Journalists and bloggers</td>
<td>5</td>
<td>22</td>
</tr>
<tr>
<td>Consumer exhibitions/fairs</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Presentation/roadshow</td>
<td>17</td>
<td>4</td>
</tr>
<tr>
<td>Promotional literature</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>Tourist information centres</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Promotional campaigns</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Promotional items</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

The use of these marketing tools is a typical and indispensable function of the destination management organization. This is the largest group of activities, although each activity has a different level of difficulty. The problem is the insufficient degree of cooperation in the marketing activities between regional and local tourism organizations. Common offline marketing activities include events. One of the more helpful activities is the creation and management of the Bratislava City Card (Sales Support). For both tourism organizations, the preferred marketing tool is the production of mobile presentation elements. The second group of customer-oriented activities consists of mainly online marketing activities (Table 6).

Table 6: Mainly online (electronic) marketing activities

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>DVDs/CD-ROMs</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Advertising</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Mobile apps</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Direct mail (e-newsletters and e-mail shots)</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>Corporate website (own)</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Press/PR for electronic media</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>Owned social media platforms (e. g. Facebook)</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

Marketing communication through online media is characterized by cost-effectiveness. Regional as well as local tourism organization have their own dedicated and theme-oriented websites. The organizations are intensively communicating through social media, which also uses paid advertising. The Bratislava Tourist Board has an account on Twitter and LinkedIn, the Bratislava Region Tourism only has a presence on the social network Facebook and Instagram. Organizations do not cooperate in this type of communication.
Tourism organizations consider the distribution of promotional materials at festivals, competitions, thematic events as an event support and sponsorship (e.g. ETC General Assembly, EU summit). An essential and necessary part of the event support is the preparation of convention tours. Both organizations carry out this activity.

From the point of view of sales and distribution channels, communication activities aimed at the business relations are essential. Business-to-business marketing (or B2B marketing, as it is commonly known) involves the sale of one organization’s product or service to another. Business partners, tour operators, retailers represent a concentrated demand segment for services, and therefore the focus of marketing communications on this target group is a mandatory part of the destination management organizations’ activity (Table 8).

Table 7: Mainly event centred marketing

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convention/event support</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Event support/sponsorship</td>
<td>25</td>
<td>15</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

Tourism organizations aimed at monitoring and collecting data on the tourism development on its territory are captured in table 9.
Table 9: Tourism monitoring activities

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycling Statistics</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Disclosure of statistical data</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pasportization of attractions and infrastructure</td>
<td>-</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

Both tourism organizations ensure the counting of cyclists. The reports do not indicate how this data was used, e.g. on strategic planning of infrastructure for cyclists. The Bratislava Tourist Board has conducted a survey of visitors in the capital city. At the same time, it collected data about the preferences of customers connected to the TIC’s WiFi and using touch screens in TIC. In this case, there was also no indication how the data was used. Both organizations have stated that they are publishing data about the number of visitors on their territory. These data were compiled by the Statistical Office of the Slovak Republic and the tourism organization acts only as an intermediary.

**Education**

The Act on Support of Tourism does not define the obligations of tourism organizations related to education. However, organizations may apply for a grant, if they organize some educational and training activities. The educational activities are captured in Table 10.

Table 10: Activities focused on education

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training of employees and external staff</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Consultation and consultancy</td>
<td>7</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

The Bratislava Tourist Board has made a lot of effort to support the education of its own staff. On the contrary, organizations pay little attention to the education and tutoring of the residents towards the tourism development. One of the positive activities was the first contact with the customer training, organized by the Bratislava Region Tourism

**Representation of members’ interest**

The organizations represent and promote the common interests of their members in various associations and unions (Table 11).

Table 11: Activities focused on representation of members’ interest

<table>
<thead>
<tr>
<th>Activity/organization</th>
<th>Bratislava Region Tourism</th>
<th>Bratislava Tourist Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Representation of members’ interest</td>
<td>3</td>
<td>9</td>
</tr>
</tbody>
</table>

Source: the authors based on annual reports of selected tourism organizations.

The Bratislava Regional Tourism organization cooperates with the Ministry of Transport and Construction of the Slovak Republic and with the authorities of the self-government region of Bratislava. The local organization participated in the establishment of the
Association of Tourism Organizations, is a member of Association of Information Centres of Slovakia, Slovak Tourism Association etc.

5. Conclusion

The aim of the article is to examine activities of regional and local tourism destination organizations and to identify deficiencies according to the objectives of tourism development and division of obligations between regional and local tourism organizations.

Based on the defined competencies of tourism organizations by Tourism Support Act no. 91/2010 Coll. and their application in selected tourism organizations it can be stated that:

a) the defined competencies and obligations are not clearly formulated, there is a lack of interdependence and continuity, they do not aim at the fulfilment of the potential objective of a systematic and purposeful development of tourism;

b) the competences and obligation allow a self-explanatory interpretation, which results in an individual focus of activities;

c) multiple responsibilities are duplicated, non-specific and insufficiently ordered so that they can’t be checked and, where appropriate, penalized for non-compliance;

d) there is a lack of key obligations aimed at determining the realization of tourism prerequisites, formulating specific steps towards completing the necessary infrastructure, creating a local and regional product on the basis of the sustainability principle;

e) as a result of the different levels of management, there is a lack of territorial definition of promotional activity on domestic and foreign tourism markets;

f) at a time when the quality of service and employee readiness for direct customer engagement is seen as a competitive advantage, it is imperative that the law should define the obligation of both types of organization in the area of building up the quality of services, employee training and education for tourism.

Acknowledgements

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References


STANDARDIZATION AND EFFICIENCY OF SOCIAL SERVICES
– REGIONAL DIMENSION IN THE CZECH REPUBLIC

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Abstract
In the procurement of public services in relation to standardization, public services should arguably be provided in a comparable range and quality in all regions as well as maximum efficiency in their provision. In connection with the development of social services, the paper aims to provide a quantitative evaluation of social-care services in regions, with an accent on standardization and efficiency. The paper focused on selected social-care services for senior citizens and the disabled, evaluated by recommended quantitative standards of availability and from the viewpoint of cost efficiency in years 2007 and 2015. In the Czech Republic, a trend connected with a growth of social services and users was seen in 2007 and 2015. In relation to the evaluation of structure of the selected social-care services, availability of residential services and availability of community care service, in terms of field services, prevails in most regions in the Czech Republic. Regarding the evaluated social services of community type, day-care centers are the most expensive in terms of provision. Further, by use of cluster analysis and box-plot, similarities and differences in Czech regions were analyzed regarding the availability of selected social-care services in 2015. The largest differences were observed mainly in the availability of residential services of social care (number of place in retirement homes per 1000 persons aged 80+) in the Region of Central Bohemia, Moravian-Silesian Region (the highest number of places) compared to the Region of Karlovy Vary and the Region of Liberec with the lowest number of places.

Key words
social service, social care service, standardization, efficiency, regions

JEL classification
H41, H49, H75

1. Introduction

The theoretical background and approaches for the evaluation of efficiency enable a broader view on standardization of public services and provide to the individual actions a common theoretical basis for their execution. Numerous authors, including (Mikušová Meričková and Stejskal, 2014; Meričková and Hronč, 2003; Ochrana, 2003; Víšek and Průša, 2012), advocate the theoretical approaches and confirm their appropriacy and applicability. The use of the standards may lead to an even distribution of public services and the inability of exclusion from consumption. In the procurement of public services in relation to standardization, public services should be provided in a comparable range and quality in all regions as well as maximum efficiency in their provision (Stejskal et al., 2017).

The present paper deals, in particular, with social services. Social services are a significant segment of public services, usually organized on the local level and largely dependent on
financing from public resources. Social services are defined by Mertl (2007); Průša (2008); Jensen and Lolle (2013); Halásková (2014); Halásková and Halásková (2015) as a significant part of activities of the government, self-administrative bodies and non-governmental subjects, which are provided to individuals, families as well as groups of inhabitants and which contribute to tackling of social issues.

The subject of research is an analysis of selected social services with emphasis on standardization and efficiency. In connection to the development of social services, the paper aims to provide a quantitative evaluation of social-care services in regions of the Czech Republic, with an accent on standardization and cost-efficiency. The paper focuses and evaluates six services of social care for the elderly and the disabled in years 2007 and 2015. The similarities and differences of the regions in the Czech Republic of selected social-care services by quantitative standards of availability and by expenditures per one user from the viewpoint of cost-efficiency are evaluated in 2015.

1.1. Theoretical background

The aim of standardization is to create such systems which will enable tracking and assessing the volume and quality of the provided public services. Legal definition of general standards aims to ensure the quality of the provided services, to increase efficiency and to simplify the process of checking (Stejskal et al., 2017). In the Czech Republic, social services are evaluated through quality standards of social services, which have been in focus since 2002. Effective since 2007, quality standards of social services have been defined in the ordinance 505/2006 Coll., which executes some provisions of the Social Service Act. Quality standards are rules applying to social services, which each registered provider of social services has to abide by in accordance with the law. Quality standards should serve as a guideline for increasing the quality of the provided services. They are divided into procedural, personal and operational standards (Halásková and Halásková, 2015).

In terms of social services, the implementation of the standards in the Czech Republic enables the comparison of the efficiency of the individual services, which facilitate dealing with the same type of an unsatisfactory social situation as well as the efficiency of various facilities which provide the same type of service. The analysis of the efficiency of the public sector and public services (e.g. Ochrana, 2003; Afonso et al., 2005; Stiglitz and Rosengard, 2015; Stejskal et al., 2017) is based on the 3E principle: economy, efficiency and effectiveness. “Economy is defined as the use of public resources to procure the defined tasks in an appropriate quality with a minimum use of these resources. Efficiency is the use of public means in such a way as to attain the maximum spread of quality and contribution of the tasks in comparison to the volume of means allocated for their implementation. Effectiveness is such use of public resources that will render an optimal attainment of goals in fulfilling the given tasks”.

According to Mertl (2007, p. 23), the effectiveness of social services cannot be analyzed only by applying the principle of direct, countable costs and easily measurable results (ongoing outputs). Although this approach is the closest to the observation of cost efficiency comparing the price and the performance, it fails to cover non-resources and final outputs. Effectiveness of social services in this approach appears as a broad concept which also includes final outputs - improvement of social situation of those in need and the inclusion of inputs which cannot be bought on the market at a given time. Průša (2008, p. 14) expresses another point of view on the assessment of the effectiveness of social services in the Czech
Republic, arguing that such, “social-care service is effective from the viewpoint of both the government and the establisher when the average sum of money paid by the client along with the health insurance company covers average national costs on the given type of service”.

For the assessment of the efficiency and availability of social services are used also recommended availability standards for an area. It is one of the methods for assessing social and demographic aspects and the availability of social services within an area. According to Víšek and Průša (2012), the recommended normatives of availability are represented by quantitative standards, benchmarks, rough indications, warning about the probable occurrence of social phenomena, situations and social needs. Availability standards have been drawn up as 1) rough data defining the size of target social groups, 2) quantitative standards of availability of the selected services in the regions and cities, 3) layout of the distribution of social services in areas, and 4) rough standard of a catchment municipality. These standards should reflect local or regional availability of social care services and respond to users’ needs.

2. Data and methods


The data were generated using information made available by the Ministry of Labor and Social Affairs of the Czech Republic (Statistical Yearbooks on Labor and Social Affairs, 2008, 2016), available at http://www.mpsv.cz/cs/3869 and the Czech Statistical Office (Statistical Yearbook of region of Moravia-Silesia, 2008, 2016), available at http://www.czso.cz/cs/rocnicka-rocenka-moravskoslezskeho-kraje-2016. The analysis is carried out for years 2007 and 2015. Due to the availability of data and statistical register of social services, carried out with respect to the effectiveness of the Social Service Act no. 108/2006 Coll., year 2007 was set as default and 2015 is the year when the data for the selected social-care services in the Czech Republic were available.

Having consulted professional resources, the authors made use of content analysis when providing the theoretical framework of the issue in question. In the empirical section are used analytical methods, namely cluster analysis and box plot, comparison, as well as synthesis and partial induction in drawing conclusions. The analysis of regions in the Czech Republic is focused on social-care services for the elderly and the disabled through residential services (retirement homes, special care homes, week-care centers), ambulatory and field services (community care service, day service centers, day care centers), evaluated by recommended standards of availability (Table 1) and evaluated of expenditures per one user from the viewpoint of efficiency.

In particular, residential social services (retirement homes, special care homes, week-care centers) are evaluated in accordance with the recommended standard, namely 160 places in retirement homes per 1000 persons aged 80+. Field and ambulatory social services (community care service, day service centers, day care centers) are evaluated by the recommended standard of 75 persons that use community care service per 1000 persons aged 65+
Table 1: Recommended standards of availability of services for the elderly and the disabled from 2010

<table>
<thead>
<tr>
<th>Recommended availability standards for selected social-care services</th>
<th>Number of places/persons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability in retirement homes per 1000 persons aged 80+</td>
<td>160 places</td>
</tr>
<tr>
<td>Number of persons that using community care service per 1000 persons aged 65+</td>
<td>75 persons</td>
</tr>
</tbody>
</table>

Source: adopted from Víšek and Průša (2012).

The analysis of similarities and differences regarding 1) the availability of residential social-care services (the number of places in retirement homes, special care homes and week-care centers per 1000 persons aged 80+), 2) availability of ambulatory and field social-care services (the number of places in day care centers, day service centers, number of persons, who use community care service per 1000 persons aged 65+) and 3) from the viewpoint of efficiency – by defining the unit of output (expenditure per user of ambulatory and field social-care services) by, applies the method of cluster analysis, a multi-dimensional statistical method used for classification of objects. It sorts units (regions, in the present example) into groups (clusters) so that units belonging in the same group are more similar then objects from other groups. Cluster analysis can be performed on a set of objects each of which must be described using an identical set of signs worth observing in the particular set, as well as a set of signs characterized through a specific set of objects - carriers of these signs. In the present study, hierarchic clustering was applied, which generates a system of sub-sets: branching, softening of the classification. Hierarchic clustering brings about a multitude of alternative solutions how to cluster objects on the basis of their distance or similarity, its outcome can be expressed by means of a dendrogram (Garson, 2014). In the present paper, Ward method was applied, which stems from the dispersion analysis. It combines clusters with a minimum sum of squares. The distances of objects are measured by squared Euclidean distance (Lukasová and Šarmanová, 1985). A dendrogram indicates that the larger the size on the horizontal axis (x), the less similar, in the present case, the regions of the Czech Republic are. Conversely the smaller the distance on the x axis, the larger the similarity between regions.

Box plot is one way of visualizing numerical data by means of their quartiles. The middle "box" part of the diagram is delineated by the third quartile from the top, and the first quartile from the bottom, whilst the mean is expressed by a line in-between. Box plots can also contain lines beginning in the middle part of the diagram vertically up and down, the so-called whiskers, which express variability of data below the first and above the third quartile (Pavlík, 2005). Cluster analysis was applied by, for instance Řezanková and Löster (2013).

The calculations in the following part are the output of the SPSS Statistics 24.0 software.

3. Results and discussion

3.1. Availability of social-care services by recommended standards in the regions of the Czech Republic

The availability of selected social-care services in years 2007 and 2015 in regions of the Czech Republic was compared with the recommended standards (Table 1).
The development of social services in the course of 2007 and 2015 (Table 2a) was most markedly accompanied by the availability of residential social-care services (the number of places in retirement homes, special care homes) in Central Bohemian, and Moravian-Silesian region, followed by South-Moravian, Usti nad Labem, South-Bohemian, and Prague region. In 2015 the jointly availability of the number of places in retirement homes, special care homes and week care centers in all regions of the Czech Republic exceeded recommended standard (i.e. 160 places per 1000 persons aged 80+). Changes in availability are apparent in regions in the course of 2007 and 2005 – increase in the number of places in retirement homes, special care homes, but in most regions decrease in the number of places in week-care centers per 1000 persons aged 80+.
Changes in the availability of ambulatory and field services manifested in years 2007 and 2015. The development of social services was accompanied by the increase of availability which was most markedly seen in community care services (in South Bohemian, Central Bohemian, and Prague region) and day care centers, mainly in the Hradec Králové, and Ústí nad Labem region (Table 2b). The highest rates of the joint availability of places in day care centers, day service centers and community care service were reached in 2015 (against the recommended standard of 75 persons/places per 1000 persons aged 65+), in the South Moravian, Moravian-Silesian, Central Bohemian, and Prague region. By contrast, the lowest availability of these services was observed in the Karlovy Vary, and Liberec region. Demographic ageing of the population is expected to be accompanied by the increase in the demands put on the current capacity of health and social services of long-term care, used mainly by the disabled and senior citizens aged 80+.

By use of cluster analysis and box plot, evaluation of similarities and differences in the regions was carried out about the availability of selected social-care services. With respect to the availability of residential social-care services in 2015, the regions were divided based on internal similarity into four clusters (Figure 1).

Figure 1: Dendrogram and box plot of the availability of residential social-care services in regions of the Czech Republic in 2015

The first cluster is the largest and includes eight regions (PRG, SUB, PLZ, HRK, PCE, VYS, OLM, ZLN). These regions reach the highest availability of places in retirement homes per 1000 persons aged 80+ (with the mean value of 370.8). By contrast, they demonstrate a low availability of places in week-care centers per 1000 persons aged 80+. As opposed to the remaining clusters, these regions have a wide dispersion of values, mainly regarding the availability of places in retirement homes per 1000 persons aged 80+ (ranging from 470.4 in SUB to 276.6 in PLZ). The second cluster includes CRB and MSR, which, as opposed to the other clusters of regions, have the highest availability of places in retirement homes per 1000 persons aged 80+.
persons aged 80+ (the mean value of 758.5) and the highest availability of places in week-care centers per 1000 persons aged 80+ (23.8 in CRB). The third cluster comprises the least populated regions (KAV, LIB). These regions, as opposed to other clusters of regions, have the lowest availability of residential social–care services (the number in retirement homes and in special care homes per 1000 persons aged 80+). The fourth cluster is represented by ULN and SUM, which demonstrate higher availability of places in retirement homes per 1000 persons aged 80+ (the mean value of 496.6) and of all regions the highest availability of special care homes per 1000 persons aged 80+ (the mean value of 371.6, the values ranging from 286.1 ULN to 457.1 SUM).

Based on the analysis (Figure 1b), certain similarity of the availability of residential social-care services can be observed between the regions in the first and the third cluster and between the regions in the second and fourth cluster (by the number of places in week care centers and the number of places in special care homes per 1000 persons aged 80+). By contrast, the biggest differences of the availability of residential social-care services were seen in the countries in the second and third cluster (number of places in retirement homes per 1000 persons aged 80+) and regions in the third and fourth cluster (number of places in special care homes per 1000 persons aged 80+).

The division of regions by the availability of ambulatory and field social-care services in 2015 is captured in Figure 2.

Figure 2: Dendrogram and box plot of the availability of ambulatory and field social-care services in regions of the Czech Republic in 2015

The first cluster comprises regions (PRG, CRB, SUM) with the highest number of persons using community care service per 1000 persons aged 65+ (with the mean value of 198.8) and the lowest availability of places in day care centers per 1000 persons aged 65+ (with the mean value of 16.7). The second cluster is the largest and includes 10 regions (SUB, PLZ, KAV, ULN, LIB, HRK, PCE, VYS, OLM, ZLN). These regions reach the highest availability of places in day care centers per 1000 persons aged 65+ (with the mean value of 32.1), but the lowest availability of places in day service centers per 1000 persons aged 65+ (with the mean value of 5.7). This cluster indicates the widest range of value in the number of places in day care centers.
care centers (from 8.8 in LIB to 62.2 in HRK) and in the number of persons using community care service per 1000 persons aged 65+ (from 46.7 in KAV to 112.3 in PLZ). SUB, with the value of 143.1, is an outlier. The third cluster is represented by the region MSR. It has the highest number of places in day service centers per 1000 persons aged 65+ and a higher number of persons using community care service, compared to the other regions.

Certain similarity of the availability of ambulatory and field social-care services (Figure 2b) is seen, according to the number of persons using community care service per 1000 persons aged 65+, the regions in the first and third cluster. Conversely, the biggest differences in the availability of ambulatory and field social-care services are perceived in the regions in the first and second cluster (by the number of places in day care centers and the number of persons with community care service per 1000 persons aged 65+), and in the regions in the second and third cluster (by the number of places in day service centers per 1000 persons aged 65+).

According to Víšek and Průša (2012) these differences in the extent of the provided services between regions are related mainly with the rate of urbanization, age, qualification, professional and social structure of the population within the given area, with the structure of inhabitation of a given territory, with the size of municipalities and with population density. This is why it is necessary to evaluate the availability of social services by Ministry of Labor and Social Affairs of the Czech Republic (2012); Víšek and Průša (2012) within an area and to develop it broadly (availability and connectedness of services, performance quality, economic efficiency), without applying the same principles across an area.

3.2. Evaluation of social-care services in the regions of the Czech Republic from the viewpoint of efficiency

The efficiency of the whole system of providing and financing social services is affected by average expenditures associated with the provision of service a client is to receive and the structure of the financing of these costs. One method of measuring effectiveness of public expenditure, based on costs and output, is the CEA (cost-effectiveness analysis). Several forms of evaluation are used in this method: In the present study, the expenditure on one user for the ambulatory and field social-care services was selected. Expenditure of selected social-care services in the regions of the Czech Republic in years 2007 and 2015 are captured in Table 3. From all social-care services, the most costly in terms of the provision were day care centers (an ambulatory or field service), with average expenditures of CZK 116,000 per user in 2015. By contrast, the least expensive was the field social service (community care service with average expenditures CZK 22,000 per user). In terms of the provision of social-care services in regions, significant differences are notable mainly in the expenditure on day-care centers and day-service centers, and small differences in the expenditure on community-care service. In 2015, the most expensive day-care centers were found in SUM, MSR, VYS, PLZ, whilst the lowest expenditures per user were in KAV and SUB. The service of day-service centers in LIB, ULN, PLZ was provided with the highest expenses per user, as opposed to MSR, SUM, and CRB with the lowest. Nonetheless, in evaluating the efficiency of the provision of social services, it is necessary to consider not only the volume of operating and personal costs of the facilities or services, but also the contributions (benefits) for a particular user or society. In practice, CBA (cost-benefit analysis) is used in such evaluations.
### Table 3: Expenditure of selected social-care services in the regions of the Czech Republic in 2007 and 2015

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PRG</td>
<td>14</td>
<td>150</td>
<td>17</td>
<td>53</td>
<td>24</td>
<td>25</td>
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<tr>
<td>CRB</td>
<td>75</td>
<td>210</td>
<td>7</td>
<td>34</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>SUB</td>
<td>61</td>
<td>43</td>
<td>25</td>
<td>83</td>
<td>39</td>
<td>17</td>
</tr>
<tr>
<td>PLZ</td>
<td>110</td>
<td>211</td>
<td>125</td>
<td>121</td>
<td>12</td>
<td>23</td>
</tr>
<tr>
<td>KAV</td>
<td>52</td>
<td>20</td>
<td>1</td>
<td>-</td>
<td>10</td>
<td>24</td>
</tr>
<tr>
<td>ULN</td>
<td>42</td>
<td>95</td>
<td>-</td>
<td>134</td>
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<td>23</td>
</tr>
<tr>
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<td>138</td>
<td>41</td>
<td>149</td>
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<td>30</td>
</tr>
<tr>
<td>HRK</td>
<td>101</td>
<td>36</td>
<td>64</td>
<td>67</td>
<td>17</td>
<td>25</td>
</tr>
<tr>
<td>PCE</td>
<td>136</td>
<td>75</td>
<td>63</td>
<td>115</td>
<td>21</td>
<td>24</td>
</tr>
<tr>
<td>VYS</td>
<td>78</td>
<td>244</td>
<td>26</td>
<td>94</td>
<td>20</td>
<td>26</td>
</tr>
<tr>
<td>SUM</td>
<td>139</td>
<td>351</td>
<td>25</td>
<td>32</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>OLM</td>
<td>159</td>
<td>75</td>
<td>19</td>
<td>82</td>
<td>18</td>
<td>27</td>
</tr>
<tr>
<td>ZLN</td>
<td>54</td>
<td>147</td>
<td>35</td>
<td>71</td>
<td>11</td>
<td>24</td>
</tr>
<tr>
<td>MSR</td>
<td>101</td>
<td>280</td>
<td>20</td>
<td>11</td>
<td>16</td>
<td>21</td>
</tr>
</tbody>
</table>


In 2015, similarities and differences in regions by expenditures per user of ambulatory and field social-care services with the use of cluster analysis were evaluated. The division of regions into four clusters is seen in Figure 3.

Figure 3: Dendrogram and box plot of expenditures of ambulatory and field social-care services in regions of the Czech Republic in 2015

![Dendrogram and box plot](image)

Source: the authors.

The first cluster comprises four regions: PRG, PLZ, VYS, ZLN. They manifest high expenditures per user (CZK,000) in day care centers (with the mean value of 180.5, and the range of values from 147 in ZLN, to 244 in VYS). Compared to the countries in the third cluster, they showed comparable expenditures per user in day service centers and of community care service. The second cluster is represented by the regions CRB, SUM, MSR. Compared to the other regions, they show the highest expenditures per user (CZK,000) in...
day care centers (with the mean value of 280 and the range of values from 210 in CRB, to 351 in SUM), but the lowest expenditures per user in day service centers (with the mean value of 32) and expenditures of community care service (mean value of 20). The third cluster comprises the regions SUB, KAV, HRK, OLM with the lowest expenditures per user (CZK,000) in day care centers (with the mean value of 39.5), but the highest expenditures per user in day service centers and comparable expenditures of community care service, compared to the other regions. The fourth cluster is represented by three regions (ULN, LIB, PCE) with the highest expenditures per user (CZK,000) in day service centers (the mean value of 134), low expenditures in day care centers (with the mean value of 95) and comparable expenditures of community care service per user compared to the other regions.

Certain similarity in the expenditure of ambulatory and field social-care services (expenditure per one user in day service centers, community care service) is seen (Figure 3b) in the regions in the first and third cluster. Conversely, the biggest differences are perceived in the regions in the second and third cluster (expenditure per one user in day care centers), the regions in the second and fourth cluster (expenditure per one user in day service centers).

In the coming years, attention should be paid to the regions in the Czech Republic with the highest share of senior citizens, which has a direct impact on the increase in the users of social services and in public expenditures on social services. The system of provision and financing of social services needs to be made more efficient, mainly long-term social care service, namely provided in both residential facilities and citizens' natural environment (Barták and Gavurová, 2015; Ministry of Labor and Social Affairs of the Czech Republic, 2015). With respect to the necessity for development of social services, other measures should be taken also outside the area of social services. This mainly concerns the quality of housing (Víšek and Průša, 2012), availability of necessary public services (Halásková, 2015) and availability of transport services in the regions.

4. Conclusion

In the procurement of public and social services in relation to standardization, it is arguable to provide services in a comparable range and quality in all regions as well as maximum efficiency in their provision. In connection to the development of social services, the paper aimed to provide a quantitative evaluation of social-care services in regions of the Czech Republic, focusing on standardization and efficiency.

The availability of selected services of social care in the regions in years 2007 and 2015 was evaluated according to recommended standards. In the course of 2007 and 2015, the availability of residential social-care services saw the most significant rise (the number of places in retirement homes, special-care homes) in the Central Bohemian and Moravian-Silesian region. Regarding field social-care services, the most significant increase in availability was observed mainly in the community-care services in the South Bohemian, Central Bohemian, and Prague region. As regards the evaluated social-care services, day-care centers were the most expensive, contrary to the field community-care service, the least expensive.

The similarities and differences of the Czech Republic regions, according to the availability and cost efficiency of the selected social-care services, were analyzed in 2015 by means of the cluster analysis. The largest differences of the availability of residential social-care services were shown between the second cluster (Central Bohemian and Moravian-Silesian region with the highest number of places in retirement homes per 1000 persons aged 65+).
80+) and the third cluster (Karlovy vary and Liberec region with the lowest number of places in retirement homes per 1000 persons aged 80+). The largest differences of the availability of field social-care services were found between the first cluster (the Prague, Central Bohemian, and South Moravian region with the highest number of persons with community-care service per 1000 persons aged 65+) in comparison to the regions in the third cluster (the Karlovy Vary, and Liberec region with the lowest number of persons with community-care service per 1000 persons aged 65+). The evaluation of the cost-efficiency of social-care services proved the largest differences mainly between of the regions in the second cluster (South Moravian, Moravian-Silesian, with the highest expenditures per user in day-care centers) in comparison to the regions in the third cluster (Karlovy Vary, South Bohemian, Hradec Králové, with the lowest expenditures per user).

Country wide standards are only average values. As such, they do limit places that have higher availability. They also underrate places, where certain specific services are not available despite the fact that the services can be provided in a form of different service. In connection with the evaluation of social care services a number of questions remain unanswered, such as the availability and connectedness of social and health services in relation to demographic ageing of the population, service quality or the evaluation of efficiency of social-service facilities with focus on a higher number of input and output indicators. These issues may serve as topics for further research.

References


HISTORY AND TRANSFORMATIONS OF FRANCOPHONE STUDY

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Abstract

The 40th jubilee of the Faculty of Economics, Matej Bel University is associated with one more anniversary, less known and unofficial, and it is 20 years of an alternative way of education – Francophone studies at this faculty. After the modest beginnings in the second half of the 1990s, the greatest boom of Francophone studies took place in the first decade after 2000, and consequently, for several reasons, it had slowed down and transformed into a different form. The objective of research paper is to provide overall picture of the development of Francophone study from its origins until today. This development includes content and forms of study, it identifies the advantages and opportunities it brings to the students and to the educational institution itself, and it justifies necessary changes. In the first part, our paper focused on a brief assessment of the 20 years of Francophone studies, in two levels: pedagogical and scientific. The educational level has been particularly beneficial for students because they have gained a competitive advantage later on the labour market, as evidenced by several examples of successful career of Francophone studies graduates. They became members of European university networks, cooperated with colleagues in partner institutions on joint projects. In the second part of our contribution, we are focusing on the future of the Francophone as well as Anglophone study programs at the Faculty of Economics of Matej Bel University in Banská Bystrica, what challenges these study programs provide for both students and teachers as scientists.

Key words

study program, Francophonie, education, mobility, competitive advantage

JEL classification

A22, A23

1. Introduction

University education has many forms, which result from the natural development of society, but also from experimentation in terms of achieving higher efficiency in forming the students’ profile - future experts or scientists. One of these forms is foreign language teaching, which provides an important space for diversifying the university profile of a university student and for enriching his cultural and linguistic horizon. At the same time, it enables university teachers to expand their own skills and knowledge by the experience of other countries' educational capital, which they then use to better prepare young people for their professional careers in today's globalized world. These facts have been and remain the main goal of a Francophone study at the Faculty of Economics of Matej Bel University in Banská Bystrica (hereinafter referred to as FE MBU). The aim of our paper is to characterize the development of Francophone study in terms of its content and forms, to identify the advantages and opportunities it brings to the students and to the educational institution itself,
and to justify the necessary changes through which Francophone study undergoes for several reasons.

2. History, objectives and content of Francophone study

In 2017, Faculty of Economics of Matej Bel University celebrates the 40th anniversary of its activity among universities in Slovakia. During this period, it gained a stable place and a reputation, also thanks to the quality of teaching foreign languages. In the middle of its 40 years history, Faculty of Economics created space and conditions for the development of the so called Francophone study. These conditions were mainly based on the high level of French language teaching since the very beginning of the existence of FE, the will and effort of a number of French-speaking teachers, as well as the very good language skills of the students at that time, and their strong motivation to achieve more than was standard. Another beneficial factor was the new opportunities for students, such as study stays offers and internships associated with them in French-speaking countries. The first of these options were the Ecole des Arts et Métiers in Cluny and the Ecole Supérieure de Technology et d'Administration in Belfort.

The concept of Francophone study does not fully explain its nature, since it was never just a study. It is true that it was based on a new creative teaching method not only of French applied to the economic environment, but also of some specialized subjects in the French language, through which the students were being prepared for more demanding forms of education and hence for the use of the mentioned possibilities abroad. However, this teaching was also associated with the research and publishing activities of pedagogues and PhD students, their access to French bibliographic sources, their participation in colloquia and conferences abroad, and the spontaneous acquisition of new contacts, through which they could become involved in international scientific networks. Therefore, the term francophone activity or even more general term Francophonie captures the essence of things more than Francophone study.

According to the International Organization of Francophonie (www.francophonie.org), Francophonie means a community of individuals, both natural and legal, who use French language, in full or in part, as a mother tongue, normal, administrative, educational or chosen. It is marked by a small letter "f", in a sense of French users, and a capital letter "F", as regards institutions or their measures ensuring or facilitating relations between countries or persons such as, for example, the organization mentioned above. The term Francophonie first appeared around 1880 when the French geographer Onesime Reclus (histoirecoloniale.net) used it when referring to the community of people and countries using French language.

It follows that the teaching and research activity that began at FE MBU to develop in the mid-90s and still remains under the common name of Francophone study, we can rightfully qualify as activities of Francophonie. In addition to the competitive advantage that these activities had originally provided for FE MBU, the students and educators, they also contributed to the fulfilment of several objectives set out in the Francophone Charter (Antananarivo, November 23, 2005), in particular to the following:

- promote the spread of French language and cultural and linguistic diversity,
- promote education and training,
- promote university education and research,
- strengthen the dialogue between cultures and civilizations.
Since the 1990s, the development of Francophony in Slovakia and other post-communist countries in Central and Eastern Europe has become part of the internationalization of higher education strengthened by the process of European integration both during the accession negotiations and especially after the official incorporation of these countries into the European Union. Integration has brought many new opportunities in the field of mobility and exchange programs that accompanied the reform process related to the Bologna Process (Lips, 2016; Rošteková, 2018).

The content of the 20-year lasting of Francophone study at FE MBU consisted of, on the one hand, the teaching of applied French but also, respectively, in particular, the teaching of economic subjects in French and, on the other hand, of the development of scientific research activities in cooperation with several partner institutions in France.

As for the first content focus, pedagogical area, after the modest beginnings, in the first decade of the new millennium, Francophone study has developed into a form of teaching following subjects in French at bachelor and master degrees: Micro and Macroeconomics at bachelor and master degree, Business Economics 1 and 2, Selected chapters of Economic Policy, History of Economic Thought, European Integration, Informatics, Intercultural Communication and Business Negotiations. This was a period of a relatively strong student interest in Francophone study, which later led to the creating of a joint study program between the FE MBU and its French partner universities. These programs represented and offered to the Francophone students of our faculty the opportunity to obtain in addition to the university diploma of the home university, also a diploma from the French partner university. They are so-called double diplomas, shown in Table 1. The common feature of these study programs is the mutual recognition of principal subjects by partner institutions. The subjects not taught, but required to obtain a diploma are provided either through a student stay at a partner university or by the block teaching of French teachers at the Faculty of economics of Matej Bel University in Banská Bystrica.

Table 1: Cooperation of the FE MBU with French universities

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Study program (degree)</th>
<th>Beginning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Université de Poitiers</td>
<td>Economie, Gestion et Communication - Business Economics and Management (1st degree)</td>
<td>2007</td>
</tr>
<tr>
<td>Université de Lorraine Metz-Nancy</td>
<td>Gestion financière et espace européen - Finance, banking and investment (2nd degree)</td>
<td>2010</td>
</tr>
<tr>
<td>Université de Champagne-Ardenne de Reims</td>
<td>Droit des collectivités locales et des entreprises culturelles - Territorial study (2nd degree)</td>
<td>2012</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 2 shows the numbers of FE MBU students who have been awarded the diploma of one of the partner universities. This table also illustrates the level of reciprocity in the interest of French students to obtain the FE MBU diploma, which has been the most distinctive of the Université de Poitiers. This interest is motivated not only by the less well-known Slavic cultural environment, but also by the economic context of the region, which represents a significant potential for entrepreneurial activity and the realization of products in the Eastern European markets. The use of economic potential can contribute to a more significant economic growth of the EU (Horehájová and Marasová, 2015). In this context, it should be emphasized that a common bachelor study program between the EF UMB and the Faculty of Economics of the University of Poitiers, which was started in 2007, was the first of its kind in
the Slovak and French university environments. In the following years, study programs of this type were established at the Faculty of Political Sciences and International Relations of MBU, the Faculty of Economics of the Technical University in Košice, the Faculty of Management at Comenius University in Bratislava and the Faculty of Philosophy at UKF in Nitra.

Table 2: Number of graduates with double diploma

<table>
<thead>
<tr>
<th>Institutions</th>
<th>Number of students from FE MBU Banska Bystrica</th>
<th>Number of students from partner universities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Université de Poitiers</td>
<td>32</td>
<td>37</td>
</tr>
<tr>
<td>Université de Lorraine Metz-Nancy</td>
<td>19</td>
<td>3</td>
</tr>
<tr>
<td>Université de Champagne-Ardenne de Reims</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: the authors.

In recent years, an intensive collaboration has been developed between FE MBU and the Institut Supérieur de Management, Université de Versailles, which mainly consists of student exchanges, teacher lectures, and cooperation in research and publishing activities. Its main actor is prof. Gilles Rouet, a former Attaché for University and Cultural Cooperation at the French Embassy in Bratislava, and the current Dean of the Institut Supérieur de Management.

The second content focus of the Francophone study at FE MBU - the scientific research activity was developed in a targeted form of solving several national projects of the grant agencies KEGA, VEGA and ESF, aimed at the development of the Francophone study. Science and research cooperation has also been developed through ever-wider and deeper faculty contacts with partner and other institutions abroad. This cooperation resulted in the official membership of FE MBU in three international scientific and discussion networks:

- the Pays de Groupe de Visegrad (PGV) based in Grenoble - the regular annual conferences of this network and its scientific review Gouvernance et Management focus on current European economic and social issues;
- the Entretiens Universitaires Regulators for Europe (EUROPA), based in Limoges - brings together universities from 20 European countries and organizes regular colloquiums focusing on the area of public services;
- European Association of European Territorial Officials (AERTE) - the annual European Days of this association are a demonstration of the common and also distinct status of the state’s territorial representatives in the EU countries.

Within these networks, francophone research staff of FE MBU have direct access to research topics of colleagues from other countries, and can integrate less known research orientations into their research activities that allow us to see our current economic world in a wider historical context. "Not only do we misinterpret the economic history of others, but we make big mistakes as far as our own development is concerned. ... Global economic genesis cannot be reduced to a simple description of relationships. Providing the keys to analysis is to refer to other concepts within a world system that cannot be circumvented today, "wrote Norel (2009, p. 239), one of the first French pedagogue and scientists working at FE MBU.
3. The importance of a Francophone study for the development of theory and practice

There are many positive aspects that result from the twenty years of experience of Francophone study at FE MBU, and that we can consider competitive advantages for the students, the teachers and the whole faculty.

The competitive advantage gained by a student can be identified on multiple levels. First of all, compared with Anglo-Saxon professional and scientific literature, students can get familiar with less known French economists' approaches to analysing economic phenomena and processes at both macro and microeconomic levels. Furthermore, those who have decided to obtain a partner university diploma are directly confronted with the methods of work of French educators who enter the course either at FE UMB or directly at a partner university during the mobility of our students. These methods of work, as well as foreign language teaching, are more demanding for students and their stronger self-discipline, but undoubtedly provide a higher added value in the form of acquired knowledge and experience.

Another positive fact for the student is that the necessary condition for obtaining a 2nd degree diploma at the French universities is the internship in the enterprise or in other institution according to the student’s major, during which the student fully engages in the enterprise life and participates in solving a specific problem. The student is truly ready for future employment through an irreplaceable experience. Part of the defence of the diploma thesis is also an evaluation of his / her internship by the enterprise. From this point of view, francophone study is an indisputable competitive advantage of a future graduate in the labour market, resulting from his more interesting curriculum vitae, but also from his linguistic equipment, which is in addition to more or less fluent English language enriched with one Romance language. Last, but not least, it is a benefit to the student in the form of a richer theoretical and practical perspective and cultural dimension. The graduates of Francophone study have greater opportunities to find employment abroad, but they are also interesting for foreign business entities in the domestic labour market because they know this environment, culture, language and consumer mentality.

Among graduates of Francophone study who achieved or currently hold important job positions in international companies in Slovakia or abroad, at least a few names must be mentioned of those who, in a relatively young age, are in highly responsible positions: Július Hraško, Director of ZAO L'Oréal Russia, Ivan Valchovník, CEO of Delfingen Industry in Romania, Petronela Chovaníková, senior manager for Strategic project at Veolia Energy Slovakia, Michal Malenčík, Central Financial Controller - Product Costing in Jacobs Douwe Egberts (Netherlands), Lucia Masárová, Assistant Finance and Contracts at the European External Action Service in Brussels.

Regarding the benefits of a Francophone study for a pedagogue-scientist, we can summarize them as follows:

- richer bibliographic resources for teaching, research and publishing, as well as for personal intellectual growth, because the capital of educated individuals is the key to the running of our world (Šuplata, 2012);
- acquiring other teaching methods from foreign colleagues, which do have a stronger argumentation and application dimension, as we are accustomed to in the conditions of the former planned economies;
• confrontation of personal scientific work in a broader spectrum of approaches to the economic and social issues of our time and also to the issue of the common cultural heritage of the European community (Marasová and Onderufová, 2012);

• the offers to participate on scientific research projects resulting from long-term contacts abroad and their outcome in interesting publishing outputs;

• the possibility of teaching at partner universities in the context of lectures, which is a valuable experience in relation to the students, colleagues and other cultural environments.

The competitive advantage of a Francophone study for the institution itself, in our case for the FE MBU, is undoubtedly reflected in its greater visibility among French partner universities, and in wider scientific community, particularly through the European scientific networks in which it is presented. This fact also contributed to the relatively high level of mobility of French educators and students who have been interested in studying at FE MBU for several years. The English study programs that enable French students to complete some courses in English also support the student mobility. The synergistic effect of learning in foreign languages is therefore more than obvious.

Another benefit of a Francophone study for FE MBU is its positive effects on the fulfilment of the Bologna process. As this process of harmonizing the education systems of participating countries is based more on the free decision-making of university communities than on intergovernmental agreements, the Francophone study at FE MBU is one of the concrete forms of fulfilment of its three basic objectives (EducPros.fr). It helps mobility between countries in the European Higher Education Area, contributes to its attractiveness and, by its modest dimension, it participates in building solid knowledge bases to develop peaceful and tolerant European community. Lips (2016, p. 133) explicitly adds that strengthening the competitiveness of the European education system in the world rankings will lead to an improvement in the employment of its graduates and the economic performance in Europe.

However, of all the above, it is necessary to consider as a primary benefit of the Francophone study at the FE MBU the professional profile, knowledge capital and high-quality linguistic equipment of its graduates. Many of them now hold significant positions throughout Europe and beyond, and make a good name for their Alma mater. Graduates from Francophone study got their position during their study and internships in French enterprises where their responsible approach, level of knowledge, motivation to learn everything they were offered, and, apart from French, a good level of one or two other world languages were noticed. They spontaneously come to the FE MBU for short visits and give their teachers valuable feedback on the success of their Francophone study, or impulses to some of its necessary changes.

4. Transformations and future of Francophone study

In recent years, Francophone study at FE MBU have been undergoing crisis, the reason of which is the lack of interest of students in this study, which results from several more or less known factors. In the first place, it is a demographic development that has radically reduced the number of candidates for university studies, and thus French-speaking candidates. Secondly, this development indirectly influenced the level of knowledge and ambition of secondary school graduates. Being successful in a Francophone study places higher demands on the students in terms of the necessary knowledge, strong will, healthy efforts to achieve more than standard, the thirst for knowledge, the courage to go "into the unknown" and particularly the systematic work and responsible study. The crisis itself has shown in recent
years that the mentioned personality profile of the student has acquired the character of uniqueness. In connection with the strong demand for economic returns on education, this has led to unfavourable and, from the point of view of the current realization of Francophone study, catastrophic consequences:

- abolition of French language teaching at FE MBU;
- significant restrictions of the subjects taught in the French language.

As a result, it could be concluded that Francophone study at FE MBU has disappeared and the arguments are very convincing in this respect. On the other hand, it is illogical and almost impossible to accept the extinction of something that officially for over two decades, and unofficially for even longer, was a solid part of the FE profile, represented a competitive advantage and undoubtedly contributed to the initiatives leading to the creation of study programs in English. Therefore, rather than the termination of a Francophone study, it is necessary to talk about its transformation and to ask questions about where and how this transformation is directed.

The first change that needs to be accepted, is that the francophone activity at FE MBU cannot consist predominantly of pedagogical focus, as it has been so far. Foreign language teaching in secondary schools is a clear evidence that, even though favourable demographic trends will occur, the French language will be on a long-term retreat. Where the teaching of French language stopped once, it is difficult to start again. Therefore, in the near future, an increased number of French-speaking students cannot be expected at universities. Individuals who will study at FE MBU and will master French at either the 1st or 2nd foreign language level and will try to obtain the diploma of the French university, will have the possibility to choose one of the three aforementioned joint study programs in Poitiers, Nancy and Reims. Certainly, this will be the case as long as any unforeseen changes occur on the partner side leading to the termination of contracts and cooperation. We do not expect such changes at FE MBU because this type of cooperation remains valuable for a number of reasons.

However, since we can hardly expect any restoration of teaching courses in French language, the Francophone activities at EF UMB will have to focus on science and research. The long-term activity of a number of teachers - scientific researchers in international networks (PGV, EUROPA, AERTE) creates realistic conditions for that, including participation in European projects. The University Agency of Francophonie (UAF) for Central and Eastern Europe, which can finance scientific projects, as well as the Slovak-French University Institute (SFUI) in Banska Bystrica, both create the conditions for the development of francophone research activities. A number of FE MBU pedagogues already participate in the activities of these institutions, but in their previous concept of Francophone study, their research activities were less significant than the pedagogical ones. Necessary transformation means the science and research become priorities together with higher involvement of individuals in the use of existing possibilities. The concept of financing higher education in general has been dictating this for a few years.

Stimulus and guarantee of the further development of francophone activities at FE MBU has been their support from the French Embassy in Bratislava from the very beginning. It consists of providing scholarships for the pedagogical and scientific purposes of teachers and PhD students, helping to expand the book fund, or gaining new contacts with universities in French-speaking countries and mainly supporting co-financed study programs. There is no doubt that this diplomatic institution will continue, within its capabilities, to support this
particular form of diversification of university education in Slovakia and thus its more intense integration into the European educational area.

5. Conclusion

Educational and scientific institutions in French-speaking countries have a strong place in the development of knowledge about today's world, although many of them remain in the shadow of reputed English universities and institutes. Nevertheless, they often propose alternative approaches to the solution of economic and social issues of the world that have an undeniable added value. At the same time, it is inevitable to accept that, in today's globalized world and the single European area, Francophonie is increasingly overlapped with the dominant English-speaking environment, and that the boundaries between them are disappearing. It is evident in the theoretical and practical sphere that almost all French-speaking researchers or educators can communicate in English as well. They can find employment on labour market in English-speaking as well as in French-speaking countries. Therefore, in general, the further development of Francophone study and Francophonie cannot focus on the protection of its linguistic or cultural purity. It has to ensure that the Francophone education and related activities contribute to meeting the more serious needs of our time, which are also key to further building a true European community. The Francophone study has to contribute to the development of quality education and professionalism, to the return to moral values and their respect in practice, to underlie personal responsibility, to the adoption of the principle of solidarity, and the respect for every human being and his fundamental rights.

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References


AUTOMOBILE FACTORIES HELD IN CHECK BY THEIR SUPPLIER – A CASE STUDY

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Abstract

In 2016, the Volkswagen Group had to suspend its production in six plants for a week after two of its suppliers stopped to deliver produced components due to an economically rooted legal dispute. This is one of the first cases when a factory couldn’t continue its production because of the decision of a deliverer partner and the spillover effect such that orders from other deliverers had to be cancelled. The purpose of this study is to analyze this incident and its root causes. This analysis will be introduced by presenting the evolution of competition on the automotive market after 1945. In this competition, the market actors were forced to restructure their operations to achieve competitive advantage in short- and middle terms. During this development, the JIT philosophy had to be integrated into the working method of automotive factories outlining the robust MRP system. The increasing number of the actives on operative (production) and the strategic level (R&D) were outsourced to achieve further efficiency required by the global competition. The incident of VW as a case study is elaborated and, based on the result of competition analysis, the root causes that have resulted in vulnerability of car manufacturers by their suppliers. An analysis of how these “over-optimized” structure has carried long-term risks by changing the power-relations between the suppliers and factories is also presented. The paper concludes with an investigation on how the automotive factories can avoid such situation and how they can face with the challenge of new requirements of innovation (self-driving car, electric car, etc.).

Key words

supply chain, JIT, MRP, five-forces model, automotive industry

JEL classification

L62, L10, H12, M11

1. Introduction

In 2016 the two suppliers of the Volkswagen Group (VW) automotive factory decided to suspend the delivery of some components. Because (almost) every automobile factory integrated the JIT philosophy into their production, these factories haven’t had inventories which could secure the necessary quantity of these components for the period of suspended delivery. Thus, the production in six factories of VW could not be continued. The aim of this study is the identification of the various market forces rooted on different factors resulted in this incident involving the VW-group.

In the next subsection the theoretical framework needed to the interpretation of the market positions of automobile factories will be introduced. In the second section, the historical development of the US- and European automobile factories will be presented: The period between 1950 and 1980 will be described and the economic environment under which the MRP-method could result in success on the (mainly domestic) market will be analyzed. This analy-
sis will be partly based on processed literature extended with the time-series analysis of the primary statistical data of the passenger car sales in the USA. The most difficult problem with which the automobile factories had to face in this time, the issue of quality, will be presented. This is also the reason that the Japanese automobile factories got such competitive advantage after their advance into the US- and European market and the domestic competitor-factories had to transform their system of production very quickly (in 1-2 years). The revolutionary effect of JIT on the European factories will be presented based on secondary data. Third section will focus on the outsourcing-trend resulted in disadvantages in the position of factories in long term by losing their productions- and R&D-background. Based on these sections, the conflict of VW-group in 2016 will be interpreted. The interpretation is based on Michael Porter's (2008) five forces model. The last section contains a discussion on the question if the outsourcing-process is reversible and how the automotive factories can face with the challenge of innovations, i.e. if they do not have enough R&D-infrastructure.

The presented research brings the following contributions:

- Based on primary (officially published by the US- authories) sales data of domestic, imported and exported passenger cars, the automotive market in the USA is analyzed and, by aligning linear trend time series and qualitative evolution of the results, it is demonstrated that the competition in the automotive industry was mainly between the domestic competitors and the economic environment has supported the adaptation of MRP-II, even with its disservices.

- Based on secondary data, the reasons of the competitive advantage of the JIT-philosophy, which were compensable in short term only by the possibilities of registration in long-term adoption of the JIT-philosophy.

- The economic necessities of the advantages of outsourcing with its negative consequences are presented based on secondary data from previous researches. The identified contrast between the advantages come from the increasing efficiency in short-term while the disadvantages are rooted in dismantling the production-infrastructure and limited R&D-activities.

- As a case study, the crisis of VW in summer 2016 is elaborated. Not only the events are presented but also the reasons behind the stopping of the production of the six plants for ten days are presented.

The figures and calculation of the coefficients and value of R² is made by Microsoft Excel 2016.

1.1 Theoretical background

The terminology of supply chain has become widely used in academic and business life in the last two decades. According to Krajewski et al. (2013, pp. 379-400) the supply chain is an enterprise-wide network of the services involved in the entire production additionally to the flow of materialized (semi-)products and information. It includes all processes needed by the production and delivery of the product as well as services from the receipt to the fulfillment of the orders inclusive of every transaction with the suppliers delivering the materials. The authors clearly pointed out that the supply chain is not just a system interpreted within an organization, but some of its parts can extend across the enterprise (integrated supply chain) and/or country borders (offshoring). Authors use the term of "external supply chain" for such domains of the supply chain in which the enterprise need to collaborate directly and integrally with their partners (e.g. suppliers). Considering the authors’ statement, the supply chain man-
Management consists of a strategy-creation process aimed at the organization and control and follow-up of resource utilization. The relation between the corporate strategy and the supply chain must be, as a first step, identified.

The operation of a profit-oriented organization can only be sustainable if its activity can be carried out continuously profitable from a financial/accounting point of view. The example of Rolls-Royce confirms this statement: this brand can be classified as a luxury category what means that the demand is more independent from the price than in other categories. The existence of Rolls-Royce was, even in such market conditions, at risk several times during its history: for example, in 1971 he was rescued from financial bankruptcy by the intervention of the British government (Yahaya et al., 2004). Porter (1996) declares in his article that the operational efficiency is a necessary but not sufficient factor but as he states, “A company can outperform rivals only if it can establish a difference that it can preserve. It must deliver greater value to customers or create comparable value at a lower cost, or do both.” The striving for operative efficiency without strategy formation can lead to “competitive convergence” within an industry. It means that companies within an industry without trade-off positions can adopt each other’s practice. This companies have benchmarking-activities, or they can collect information about the competitor’s activities. Consequently, one “best practice” can spill over to companies within an industry. This effect results that these companies will have very similar structure. Porter (1996) defines the strategy as a set of unique activities that provide a specific and value-for-money position to the company in the market. According to his concept the market players need so called ‘trade-offs’ to maintain positions with competitive advantage in the market. This position stands for strategic importance for the companies. The term of ‘trade-off’ means that an actor on a market can only introduce the production system of its competitor or integrate it into its supply chain if this competitor is able to and ready for eliminate something from its current market position. The main question for the competitor company is if this step effects inconsistency in its own supply chain or not. Strategic trade-off position can be determined if the reposition of the competitor on the market cannot be completed due to the inconsistency coming from the too high level of the needed restructuring of the supply chain and/or expected refusal of the market. There are three different reasons of this inconsistency according to Porter but only one of them is important from the point of view of the competition on automotive market: different positions on the market (with their tailored activities) require different product features. If similar products with different features are delivered by the companies, these companies must have different infrastructure with its consequences: different employee skills and behavior. These elements (machinery, people, information systems) result together in the trade-off position.

If a company can control its favorable market position and, additionally, it can identify (at least) a trade-off situation, this actor will have to adjust its supply chain to this market-position. Porter describes the relationship between the supply chain and the uniqueness of corporate strategy distinguishing three levels of fit. In the first level of fit there is no contradiction between the company’s resources and the followed strategy of the company. The second level of fit is when some elements of the supply chain reinforce each other. The third level is when the system (supply chain) consists of reinforcing elements and is optimized and the company achieves equilibrium through efforts.
2. Characteristics of the competition in the automotive market

In this section, the evolution of the automotive market in the United States and Europe will be analyzed. In the first subsection, the history of automotive industry of the United States will be examined between 1947 and 1979. In the second subsection, the effect of Japan's production philosophy on the transformation of North American and European operational and R&D activities will be presented. There are more reasons of why the operational methods of a European automotive factory (VW) can be analyzed by examples of US-automotive factory which will be investigated in the data about the sales of passenger cars in the United States.

Figure 1: Time series of the sales of passenger cars in the United States.

Source: the author based on data from USITC (1985).

In Figure 1, the time series of the total sales of passenger cars and the total sales of imported in the US can be compared. It can be stated that there is same strong relation between the time and sales of total passenger car ($R^2 = 0.838$) as it is in the case of time and sales of imported passenger car ($R^2 = 0.869$). In contrast, there is a difference in magnitude between the coefficients which represent the average increase in car sales each year. If there had been such an intensive competition between American and European automotive factories, as it was with the Japanese automotive factories after 1979, these coefficients would not show such a significant difference. The data of export in Figure 2 show the same phenomenon.

Sadler (1994) found that, by the appearance of Japanese automotive factories in the local markets, the same effect occured in the market of the European countries and USA. This fact confirms that there was a competitive convergence between the automotive factories in the USA and Europe, so we can understand the evolution process by investigating of American automotive factories.
Figure 2: Time series of the sales of passenger cars in the United States.

Source: the author based on data from USITC (1985).

2.1 Development of the American automotive industry in period from 1945 until 1978

More analyses were published about the development course of the automotive industry in the USA. The examination of Singletron (1992) based on the official industry data from the United States Census Bureau reached the same result as the outcome of MIT International Motor Vehicle Program (IMVP) published by Holweg (2008). This result can be seen on the Figure 1. Constant but slightly increasing growth path in long-term is evincible based on this data between 1947 and 1978. The average growth rate of the sales in this period were about 4.05% per annum, and the duration of the periods of recession did not take longer than two years (1951-1952; 1966-1967; 1969-1970; 1974-1975).

The general application of the MRP-II system by the American and European manufacturers was necessary due to technological and economic circumstances. The development course made it easy to predict the anticipated demand for the automotive factories despite inaccuracies due to conjectural downturns and market uncertainties. This fact had the consequence that the automotive factories could complete the master production plan. Later, the materials-, capacity- and workforce scheduling could be calculated based on master production plan which local structure is described by Krajewski et al. (2013). Because of the following two reasons the operation of MRP-II systems needed high effort:

- The operation of MRP-II system needs huge volume of calculation. The automotive factories needed to invest to build up such infrastructure (management information system) which can complete this calculation.
- The automotive factories had to operate inventories because of three reasons described below. The infrastructure (buildings, etc.) needs investment and the unmarketable or unsold products were still considered by Keynes as an unintended investment that would increase effort of the companies.

The first reason of the operation of inventories is the calculation of the master production plan based on two types of data: The data of the confirmed order which does not contain any uncertainty and the demand which cannot be predicted without error due to the temporary downturns.
The second reason of the operation of inventories was rooted in the competition on the local market. It was necessary for the automotive factories to avoid a reduction at company's warehouse level to zero and consequently to create unsatisfied customer needs. The unsatisfied customer demand results in loss of revenue in the best case and customer rejection in the worst case. After the three major automakers - Ford, General Motors, Chrysler - have emerged, a negative inventory of a finished product would have almost surely dropped a market share while the market share of the competitor would have increased at the same time.

The third reason of the operation of inventories is the problems with quality in case of US-product. The concept of "quality" can be interpreted in many ways. In this paper the term of quality is understood as the proportion of error-free product in the entire production and the time pass before the first mistakes occur after beginning of use.

There were more polemics after the II. World War because of the quality level of products made by US companies were worse than in case of products of international (primarily Japanese) competitors. This lack of quality led to the decline of consumer confidence related to US-products (Garvin, 1987). Furthermore, the decision of US companies' managements was based on the mistaken presumption of a trade-off relationship between the quality of development and the company's financial results. Some authors state that there were known more cases of companies’ financial collapse despite the introduction of TQM. They put hypotheses to confirm or disconfirm if the introduction of TQM will increase the company's profitability and if it increases the revenue and/or reduces the costs. The research of the authors concluded that there is a strong link between the introduction of a TQM system and the increase in sales as well as the increase in revenue (strong evidence), while there is a weak link between the introduction of TQM and the keeping of costs due to the higher volume of utilized work force and the larger tangible assets.

Summarizing these facts, one can understand why the changes in the late 1970s shocked the European and United States automotive industry. The recession in the automotive industry in the US beginning in 1978 was different than the short-time downturns experienced before: it had different characters in case of domestic produced and in case of imported passenger cars. The recession in case of domestic produced cars began in 1978, and it took five years. The change of sales yearly shows the following facts (100% equals with the sales data of previous year): 1978: 99.63%; 1979: 91.86%; 1980: 76.01%; 1981: 97.74%; 1982: 80.71%. In case of imported passenger cars, we can see different trends: 1978: 108.41%; 1979: 99.35%; 1980: 103.69%; 1981: 91.65%; 1982: 102.45%. These facts also show that the structure of the competition in the automotive market of US and Europe had begun to change and there was a very serious structural crisis in the automotive industry.

2.2 American car industry after the 1980s

Referring to Singleton (1992) and the previous subsection, the stagnation of the sales of vehicles manufactured in the USA in 1977 and a further decline after 1978 indicated that it was no longer a symptom of former experienced short-term economic downturn but rather the US-automotive industry had to face with signs of serious structural problems.

JIT's production philosophy reached the United States through academic publications: nearly two decades after its development and introduction in Japan, Anderson Ashburn published his article in 1977 as "Toyota's famous Ohno system" and in the same year, Sugimori et al. published their article "Toyota production system and kanban system: materialization of just-in-time and respect-for-human systems" in the International Journal of Production Re-
search. By the early 1980s, Japan's intensifying exports reached the United States of America and Europe. They were operating not only as a commercial agency in the USA, like earlier, but a retailer network, a service network, and the first investments were made in the target market out of Japan. The export from Japan became so intense in a short time. It became measurable on national level and got rapidly growing market share over a few years. According David Sadler (1994), it was possible to slow down the increasing market-share of the Japanese car manufacturers in Europe by using the tool of law: they temporarily set a maximum of 10% of their market share. The main issue in the the 80's and 90's for car manufacturers in these markets was how to integrate this new production philosophy. The necessity of the introduction of JIT’s production philosophy can be rooted to several circumstances. One of such circumstances is the crisis in the United States and European automotive factories which resulted factory closures, increasingly frequent M&A transactions and state sanctions. These phenomena were reinforced by the fact that there was a recurring problem with the quality of industrial products. Although the introduction of TQM programs was successful, this success mined primarily the increase in revenue and not the reduction of the cost. When JIT's production philosophy was significant in American and European factories it was "in itself" capable of achieving the results of MRP and TQM together, however, with lower production costs.

During the examination of the effects of the integration of the JIT-philosophy and investigation of the reasons of a trade-off market position for Japanese car factories, it should be noted that this is not a new design and/or organizational system but rather a philosophy affecting the entire supply chain of the automotive factories. It had also impact on the hard- and soft domains of organizational culture. Jorge Luis García-Alcaraz, et al. (2016) identified 34 distinct elements of the introduction of the JIT in their research, I will discuss only such elements which have made a significant contribution to creating a JIT trade-off situation in European and American markets. In doing so, the attention will be focused on the second and, to a lesser extent, on the third point.

During the changes in the production process the new layouts of factories have to be highlighted:

Cellular manufacturing: The entire production flow is separated into small „stations”, so called cells. There is a one-way flow of work within a cell and, ideally, in one time only one unit is under completion and there is prescribed path within a cell. One or more dissimilar machinery could be found within a cell, but his machinery has general purpose. It means that many different units (parts) can be produced with the same cell. There are more methods developed for the integration of manufacturing cells the goal of which is always to reduce the costs and delivery times to the minimum level. An important factor is that the entire production flow should be balanced, i.e. the average working time in the different cells must be in line with each other. This meant a trade-off-factor, because of the Japanese automobile manufacturers produced a new vehicle in average 16.8 hours against the former European average of 35.5 hours and North American average of 24.9 hours, according Holweg (2008).

Kanban system: Kanban is an information system (card) which controls and indicates every attribute required to be completed in each part of the production flow. It contains all features of the product it must have at the end of the production flow. Kanban can be used in the entire supply chain, even it can be a tool to exchange information between partners within an integrated supply chain. According to Aggarwal (1995), the European automobile factory Alfa-Laval could reduce the production time of the products from 40 weeks to 8 weeks by introducing the Kanban system.
Aggarwal (1995) described how General Motors could reduce the cost of storing from $8 million to $2 million after 1980 by introducing JIT. The reduction of inventories can be rooted to more factors such as

- **Pull-system**: the production begins only if the need of customer is known and the production will be fulfilled based on the customer requirements. This system helps to avoid keeping large inventories with finished product.

- **The adoption of the cellular manufacturing** can avoid the inventory of semi-products. The factory does not have to invest to the unnecessary high level of raw material and the administration of the production does not need unnecessary effort.

- **JIT-purchase**: the factories purchase the raw-materials only if they need it to the production. Their supplier must be able to deliver their product (raw materials) JIT. This method of operation can avoid huge inventory of raw materials.

Continuous quality improvement: Quality has so far been approached from the likelihood and frequency of product failure. From the 80's onwards, an extended understanding of the concept of quality has been gaining importance. As described by Garvin (1987) in his previously quoted article which defines the eight dimensions of quality. The difference between the two quality approaches is best understood by the fact that while TQM avoids the loss of fewer defective products (i.e. wholly or partially inoperable or otherwise inadequate) leaving the production unit, adjusting it to the presented eight dimensions helps to get the product to come to the market as much related to customer's conscious or latent needs as possible. The article states that a company's challenge lies in recognizing how its own product can be distinguished from competing products on these eight dimensions. However, this does not mean that companies must produce outstanding products in all eight quality dimensions. For the automotive industry, one must see a fragmented market in two dimensions (geography and category: small car, family car, urban SUVs, luxury vehicles, etc.). The competition dimension is no longer determined only by the market (buyer) but also environmental and traffic safety regulations had very serious effects: regulation of harmful emissions, the more advanced seat belts, including the ABS, EPS, and the compulsory introduction of the airbag in the USA.

Overall, while the introduction, integration and/or development of production methods (JIT, TQM) increased the efficiency of the activities of companies, they were forced to innovate and advance the research and development activities leading to unavoidable growth in costs. In this situation, they needed to reduce costs and improve quality in a wider meaning. Among other things, this phenomenon has also played a part in the fact that the turnaround in the early 1980s strengthened the already existing (but not yet intensive) outsourcing practice: the production or service process continued formerly by the companies was no longer carried out by themselves but was provided by a supplier.

### 3. Metamorphosis of the supply chain: outsourcing

In the previous chapter, the possibilities of improving the efficiency of internal supply chains were discussed and the reasons because of which car manufacturers needed to change from MRP to JIT were explained. Another development way of the supply chain efficiency is when it transfers certain production portions from the inner domain of the supply chain to the outer domain. Outsourcing refers to the phenomenon when a company abandons one or more of its previous completed activities and provides the result of the abandoned activity by the provision of services and/or products by its suppliers, as discussed by Krajewski (2013). There are
several reasons for this outsourcing, one of which is efficiency gain: in this case, the company can access these services and/or products cheaper than they produce it. According to Holweg (2008), the market players of automobile industry in the United States can save 27% on wage costs, in average, by outsourcing some of their activities.

Related to the outsourcing decisions, Pisano and Shih (2009) mentions that a number of US companies had taken this decision based on the strengthened advice of consultants called "business gurus" and Wall Street financial professionals. Initially, the purpose of outsourcing was to acquire low added value activities from suppliers after the reorganization of the supply chain and invest the savings made into innovation. However, these outsourcing decisions were later overburdened and unilaterally shifted towards cost-effectiveness. Complex production processes were outsourced and decreased the R&D activity: according to the information provided in this article, basically, only basic research has remained and, also, the corporate knowledge and innovation capability were minimalized, too.

This problem is anticipated in Porter article (2008)'s which featured forces that defined well known industry competition:

Figure 3: The five forces model

Source: adapted from Porter (2008).

Porter (2008) argues that suppliers may be in serious bargaining positions if they are in monopole and/or not in a position of dependence on the industry or the substitution of suppliers is not possible, or the supplier provides a unique product.

Returning to the motor vehicle industry, as stated by Cole (2003), Toyota develops individual manufacturing principles and 70% of the components built in the vehicles is delivered by its suppliers. The author concluded, that this alone were not necessarily a problem, especially not for Toyota, because they built up closely and long-term cooperation with its suppliers. However, Toyota reduced the proportion of outsourced employees to 10% at the beginning of the 2000s in response to quality problems with the product according Cole (2003). In
the view of the author, car factories, and especially the VW group, did not take seriously Porter's warning that a supplying group could endanger an industry by gaining an unavoidable role in integration. It is true especially for the automotive industry due to the scarcity of petroleum stocks and the environmental reasons mentioned before. Innovation is a competitive advantage, either by creating products with better quality dimensions than those in the market or by making it easier to align with ever tightening standards. The problem with VW was caused by outsourcing its research and development activities alongside production (along with others).

4. The crisis of VW-Group in August 2016

The German VW Group outsourced its production to the former Yugoslavia in the early 1970s. One such supplier partner was Tvornica Automobila Sarajevo, run by Nijaz Hastor. This kind of outsourcing - due to the difference in technological advances between the former Yugoslavia and the Federal Republic of Germany - was yet to increase efficiency. Hastor gained access to the Slovene-based Prevent company group during the privatization of the 80s. This group recently acquired several companies, including the VW Group Car Trim (textile products supplier) and ES Automobilguss (including gearboxes) in mid-2015. These companies had good cooperation with VW for decades.

It was shown in the previous chapters of the article that automotive companies have been constantly trying to improve their efficiency in the past three and a half decades. According to market analysts, this increase in efficiency not only relates to manufacturing and other related activities but also to research and development as it is a highly cost-intensive activity. (Car manufacturers were practically in dilemma: on one hand, market competition and increasingly stringent legislation required intensive innovative activities; on the other hand, the need for efficiency was precisely this.) Pisano and Shih (2009) had also drew attention to the fact that the practice of outsourcing production and R&D processes should be revised by companies to restore the industrial competitiveness in the United States. The cause of the dispute between the VW Group and its suppliers was also the cause: After the outsourcing of the production from VW, the Prevent Group not only supplies the products they produce to the VW Group, but also has joint research and development projects. The cause of the 2016 crisis was an unsuccessful R & D project for which the supplier claimed nearly 56 million euros from the VW group.

This situation was exacerbated by the fact that the subsequent suppliers of car factories, when outsourcing decisions were made, were still independent operators but a centralization process had also taken place on the market of automotive suppliers and, thus, the supplier companies groups had got monopoly position. To sum up, due to the outsourcing wave, not only the production has been transferred to external partners, but also the innovative R&D activities.

In the summer of 2016, the relationship between the VW Group and the companies associated with the Prevent Group has deteriorated. This can be rooted to two reasons: On one hand, after the purchases of the former independent suppliers by the Prevent Group, disruptions occurred in deliveries which had serious consequences for the JIT production system. On the other hand, due to an unsuccessful joint research project, there was a financial debate between VW and Prevent-Group. This financial debate led to the suspension of the delivery of the components by the mentioned supplier of VW-Group. Given the fact that the JIT philosophy was implemented by the European and American factories many decades ago, suspension of
delivery of components by supplier - in the absence of warehouse inventory - automatically led to the shutdown of production. Consequently, between 20th and 29th of August 2016, the VW Group had to reduce or stop the production of certain types at VW Group's premises in Wolfsburg, Emenie, Zwickau, Kassel, Salzgitter and Braunschweig and leave nearly 30,000 workers with reduced working time or compulsory leave. As a spillover effect it should be noted that this downturn affected nearly 500 suppliers of the VW group. Although the negotiation between the parties was later successful, the estimated loss is nearly 100,000 million euros, and it is written in the accounts of all Prevent groups that in 2016 less than 22,000 vehicles left the assembly halls (Ivanov, 2017).

5. Consequences and conclusions

The crisis of the VW Group presented in the 4. section was triggered by several unrelated causes which would not necessarily have caused such a problem, but their combined effect led to this crisis: an competitive advantage over the JIT-production philosophy was encountered in the MRP-II systems, as it was more tailored to customers' needs; the production became a faster; and the finished product had better breakdown properties than it was experienced with MRP-II system. Therefore, the integration of the JIT philosophy into the production of the non-Japanese automotive factories has been forced to market. Due to the nature of the JIT philosophy, car factories no longer had large warehouses, so a single vendor's decision could have prevented full production. The introduction of the JIT philosophy - using the conceptual framework introduced by Porter - has become a "competitive convergence", commonly followed by a trade-off situation that provides the former competitive edge. Consequently, automotive competition was essentially reduced to two dimensions: opening new markets (irrelevant for this analysis) and returning to the increasing of their operational efficiency. This has been the result of a more general practice of outsourcing decisions, where 70% of the part manufacturing is already outsourced by external partners. For Toyota, the disadvantageous consequences of outsourcing have been mentioned, and we saw that along with the production process, a significant part of R & D activities was outsourced. There was a phenomenon in the VW group that could not have any effect on the concentration of the supplier market. In this process, the number of suppliers of formerly independent - hence smaller market power - was replaced by a small number of company groups due the M&A-transactions, and thus the market power has been also changed. In the period between the VW's crisis in 2016 and today such case did happen again. Nevertheless, the problem should be considered system-wide, for the following reasons:

- A successful practice can be spill over to the competitors in a relative short time. We have seen this process in the automotive industry of US between 1979 and 1984. The integration of the JIT philosophy needed 4-5 years by automotive factories in the USA and Europe, despite the significant cultural differences and other barriers.

- We have seen that the JIT philosophy is not only used by automobile factories within the factories, but it also determines the relationship with other suppliers. Consequently, the decision of a supplier may have an adverse effect on the operation of other suppliers (canceling orders as spillage).

- We need to ask what can be done to prevent a case with such serious economic consequences:
One major issue is how far the car manufacturers are exposed to suppliers? The topic of further research may evaluate the concentration of supply chains between automotive companies and the entire network of suppliers. This question is to be interpreted at two levels: at an operational level, i.e. how much of a completed vehicle is transported by a group of companies linked to a shareholder group and at a strategic level, i.e. how many patents related to innovation related to product development are held by their suppliers. If detailed research shows a high degree of concentration, it is a question of what can be done at enterprise and industry level.

As far as production is concerned, it is a question of whether it is possible to integrate cost-effective a safety inventory for raw materials (and for semi-finished products) in the JIT system, so that a similar case in the future will not cause to stop the total production within one and more factories.

Last question is if the outsourcing process can be reversed. It is likely that the Toyota case mentioned in this article is true. Brad Power (2013) raises GE's example of a situation like to the VW, as GE's suppliers (Samsung, LG) have been competing over time. Therefore, GE has decided to put 11 new line manufacturers in six locations at a total investment of $1 billion, replacing many jobs from the former outsourcing site. The factor highlighted by the article writer is the possibility of trade-off that the workforce of the original production could be reduced by 80%. Not only GE's manufacturing process has been restored to GE, but it has also contributed to the intensification of innovation activity: according to the author's data, a new product development cycle from 3-4 years to 1-1.5 years. It is not possible to avoid reinterpreting the relationship with the suppliers.

Acknowledgements

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References


BUSINESS REGULATION AND ITS COSTS
AS FACTORS AFFECTING THE INFLOWS
OF FOREIGN DIRECT INVESTMENT INTO THE EU COUNTRIES

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Abstract
There are several factors which could significantly affect the international competitiveness of a country with respect to attracting foreign direct investment (FDI). Especially, factors related to business regulations and administrative costs of operating a business could be seen as important ones. The more strict business regulations could represent some sort of burden for any foreign investment.

On the other hand, a business environment that significantly lacks the regulations could also be less attractive for new investors and vulnerable to malpractices. Overall high administrative costs of running a business could pose another significant obstacle for new foreign investment into a country. However, these costs are also mostly related to the business environment and regulations. In our paper, we aim to identify the potential effect of selected indicators related to business regulations and the costs of running a business on the inflow of FDI into the EU countries. Panel data regressions, is used in order to fulfill the aims of the paper. We used panel data retrieved from the World Bank database and identify several potential determinants of FDI inflows. We found some empirical evidence for negative effect of cost to starting business and construction permit on FDI inflows.

Key words
foreign direct investment, business regulations, administrative costs, international competitiveness

JEL classification
F21, E61, H83

1. Introduction

The regulations are an important factor shaping the business environment in every country. Almost every aspect of business is subject to some sort of regulation. The regulations could be seen on one hand as necessary instrument to maintain predictable and healthy business environment but on the other hand too much regulation could significantly hamper business activities. Hence, regulations often involve certain costs for business sector. These costs could represent a significant obstacle for domestic entrepreneurs but could be even more a severe problem for foreign investors, which are accustomed to another regulatory environment. In this work we focus our attention especially on the potential effect of selected business regulations on foreign direct investment (FDI) inflows to the country. This potential consequence of regulations seems to be important especially due to the fact that FDI is often perceived as one of the accelerators of economic growth. Furthermore, it is likely that FDI generates positive spillovers. FDI supports the knowledge transfer to the host country and can help to reduce the gap between rich and poor countries (Romer, 1993). In line with this, poorer countries are mostly trying to improve their business environments as well as using
various incentives to attract FDI. Governments often used direct subsidies or tax incentives to attract investors into the country, which usually reduces the potential tax revenue or increases the public expenditure. Hence, this type of policy could not represent the best choice for countries which are currently trying to maintain a very low budget deficit. Moreover, not all of the incentives are equally effective and a better business environment with less regulation for the business sector could represent and even better and less costly way how to attract FDI into the country.

Our paper aims to identify the potential effect of selected indicators related to business regulations and the costs of running a business on the inflow of FDI into the EU countries. In the next section, we conducted the literature review regarding to the determinants of FDI and the potential effect of business regulations. After the short description of the methodology we further analyse the potential determinants of FDI with the focus on business regulation and its costs. This has been done by using panel regression models based on the data from EU countries. We are especially focused on the cost of regulations for the business sector. In order to proxy for the business regulatory environment we used the indicators from the World Bank Doing Business database which provides objective measures of business regulations for local firms in 190 economies (World Bank, 2017).

2. Literature review

There are several potential determinants of FDI inflows that have been often mentioned in the economic literature so far. However, the results of empirical studies are often rather different and sometimes even contradictory. Caves (1971) study was one of the first dealing comprehensively with this issue. He found, that production costs, technology and market barriers to trade seem to be the most important determinates of FDI. However, there are of course many other potential determinants of FDI inflow which have been further identified by later studies. These particularly include especially political stability (Yimer, 2017; Mengistu, Adhikary, 2011; Uranová and Marcineková, 2008), openness of the economy (Chanegriha et al., 2017; Chakrabarti, 2001), labour costs (Leitao and Faustino, 2010; Uranová and Marcineková, 2008), market size (Nasir, 2016) and several factor regarding to governance and the regulatory environment (e.g. Rodríguez-Pose and Cols, 2017).

As we mentioned before, factors related to governance and regulations appear to be important for FDI flow as well. We further focus our attention especially on the business environment, business regulations and its potential costs. As stated by Yimer (2017) better political stability, government effectiveness and regulatory quality, and better performance of
the rule of law are found to positively affect FDI inflows to the country. These governance
and regulatory factors are often more important than other common economic or geographical
determinants. This fact has been supported, for example, by (Rodríguez-Pose and Cols, 2017),
who showed that factors such as political stability, government effectiveness, lower
corruption, voice and accountability, and the rule of law are not only more important
determinants of FDI than the size of local market, but also that their influence on FDI is long-
lasting. Similarly Mudambi, et al. (2013) based on the panel data for 55 countries found that
the level of economic regulations is the most important factor affecting the FDI inflows
together with the level of corruption in the country. Furthermore, Mottaleb and Kalirajan
(2010) also argued that countries with a more business-friendly environment are more
successful in attracting FDI. Morris and Aziz (2011 ) examined business regulations in more
detail and found that especially the cost related to registering property and trading across
borders are significantly related to FDI over all six years of the study (2000 – 2005).

However, a significant effect of business regulations is not supported in all of the studies.
On the contrary, Mengistu and Adhikary (2011) failed to find empirical evidence for the
significant effect of regulatory quality of FDI despite the significant effect of other
components of good governance such as political stability, government effectiveness, rule of
law, and control of corruption.

Moreover, regulations could affect also the complementarity between foreign direct
investment (FDI) and domestic investment. Munemo (2014) found evidence that FDI crowds
out domestic investment in countries with entry regulation cost above a certain level. This on
the one hand could mean that higher cost of entry regulations represent a less severe problem
for foreign investors than for domestic investors. Based on the previous text, we can say that
most of previous empirical studies have showed a negative effect of strong regulations on
FDI.

3. Methodology and data

In this section we describe the data and methodology used in the analysis. As mentioned,
we want to identify the potential determinants of FDI inflows with the focus on the business
regulation and its costs. We used data from the Doing Business World Bank database which
includes indicators which are proxies for business regulation and its potential consequences
for business (World Bank, 2017). Several other control variables were also retrieved from the
Eurostat database (European Commission, 2017). Our dataset includes panel data for 28 EU
countries in period from 2005 to 2016. Thus, we can say that we have analysed the
determinants of FDI in developed countries during the most recent period of 12 years.

In the analysis we applied panel random effects regression models. The result of the
Hausman test was used to choose between fixed effects and random effects model. Based on
the results we can say that both models could be used in our case but the random effects
model is even the better alternative. All the variables applied in the models have been tested
for weak stationary by using several panel unit root tests. The results are shown in Appendix.
Variables which were non-stationary at levels have been used at their first differences. We
further test all variables for multicollinearity by the VIF test. The regression coefficients have
been estimated with standard errors robust for heteroscedasticity and autocorrelation.

FDI net inflows were used as the dependent variable in all regression models. We
transform this variable into scale with lower bound of zero and upper bound of 95 percentile
of this variable. On the hand we used several explanatory variables related to business
regulation and its cost. On the other hand we also applied several control variables. The choice of control variables has been made based on the results of previous studies examining the determinants of FDI. However, the availability of data for the panel dataset has been another important factor affecting the application of control dependent variables in the regression models. All variables used in the analysis are described in Table 1.

Table 1: Description of variables used in the analysis. Source: Authors.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Short description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI net inflow</td>
<td><em>Foreign direct investment, net inflows (% of GDP)</em></td>
<td>The World Bank database</td>
</tr>
<tr>
<td>Cost to start business</td>
<td><em>Cost to start a business (% of income per capita)</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It includes all official fees and fees for legal or professional services if such services are required by law or commonly used in practice. Fees for purchasing and legalizing company books are included if these transactions are required by law.</td>
<td></td>
</tr>
<tr>
<td>Cost of construction</td>
<td><em>Cost required to receive a construction permit for a warehouse (% of warehouse value)</em></td>
<td>The World Bank database</td>
</tr>
<tr>
<td>permit</td>
<td>All official fees associated with completing the procedures to legally build a warehouse are recorded.</td>
<td></td>
</tr>
<tr>
<td>Time to register property</td>
<td><em>Time required to register property (days)</em></td>
<td>The World Bank database</td>
</tr>
<tr>
<td>Time to enforce contract</td>
<td><em>Time required to enforce a contract (days)</em></td>
<td>The World Bank database</td>
</tr>
<tr>
<td></td>
<td>Time required to enforce a contract is the number of calendar days from the filing of the lawsuit in court until the final determination and, in appropriate cases, payment.</td>
<td></td>
</tr>
<tr>
<td>Time to pay taxes</td>
<td><em>Time to prepare and pay taxes (hours)</em></td>
<td>The World Bank database</td>
</tr>
<tr>
<td></td>
<td>Time it takes to prepare, file, and pay (or withhold) three major types of taxes: the corporate income tax, the value added or sales tax, and labor taxes, including payroll taxes and social security contributions.</td>
<td></td>
</tr>
<tr>
<td>GDP per capita</td>
<td><em>GDP per capita PPP</em></td>
<td></td>
</tr>
<tr>
<td>(PPP)</td>
<td>GDP per capita based on purchasing power parity (PPP). It is gross domestic product converted to international dollars using purchasing power parity rates.</td>
<td></td>
</tr>
<tr>
<td>Total tax rate</td>
<td><em>Total tax rate (% of commercial profits)</em></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It measures the amount of taxes and mandatory contributions payable by businesses after accounting for allowable deductions and exemptions as a share of commercial profits.</td>
<td></td>
</tr>
<tr>
<td>Producer price index</td>
<td><em>The industrial producer price index</em></td>
<td>Eurostat database</td>
</tr>
<tr>
<td></td>
<td>The industrial producer price index measures the gross annual change in the trading price of industrial products.</td>
<td></td>
</tr>
<tr>
<td>Public expenditure</td>
<td><em>Public expenditure (as % of GDP)</em></td>
<td></td>
</tr>
</tbody>
</table>

We decided to use two variables related to cost of business regulations, namely the cost to start a business as percentage of income per capita and the cost required to receive a construction permit for a warehouse as a % of warehouse value. We assume that these two costs factors are important for starting a business in a country as well as for FDI. Furthermore, we also used several variables that measure the time aspect related to business regulations. Variables capture the time required to register property, the time required to enforce a contract and the time to prepare and pay taxes for the business sector. Some of the basic descriptive statistics for each of these variables are summarized in Table 2.
Table 2: Basic characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>FDI net inflow</th>
<th>Cost to start business</th>
<th>Cost of construction permit</th>
<th>Time to enforce contract</th>
<th>Time to pay taxes</th>
<th>Time to register property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>6.93</td>
<td>5.93</td>
<td>2.48</td>
<td>572.09</td>
<td>213.33</td>
<td>47.98</td>
</tr>
<tr>
<td>Median</td>
<td>3.34</td>
<td>4.65</td>
<td>1.30</td>
<td>512.00</td>
<td>194.00</td>
<td>24.50</td>
</tr>
<tr>
<td>Maximum</td>
<td>28.74</td>
<td>22.50</td>
<td>19.80</td>
<td>1580.00</td>
<td>866.00</td>
<td>956.00</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.00</td>
<td>0.00</td>
<td>0.10</td>
<td>210.00</td>
<td>55.00</td>
<td>1.00</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>8.62</td>
<td>5.80</td>
<td>3.12</td>
<td>274.61</td>
<td>122.39</td>
<td>80.98</td>
</tr>
<tr>
<td>Observations</td>
<td>312</td>
<td>312</td>
<td>312</td>
<td>312</td>
<td>312</td>
<td>312</td>
</tr>
</tbody>
</table>

Source: the authors.

As stated all mentioned variables have been further used in the panel regression models. The results of these models are shown in the next section together with a short description and discussion.

4. Results

We first examined the average cost to starting business and cost of construction permit for warehouse in each EU country according to the World Bank Doing Business database. As we see in Figure 1, the highest cost to starting a business is reported in Italy, Poland and Greece, while the highest cost of a construction permit appears to be in Croatia, Ireland and Bulgaria. It is interesting that the average costs of both types of business regulations are often different in the same country. A positive correlation is not evident between these two variables.

Figure 1: Average cost to start business and cost of construction permit (% of warehouse value)

Note: Values represent the mean for each country during the period 2005-2016. Data for Germany were not available.

Source: the authors based on data from World Bank (2017).
Further, we focus our attention on identifying the correlation between these costs and FDI inflows to the country. We are of course taking into account several other variables. The results of panel regression models are summarized in Table 3. We used the random and fixed effects models. As we can see, our results strongly suggest that especially the cost to start a business and cost of construction permits are both significantly negatively correlated with FDI inflows to the country. There is significant negative correlation for both the change in cost to start business as well as its level. This result is complementary with previous studies that find evidence for the negative effect of business regulation on FDI (e.g. Mudambi, et al., 2013; Mottaleb and Kalirajan, 2010).

On the other hand, the producer prices index appears to be positively correlated with FDI in all models. This could mean that higher selling prices could into some extent attract FDI to the market. The effect of total tax rate appears to be non-linear with inverse U-shape.

Table 3: Results of panel regression models

<table>
<thead>
<tr>
<th></th>
<th>1.1</th>
<th>1.2</th>
<th>1.3</th>
<th>1.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-56.39</td>
<td>-83.9</td>
<td>-4.83</td>
<td></td>
</tr>
<tr>
<td>ΔCost to start business</td>
<td>-0.49**</td>
<td>-0.50***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.45)</td>
<td>(-2.79)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Log(Cost to start business)</td>
<td></td>
<td>-0.84***</td>
<td>-1.72***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(-2.87)</td>
<td>(-3.41)</td>
<td></td>
</tr>
<tr>
<td>Cost of construction permit</td>
<td>0.31*</td>
<td>-0.31***</td>
<td>-0.35***</td>
<td>-0.44***</td>
</tr>
<tr>
<td></td>
<td>(1.81)</td>
<td>(-2.59)</td>
<td>(-2.28)</td>
<td>(-3.09)</td>
</tr>
<tr>
<td>Time to register property</td>
<td>0.35</td>
<td>0.81</td>
<td>2.06*</td>
<td>0.54</td>
</tr>
<tr>
<td></td>
<td>(0.49)</td>
<td>(0.77)</td>
<td>(1.79)</td>
<td>(-0.44)</td>
</tr>
<tr>
<td>ΔTime to enforce contract</td>
<td>-7.43</td>
<td>-10.40*</td>
<td>-8.79</td>
<td>-9.68</td>
</tr>
<tr>
<td></td>
<td>(-1.10)</td>
<td>(-1.72)</td>
<td>(-1.55)</td>
<td>(-1.28)</td>
</tr>
<tr>
<td>ΔTime to pay taxes</td>
<td>-0.89</td>
<td>0.98</td>
<td>0.72</td>
<td>1.02</td>
</tr>
<tr>
<td></td>
<td>(-0.89)</td>
<td>(0.44)</td>
<td>(0.31)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Log (GDP per capita)</td>
<td>5.72</td>
<td>0.64</td>
<td>1.79</td>
<td>0.25</td>
</tr>
<tr>
<td></td>
<td>(1.49)</td>
<td>(0.13)</td>
<td>(0.33)</td>
<td>(0.05)</td>
</tr>
<tr>
<td>Total tax rate</td>
<td>0.26</td>
<td>2.07***</td>
<td>2.58***</td>
<td>2.54***</td>
</tr>
<tr>
<td></td>
<td>(0.55)</td>
<td>(4.48)</td>
<td>(4.77)</td>
<td>(5.07)</td>
</tr>
<tr>
<td>Total tax rate²</td>
<td>-0.003</td>
<td>-0.02***</td>
<td>-0.02***</td>
<td>-0.02***</td>
</tr>
<tr>
<td></td>
<td>(-0.79)</td>
<td>(-4.51)</td>
<td>(-4.80)</td>
<td>(-4.94)</td>
</tr>
<tr>
<td>Producer price index</td>
<td>0.30***</td>
<td>0.24***</td>
<td>0.26***</td>
<td>0.25**</td>
</tr>
<tr>
<td></td>
<td>(4.11)</td>
<td>(4.57)</td>
<td>(3.69)</td>
<td>(2.02)</td>
</tr>
<tr>
<td>Public expenditure</td>
<td>0.03</td>
<td>0.04</td>
<td>0.04</td>
<td>-0.04</td>
</tr>
<tr>
<td></td>
<td>(0.11)</td>
<td>(0.17)</td>
<td>(0.85)</td>
<td>(-0.16)</td>
</tr>
</tbody>
</table>

Random effect (RE) vs. Fixed effects (FE) | Cross-section RE | Cross-section FE | Cross-section FE | Cross-section FE & period FE

| R²                  | 0.11    | 0.60    | 0.60    | 0.62    |
| Hausman test        | 0.000001|         |         |         |
| F-statistic         | 3.10*** | 10.26***| 9.81*** | 8.19*** |
| Observations        | 282     | 282     | 274     | 274     |

Note: Regressions done by panel regression with standard errors corrected for heteroscedasticity and autocorrelation. Variables are all defined in Table 1. (.) denotes t-statistics, */**/*** mean significance at the 10%/5%/1% levels of significance. Source: the authors.

Turning to some potential limitation of our approach, we should mention that the methodology and construction of regression models do not allow us to speak directly about causal effects. There are some potential problems that could affect the significance of our
results and especially the problem of endogeneity could not be ruled out. Thus, in order to stay on the safe side we interpreted our results more as correlations rather than direct causality.

5. Conclusion

There are many different potential determinants of FDI and it is relatively difficult to identify all of them. Furthermore, there is not a uniform view on the significance of different factors in the economic literature. In line with our aim we focused our attention especially on business regulations and business environment as potential determinant of FDI inflows. Based on the previous studies it seems likely that business regulations could be a rather important piece of the puzzle in attracting FDI into the country. However, there are only few studies which examine this factor in substantial detail and even fewer studies are dealing with individual indicators related to business regulations and their cost. Our study aims to bring some new insights into this topic and examine it into more detail.

We use panel regression models based on panel data for 28 EU member states in the period of 2005-2016. According to the main aim of the paper we identify several potential variables related to business regulations and its costs which appear to be negatively correlated with FDI. These results are complementary with findings of several previous studies (e.g. Mudambi, et al., 2013; Mottaleb and Kalirajan, 2010; Morris and Aziz, 2011). Hence, in general we can say that business friendly regulations could play an important role in improving the international competitiveness of the country. Our results also suggest that especially the cost to start a business and cost of construction permit are both significantly negatively correlated with FDI inflow. These two factors could represent an important obstacle for FDI. We also found that higher producer prices in the economy are positively correlated with FDI inflows.

Acknowledgement

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References


## Appendix

Results of panel unit root tests

<table>
<thead>
<tr>
<th>Null hypothesis: non-stationarity</th>
<th>LLC test</th>
<th>Breitung</th>
<th>IPS test</th>
<th>ADF test</th>
<th>PP test</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI - intercept &amp; trend</td>
<td>-10.6***</td>
<td>-3.8***</td>
<td>-4.3***</td>
<td>116.1***</td>
<td>141.1***</td>
</tr>
<tr>
<td>Cost to start business - intercept</td>
<td>-42.8**</td>
<td>-17.9***</td>
<td>119.1***</td>
<td>210.9***</td>
<td></td>
</tr>
<tr>
<td>Time to register property - intercept</td>
<td>-24.9**</td>
<td>-9.4***</td>
<td>84.5***</td>
<td>85.0***</td>
<td></td>
</tr>
<tr>
<td>Time to enforce contract- intercept</td>
<td>-1.42*</td>
<td>2.09</td>
<td>24.09</td>
<td>25.01</td>
<td></td>
</tr>
<tr>
<td>ΔTime to enforce contract - intercept</td>
<td>-10.9***</td>
<td>-5.8***</td>
<td>57.1***</td>
<td>62.86***</td>
<td></td>
</tr>
<tr>
<td>Cost of construction permit - intercept</td>
<td>-10.3***</td>
<td>-5.0***</td>
<td>95.8***</td>
<td>98.34***</td>
<td></td>
</tr>
<tr>
<td>Time to pay taxes - intercept</td>
<td>-16.5***</td>
<td>-3.71***</td>
<td>60.61</td>
<td>56.14</td>
<td></td>
</tr>
<tr>
<td>ΔTime to pay taxes - intercept</td>
<td>-47.0***</td>
<td>-15.1***</td>
<td>131.5***</td>
<td>142.3***</td>
<td></td>
</tr>
<tr>
<td>GDP per capita - intercept &amp; trend</td>
<td>-15.0***</td>
<td>-4.00***</td>
<td>-3.69***</td>
<td>116.6***</td>
<td>104.1***</td>
</tr>
<tr>
<td>ΔTotal tax rate - intercept</td>
<td>-8.7***</td>
<td>-2.5***</td>
<td>97.3***</td>
<td>96.8***</td>
<td></td>
</tr>
<tr>
<td>Producer price index – intercept</td>
<td>-9.5***</td>
<td>-4.2***</td>
<td>101.6***</td>
<td>105.7***</td>
<td></td>
</tr>
<tr>
<td>Public expenditure – intercept &amp; trend</td>
<td>-3.00***</td>
<td>0.39</td>
<td>-1.7**</td>
<td>75.8**</td>
<td>68.1</td>
</tr>
<tr>
<td>ΔPublic expenditure – intercept &amp; trend</td>
<td>-7.7***</td>
<td>-2.3***</td>
<td>-3.5***</td>
<td>111.9***</td>
<td>122.1***</td>
</tr>
</tbody>
</table>

Source: the authors.
BARRIERS TO INNOVATIONS AND STATE INNOVATION POLICY IN THE SLOVAK REPUBLIC

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Abstract
The importance of innovation activities for the organizations and also for the economy is undeniable. Innovations bring value creation, competitive advantage, and successful position of the companies on the market. However, they very often need to overcome some negative factors and barriers that may hinder the development of innovation processes. Government usually plays a significant role in the field of creation of suitable national or regional innovation policy that can encourage company innovations. The article focuses on the identification of the most important barriers to business innovation activities and the analysis of the main features of innovation policy in the Slovak Republic. Two main sources of information are used in the paper – the primary data collected by query method and secondary data from the state and the European institutions. Based on the results from the analysis the most important barriers to innovations and weaknesses of current national innovation policy together with the suggestions for future possible improvements will be determined.

Key words
innovations, barriers to innovations, innovation policy, company

JEL classification
O30, O38, M10

1. Introduction
Successful innovation depends on the enterprise combining a range of capabilities, including capacity to access finance, understanding the market needs, recruiting high-skilled staff and establishing effective interactions with other actors. Some enterprises are deterred from engagement in innovation because of involved difficulties. Other enterprises do try to innovate and invest sources to research and development, but are not able to overcome these barriers (D’Este et al., 2012).

Barriers to innovations are factors that impede, delay or completely block innovation (Hueske et al., 2015). Barriers to innovation can be classified in various ways, a usual approach differentiates between external or exogenous and internal or endogenous barriers (Piatier In Hadjimanolis, 1999). External barriers can be further divided into supply, demand and environment related. Supply barriers include difficulties in obtaining technological information, raw materials and finance. Demand barriers have to do with customer needs, their perception of risk of innovation and domestic and foreign market limitations. Environmental barriers include government regulations, antitrust measures and policy actions.

Internal barriers could be divided into resource related, e.g. lack of internal funds, technical and management expertise, then management system related, e.g. out-of-date accountancy
system and human related, e.g. attitude of managers to risk or employee resistance to innovation (Hadjimanolis, 1999).

It is important to note, that many studies on innovation barriers report that innovating enterprises experience higher innovation barriers than non-innovators. On the other hand, there are studies which show, that enterprises with abandoned innovation projects tend to report high innovation projects especially with regard to economic barriers. Therefore is very important to distinguish if the innovators or non-innovators are interested in doing innovations or not, because this fact influence the perception of innovation barriers (Hoelzl and Janger, 2013).

The development of innovation policies in Europe can be characterized by two approaches. The first approach (scientific) was based on the assumption that innovations arise spontaneously as a result of scientific research, and so the role of the state is only to promote a healthy scientific base. The second, market-based approach considered the state to build a favourable business environment in which innovation will naturally arise as a result of market and business action. The main role of the state was to maintain a healthy business environment and, if necessary, to fund basic research, which is less profitable for the private sector. While in the World War II, the state-stimulated research and development, particularly in the field of engineering or aerospace industries was dominant, through the 60s to 80s of the 20th century the second approach got greater extent, where the state actively promoted the business sector and stimulated it to invest in innovation.

At the present, an effective innovation policy is considered to be a set of measures that govern the overall atmosphere in innovative environment, going far beyond the traditional perceptions of science and technology policies and engaging representatives of several sectors in the economy (World Bank, 2010; Lesáková, 2011). In such innovative policy, the government acts as a facilitator of innovation initiatives, as a provider of technical, financial and other support, to remove competitive and administrative barriers. The aim is to create a government-funded institutional R&D system that is capable of responding to the needs and demand of all components of the business environment and, last but not least, to a state-guaranteed education system that prepares sentient and creative people.

There is an evidence in various research works that state innovation policy can significantly influence the development of SMEs in economy through the elimination of barriers of their entrepreneuring (Mittelstädt and Cerri, 2009; North et al., 2001).

The aim of the paper is to determine the main characteristics of the national innovation policy in the Slovak Republic on the base of the data analysis from the European and Slovak institutions and agencies and to identify the state of the innovation activities in the companies based on the results of empirical research performed on the sample of Slovak companies.

2. Research methodology

The paper presents the development of innovation policies in the Slovak Republic. The descriptive data were acquired by analysis of various documents published by the European Commission, the Slovak Government and the Eurostat.

The paper analyses part of the results from the empirical research performed in April 2017. The main aim of the research was to identify the quality of the business environment in the Slovak Republic through selected areas. The data were collected by query method using electronic questionnaire sent to the Slovak companies. The business environment is tightly connected with the area of investment – firstly, the companies that perform investment
activities are more developed, create products with higher additional value and are more successful at the foreign markets. On the other hand, it is necessary to create suitable conditions for companies in order to support their investments and that is undeniable very important role of the government.

The part of the questionnaire in the field of investment activities consisted of four areas:

- identification of the investment activities performed in last two or three years,
- identification of the barriers that have hindered the investment activities,
- evaluation of the state innovation policy in the Slovak Republic, and
- utilisation of the state support programs for investment activities.

There were 201 correctly completed questionnaires collected from the respondents. The majority of the respondents were micro enterprises (70.65 %), and small enterprises (20.4 %). Generally, the sample represents the structure of the Slovak economy according to the size of the companies. The data were collected from the companies with their residence from all Slovak regions, more than half of the respondents (55.72 %) were those with the legal form of limited liability company, another entrepreneurs largely participating the research were tradesmen (38.81 %). Examined respondents have operated relatively balanced in main sectors of the economy – production (31.84 %), services (27.86 %), and retail (23.38 %).

3. The development of Slovak innovation policies

In the long term period, the European Union is planning the growth and development of EU Member States and Europe as a whole, based on sustainability, job creation and, above all, on the active use of R&D in the form of innovation in all areas of human activity. The development of innovation activities in EU Member States is anchored in EU strategy papers. The EU supports the achievement of objectives through a set of instruments and measures (financial and non-financial) that the EU distributes to Member States.

In March 2000, the European Council adopted the strategic objectives of the European Union till the year 2010 at its Lisbon Summit. The main idea was to build a competitive and dynamic knowledge-based economy with greater social cohesion and higher employment rates (the Lisbon Strategy).

As a follow-up to the Lisbon Strategy, the Europe 2020 strategy was adopted in 2010 also for a ten-year period. Its goal is to remove the shortcomings of the growth model and create the conditions for smart, sustainable and inclusive growth. The EU has set five headline targets to be achieved by the year 2020. The EU's R&D and innovation objectives confirmed a strong position and significance. The Europe 2020 Strategy plans to exceed the 3 % of GDP threshold in the form of R&D spending by 2020.

Since 2004, the Slovak Republic, as an EU Member State, has been actively involved in shaping the Lisbon Strategy through its representatives in the European Council. Slovakia has presented its own "National Lisbon Strategy" under the title "Competitiveness Strategy of the Slovak Republic till the year 2010".

Until 2006, there was no governmental institution in Slovakia to cover the issues of innovations. The measures of state innovation policy were designed and implemented mainly by the Ministry of Education of the Slovak Republic, by the Ministry of Economy of the Slovak Republic and their agencies. The relatively high fragmentation of competences among the state authorities caused low efficiency of the Slovak innovation system, which was
characterized by insufficiently developed coordinating and consultation mechanisms of the responsible institutions.

In March 2007, the Government of the Slovak Republic approved the Innovation Strategy of the Slovak Republic for the period 2007 - 2013. Innovation strategy was elaborated in 2008 into the Innovation Policy of the Slovak Republic for years 2008 - 2010 and consequently into the Innovation Policy for years 2011 - 2013. The Innovation strategy and innovation policies have created a comprehensive innovation support framework in Slovakia.

3.1 The Slovak innovation policy for years 2008 – 2010

The Slovak Innovation policy for years 2008 – 2010 was based on the Program declaration of the Slovak Government, on the National Reform Program for the years 2006 - 2008, on the National Strategic Reference Framework 2007 - 2013 as well as on the EU operating programs. The document declared the necessity of the innovation support, presented the support programs, schemes and plan for creation of a network of Regional Innovation Centres (Innovation Policy of the Slovak Republic for the years 2008 - 2010).

The Slovak Government proposed following measures to achieve objectives of the Slovak Innovation policy.

Table 1: Measures of the Slovak Innovation policy 2008 – 2010 with final evaluation

<table>
<thead>
<tr>
<th>Measure</th>
<th>Level of fulfilment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Creation of regional innovation centers (RIC)</td>
<td>unrealized</td>
</tr>
<tr>
<td>2. Operating program Competitiveness and economic growth</td>
<td>achieved</td>
</tr>
<tr>
<td>3. Project for national information infrastructure</td>
<td>achieved</td>
</tr>
<tr>
<td>4. Operating program INTERREG</td>
<td>achieved</td>
</tr>
<tr>
<td>5. Support for innovation financing and investments from public sources</td>
<td>achieved</td>
</tr>
<tr>
<td>6. Competition „Innovative act of the year“</td>
<td>achieved</td>
</tr>
<tr>
<td>7. Adaption of secondary and higher school to business sphere requirements</td>
<td>achieved</td>
</tr>
<tr>
<td>8. System of lifelong learning</td>
<td>achieved</td>
</tr>
<tr>
<td>9. Innovation vouchers</td>
<td>unrealized</td>
</tr>
<tr>
<td>10. Innovation incentives</td>
<td>achieved</td>
</tr>
<tr>
<td>11. Protection of intellectual property</td>
<td>achieved</td>
</tr>
<tr>
<td>12. Support of projects within the Framework Program Competitiveness and Innovations (CIP)</td>
<td>unrealized</td>
</tr>
</tbody>
</table>

Source: the authors.

From twelve measures of the Slovak Innovation policy only nine were achieved and three measures remained unfulfilled. The Slovak Government due to the financial and economic crisis has used the state budget sources to support the creation and retention of job places in the economy. Due to lack of financial sources, the support was not provided in the originally contemplated extent and many, even low-cost measures (e.g. Innovation vouchers or support for the creation of projects in the framework program CIP) were not realized. EU funds provided through Operating programs represented the main source for the implementation of the Slovak Innovation Policy for this period.

The aim to create a network of Regional Innovation Centres was due to lack of evidence supporting the sustainability of the project depending on funding from the ERDF, stopped by the Slovak Government. There was not created any RIC up to now, so the Slovak Self-
Governing regions have no institutional structures for managing of state and regional innovation policy, nor the institutional framework for linking the development of the industry with the results of research and innovations.

3.2 The Slovak innovation policy for years 2011 – 2013

The Slovak Innovation policy for the years 2011 - 2013 was already based on the Strategy Europe 2020, recommendations of the OECD and the Program declaration of the Slovak Government. The Slovak Government set thirteen measures to reach the aims of the Innovation policy till the year 2013 (Innovation strategy of the Slovak Republic for the years 2011 – 2013).

Table 2: Measures of the Slovak Innovation policy 2011 – 2013 with final evaluation

<table>
<thead>
<tr>
<th>Measure</th>
<th>Level of fulfilment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Support of innovative clusters</td>
<td>support scheme announced only in 2013 and 2014</td>
</tr>
<tr>
<td>2. Promotion of innovations</td>
<td>not realized</td>
</tr>
<tr>
<td>4. Strategic document for next planning period</td>
<td>achieved – transformed to RIS 3</td>
</tr>
<tr>
<td>5. Support of projects involved in programs of EU structural funds</td>
<td>unrealized</td>
</tr>
<tr>
<td>6. Education for SMEs about innovations</td>
<td>achieved – block of lectures</td>
</tr>
<tr>
<td>7. System of lifelong learning and advisory</td>
<td>achieved</td>
</tr>
<tr>
<td>8. Secondary vocational education</td>
<td>achieved</td>
</tr>
<tr>
<td>9. National project for increasing the Slovak innovation potential</td>
<td>not realized (lack of financial sources)</td>
</tr>
<tr>
<td>10. Support of innovations in enterprises through the Operating program Competitiveness and economic growth</td>
<td>achieved</td>
</tr>
<tr>
<td>11. Support of financing the innovations from public sources</td>
<td>program JEREMIE - achieved scheme realized only in 2013-2014</td>
</tr>
<tr>
<td>12. Innovation vouchers</td>
<td>achieved</td>
</tr>
<tr>
<td>13. Protection of intellectual property</td>
<td>achieved</td>
</tr>
</tbody>
</table>

Source: the authors.

The main source of financing of Innovation policy measures remained the European structural funds. Firstly, the measures were implemented through five different state’s agencies, but the fragmented system showed weaknesses in implementation. In 2012 the only implementing agency for the area of innovation and energy became the Slovak Innovation and Energy Agency and for tourism the Slovak Tourism Agency. This led to significant streamlining and clarification of information flows. From thirteen planned measures of the Slovak Innovation policy for 2011 – 2013 only ten were achieved and three measures were unfulfilled, again due to lack of financial sources. Some measures (e.g. Innovation vouchers, Support of innovative clusters) were firstly implemented only in the year 2013, some were implemented as a one-shot activity (e.g. Education for SMEs about innovations).
3.3 RIS 3 – Research and Innovation Strategy for Smart Specialisation of the Slovak Republic for 2014 – 2020

RIS 3 was declared by the Slovak Government in 2013 as a basic document for support of research and innovation for period 2014 -2020. The main objective is a sustainable growth of economy and employment in Slovakia through targeted support of research and innovations by respecting of regional specifications.

RIS 3 is based on Strategy Europe 2020 as well as on National plan for reforms and specific recommendations of EU Council for the Slovak Republic. RIS 3 critically evaluates management of innovations in Slovakia before 2013 from the level of state authorities. It identifies strengths and weaknesses in the field of innovation and sets four strategic objectives (Slovak Government, 2014):

1. Integration of key industries that increase local added value through cooperation of local supply chains and promoting their mutual networking.
2. Increase of the research contribution to economic growth through global excellence and local relevance,
3. Creation of dynamic, open and inclusive innovative society as one of the prerequisites for improving the quality of the life.
4. Improve the quality of human resources for innovative Slovakia.

Mentioned objectives should be achieved till the year 2020 by 20 measures classified according the set goals. After two years of RIS 3 declaration there were introduced only few measures stimulating enterprises to increase their innovations activities and tie them up to domestic universities and research institutions.

The history of Slovak support system for innovation could be illustrated also by the development of financial expenditures that have been spent in Slovakia (Table 3).

The growth of science, research and development expenditure in Slovakia was very moderate over the years 2000 to 2015. This growth was ensured by the increase in public spending and also by the flow of funds from abroad (in particular the EU Structural Funds). The share of private sector expenditure declined in the reviewed period.

Table 3: Expenditures on science, research and development as a percentage of GDP in the Slovak Republic

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total expenditures</td>
<td>0.64</td>
<td>0.5</td>
<td>0.62</td>
<td>1.18</td>
</tr>
<tr>
<td>Business expenditures</td>
<td>0.35</td>
<td>0.18</td>
<td>0.22</td>
<td>0.33</td>
</tr>
<tr>
<td>Governmental expenditures</td>
<td>0.27</td>
<td>0.28</td>
<td>0.31</td>
<td>0.37</td>
</tr>
<tr>
<td>Universities</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0.03</td>
</tr>
<tr>
<td>Private non-profit organizations</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Foreign expenditures</td>
<td>0.01</td>
<td>0.03</td>
<td>0.09</td>
<td>0.46</td>
</tr>
</tbody>
</table>

Source: the authors using data of Eurostat1.

Most innovation policy’s measures are currently funded by the EU Structural Funds and the share of national funding is steadily decreasing. That is the reason for questionable sustainability of current innovation support system in particular after the cut off of EU’s

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subsidies. The major challenges are the high administrative burden and rigidity of schemes supported by the Structural Funds, while national schemes allow more flexible and administratively less demanding funding for innovation projects.

4. Empirical research of innovation barriers in the Slovak Republic

Companies can usually implement various types of innovations, some of them are important for the success on the market (e.g. product or marketing innovations), other for the better organization of the company (e.g. process innovations or organizational innovations) or for the employees and local environment (e.g. social and eco-innovations). Therefore, we have surveyed the types of innovation activities performed by the respondents in last three years of their functioning. Six main types of innovations mentioned above were offered for the choice with no limitations for their marking.

The results have revealed that the most prioritized innovations are product innovations (47.76 %), marketing innovations (31.34 %) and organizational innovations (28.86 %). On the other hand, still high number of companies have not performed any of the innovations in the last years (26.37 %). Next table presents detailed data for the performance of innovation activities according to the size of the company.

<table>
<thead>
<tr>
<th>Types of innovation</th>
<th>micro enterprises</th>
<th>small enterprises</th>
<th>medium enterprises</th>
<th>large enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>product innovations</td>
<td>46.48</td>
<td>48.78</td>
<td>52.94</td>
<td>100.00</td>
</tr>
<tr>
<td>process innovations</td>
<td>23.24</td>
<td>39.02</td>
<td>41.18</td>
<td>0.00</td>
</tr>
<tr>
<td>marketing innovations</td>
<td>29.58</td>
<td>36.59</td>
<td>35.29</td>
<td>0.00</td>
</tr>
<tr>
<td>organizational innovations</td>
<td>20.42</td>
<td>41.46</td>
<td>64.71</td>
<td>100.00</td>
</tr>
<tr>
<td>social innovations</td>
<td>4.23</td>
<td>7.32</td>
<td>11.76</td>
<td>0.00</td>
</tr>
<tr>
<td>eco-innovations</td>
<td>9.15</td>
<td>12.20</td>
<td>29.41</td>
<td>0.00</td>
</tr>
<tr>
<td>no innovations</td>
<td>33.10</td>
<td>9.76</td>
<td>11.76</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: the authors.

From the all sizes of the respondents micro enterprises are the group with the highest share of companies with no innovation activities (33.10 %). On the other hand, almost half of the respondents from this group have performed product innovations (46.48 %). Respondents from the group of small enterprises have mostly focused also on the product innovations (48.78 %) and organizational innovations (41.46 %). Medium sized and large respondents were mostly oriented on the organizational innovations and product innovations.

Another field of interest for the research was the identification of the factors that hinder the innovation activities of the respondents. The portfolio of the innovation barriers that were offered in the research can be divided into internal barriers (e.g. lack of own resources or qualified employees) and external barriers (e.g. lack of suitable partners for innovation or insufficient cooperation of state, universities and companies). Respondents could identify at the most four barriers from the entire portfolio of ten innovation barriers.

The overall results have proved that the most significant barriers that have influenced the innovation activities were lack of own resources for financing (55.23 %), high costs for innovation (41.29 %), lack of qualified employees (30.85 %) and unsuitable state innovation policy supporting the companies (24.88 %). Generally, there is an assumption that the most important barrier limiting the development of the micro and small enterprises is insufficient
amount of money. On the other hand, large enterprises are dealing with other types of barriers. Therefore, next figure presents the detailed view on the identification of the innovation barriers according to the size of the company.

Figure 1: Barriers to innovation perceived by respondents

Source: the authors.

The results have confirmed that there are some differences in the perception of the innovation barriers among the respondents. Micro enterprises do not handle with sufficient amount of own financial resources for innovations (59.86 %), consider innovation costs for too high (38.73 %), and state innovation policy for not supportive (25.35 %). On the other hand, small enterprises besides high costs of innovation (48.78 %) and lack of own resources (46.34 %) feel significantly lack of qualified employees (48.78 %). Innovation activities of the medium enterprises are also influenced mostly by the low level of employees with necessary qualification (52.94 %), high costs of innovation (47.06 %) and unsuitable state innovation policy (47.06 %). Large enterprises are dealing with two main innovation barriers - lack of qualified employees and insufficient cooperation of state, universities and companies.

Another question was considering the evaluation of the state innovation policy in the Slovak Republic. Figure 2 presents the results according to the size of the company.

Figure 2: Evaluation of the state innovation policy by respondents

Source: the authors.
More than half of the total number of respondents have evaluated the state innovation policy in negative way (53.73 %) or have had neutral statement (43.28 %). These results also confirm that in order to support innovative companies more efficiently the state innovation policy should be transformed and changed.

The innovation barrier in form of lack of financial resources could be solved through support programs created by the European Union and also the Slovak Republic. However, the results of the empirical research have confirmed that there is still a low interest about these support programs among the companies. Only ten enterprises from the total number of respondents have used the support (4.98 %). Compared the two possibilities the greater interest have been in the EU programs – eight respondents have utilized them (three micro, three small and two medium enterprises). Surprisingly, large enterprise has not utilized any of the support programs for innovation activities.

5. Conclusion

In the history of the Slovak Republic, the innovation policies have always been a matter of central government institutions. Since 2007 the responsibility for research and innovation policies has been divided between the Ministry of Economy of the Slovak Republic and the Ministry of Education, Science, Research and Sports of the Slovak Republic. From this point of view, it can be argued that the structure of the Slovak innovation system is basically similar to the other EU Member States.

We can conclude that the interest of the Slovak Government on science, research and innovations was more academic and for a period of 14 years the Slovakia failed to boot the support of innovation activities in the business sector. Also the goal for 2020 to reach the share of total expenses on science, research and development at 1.2 % of GDP seems to be not very ambitious.

The Innovation Union initiative presents examples of best practice in area of supporting the innovation activities in economy. It is a set of 10 actions and objectives that may help EU member states in building and developing their own national and regional innovation systems (European Commission, 2010). Analysis of the Slovak system of innovation support and its comparison to EU best practice model confirmed that weakness of the Slovak support system are especially in:

• the high administrative burden of schemes supported by the EU structural funds,
• the high vulnerability of the innovation support system if we reduce (stop) the financial support from EU structural funds,
• the missing public procurement of innovative solutions,
• the lack of business expenditures in research and innovations.

The results of the empirical research have proved that there is still a high share of companies that do not perform any innovation activities, mostly micro enterprises. According to the results, the most frequent types of innovations are product, marketing, and organizational innovations. However, innovation activities are very often linked with some barriers that may hinder or complicate their performing. The research has proved that among the most important barriers can be included lack of own financial resources, high costs of innovations, lack of qualified employees, and insufficient state innovation policy. On the other hand, the detailed analysis of the barriers confirmed that particular size categories of companies have to deal with different innovation barriers. The financial resources for
innovations are also provided by the European Union and the Slovak Republic through programs, grants, and funds, but only few respondents have utilized them. They also consider the innovation policy created by the government for not supportive in their innovation activities.

The financial sustainability of innovation policy lays in balance of its resources. The Slovakia should dramatically increase the share of business expenditures on innovations (e.g. by tax policy measures) as well as expenditures of universities and private non-profit organisations. The Slovak innovation support system is strongly focused on the supply side. There are no national targets and only few projects (e.g. computerization of government management system) on stimulating innovation activity through public procurement of innovative products and services.

References


CONTROVERSY OF THE RECENTLY INTRODUCED LIABILITY FROM NON-LIFE INSURANCE IN SLOVAKIA

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Abstract
This paper introduces some arguments against the recently introduced Liability from non-life insurance in the Slovak Republic, which has been valid since the year 2017. The aim of the paper is to focus on comparison of the European Insurance Premium Tax/Liability within some selected counties of the European Union. Furthermore, it will attempt to identify objections to this Liability/levy in Slovakia as well as to quantify a predicted impact of this liability from non-life insurance in some selected insurance companies in the Slovak Republic.

Key words
liability, tax, insurance companies, European insurance premium tax, non-life insurance

JEL classification
G22, H20, O52

Introduction
Attractiveness of the business environment in the Slovak Republic is, besides other factors, quite negatively affected also by the high tax burden as well as frequent changes in the legislation, as assessed by the Report of the Global Competitiveness as of 2015-2016, which was published by the World Economic Forum (WER, 2015). With regard to global competitiveness, Slovakia is the third worst rated EU member state, the worst-rated V4 country and is also less competitive than Bulgaria or Romania. One of the current legislative changes concerns the non-life insurance premium, which has been valid since the year 2017. Simultaneously, a new draft amendment to the act on insurance is being processed for the departmental review from November 2017.

The aim of this paper is, thus, to compare European Insurance Premium Tax (IPT hereinafter) within some selected counties of the European Union. Furthermore, we will try to identify some objections to this tax liability/levy1 in Slovakia as well as to quantify a predicted impact of this tax liability from non-life insurance in some selected insurance companies in the Slovak Republic.

1 In this article, the terms Liability from non-life insurance, tax liability or levy are used, since so far there have been some discrepancies and disputes over this specific term in Slovakia. All of these terms have been equally used in official sources such as Insurance Europe, reports of the Slovak Insurance Association (SLASPO), as well as Lloyd’s reports and materials.
To start with, we should firstly consider the process of regulation and deregulation in the European insurance industry. As it is known, in the early 1990s, the single European insurance market was established as part of the free market reforms of the European Union. Conditions of this single insurance market thus permitted insurers to write insurance risk contracts in any other EU country with a local branch or subsidiary. With regard to this, only permission from the insurer's local regulator, who facilitated the granting of Passporting Rights with other countries, was required. In accordance with this principle, there was no need to comply with direct taxes (e.g. corporation tax) across Europe. However, this still left the location of the risk and liability to indirect taxes open. For a long period of time, the European insurance industry postulated the fact that any indirect tax was due in the country where the insurance contract was concluded. That was the Second Non-Life Insurance Directive which corrected this principle, as it stated that any tax was due in the country where the insurance risk was located. Later, this fact was also clarified in the European Court of Justice ruling of the Kvaerner Case (IPT compliance services supported by IPT Quote). In reality it means that an insurer or a captive writing risk cover in 10 European countries will have to comply with the indirect tax rule in each territory. However, this principle can lead to many difficulties as the rules and tax rates for the same classes of insurance may vary in particular EU States.

On the other hand, the market has been currently deregulated in many countries, which means that the legislation has been modified to ensure fee competition rather than uniform pricing. The idea is that if an insurance company charges too high a premium for some policies, these will be cost to competitor with a more convenient premium (Ohlsson and Johansson, 2010). Podoabă (2015) carried out an empirical research regarding the link between tax insurance, level of living standards and development of insurance branch. Haiss and Sümeg (2008) emphasize the impact of the real interest rate and the level of economic development on the insurance-growth nexus. They argue that the insurance sector needs to be paid more attention in financial sector analysis and macroeconomic policy.

1. Insurance premiums and EU indirect tax

The rules on indirect tax for European insurance are initially provided within the EU VAT Directive (originally known as the 6th Directive on EU VAT). At present, under the EU VAT Directive, insurance services (and most financial services) are exempt from European VAT. The VAT Directive does allow individual countries to impose local taxes (Insurance Premium Tax) or levies (Parafiscal Charges) on insurance premiums. European countries are free to set their own IPT rates and Parafiscal Charges on insurance. At present, harmonization on European IPT is some way off.

Taxes on insurance contracts and premiums are common in Europe. The application of taxes on insurance contracts and premiums varies from country to country. Depending on the country, insurance contracts and premiums may be subject to a regime of taxes that can include insurance premium taxes, stamp duties or parafiscal taxes and levies.

IPT constitutes a cost which must be borne by one or more of the parties to the sale of an insurance policy, namely the insured, the broker or the insurer. In fact, it is usual commercial practice for the IPT cost to be borne at least in part, by the insurer or broker. In the case of the

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broker, this is because usually the broker will pay some or all of the IPT due on policies sold from its own commission rather than passing on the cost to the insured.

There is some anecdotal evidence that brokers/insurers will pass on the additional IPT cost which results in an increase in cost to the insured. However, this may well not be the case.

Like any cost, the question of whether it is commercially viable to pass it on to the insured, is one which is dependent on a number of factors – including other factors which are also currently affecting the cost base. For example, while the statutory changes to the way that compensation awards for serious personal injuries are calculated will undoubtedly increase the insurer/broker cost base, the reforms to whiplash claims, and the increased use of telematics boxes, are likely to decrease it. It is quite possible therefore, that some insurers/brokers may choose to use savings from other areas such as these, to offset the increased IPT cost. Alternatively, insurers/brokers may choose to explore the valuable IPT-savings measures contained in the IPT legislation, in more depth than previously, or to use more aggressive, longer-term marketing strategies such as charging ‘negative commissions’.

Finally, it should also be noted that the countries of EU could, at some point, choose to introduce a system of different IPT rates for different insurance classes. These are already used in some other EU countries. This again could affect the extent to which the increased IPT cost is passed on to the insured. It is therefore virtually impossible to predict how the increased IPT cost will be dealt with by insurers and brokers, and what the impact on consumers will be. However, given the rate is still relatively low compared to some other key EU countries, what is more certain is that it is likely to continue to increase further over time (Carpenter, 2017).

In most jurisdictions around the world, insurance premiums are subject to indirect taxation, such as VAT, GST as a transactional tax on insurance premiums, or a specific tax, usually insurance premium tax (IPT), stamp duty or other levies. Over the past few years and in line with a global trend of governments shifting from direct to indirect taxation, an increasing number of countries have introduced or increased taxes on insurance premiums and parafiscal charges. Taxes on insurance contracts and premiums are common in Europe. The application of taxes on insurance contracts and premiums varies from country to country (see Figure 1). Depending on the country, insurance contracts and premiums may be subject to a regime of taxes that can include insurance premium taxes, stamp duties or parafiscal taxes and levies.

IPT constitutes a cost which must be borne by one or more of the parties to the sale of an insurance policy, namely the insured, the broker or the insurer.

The report of Insurance Europe is based on data collected by Insurance Europe from its member associations. This data covers 27 countries in Europe (26 European Economic Area countries and Switzerland) that have some form of indirect taxation on insurance contracts.

The Insurance Europe member countries that have indicated not to have any indirect taxation on insurance contracts are Estonia, Latvia, Norway and Turkey (Insurance Europe, 2017). In 2015 alone, various European countries such as Malta, Portugal, Slovenia, Italy and the United Kingdom have increased their IPT rates.

These taxes also apply to insurers from other EU member states writing under the Freedom of Services (FOS) regime. The rise in the UK, which the government hopes will generate an

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3 Telematics insurance is car insurance where a telematics box is fitted to a car. The telematics box measures various aspects of how, when and where an individual drives. This technology has been introduced to drive down the costs of car insurance and make the roads safer. More information available at https://www.insurethebox.com/telematics
additional 8 billion GBP of IPT over the course of the next five years, was completely unexpected. It has raised several questions about transitional arrangements from insurers and brokers regarding the correct tax rate to apply to insurance policies that straddle the implementation date of the rate change.

Figure 1: European Insurance Premium Tax (IPT) expressed in % in monitored EU countries

![Graph showing IPT rates in EU countries]

Source: adapted from the IPT comparison table compiled by the Association of British Insurers for 2016.

The standard rate of Insurance Premium Tax (IPT) in the UK is now the 6th highest in Europe, behind only Germany, Greece, Italy, the Netherlands and Finland, analysis from the Association of British Insurers (referred as ABI hereinafter) shows. The recently announced increase from 10 % to 12 % has put the UK in 6th, above Austria and Malta for the first time. The UK also has a higher rate of 20 % for Travel, Hire Car and Extended Warranty insurance. The standard rate of IPT in UK has been increased for the third time within the space of just 18 months — this saw the rate doubling from 6 % to 12 % (from 9.5 % to 10 % in 2016 and in 2015 from 6 % to 9.5 %). Insurance Premium Tax affects all motor, home, travel and health insurance policies whether personal or business. Unlike VAT, businesses cannot claim back IPT. Increasing IPT from 6 % to 12 % raises around 13 billion GBP over 5 years, making it one of the biggest revenue raising measures in recent fiscal events. The standard rate of insurance premium tax (IPT) rises from 10 % to 12 %, prompting howls of disapproval from the industry who are claiming that a typical household stands to pay an extra 50 GBP a year. However, a common myth is that the IPT is always passed on to the insured. In fact, consumers may not be as badly hit as some are predicting – at least for now. Further analysis of Association of British Insurers (ABI) shows that IPT is now due to raise more than wine, sprits, beer and Air Passenger Duty, with the total raised from IPT reaching 6 billion GBP a year by 2018/19.

In France, as it can be seen in the graph (see Graph 1), the highest IPT is 33 % for motor, followed by 30 % for fire. IPT increased to 12.5 % from 2017 for Legal protection for drivers, aid of persons and plan for 2017 is 13.4 %. The IPT rate for legal expenses cover has been increased from 9 % to 11.6 % (Ernst & Young, 2017).

According to Ernst & Young (2016), tax has had to be paid to the “Common Fund for Victims of Terrorism” on property insurance contracts. In 2016 the rate was 4.30 EUR per contract. The fund of guarantee for the compensation of terrorist attacks victims increased
from the lump sum of 4.30 EUR to 5.90 EUR per policy from 1 January 2017 for all existing taxable insurance policies (Ernst & Young, 2017).

Further, the highest IPT rates of 32 % can be seen for motor in Sweden, motor and fire 24 % in Finland, Germany 22 % for fire and Business interruption, Greece 20 % for Fire and Motor fire (see Graph 1).

Insurers expect the introduction of IPT in Slovakia where the relatively short legislation has left many compliance questions unanswered. IPT is not just an issue for insurers. The need for multinational groups to manage reputational and financial risk on IPT paid on insurance programs they take out has never been greater (Ernst & Young, 2017).

2. New liability/levy from non-life insurance in the Slovak Republic

At present, no tax on insurance is being applied in the Slovak Republic. In Slovakia, the insurance business is regulated by the Act no. 39/2015 of Collection of Laws on Insurance and on Amendments to Certain Acts, which imposes the obligation on the payer to pay the liability/levy 8 % of the premium received from the compulsory contractual liability insurance for the damage caused by the operation of a motor vehicle from the activity carried out in the territory of the Slovak Republic for the previous calendar year until the end of February of the respective year on special account of the Ministry of Interior of SR.

Payment of part of the liability/levy from the non-life insurance business is regulated by Section 68a of Act no. 39/2015 of Collection of Laws on Insurance and on Amendments to Certain Laws, through which certain laws (hereinafter referred to as the “Insurance Act”) are amended, and which defines the Law of Levy Payers as follows:

• an insurance company (i.e. an insurance company headquartered in the Slovak Republic),
• an insurance company of another member state (i.e. an insurance headquartered in the territory of another member state),
• a branch of a foreign insurance company (i.e. an insurance company or an organizational unit of a foreign insurance company which is headquartered in a non-member state) that is located in the territory of Slovakia.

The funds received from the liability/levy from the Motor Third Party Liability Insurance (MTPL) are distributed by the Ministry of Interior of SR after negotiating with the Ministry of Finance to the Fire Brigade units to cover costs related to the procurement of material, technical equipment and its operation and maintenance. Furthermore, these funds are also allocated to the particular bodies of the Ministry of Interior to cover the costs associated with procurement of technical means necessary to perform the tasks related to the supervision of safety and flow of the road traffic, to clarifying the causes of road accidents, also to construction and equipment of Coordination Centers of the Integrated Rescue System and Emergency Call Centers, as well as to construction and procurement of technical equipment for Operational Emergency Call Centres of Emergency Medical Services until the end of June of the respective year. The base of the liability/levy is received from the gross premium paid by the insured and paid to the insurance company or the insurance intermediary (e.g. to a Broker). The gross premium means the total income earned by an insurance company, which also includes components such as intermediary fees, administration fees, or other components related to the premium (or Insurance Premium).

On 31 October 2016, the Slovak Insurance Association (referred as SLASPO hereinafter) launched a campaign against the proposed 8 % liability/levy from non-life insurance, in which, the General Director of the Slovak Insurance Association, JUDr. Jozefína Žáková,
The National Bank of Slovakia, as a regulator of the sector, also warned against adoption of this amendment. The National Bank of Slovakia states that “This Law will get the sector to the loss, will increases insurance premium and eventually will have a negative impact on the state.”

In the Report on Condition and Development of the Financial Market for the first half of 2016, the National Bank of Slovakia also warns that the proposed 8% levy of the premium would significantly affect the profitability of the insurance sector and would also lead to higher prices. In accordance with the results for the year 2015, the National Bank of Slovakia states the following:

- the whole non-life insurance industry would end up in a loss, accident insurance, sickness insurance, assistance insurance and insurance of legal protection in particular,
- increase in premiums is highly probable as well.

On the other hand, this liability/levy will have a negative impact on taxes and the state budget, as the 8% levy of the premium would lead to an increase in the costs of the entire sector by 52.5 million EUR. According to the Slovak Insurance Association (SLASPO), reduction in profit for non-life insurance is estimated to be as high as 98%, and it means that the state will virtually not receive any tax on income.

Actually, insurance companies would have three options in order to cover higher costs resulting from a new liability/levy. Apart from the aforementioned profit, other measures of compensation might also include higher prices or operational cost savings. It is expected that all of these would result in less innovations or lower wages.

The liability/levy should be applicable only to newly created contracts from the effective date of the law, which means to all non-life insurance premiums with effect from 1 January 2017. The main reason of this directive is to establish legal certainty in order to avoid possible retroactivity. Furthermore, in order to reduce the administrative burden for the affected subjects of the insurance market as well as tax authorities, reducing the frequency of levy payments and data submissions has been reduced from four times a year to the frequency of twice a year.

According to the point of view of the Slovak Insurance Association, this amendment is directed against responsible, voluntarily insured citizens as well as legal entities, who do not burden the state with requests for a contribution in the case of problems. The National Bank of Slovakia and the Slovak Banking Association also stressed that the amendment has upset banks which they consider it as another non-systematic measure.

With regard to the proposed liability/levy on the premium, they state that this would have a considerable impact on profitability of the insurance sector and would also lead to higher prices. Moreover, it is assumed that it will distort the business environment and significantly

\[\text{The campaign was running on www.rukyprec.sk – "keep hands away from my insurance", also on a Youtube channel and at www.slaspo.sk}\]
impair the competitiveness of domestic entities in the European Single Market by introducing the levy. Thus, the Central Bank expects that the whole sector of non-life insurance industry would make a loss. The Insurance Association also expects higher prices of insurance. On the other hand, the Ministry of Finance anticipates that this levy may earn approximately 55.6 million EUR, however, at the same time it states that this aim will be accomplished only in a few years.

According to the Ministry of Finance, it is quite standard to introduce other indirect instruments on insurance services not only in Europe, but elsewhere in the world. Concerning these instruments, Insurance Premium Tax or the special liability/levy on premium might be mentioned. As for the amount of Insurance Premium Tax and liability/levy, it is known that it oscillates in various countries and sectors between 1 % and 30 % (SLASPO, 2016).

3. **Attempt for quantification of the liability/levy in Slovakia**

In an attempt to detect what the Premium written\(^5\) on non-life insurance for 8 % liability/levy should be calculated from for insurance companies in Slovakia for the first half of the year, we have addressed the General Director of the Slovak Insurance Association, JUDr. Jozefína Žáková, who states that no relevant figures might be provided at the moment owing to the following facts:

1. “The liability/levy will be paid for the first time for the months of January to November only in December, and for December the levy will be paid in January. The liability/levy will be paid only from the so called new contracts. Thus, the volume of new contracts cannot be predicted from the premiums written, taking the lack of other relevant information into consideration. Due to the aforementioned facts, there is no chance to predict the volume the insurance companies will pay to the state after January.

2. Furthermore, it is impossible to predict the total volume of the liability/levy since the term “new contracts” has not been defined. The term “new contracts” has been already defined by the Financial Administration, but this definition is still considered to be only an attempt that goes beyond the law. Up to now, there has not been a clear attitude of the state towards our objections”.

The following tables (Table 1, Table 2) illustrate an attempt for quantification of the rough base from which 8 % liability/levy on non-life insurance will be calculated. We are aware of the fact that this is only a rough calculation as this 8 % liability/levy will be calculated from the new contracts in the year 2017. Since the amount of the new contracts is a confidential business of insurance companies, we are not able to define them. Table 1 illustrates the development of the written premium from the year 2009, when the Euro currency was adapted in Slovakia, to the year 2016. We wanted to average these calculated differences in order to calculate the rough base from the monitored period.

The figures indicated in the tables above were used to calculate 8 % levy on the Premium written on non-life insurance in that particular year. However, up to these days the exact procedure how to calculate this levy has not been defined, so no relevant data might be used.

In February 2018, the Financial Administration the Slovak Republic provided us with the information about the liability/levy actually paid for the year 2017, which amounted to

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\(^5\) A “Written premium” refers to the amount of premiums customers are required to pay for insurance policies written during the accounting period. The accounting period is an established range of time in which accounting functions are performed including a calendar year or fiscal year.
16,259,273.28 EUR in total for all Levy Payers (all Levy Payers have been defined by the “Insurance Act”, as previously mentioned in the paper). Within the period from January to November 2017, the amount of 12,938,662.73 EUR was paid, and the amount of 3,320,610.55 EUR was paid in December 2017. The Ministry of Finance of the Slovak Republic expects the liability/levy in the amount of 55.6 million EUR. However, according to the Ministry of Finance this liability/levy will be received only in several years.

Table 1: Differences in premiums written on non-life insurance in monitored insurance companies for years 2009-2016 (in thousands EUR)

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allianz - Slovenská poisťovňa, a.s.</td>
<td>4,697</td>
<td>8,618</td>
<td>6,179</td>
<td>-12,016</td>
<td>-10,586</td>
<td>-4,025</td>
<td>-10,048</td>
<td></td>
</tr>
<tr>
<td>Kooperatíva poisťovňa, a.s., VIG</td>
<td>4,465</td>
<td>-866</td>
<td>4,535</td>
<td>603</td>
<td>-3,170</td>
<td>5,113</td>
<td>-27,325</td>
<td></td>
</tr>
<tr>
<td>Generali Poisťovňa, a.s.</td>
<td>10,737</td>
<td>14,617</td>
<td>1,404</td>
<td>-7,643</td>
<td>-4,781</td>
<td>-28</td>
<td>-4,978</td>
<td></td>
</tr>
<tr>
<td>Komunálna poisťovňa, a.s., VIG</td>
<td>9,466</td>
<td>5,795</td>
<td>3,902</td>
<td>1,659</td>
<td>3,788</td>
<td>3,158</td>
<td>3,340</td>
<td></td>
</tr>
<tr>
<td>ČSOB poisťovňa, a.s.</td>
<td>7,694</td>
<td>1,655</td>
<td>1,116</td>
<td>1,673</td>
<td>1,271</td>
<td>2,986</td>
<td>1,180</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Table 2: Differences in Premiums written on non-life insurance in monitored insurance companies in the reference period

<table>
<thead>
<tr>
<th>Insurance company</th>
<th>Premium written in thousands EUR</th>
<th>1st half of 2017 – 1st half of 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allianz - Slovenská poisťovňa, a.s.</td>
<td>4,806</td>
<td></td>
</tr>
<tr>
<td>Kooperatíva poisťovňa, a.s., VIG</td>
<td>4,817</td>
<td></td>
</tr>
<tr>
<td>Generali Poisťovňa, a.s.</td>
<td>7,720</td>
<td></td>
</tr>
<tr>
<td>Komunálna poisťovňa, a.s., VIG</td>
<td>4,269</td>
<td></td>
</tr>
<tr>
<td>ČSOB poisťovňa, a.s.</td>
<td>1,265</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Figure 2 illustrates the development of the premium written for particular non-life insurance products in the insurance company Allianz - Slovenská poisťovňa, a.s., since it is a leader in the Slovak insurance market. Business insurance products provided by this insurer show the highest premium written. With regard to the amount of premium written, the business products are followed by the road accident insurance product and motor third party liability product. For quantification of the predicted 8 % liability/levy, that was calculated with the average difference of the premium written in the monitored period for the whole sector of non-life insurance. Since the years 2012/2011 as well as the years 2010/2009 show a potential loss (these were influenced by the deficit of the premium written for both car insurance products), we took only the average of differences for the years 2016/2015 and 2014/2013 into consideration (as this liability/levy relates only to the new insurance contracts). Following the principles of our calculations we came to the result that 8 % liability/levy would be approximately 435,000.44 EUR from the new premium written for all the sector of non-life insurance in the insurance company Allianz - Slovenská poisťovňa, a.s. with regard to the road accident product, this 8 % liability/levy would result in the amount of
approximately 372,000.56 EUR, which represents the highest amount. It is predicted that this fact will have an impact on the clients using the road accident products, since the costs related to the new liability/levy will be included in the premiums paid for a particular insurance product from the side of the insurance company.

Figure 2: Premiums written on non-life insurance (in thousands EUR) for individual insurance products in years 2009-2016 in Allianz - Slovenská poisťovňa, a.s. (in thousands EUR)

Source: the authors.

Conclusions

This paper has focused on some specific issues of the Insurance Premium Tax or Liability/levy from non-life insurance, which has been recently introduced in the conditions of the Slovak insurance industry. The first part of the paper has brought an insight into the specific conditions of the European Insurance Premium Tax in some selected countries of the European Union in terms of their insurance policies, regime of taxes, jurisdiction systems, IPT legislations as well as IPT rates. All of these aspects have been considered from the comparative perspective and in accordance with the conditions and rules that are applied in particular countries.

Secondly, the main part of the paper has been devoted to the recently introduced Liability, or special levy form non-life insurance, which has been valid in the Slovak Republic since the year 2017. Through relevant available sources we have tried to identify the conditions of this liability/levy in the Slovak insurance industry. Furthermore, we have also attempted to point out objectives towards this new 8% liability/levy, which has been introduced in order to boost revenues of the state. Taking all the aspects of this liability/levy as well as the objections towards this liability into consideration, we may conclude that currently it is impossible to estimate how much money it will bring to the state. However, insurance companies have sharply spoken out against the new non-life insurance liability/levy in Slovakia, which is applicable to all non-life insurance premiums with effect from 1 January 20017. Insurers and the representatives of the Slovak Insurance Association are opposed to this liability/levy as they believe that it will harm not only the insurance industry, but the entire economy as well.
Taking all the aspects of our paper into consideration, we would like to emphasise that this paper should be seen as a contribution for practitioners community, as well as “an open door” to further research in the field of insurance market and tax policy in Slovakia. We are aware of the fact that this specific topic which is being discussed in our paper has raised, and will raise a lot of question which, as we assume, might be used as relevant and interesting issues of other scientific papers.

Acknowledgements

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References


USE OF SOCIAL MEDIA IN TRIP PLANNING AND DECISION-MAKING PROCESS

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Abstract

Social media and its impact on tourist behavior has become a common topic of research in the area of tourism. The rise of new media channels during the last few years has contributed to the development and growth of significance for electronic word-of-mouth (eWOM) communication. More and more consumers use social media and Web 2.0 technology to seek and gather travel information and also to communicate their experience, opinions and reviews from the trip. Electronic word-of-mouth have facilitated travel information searching behavior, and influenced tourists’ travel planning behavior and has undoubtedly been a powerful marketing force which should be adopted into tourist company’s marketing. It nevertheless requires good investigation of the tourist behavior referring to social media. The aim of the paper is to identify the role of social media in the tourist purchase decision making on pre-trip stage (trip planning). Implications for theory and practice are also discussed. Snowball sampling was used to investigate how social media and other travelers’ reviews, opinions and recommendations impact the trip planning process. Findings show that social media and eWom influenced the tourist behavior.

Key words

social media, travel decision making process

JEL classification

L830, M310, O330

1. Introduction

Social media (SM) transforms the way we live and do business (Qualman, 2009). These tools also influence on the tourists’ activity and their pre-trip, during-the-trip, and post-trip behavior. Over the past decades, travel-related social media use has moved from specific realms to an increasingly central part of the everyday experience (Choe et al., 2016, pp. 431-443). Because of the trip planning is an information-intensive activity, SM as a tool allowing to search, gather and share travel information, is highly significant for tourists. Additionally, SM converts the tourism industry from its traditional pattern into much more intense informational pattern (Narangajavana et al., 2017, pp. 60-70). SM not only provides users with information, but also enables them to create and share their knowledge with other users.

Use of the Internet as a mean of interpersonal communication has grown dramatically. Statistics show that the number of internet users is still dynamically increasing all over the world (Figure 1), also in Eastern Europe (Table 2). In the last five years the average annual growth rate the number of the Internet users was more than 10%. More than 2/3 of them is also global social network users and these figures are expected to grow. According to Statista’s findings, in 2010 there were 0.97 billion and it is estimated that in 2021 there will
be around 3.02 billion social media users around the globe, up from 2.46 billion in 2017. Social networking is one of the most popular online activities with high user engagement rates and expanding mobile possibilities. Among the most popular social media worldwide (August 2017), ranked by number of active users, should be listed: Facebook (2.1 billion), Youtube (1.5) WhatsApp (1.2), Facebook Messenger (1.2), WeChat (1.2), QQ (0.9), Instagram (0.7), QZone (0.6) and Tumblr (0.36). Every minute 300 hours of video are uploaded to Youtube. More than 80 million photos are uploaded to Instagram and 500 millions Tweets are sent to Twitter each day. Every month almost 52 millions photos are posted on Flickr. These statistics clearly prove the prevalence of Internet and SM in everyday life.

Figure 1: The number of the Internet users worldwide in period 2000 – 2017.

![Graph showing the number of Internet users worldwide from 2000 to 2017.](image)

Source: the authors using the data available on www.internetworldstats.com/emarketing.htm.

Table 1: The number of the Internet and SM users in selected Eastern Europe countries (January 2017).

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of the Internet users (million)</th>
<th>% of total population</th>
<th>Number of active SM users (million)</th>
<th>Number of mobile SM users (million)</th>
<th>% of SM users sharing photos, video, moviesa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulgaria</td>
<td>4.2</td>
<td>59</td>
<td>3.6</td>
<td>2.9</td>
<td>23</td>
</tr>
<tr>
<td>Czechia</td>
<td>9.3</td>
<td>88</td>
<td>4.9</td>
<td>3.9</td>
<td>16</td>
</tr>
<tr>
<td>Hungary</td>
<td>7.9</td>
<td>80</td>
<td>5.5</td>
<td>4.3</td>
<td>23</td>
</tr>
<tr>
<td>Poland</td>
<td>27.9</td>
<td>72</td>
<td>15.0</td>
<td>12.0</td>
<td>19</td>
</tr>
<tr>
<td>Romania</td>
<td>11.2</td>
<td>58</td>
<td>9.4</td>
<td>8.0</td>
<td>16</td>
</tr>
<tr>
<td>Slovakia</td>
<td>4.6</td>
<td>85</td>
<td>2.5</td>
<td>2.0</td>
<td>19</td>
</tr>
</tbody>
</table>

a - statistic illustrates the findings of a survey on the distribution of individuals who use SM platforms in order to share pictures, videos, movies two or three times a week (April 2016).

The aim of paper is to identify the role of social media in the tourist purchase decision making. The study investigates the extent to which social media appear among others information sources in the context of travel-related searches. Snowball sampling was used to gather data to investigate how online social interactive tools are used in trip planning process. Consequently, the following research hypotheses was formulated: Social media is an important and reliable source of information used in trip planning process.

2. Background – literature review

Literature suggests that social media constitute a powerful surroundings significantly influencing on consumer/tourist behavior (see e.g. Cohen et al., 2014), and on decision making by travelers (see e.g. Choi et al., 2012; Choe et al., 2016; Cox et al., 2009; Xiang and Gretzel, 2010). Social media has been considered as a useful and reliable source of tourist information (Tilly et al., 2013, p. 17) and it is one of the popular tools for searching tourism-related information and making a reservation (Choe et al., 2016, pp. 431-443). Electronic word-of-mouth have facilitated travel information searching behavior, and influenced tourists’ travel planning behavior (Cox et al., 2009, pp. 743-764). Therefore, SM plays an important role in spreading travel information.

2.1 Social media and its impact on travel behavior

Social media has been widely defined in literature. Together with increasing number of academic research studies and published articles in the field of SM, number of its definitions also increases. The most popular definitions were summarized in table 2. The analysis of definitions has revealed two main different approaches to explaining the concept of SM. Some of researchers analyze SM in technological perspective, as a set of new Internet tools facilitating online communication between people. SM is simply a communication channel disseminates information among people into two-directions. Other academics notice social aspect of SM. For them it is a new way in which people connect socially (Zeng and Gerritsen, 2014, pp. 27-36), and new form of social interaction within communities of people who gather online to collaborate, cooperate and share information, knowledge and opinions (Ahlqvist et al., 2008, p. 13; Kaplan and Haenlein, 2010, pp. 59-68; Leung, 2013, pp. 3-22). This approach makes SM closer to social networks and to social networking as an act of engagement groups of individuals who share a commonality (e.g. community in which they live, religion, career, interest, common friends or shared beliefs). According to Hoffman et al. (2012, pp. 29-35) SM is not so much about specific technologies, but rather what the technologies let consumers do. There is no single way to explain what social media is.

The common notion linking almost every presented definitions is the term "content", which means “a presentation of information for a purpose to an audience through a channel in a form”¹. It is the message expressed through some medium – traditional or innovative communication channel (as phone, radio, tv, Internet) in vary form (as speech, letter, tweets, blog post, wall posts, video, status updates, “likes”, shape, sign, size, length, style or any of various artifact, i.e. information carrier). Due to Web 2.0 technologies social media content is generated, produced, modified and broadcasted by social media users, what has important consequences for content perception. The nature of user-generated content could be compared

to the nature of word-of-mouth (customer-to-customer oral or written recommendation of a good, service or brand).

Table 2: The most cited in literature social media definition.

<table>
<thead>
<tr>
<th>Author/authors</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blackshaw and Nazzaro</td>
<td>“A variety of new sources of online information that are created, initiated, circulated and used by consumers intent on education each other about products, brands, services, personalities and issues.”</td>
</tr>
<tr>
<td>Solis</td>
<td>“Online tools that people use to share content, profiles, opinions, insights, experiences, perspectives and media itself, thus facilitating conversations and interaction online between groups of people.”</td>
</tr>
<tr>
<td>Ahlqvist et al.</td>
<td>“Social media refers to the interaction of people and also to creating, sharing, exchanging and commenting contents in virtual communities and networks.”</td>
</tr>
<tr>
<td>Safko and Brake</td>
<td>“Activities, practices and behaviors among communities of people who gather online to share information, knowledge, and opinions using conversational media. Conversational media are Web-based applications that make it possible to create and easily transmit content in the form of words, pictures, videos, and audios.”</td>
</tr>
<tr>
<td>Xiang and Gretzel</td>
<td>“Internet-based applications that carry consumer-generated content which encompasses media impressions created by consumers, typically informed by relevant experience, and archived or shared online for easy access by other impressionable consumers.”</td>
</tr>
<tr>
<td>Kaplan and Haenlein</td>
<td>“A group of internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user generated content.”</td>
</tr>
</tbody>
</table>
| Kahraman                | "Online platforms that people use to share their ideas, experiences, perspectives and communicate with each other."
| Hoffman et al.          | “the set of web-based and mobile tools and applications that allow people to create (consume) content that can be consumed (created) by others and which enables and facilitates connections.”|
| Schoder et al.          | “A generic term for social interactions built on a multitude of digital media and technologies, which allow users to create and share content and to act collaboratively” |
| Chung and Koo           | “A group of Internet-based applications that exist on the Web 2.0 platform and enable Internet users from all over the world to share ideas, thoughts, experiences, perspectives, information and forge relationship.” |


According to The Nielsen Company’s research findings (2015, pp. 4, 6), more than eight-in-10 global respondents say they completely or somewhat trust the recommendations of friends and family (the first-most-trusted format). Thus the most credible advertising comes straight from the people we know and trust. Online recommendations (eWOM) as compared to traditional WOM is even more visible and accessible (Breazeale, 2009, pp. 297-318). A study conducted by Gretzel and Yoo (2008, pp. 35-46) indicates that online consumer reviews appear to play an increasing role in consumer decision-making processes. Holleshovsky and Constantinides (2016, pp. 271-278) argue that 98% of the researched sample population check reviews and 60% do this often or quite often.

These findings are confirmed by results of Podium survey. More than nine-in-10 of respondents say online reviews do impact their purchasing decisions2. Due to social media

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characteristics (e.g. unprecedented scalability and speed, multi-way exchanges of information, persistent and accessible, convenience, its absence of face-to-face human pressure) online recommendations influence consumers’ product choices more than sources of conventional recommendation (Cheung and Thadani, 2012, pp. 461-470). Content determines the quality and usability of information for the recipient.

The most important it is that social media is source of information, and as such it can be use in trip planning process. The consumers are now far better informed about purchase options than they were previously.

2.2 Travel decision making process

The travel decision making process (the trip planning) is first stage of tourist experience and it includes the events that occur before the trip. This phase of tourist behavior, opposite to the last one related to sharing information, refers to seeking, gathering and interpreting information. During the planning process, tourists use information search to obtain ideas, seek for alternatives, and help avoid places that does not interest them (Xiang and Gretzel, 2010) and choose the best option of destination or travel product for them. Social media are fundamentally changing the way travelers and tourists search, find, read and trust, as well as collaboratively produce information about tourism suppliers and tourism destinations (Sigala et al., 2012, pp. 1-3). Tourism consumer behavior models (such as Mathieson and Wall’s model, Wahab, Cramp and Rothfield’s model) view staged travel decision-making process as thoroughly planned and consumers as rational decision-makers (Cohen et al., 2014, pp. 872-909), who are thought to be highly involved in the choice of the vacation destination, for instance, by active and extensive information gathering and processing need information (Bargeman and van der Poel, 2006, pp. 707-720). The information search tourists behavior (what to search? – information contents and how to search? – information channels) is fixed component of tourist trip planning process.

3. Methodology, analyses and findings

The empirical material, in the form of primary sources, originated from the results of a questionnaire survey carried out in the first half of 2017. This technique ensures full returnability of questionnaires and allows for collecting higher quality data. In total, nearly 30 interviewers conducted 312 interviews with the residents of Jelenia Góra and its surroundings. Non-random test sample was chosen using a snowball technique, which was initiated by students of the Faculty of Economics, Management and Tourism in Jelenia Góra. At the stage of planning the research sample, the following criteria for its selection were adopted: 18 years of age or more, different age of the respondents (younger/older), different social status (working/non-working/learning persons), tourist activity (only persons travelling for tourist purposes). Each interviewer conducted an interview with one of their parents, one of their grandparents and siblings who were at least 18 years old, and one of their selected neighbours. Each of the respondents indicated two other people to be covered by the study, most often from among their neighbours, friends and/or colleagues. Apart from such advantages as convenience, low cost and certainty of obtaining the respondent’s consent to participate in the study, this techniques also offers the possibility of influencing the sample structure by defining the criteria for its participants’ selection (age, gender, at least one tourist trip per year). Its disadvantage, however, is the inability to relate the results to the entire population.
and to restrict the conclusions to the studied population only. The interview questionnaire was comprised of 11 personal information questions and 25 substantive questions in nominal and complex ordinal scales, including Likert scale. The studied group covered 54.8% women and 45.2% men, 34.3% residents of cities inhabited by 50,000-100,000 (Jelenia Góra residents), 19.9% residents of cities with 10,000 and 10,000-25,000 population in each group, 14.4% of cities populated by 26,000-50,000 residents and 11.5% rural population. The vast majority of respondents were represented by working-age population, including people aged 36-55 (35%), 18-25 (27%) and 26-35 (22%). Most of the respondents were secondary school graduates (40%) or university graduates (38%). 61% of the respondents were professionally active, of which 38% were self-employed. Students constituted approx. 30% of the respondents, mostly aged 18-25. Almost symmetric division of the respondents was revealed in the studied sample in terms of monthly income per person: 5.8% of the respondents had at their disposal up to 500 PLN\(^3\) per person in a household, 7.7% (501-1,000 PLN), 20.8% (1,001-1500 PLN), 28.8% (1,501-2,000 PLN), 23.4% (2,001-3,000 PLN), 7.7% (3,001-4,000 PLN) and 5.8% (over 4,000 PLN per person per month).

The primary research objective, as already mentioned, was to characterize the use of social media at the stage of searching for information and preparing tourist trips. The results of the conducted analysis show that the vast majority of respondents use Facebook as the most popular social networking site (71.8% of the respondents), YouTube is the second most popular site (26.6%) and Instagram the third (21.8%). Nevertheless, it should be highlighted that \(\frac{1}{4}\) of the respondents did not have their profile in any of the available services, and their vast majority represented over 46 years of age group. It does not mean, however, that they do not visit the aforementioned sites and do not use their content. The absence of one’s own account only limits their ability to provide their own information. The respondents spend an average of just over 2 hours per day browsing through the social networking content, spending most of their time on Facebook (2.7h), followed by YouTube (2.3h), Instagram (1.7h) and Wikipedia (1.3h). Mobile devices are becoming the basic means of communication with social networking sites. More than half of the respondents connect to the services via smartphones (54.5% of the respondents) and laptops (42.3%), with only one-in-6 using a desktop computer.

Among the most important sources of information, to be considered at the stage of a tourist trip planning, the following are listed: firstly, the opinions (recommendations) of relatives and friends, and secondly, the Internet resources in general (Figure 2), including websites of hotels, travel agencies, tourist destinations, tourist portals (mainly booking.com and tripadvisor.com), travel blogs and social media services (mostly Facebook, YouTube and Wikipedia). In the respondents’ opinion, the first two sources are also highly trusted and their reliability is assessed at a relatively higher level than the other sources of information (Figure 3). In case of online resources, the top reliability rating was given to tourist blogs (3.9 on 1-5 scale). The above average rating (3.0) was awarded to websites of tourist locations (3.7), booking.com (3.6), tripadvisor.com (3.5), Facebook (3.3), YouTube (3.2) and Wikipedia (3.2).

Despite the fact that social media are among the sources of information used in a tourist trip planning process, they are, however, not the most important ones, as confirmed by the provided responses to the question about using the content of social networking sites while preparing the trip (Table 3). Almost 36% of the respondents (112 people) definitely or rather

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\(^3\) 1 euro = 4.28 PLN (2017-10-11).
do not use social media as the source of information. It is worth emphasizing, however, that if the respondents search for information in social media they usually do it on Facebook, tourist blogs and the tourist portal booking.com.

Figure 2: The most important information sources, in the opinion of respondents, at the stage of tourist trips planning (% of the respondents).

Figure 3: Reliability of information sources on the scale from 1 (the lowest level of reliability) up to 5 (the highest) in the opinion of respondents.

Table 3: Using social media and websites in the process of tourist trip planning (% of the respondents).

<table>
<thead>
<tr>
<th>Specification</th>
<th>DEFINITELY YES</th>
<th></th>
<th></th>
<th>DEFINITELY NO</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Facebook</td>
<td>18.6</td>
<td>16.7</td>
<td>26.0</td>
<td>16.7</td>
<td>22.1</td>
</tr>
<tr>
<td>Tourist blogs</td>
<td>8.3</td>
<td>30.8</td>
<td>24.4</td>
<td>5.8</td>
<td>30.8</td>
</tr>
<tr>
<td>Booking.com</td>
<td>9.9</td>
<td>15.7</td>
<td>29.5</td>
<td>7.7</td>
<td>37.2</td>
</tr>
<tr>
<td>TripAdvisor.pl</td>
<td>4.2</td>
<td>14.4</td>
<td>32.7</td>
<td>9.9</td>
<td>38.8</td>
</tr>
<tr>
<td>Wikipedia</td>
<td>0.0</td>
<td>12.5</td>
<td>29.2</td>
<td>12.5</td>
<td>45.8</td>
</tr>
<tr>
<td>YouTube</td>
<td>0.0</td>
<td>17.3</td>
<td>15.4</td>
<td>19.6</td>
<td>47.8</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 4 shows how the respondents use social media in their decision making process for tourist purposes. The answer options were created by using 7 point Likert scale. While 1 of the options means “definitely yes (strongly agree)”, 7 means “definitely no (strongly disagree)”. 4 option being mid-point means “partially yes agree” or “neither agree or disagree”.

Many of people did not answer fully for all claims (η - number of respondents who answered for claim). Among these, who answered, above 37% more or less strongly agreed to judgement: “While planning a tourist trip I search for information in SM”. 42.5% of them use SM to find opinions about services, attractions or tourist destinations.

Information provided in SM help in choosing tourist destination (for 37.8% respondents) or accommodation (36.8%) and planning stay (25.7%). One-in-5 respondents, who answered, changed travelling plans based on the information provided in SM (22.7%) or purchased tourist services under the influence of a tourist advertisement provided in SM (19.7%). Above
41% agreed that SM is for them primary method of online communication and reduce the time of searching for information and making decisions about tourist trips (59.8%).

Table 4: Using SM in the process of tourist trip planning (% of the respondents).

<table>
<thead>
<tr>
<th>Specification</th>
<th>DEFINITELY YES</th>
<th>DEFINITELY</th>
<th>NO</th>
<th>η</th>
<th>NA (%)</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Making travel-related decisions takes time, effort and requires a lot of information.</td>
<td>27.6</td>
<td>22.4</td>
<td>22.4</td>
<td>19.4</td>
<td>7.1</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td>2. I spend a lot of time planning my trips.</td>
<td>18.6</td>
<td>17.5</td>
<td>23.7</td>
<td>19.6</td>
<td>12.4</td>
<td>6.2</td>
<td>2.1</td>
</tr>
<tr>
<td>3. SM reduce the time of searching for information and making decisions about tourist trips.</td>
<td>14.6</td>
<td>23.2</td>
<td>22.0</td>
<td>17.1</td>
<td>13.4</td>
<td>3.7</td>
<td>6.1</td>
</tr>
<tr>
<td>4. While planning a tourist trip I am highly involved in searching for information using various sources.</td>
<td>16.8</td>
<td>23.2</td>
<td>18.9</td>
<td>20.0</td>
<td>10.5</td>
<td>4.2</td>
<td>6.3</td>
</tr>
<tr>
<td>5. While planning a tourist trip I search for information in SM.</td>
<td>14.0</td>
<td>7.0</td>
<td>16.3</td>
<td>24.4</td>
<td>10.5</td>
<td>12.8</td>
<td>15.1</td>
</tr>
<tr>
<td>6. I use SM to find opinions about services, attractions or tourist destinations.</td>
<td>11.5</td>
<td>13.8</td>
<td>17.2</td>
<td>16.1</td>
<td>13.8</td>
<td>12.6</td>
<td>14.9</td>
</tr>
<tr>
<td>7. Owing to SM I have access to professionals providing advice.</td>
<td>12.5</td>
<td>16.7</td>
<td>15.3</td>
<td>16.7</td>
<td>18.1</td>
<td>6.9</td>
<td>13.9</td>
</tr>
<tr>
<td>8. Tourist information in SM stimulate my appetite for making tourist trips.</td>
<td>7.4</td>
<td>9.9</td>
<td>19.8</td>
<td>15.9</td>
<td>16.0</td>
<td>2.5</td>
<td>18.5</td>
</tr>
<tr>
<td>9. Information provided in SM help me in choosing my tourist destination.</td>
<td>7.3</td>
<td>13.4</td>
<td>17.1</td>
<td>19.5</td>
<td>18.3</td>
<td>7.3</td>
<td>17.1</td>
</tr>
<tr>
<td>10. Information provided in SM help me in choosing a hotel, accommodation.</td>
<td>6.6</td>
<td>10.5</td>
<td>19.7</td>
<td>17.1</td>
<td>21.1</td>
<td>5.3</td>
<td>19.7</td>
</tr>
<tr>
<td>11. Information provided in SM help me in planning my stay.</td>
<td>6.6</td>
<td>6.6</td>
<td>17.1</td>
<td>23.7</td>
<td>18.4</td>
<td>9.2</td>
<td>18.4</td>
</tr>
<tr>
<td>12. I am eager to share the information from my trips in SM.</td>
<td>3.5</td>
<td>11.8</td>
<td>12.9</td>
<td>20.0</td>
<td>12.9</td>
<td>8.2</td>
<td>30.6</td>
</tr>
<tr>
<td>13. I most often provide negative rather than positive opinions about services and tourist destinations in SM.</td>
<td>4.2</td>
<td>2.8</td>
<td>2.8</td>
<td>19.7</td>
<td>15.5</td>
<td>18.3</td>
<td>36.6</td>
</tr>
<tr>
<td>14. It happened that I changed my travelling plans based on the information provided in SM.</td>
<td>6.0</td>
<td>6.0</td>
<td>10.7</td>
<td>11.9</td>
<td>13.1</td>
<td>8.3</td>
<td>44.0</td>
</tr>
<tr>
<td>15. It happened that I purchased tourist services under the influence of a tourist advertisement provided in SM.</td>
<td>5.8</td>
<td>5.8</td>
<td>8.1</td>
<td>10.5</td>
<td>9.3</td>
<td>14.0</td>
<td>46.5</td>
</tr>
<tr>
<td>16. It happened that I found my trip companions through SM.</td>
<td>2.4</td>
<td>4.8</td>
<td>6.0</td>
<td>3.6</td>
<td>12.0</td>
<td>8.4</td>
<td>62.7</td>
</tr>
<tr>
<td>17. I consider only the opinions of my closest friends provided in SM.</td>
<td>15.9</td>
<td>13.4</td>
<td>12.2</td>
<td>13.4</td>
<td>7.3</td>
<td>9.8</td>
<td>28.0</td>
</tr>
<tr>
<td>18. SM is my primary method of online communication.</td>
<td>16.1</td>
<td>11.5</td>
<td>13.8</td>
<td>16.1</td>
<td>4.6</td>
<td>8.0</td>
<td>29.9</td>
</tr>
<tr>
<td>19. Tourist blogs are a valuable source of information for a tourist.</td>
<td>8.0</td>
<td>22.7</td>
<td>21.6</td>
<td>19.3</td>
<td>9.1</td>
<td>6.8</td>
<td>12.5</td>
</tr>
<tr>
<td>20. In SM I recommend products and services I am satisfied with.</td>
<td>3.7</td>
<td>7.3</td>
<td>12.2</td>
<td>15.9</td>
<td>14.6</td>
<td>9.8</td>
<td>36.6</td>
</tr>
</tbody>
</table>

N = 312; NA – no answer; η = N - NA(N); SD – standard deviation
Source: the authors.
4. Conclusion

Consumer decisions on the tourist market are not the routine ones. They are well thought over and rarely impulsive. This fact is emphasized in the models presented in the subject literature describing the process of planning a tourist trip. It was also confirmed in the conducted research results. The respondents agreed that their decisions require time, effort and a lot of information collected from a variety of sources. The research results prove high importance of online resources as a source of information, which was also indicated by the subject literature query. All the more important as the respondents consider the Internet to be a comparatively highly reliable source. Among many diverse online resources, social media are becoming an important tool in searching for information in the process of a tourist trip planning. In turn, among social media, tourist blogs are referred to as the most reliable and valuable information source.

The research results presented in this study and covering just a small fraction of consumer behaviour on the tourist market, i.e. the stage of information searching, encourage further, in-depth analyses of impacts exerted by social media on the overall purchasing decision making process carried out by tourists, as well as their behaviour in the course of a tourist trip and after it. It would be interesting to identify the profiles of consumer using social media as a source of travelling inspiration, which, however, would require increasing the studied sample size and ensuring higher representativeness level. Identifying the information needs and habits of consumers, at different stages of planning and carrying out their trips has very important practical implications, primarily for developing effective marketing communication strategies for businesses and destinations in the rapidly changing, hypermedia-computer mediated environment. For this reason, the efforts focused on studying the respective decision-making process should never be abandoned.

References


BACKGROUND ANALYSIS OF HOUSEHOLD STRATEGIES

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Abstract
The paper deals with the issue of household strategies as an important part of the household economy. It focuses on theoretical backgrounds and concepts of developing household strategies. It considers the possibility to use paid work, unpaid work, and free time as factors influencing household strategies. The aim is to identify and analyse theoretical approaches and concepts of household strategies as life strategies of individual members of the household. The analyse shows a considerable diversity of factors influencing the decision-making process of household (labour market, participation, accumulation of savings and investments, changing models of consumption and earnings, social investment into health, children’s education, development of rich social network) and thus also the choice of appropriate strategies.

Key words
household economy, life strategies, household strategies, paid work, unpaid work, leisure time

JEL classification
E26, J22, J24

1. Introduction
Every household has its own dynamics – a specific way of functioning. Its regular activities, as well as abrupt and random changes in its life, are influenced by internal factors, such as the number of household members, its age composition, the presence or absence of children, education level, and income situation. Additionally, exogenous determinants and circumstances (place of living, infrastructure, accessibility of services, labour market, state politics, social changes) have a considerable impact on the life of a household. All of these factors considerably determine the behaviour of a household and its individual members, and have either a positive or a negative impact on the relationships among them. In this way, a household environment with its economic and noneconomic characteristics is constituted. The interaction and interdependence of these characteristics results in a need to adopt an appropriate multidisciplinary approach to the research of a household as an entity. The main topics of interest for household economics are the economic dimensions of household functioning. When considering the noneconomic aspects of household life, there is often a shift of focus towards the behaviour of individual household members. This allows the establishment of the interdisciplinary behavioural economics, and its sub-discipline – household economic behaviours. On the other end, there is the sociology of the family, focusing on noneconomic social relationships among the household members as members of a family.
Two central terms of these interdisciplines are the terms household and family. In the most general sense of the word, the term household designates a physically delimited, institutionalised, inhabited, and structured space. At the same time, it identifies a group of people who inhabit this space and perform a whole range of activities bound to this space, including the economic ones. The term household is not synonymous with the terms house or apartment and family, though even nowadays, it is still closely connected with a house and is constituted by people who are members of the same family (nuclear or extended). However, a household can be constituted by more than one family, by members of a family line or by any other group of people who come together to secure their survival and to protect their collective interests. Nowadays, it is not uncommon that a household is constituted by a single adult. For the purposes of the presented research, the most common definition, which is understanding the household as the smallest social group that is characterised by shared economics and dwelling, will be adopted.

If the attention is paid to the relationships, commitments, duties, and expectations of the individual household members, the focus will shift inherently towards the family. As outlined above, the concept of family is closely interrelated with the term household. The *Velký sociologický slovník* dictionary defines the family as the original and most important social group and institution. It is a basic element of social structure and a basic economic unit. Its main functions include reproduction of human species, upbringing and socialization of children, transfer of cultural patterns, and preservation of continuity in cultural development (Maříjková et al., 1996, pp. 940-943).

Family, as the oldest social institution, fulfils socialization, economic, regulatory, reproductive, and other functions. It creates a certain social climate and shapes interpersonal relationships, values, attitudes, foundations of ethics and lifestyle (Průcha et al., 2003, p. 202). A family can be distinguished from other social groups by its longer continuity and shared life perspectives of its members. A family is characterised by the interdependence of its members, strong emotiveness, subjective meaning of internal relationships, and extent of shared living areas. It constitutes a relatively safe and stable space and environment for sharing, reproduction, and production of human life (Oravcová et al., 2007, p. 10). To sum up, the family is considered as a group of individuals who are related. From the point of view of economics, a family can be referred to as a household only if it is a group of people who share a common dwelling and buy food together. The fact that the family members participate in the functioning of the household is the reason why the terms family and household are so close, often even taken as identical. Sharing of residential space, contributions to and benefits from a collective economy (Torsello, 2005, pp. 7.15) are the factors that convert a group of people with shared dwelling into a unit of consumption, production, and social reproduction. In this connection, Rochovská (2011, p. 21) points out that under the influence of modern alternative lifestyles, the variability of cohabitation forms and thus the number households, whose members are not related, increases. According to her, the term household should be understood so broadly that it can account for various forms of family as well as household members who are not related. Adapting such a broad understanding allows to see the family as “a node in a multilayered web or the locus for a number of networks of relations: economic, social, and technological” (Wheelock and Oughton, 1996, p. 156). This diversity accounts for the variety of interests, plans, and expectations of individuals. Accordingly, there is a wide range of means for their realisation in the form of particular strategies. The
The household is thus a place where the strategies of individuals meet, intersect, and make the coexistence of its members meaningful.

2. **Theoretical basis of the household economics survey**

The study of household behaviours has traditionally begun with the assumption that the household is identified as an individual structure in such a way that the preferences of the collective unit have been represented by only one behaviour function. This approach has often depicted the household as an unproblematic unit that allocates time and labour, pools income and other sources, and distributes them fairly evenly among all members. This vision is compatible with the unitary models of Gary Becker (alternatively referred to as the common preference model, traditional model, or New Household Economics (NHE)) (Becker, 1976). Becker’s traditional model presents the household as a monolithic bloc led by a male benevolent dictator and considers individual members of a household to be independent decision-makers even though their decisions may depend on resources and prior decisions by their spouses or other household co-members, as Grossbard points out (2011, p. 53). These independent individual decision-making models in the NHE tradition tend to be overlooked in recent studies of couples and families and empirical analyses of household outcomes (even though most of Becker’s own analyses of the family did not use his unitary model).

Much of the recent literature in the field of household economics has been critical of the unitary models. Many researchers discuss other alternative models – non-unitary models of household behaviour (Chiappori, 1988; Apps and Rees, 1988; Bergstrom, 1997). These models suppose explicitly that households consist of a number of different members with various preferences. Critics of unitary models assume that in multiperson households, decisions are made by individuals who have their own needs and their own constraints. Unitary models can be divided into two basic categories: cooperative (consensual, collective) models and non-cooperative (strategic, bargaining) models. Contemporary research reveals that the interactions between these two types of models are increasingly important. Its objective is to analyse a complete range of economic choices and activities pursued by the members of a single household and to consider the structure, composition, and even definition of the group called “household” as a matter of negotiation. Recent work in economic anthropology and sociology has shown that this approach is both feasible and fruitful.

The authors agree with the opinion that the household is a meeting point of various activities and decisions of its individual members. As outlined above, the household is not only a place for the economic determination connected with the economic life of the household (the presence in the labour market, the amount of income, the number of children living in the household), but there are also important decisions and expectations regarding the quality of personal life of the household members (marriage, divorce, death, alcoholism, illness). All of these factors have an impact on the decision-making process and the choice of appropriate strategies by the individual household members, to the extent to which they feel to be responsible for its functioning. In other words, the decision-making process of a household member is never totally free and independent (unless they constitute a single-person household). Strategies of individual household members may help us to understand the strategies adopted by the household as a whole.
3. Categorical apparatus – theoretical approaches

As mentioned before, the household is a basic unit of extensive interdisciplinary research. Its aim is to examine life conditions, vertical and horizontal differentiation of today’s society and to explain the dramatic changes in the ways of life and lifestyles. This area of research draws the attention not only of economists, sociologists, and psychologists but also of demographers, social geographers, and ethnographers. Recently, the non-unitary models of household economics, which explore the household through strategies of its functioning, have been widely adopted for the purposes of household research. In these models, key terms include the term strategy and its related terms such as household strategies, family strategies, survival strategies, and decision-making strategies, which will be explained later on.

From the point of view of etymology, the word strategy is of Greek origin. The word strategos means the leader of an army (stratos – army, ago – to lead). This interpretation accounts for the fact that the term strategy was brought to the attention of the general public via the military. In the past, the term strategy was used, explored, and developed mainly in this field with a particular attention being paid to the fighting of a war. The most important strategy theorist was von Clausewitz (2009, pp. 104-112), who understood and defined strategy as “the use of engagements for the object of the war”. Even though his understanding of strategy was limited only to the use of armed forces in the war, his ideas prepared the ground for his successors.

Nowadays, the term strategy is still relevant and widely used, even though there are various definitions of this term. Hlaváč (2002, p. 81) argues that strategy is a conceptual organisation and management of a certain activity in order to influence the future conditions and achieve set goals. Furthermore, he mentions that strategy is often understood as a general approach or an art to achieve set goals in a conceptual way using specific resources, methods, and means within a particular time framework. It is evident that on the one hand, author wants to define terms and relationships in a more specific way, on the other hand, he tries to use the term strategy in a general sense.

The best example of the effort to bring a simple and general definition of strategy is the definition by the U.S. Army War College, which understands strategy as “the relationship among ends, ways, and means” (Bartholomees, 2010, p. 15). This definition emphasizes three key terms – ends, ways, means, and the relationship among them. The means are available resources, the ends are that which is to be achieved, and the ways are links between the means and the ends. Therefore, the strategy should specify how the means that are (will be) available should be used to achieve the ends.

The term strategy is also used in economics. There, it is used for “modelling sequences of decisions, by an actor pursuing a certain goal under set rules or constraints, by trying to anticipate future consequences of specific steps, and by taking into account the actions and reactions of other players” (Fontaine and Schlumbohm, 2000, p. 6).

Recently, a great deal of attention has been paid to life strategies. The term refers to a set of activities aiming at acquiring the necessities for life and working as indicators of the household’s life quality (Burawoy et al., 2000; Pavlovskaya, 2004; Slavkovský, 2005; Jehlička, 2013). In this context, a definition of strategy as a rational plan adopted by an individual or by the household as a whole is implied. The life strategies include the various activities and choices people make to achieve their life goals. According to Ellis (2000, pp. 12-16), they are activities, resources, and attitudes that together affect the profits of an individual or of the household. It is a dynamic process in which people perform different
activities in order to satiate their needs. These activities take place in time and space of variable geographic and economic qualities (Godor and Madzínová, 2011, p. 35). They are goal-oriented and the individuals (the family or the household) perform them in order to achieve a state assessed by the society as the most optimal one (Slavkovský, 2005, p. 2). To sum up, life strategies are a set of steps and decisions, made by the individual or the household, aiming at maintaining or improving the current social status (status in terms of financial means, housing, social contacts, access to information and education) or in other words a general and hard to define standard of living and to do so in the more or less near future (Rochovská and Majo, 2013, pp. 9-11).

A very interesting approach is the one understanding life strategies as survival strategies. This approach is focused on the ways in which individuals and households cope with social changes and major social transformations, especially those ones bringing economic deprivation, various forms of poverty, and social exclusion. Accordingly, the strategy is understood as an interplay of rational calculations of the household (individual and collective) that are made in a risky and uncertain environment (Piirainen, 1997). They are made using proven or innovative methods aiming at mobilisation of available resources and opportunities. However, to get a holistic view, it is necessary to take into account also the cases when the selected survival strategy helps to improve the life of the household and its members. In this case, the strategy is to be understood as a method of cumulating of means and resources.

In most cases, however, the term survival strategies is used to describe ways and mechanisms of coping with the negative impact of social changes. Rochovská (2011, pp. 8-11) introduces a definition of the livelihood summarizing the views of respected experts and international organisations (Smith and Rochovská, 2007, p. 1164). The definition sees the household livelihoods as the ways used by the individuals and the households to create a wide range of opportunities to obtain income and other socio-economic activities, to secure their social reproduction and material existence in the terms of the local labour market as well as informal economic activities.

Livelihood is thus understood not only in terms of obtaining material but also social resources. This broader social space includes obtaining and maintaining the access to resources and opportunities, expecting risk, coping with social relationships, handling institutional and administrative procedures. This concept of livelihood was first tested in developing countries in Africa, Latin America, and Asia, where the issue of the livelihood has an existential dimension. Later in the 1980s, it was used in the Great Britain in a time of economic changes and rising unemployment. Nowadays, this concept is used in the former socialist countries in Eastern and Central Europe, which underwent a transition from a command economy to a market economy at the end of the 1990s.

4. Household strategies

In a sense, the term life strategy is a compromise. It is used mostly by the authors who do not want to consider family relationships, which are hard to measure (quantify), in their research. The term household strategies allows them to interpret the household as a whole. It eliminates individual participation of the household members in the adopting, implementing, and evaluation of household strategies. The authors of this study, however, hold the opinion that disregarding the decision-making processes of the household’s individual members leads to a distorted picture about its real functioning and course. Therefore in this study, the term strategy is understood as a meeting point of individual interests, decisions, and strategies of
the household members, the character and course of which determine the endeavour of the household as a whole.

The sociological interpretation of the term household strategy deals, in particular, with the way in which work resources are allocated within the household. It is based on a new conceptualisation of work distinguishing between house work, formal, and informal employment. Household strategies are influenced by the labour, land and capital and market environment, as well as by the character of government interventions and support. A large amount of a household’s productive activities may result in a very good material situation of the household as well as in its relative poverty. Alternative ways of obtaining products and services correspond with various kinds of rationality and different value systems. A certain role is also played by the situation in the market supply for goods and services. Differences in motivation account for the fact that the households of an equivalent material standard may use resources in radically different ways, whereas households of different material standards but with similar goals and beliefs can act in the same way (Maříková et al., 1996, p. 1234).

The diversity of life strategies of Slovak households is a subject to a variety of factors and determinants. Based on an analysis of relevant Slovak and foreign publications, it is possible to identify the following ones:

- position of the household in the strata system of the society (social status of the household),
- resources available for the household and the access of its members to them (material, social, civic, and other skills),
- social and demographic characteristics of the household (age structure, size of the household, number of generations within a household, and education attainment level of the household members),
- formal and informal economic activities of individual members in the household (paid work, parallel working contracts, migration for work away from home, leaving for work abroad, unpaid work, reciprocal help, or aid in need), or multiple economies,
- the access of the household to social relations and networks of various forms (family, neighbours, work relations, social networks),
- specific regional features (natural conditions, distance from cities, service availability, infrastructure, the general condition and potential of the territory).

Both individual factors and their combination affect the life of the household in several ways. In some cases, they help to preserve the traditional way of life and the quality of life in the households. In other cases, the quality of life may be improved thanks to the cumulative effect of several factors or the quality of life decreases due to the life strategy based on certain determinants that turn it into more of a survival strategy. It is obvious that these changes can be followed, evaluated, and compared based on the objective differences in the material conditions of life, economic situation, employment, demographics, political life of the regions, and others. Another way of investigating the effects of life strategies is by identification and following the interpretation of changes in households based on a subjective perception and evaluation of their situation by their members themselves.

The interplay of working and household life as well as paid and unpaid work is a natural part of life in households. It significantly affects the decision-making processes of their members regarding the future, ways of earning money, forms of relationship, financial management, and the whole way of life within the household.
A more profound analysis of household strategies shows that paid work (formal employment) and the income from it is still the most important financial resource for the households. This official income is further supplemented by alternative financial and non-financial resources which individuals obtain from their informal economic activities and available social networks. To mention a few:

- various forms of unpaid work as a part of formal activities,
- new forms of employment (part-time jobs, parallel jobs, homeworking, coworking),
- financial resources granted by the government (supplementary benefits, pension, income support),
- illicit work,
- a wide variety of activities that can be summed up as unpaid work (housework),
- reciprocal helping and help to the neighbours (live social networks),
- volunteering (institutionalised and non-institutionalised).

An interesting typology of the household strategies based on the available opportunities and resources was devised by Burawoy et al. (2000, pp 45-60), who distinguish between defensive and entrepreneurial household strategies. The defensive strategies are all activities undertaken by the household members in order to prevent poverty, provided they do not enter the market. The risk is distributed among several productive activities and the resources are shared between the family and the household. As already mentioned, the key priority for the most families is to obtain or retain access to the labour market. This endeavour is the most characteristic feature of the entrepreneurial strategies. The household members enter the labour market and as employees, they invest their own resources and energy or try to find a self-employment in the area of trade (services) and production (Rochovská, 2011, p. 35).

Another way how to explore the complex issue of life strategies is to look at the motives for their adoption. The life strategies of individuals, as a part of their household’s strategies, include labour market participation, accumulation of savings and investments, changing models of consumption and earnings, social investments into health and are connected with the securing of the desired lifestyle, children’s education, development of rich social networks. Goals, desires, and expectations play a substantial role in the selection of strategies. They are important factors of individual motivation. The motivation of an individual is influenced by their future expectations in terms of family and reproduction. The preference theory devised by the sociologist Hakim (2003) sought to explain the whole concept of family life and reproductive strategies. She showed the meaning of the use of all the resources that an individual has at their disposal during their life. She believes that the basic preferences about the family and career are acquired during childhood and remain relatively constant and greatly affect career aspirations and women’s (men’s) family and reproductive behaviour and behaviour in the labour market. However, this theory has been criticised for stating the invariability of the preferences. The critics argue that the preferences are influenced by many external factors of economic, institutional, or cultural nature (MacRae, 2003). Nevertheless, the typology of life strategies elaborated by Hakim, based on her preference theory, is inspirational and may help to understand basic principles in the development of the household strategies. Hakim distinguishes three theoretical models of life strategies: home-centred, adaptive, and work-centred people. In her research, she focused on women’s behaviour and their motivation in the process of making decisions concerning two fundamental dimensions of life – family and work. Even though she focused on the women’s behaviour, the factors
determining the decision-making process in the individuals, while choosing a life strategy and thus the typology as such can be used for the whole population including men.

Adaptive women constitute the largest group. They try to balance family and work. As suggested by the term itself, they are considerably adaptive and can change their behaviour, so that they get the most from both dimensions of life. This applies as well to the time allocation – they try to spend the same amount of time on family as they spend on work (they prefer e.g. half-time jobs or jobs with working hours similar to the hours their children spend at school).

Work-centred women are in a minority. They prefer career to family. They adjust their family life to their work, which is the place where they fulfil their ambitions. These women typically obtain a university degree, often achieve a management position, and experience personal and professional growth. As a result of that, women from this category often remain childless.

Home-centred or family-centred women prefer their family to the work. They tend to have large families and if the financial situation is good, they voluntarily stay away from the official labour market. Because of this orientation, they tend to be overlooked by Western societies. In these societies, a desirable behaviour is active participation in the labour market, career advancement, and at the same time managing the family. Not everybody is able to cope with this social pressure. That is the reason why work-centred women often remain childless, adaptive women do not get enough support in their decision to have children and family-centred women feel ignored (Katuša, 2012, p. 62).

Decisions about the number of children or whether to remain childless, starting a family, care of the household and children, leisure activities, choice of career path, career aspirations, and awareness of the workload threshold have a considerable impact on the life of the whole household. They not only determine the resources needed to secure its functioning but also the time allocation, i.e. the distribution of time among various activities.

5. Conclusion

The aim of the article was to identify and analyse theoretical approaches and concepts of household strategies as life strategies of individual members of the household. The common practice of using household strategies in the research of household functioning is based on the assumption that individual wellbeing is determined by the way in which the household consisting of at least two adults with or without children allocates its resources. Such research is limited since it is based on the assumption that there are only two ways in which households use their time – market labour supply and leisure and hence ignores the existence of household production and intra-family exchange of domestic output for market output. The authors of this article consider this approach to be insufficient. Their research showed a considerable diversity of factors influencing the decision-making process of a household and thus also the choice of appropriate strategies. For the research of household strategies, a three-part model including paid work, unpaid work, and leisure time proved to be useful. Complex research of the life strategies of the individuals integrated into the research of the household strategies is possible only if the interaction among all these components is taken into account. In terms of time allocation as well as the actual activity, these components cover all daily activities of the household members.

The above mentioned factors reflect an understanding of the household and the family as interrelated terms, as well as the economic and noneconomic dimensions of these social
institutions. From the point of view of economics, a family can be referred to as a household only if it is a group of people who share a common dwelling and use the benefits of a common economy. These benefits are results of the life strategies adopted by the household members. They reflect their success or the lack thereof in the formal or informal labour market.

At the same time, they have an impact on the time and content of leisure activities. In a sense, they reflect fulfilment or the lack thereof of expectations, plans, and life preferences. According to the authors of this study, the above mentioned preference theory should be researched in the connection with the proposed three-part model of the household strategies. Perception and assessment of the importance of paid work, unpaid work, and leisure time, which are present in every household and constitute space for satiation of life preferences of the individual household members, are of special interest in this approach. These factors may be considered to be basic determinants in the decision-making processes of the household. The importance ascribed to them by the household members has an impact on the choice and implementation of the household strategies.

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THE CONCEPTUAL MODELS OF ECONOMIC POLICY AND ENDOGENOUS FACTORS OF INFLUENCE ON THE DEVELOPMENT OF TRANSITIVE ECONOMIES

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Abstract
The aim of this article is to investigate the differences in the priorities of the governments of transformation economies in the formation and implementation of the state economic policy and to identify the impact of corruption on indicators of economic development (Ukraine is taken as an example). With the help of conducted generalizations one can identify three types of government policy: active, moderate and passive, carried out by the governments of these countries bearing in mind the tools used. Taking into account that corruption is a major decelerator of economic development, the article outlines the general features of the impact of corruption on Ukraine's macroeconomic indicators. Empirical analysis of the correlation between corruption and the basic macroeconomic indicators of Ukraine is done using the method of principal component analysis. Proposals on the direction of changing the economic policy of transitive economies based on the identified functional relationships are developed.

Key words
models of economic policy, transitive economies, government policy instruments, corruption

JEL classification
H 11, D72, H50

1. Introduction

The experience of developed countries proves that effective development of the national economy is possible if a successful model of economic policy is selected, on the basis of which the government chooses the concrete tools for its implementation. In the early 90's of the twentieth century Ukraine had to radically transform the economic system shifting from a planned to a market model of development. Interest for the research of the models of state economic policy in the transitive economies is ensured by the uneven rates of growth of their main macroeconomic indicators (GDP, inflation, investments, etc.) in different countries, as well as by the growing lagging levels of economic development between them. That is why the aim of the work is to investigate the differences in the priorities of the governments of transformation economies in the formation and implementation of the state economic policy and to identify the impact of corruption on indicators of economic development (Ukraine is taken as an example). This research consists of two parts: the first part is devoted to the systematization of models of state economic policy in transitive economies and the
identification of factors contributing to the formation of a state policy of economic growth; in the second one on the basis of principal component analysis and factor analysis we try to identify endogenous macroeconomic factors that have the most significant impact on the integral indicator of Ukraine's economic development.

2. Literature review

Modern studies explain the gaps in the development of transitive economies that had similar background conditions at the beginning of transformation are being actively developed in different directions: by studying the impact of the external environment (Barro, 1997; Len et al., 2003), institutional changes in the dynamics of macroeconomic indicators (Mauro, 1995), or by the choice of state policy instruments (Albert, 1993). An empirical check of directions and forces of influence with the help of constructing regressions is the basis of these studies for present moment. The set of institutional indicators taken into account at the rate of regression is quite large and constructed dynamic macroeconomic models that enable to investigate the mechanism of the influence of institutes on economic indicators and form the theoretical basis of positive effects for the economic development of transitive economies.

In 1991 the Global Institute McKinsey (McKinsey Global Institute, 1993) completed a study that found that the dominant reason for asymmetric development of countries is the productivity of their economy, while competition is the dominant "driver" of productivity. Thus, competition is an empirically determined factor in the economic development of countries. At the same period of time, Mauro (1995) came to conclusion that there was a negative correlation between the rate of economic growth and the rate of corruption: the higher the rate of corruption, the lower is the volume of investment and the lower are rates of economic growth. The necessity for state intervention into the mechanisms of functioning of the economy at the stages of the decline of economic cycles is widely supported by scholars who explain the differences in the economic development of countries on the basis of the differentiation of socio-political parameters (Shleifer et al., 2004; Burns, 2017).

A certain country forms an individual model (productive or unproductive) of a state policy that influences its economic development. The study of the historical retrospective of economic growth in different countries of the world makes it possible to identify such models for the implementation of state industrial policy (Table 1).

The role of the government in formulating and implementing the state economic policy is active, moderate or passive taking into account the instruments of state influence as well as the phase of economic development.

Active state economic policy is predominantly distinguished in the phase of economic growth and is realized through the instruments of fiscal and monetary policy of limited liberalization in the economy in order to receive positive dynamics of investments and their stimulation. Among the examples are the most economically developed countries of the CEE: Romania, Hungary, Poland, which, in order to revive the flow of effective investment into priority sectors legislated government initiatives to reduce taxation and give state grants (Grabara et al., 2016). The moderate role of the state is observed in the phase of high economic development and is to minimize the factors that reduce the market's ability to self-regulation. Economic development promotes the development of democratization and changes in economic policy, where the modernization of the structure of industry through deregulation and phased privatization is a key issue. The passive role of the state is observed in the phase of economic recession and economic crisis. This is due to weakness and
inadequate effectiveness in fighting the economic threats of formal institutions. Within this phase state institutions are too weak and unable to counter the economic, environmental and information threats on the one hand, and on the other hand they are too bulky to create the preconditions for maintaining and encouraging competitiveness. That is why economic policy is carried out by market participants without direct state intervention, and the government’s role in comparison with local, regional or branch groups of economic entities is decreasing.

Table 1: Characteristics of models of state industrial policy of countries in transformational economies

<table>
<thead>
<tr>
<th>Transformation stimulator</th>
<th>Liberal</th>
<th>Conservative</th>
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<tbody>
<tr>
<td><strong>productive models</strong></td>
<td></td>
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</tr>
<tr>
<td>Model of the Washington Consensus in the Countries of Central and Eastern Europe (Grabara et al., 2017)</td>
<td>Model of the CIS based on separate countries in Eastern Europe</td>
<td>The Chinese and East Asian model of economic development</td>
</tr>
<tr>
<td>Liberal model of India's economic development in the 1990s of the 20-th century</td>
<td>&quot;Corruption Capitalism&quot; (Ukrainian Economic Model of Development)</td>
<td>Model of Southern Korean corporate entities (Chebolean)</td>
</tr>
<tr>
<td>Czech-Slovakian and Croatian models of economic development</td>
<td>Model of Economic Populism in Bulgaria, Greece 2000-2012</td>
<td>Hungarian model of command administrative systems transformation</td>
</tr>
<tr>
<td><strong>unproductive models</strong></td>
<td></td>
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<tr>
<td>The regressive-conservative model of the development of the economy of Armenia and Azerbaijan</td>
<td>The regressive-conservative model of the development of the economy of Armenia and Azerbaijan</td>
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<tr>
<td>A model of populism in Latin America in the 1970s and 80s. (Argentina, Brazil, Mexico and Chile)</td>
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Source: adapted from Hrytsenko (2012).

Different phases of economic development define different priorities of the state in realization of the state policy. Activation of the role of the government takes place mainly in times of socioeconomic instability, economic recession or crisis, and is aimed at providing opportunities for the implementation of sectoral interests and protection against internal and external threats (Table 2).
Table 2: Functional Models of State Participation in the Implementation of Industrial Policy

<table>
<thead>
<tr>
<th>Cycle of Development</th>
<th>Characteristics of model</th>
<th>Priority of State</th>
</tr>
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<tbody>
<tr>
<td>Growth</td>
<td>The use of economic instruments and state regulation is being used to redirect investments from low value added industries into the industry, which will determine the competitive advantages of the state in the international market.</td>
<td>Protection of national interests, where tax privileges, state investments, state policy of public procurements, stimulation of domestic producers serve as instruments.</td>
</tr>
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<td></td>
<td>The economy is built on a liberal model. Economic development is done through the stability of the national economy and its adaptability, to respond appropriately to the consequences of inevitable crises with minimal losses, as well as the realization of development opportunities that are the result of the crisis. It is aimed at expanding competition rights with the creation of a special social infrastructure, modifying the market imperfections.</td>
<td></td>
</tr>
<tr>
<td>Reactivation</td>
<td>The economy is built on the model of &quot;corruption capitalism&quot;, which is characterized by a weak market environment, politically and administratively dependent on the leadership of the state. There is a high level of bureaucracy and the dominance of state-owned enterprises and quasi-state companies; a high proportion of monopoly markets in high-income and promising sectors.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The model of populism, the economic is dependent on monetarist criteria with an emphasis on market self-organization. Problems are the anomic of state regulation, ineffective mechanisms for distributing resources between industries, the uncertainty of mechanisms of &quot;creative destruction&quot; (that is, the removal of outdated production capacities and their replacement by new productions)</td>
<td></td>
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<tr>
<td>Stagnation</td>
<td>The economic policy of the state is not neutral in relation to economic interests. It is always in the interests of dominant groups of influence, which do not always correspond to national interests.</td>
<td></td>
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<tr>
<td>Depression</td>
<td>The established priorities of economic policy are declarative and provided by market participants without direct state interference, and the government's role in comparison with local, regional or sectoral groups of economic entities is decreasing.</td>
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</table>

Source: the authors.

3. Methods and models

We apply the method of the principal component analysis to implement empirical assessments of economic development. In case we consider economic development as an integral characteristic, then in order to study the trends of its development it is necessary to
identify the dominant factors of influence and to determine the constant causal relationships between them. For this purpose, it is advisable to apply the method of the principal component analysis the essence of which is that the observed traits are linear combinations of hidden factors. That is, some of these factors can be common for two or more features, while others characterize each feature in particular. The latter are independent and do not contribute to the correlation between the features. Common factors, the number of which is smaller than the number of investigated features, contribute to the matrix of pair correlations. That is, the construction of factor-main component involves the construction of linear combinations of initial characteristics. The description of the mathematical model for determining the aggregated indicator will have the form of a linear combination of features that will form it in a certain way:

\[ Y_i = a_1 X_1 + \ldots + a_n X_n \]  \hspace{1cm} (1)

where \( Y_i \) is resulting integral indicator, \( X_i \) are factors influencing the resulting feature \( Y_i \) (main components of the model); \( a_i \) is the weight of factor \( i \).

The weight of the factors of the model are analogues of the correlation coefficients. They characterize the strength of the relationship of the corresponding features and factors: the greater the absolute magnitude of the factor load, the stronger is the connection between the resulting feature and factor, and the greater is the contribution of the feature in the factor and the more this feature is due to the action of the corresponding factor.

The main components are non-correlated among themselves by dimensionless variables that represent a linear combination of \( n \)-variables:

\[ F_i = \frac{1}{\lambda} (a_{i1} Z_1 + \ldots + a_{in} Z_n) \]  \hspace{1cm} (2)

where \( Z_n \) is the investigated feature (random variate); \( F_i \) represents general factors (random variables, normally distributed) common to all features; \( a_{in} \) denotes factor loadings that characterize the significance of the influence of each factor (show the contribution of the corresponding factor to the feature \( j \)).

4. **Data collection and empirical study**

It is necessary to have the basis to start from when preparing the material. The maximum range of primary (monthly data from 2013 to 2016) data is taken for this basis from the administrators of the relevant information. 2013 year became the starting point for the beginning of the study because at the end of it a significant transformation of economic processes in Ukraine began, being the consequence of the current state of the Ukrainian economy. Therefore, eleven key indicators that have a direct or indirect significant effect on the formation of the socio-economic status and development of the country and are analysed annually by the Government of Ukraine have been selected for the study. The key indicators of the macroeconomic analysis of the economic situation in this study are: (1) GDP as a comprehensive indicator of the results of economic growth; (2) the inflation index, as one of the factors that negatively affects economic activity in the economy; (3) the share of foreign direct investment in GDP as an indicator of Ukraine's integration into the world economy; (4) gross external debt, which describes the obligations of residents of this economy to non-residents; (5) budget deficit as a target indicator for the IMF within the framework of implementing macroeconomic stabilization programs or structural reforms; (6) wage labor
and actual individual final consumption are the indicators that characterize gross household income and use of households. Besides, the classical indicators of socio-economic development are complemented by indicators of the shadow economy and corruption that are important for transitive economies.

The primary analysis of the main macroeconomic indicators (Table 3) makes it possible to state the negative tendencies of economic processes in Ukraine requiring the study of dependencies between indicators.

Before starting the analysis it is necessary to convert all indicators in such a way that they are in the same range. The standardized indicator in our study will be a relative deviation of the value of the indicator in the analyzed period to the previous period.

Table 3: A set of primary indicators selected for analysis

<table>
<thead>
<tr>
<th>Rates</th>
<th>Indexes</th>
<th>Relative deviation of the indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in GDP</td>
<td>X1</td>
<td>28,1</td>
</tr>
<tr>
<td>Final consumption</td>
<td>X2</td>
<td>14</td>
</tr>
<tr>
<td>Wage labor</td>
<td>X3</td>
<td>-3</td>
</tr>
<tr>
<td>General investments</td>
<td>X4</td>
<td>-40,89</td>
</tr>
<tr>
<td>Employment rate</td>
<td>X5</td>
<td>-3,7</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>X6</td>
<td>+2,1</td>
</tr>
<tr>
<td>Inflation</td>
<td>X7</td>
<td>+24,4</td>
</tr>
<tr>
<td>Budget deficit</td>
<td>X8</td>
<td>+1,8</td>
</tr>
<tr>
<td>State debt</td>
<td>X9</td>
<td>+5,2</td>
</tr>
<tr>
<td>Shadow economy rate</td>
<td>X10</td>
<td>+8</td>
</tr>
<tr>
<td>Corruption rate</td>
<td>X11</td>
<td>+4,1</td>
</tr>
</tbody>
</table>

Source: the authors using calculations by the Ministry of Economic Development and Trade.

We get the dependence of the factors by calculating the weight of the factors of the model on the basis of the initial data of the correlation matrix, which reflect the tightness of the connection between the selected indicators (Table 4).

Table 4: Matrix of correlation of pair coefficients

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>X10</th>
<th>X11</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>1.00</td>
<td>0.98</td>
<td>0.75</td>
<td>0.98</td>
<td>0.36</td>
<td>-0.27</td>
<td>-0.98</td>
<td>-0.28</td>
<td>-0.13</td>
<td>-0.60</td>
<td>0.08</td>
</tr>
<tr>
<td>X2</td>
<td>0.98</td>
<td>1.00</td>
<td>0.87</td>
<td>0.92</td>
<td>0.54</td>
<td>-0.46</td>
<td>-1.00</td>
<td>-0.07</td>
<td>-0.33</td>
<td>-0.75</td>
<td>-0.12</td>
</tr>
<tr>
<td>X3</td>
<td>0.75</td>
<td>0.87</td>
<td>1.00</td>
<td>0.61</td>
<td>0.89</td>
<td>-0.84</td>
<td>-0.86</td>
<td>0.43</td>
<td>-0.75</td>
<td>-0.98</td>
<td>-0.60</td>
</tr>
<tr>
<td>X4</td>
<td>0.98</td>
<td>0.92</td>
<td>0.61</td>
<td>1.00</td>
<td>0.17</td>
<td>-0.08</td>
<td>-0.93</td>
<td>-0.46</td>
<td>0.07</td>
<td>-0.43</td>
<td>0.28</td>
</tr>
<tr>
<td>X5</td>
<td>0.36</td>
<td>0.54</td>
<td>0.89</td>
<td>0.17</td>
<td>1.00</td>
<td>-1.00</td>
<td>-0.52</td>
<td>0.80</td>
<td>-0.97</td>
<td>-0.96</td>
<td>-0.90</td>
</tr>
<tr>
<td>X6</td>
<td>-0.27</td>
<td>-0.46</td>
<td>-0.84</td>
<td>-0.08</td>
<td>-1.00</td>
<td>1.00</td>
<td>0.44</td>
<td>-0.85</td>
<td>0.99</td>
<td>0.93</td>
<td>0.94</td>
</tr>
<tr>
<td>X7</td>
<td>-0.98</td>
<td>-1.00</td>
<td>-0.86</td>
<td>-0.93</td>
<td>-0.52</td>
<td>0.44</td>
<td>1.00</td>
<td>0.09</td>
<td>0.31</td>
<td>0.74</td>
<td>0.10</td>
</tr>
<tr>
<td>X8</td>
<td>-0.28</td>
<td>-0.07</td>
<td>0.43</td>
<td>-0.46</td>
<td>0.80</td>
<td>-0.85</td>
<td>0.09</td>
<td>1.00</td>
<td>-0.92</td>
<td>-0.60</td>
<td>-0.98</td>
</tr>
<tr>
<td>X9</td>
<td>-0.13</td>
<td>-0.33</td>
<td>-0.75</td>
<td>0.07</td>
<td>-0.97</td>
<td>0.99</td>
<td>0.31</td>
<td>-0.92</td>
<td>1.00</td>
<td>0.87</td>
<td>0.98</td>
</tr>
<tr>
<td>X10</td>
<td>-0.60</td>
<td>-0.75</td>
<td>-0.98</td>
<td>-0.43</td>
<td>-0.96</td>
<td>0.93</td>
<td>0.74</td>
<td>-0.60</td>
<td>0.87</td>
<td>1.00</td>
<td>0.75</td>
</tr>
<tr>
<td>X11</td>
<td>0.08</td>
<td>-0.12</td>
<td>-0.60</td>
<td>0.28</td>
<td>-0.90</td>
<td>0.94</td>
<td>0.10</td>
<td>-0.98</td>
<td>0.98</td>
<td>0.75</td>
<td>1.00</td>
</tr>
</tbody>
</table>

Source: the authors.
The null hypothesis that the correlation matrix is single is rejected based on the Bartlett spherical criterion. The approximate statistical value is 111,314 with 15 degrees of freedom, it is significant at 0.05. The value of KMO statistics (0.626) is more than 0.5 thus making it possible to assume that factor analysis is the best method for analyzing the correlation matrix. After checking and getting a positive result, we will move on to the next stage of the analysis.

Two criteria can be used to determine the optimal number of key components of a model. According to the first one, the number of factors is equal to the number of components whose eigenvalues are greater than 1. The second criterion is to construct a graph of eigenvalues of the "stony scapula" (Scree plot) where the number of factors of influence on the sign is determined by the point of inflection on the graph until it reaches the trough of the straight line after a sharp decline in eigenvalues.

We will use the second criterion for our study, graphical visualization of the calculated main components of which we will show in Fig. 1. In this example two main factors will have the main effect on the aggregate resultant indicator of economic development.

Figure 1: Scree plot

Source: the authors.

The results of applying the method of the main components are given using the data of the factor matrix capacity (Table 5). The coefficients of this matrix $a_{ij}$ allow to numerically-formally explain the correlation coefficients thus enabling us to assume that there is a factor behind correlations that could make these correlations be causative.

One can see from the matrix of factor capacity (Table 5) that the formed main components describe 99% of the total dispersion of the structure of factors. Analysis of the shares of the overall dispersion indicates that Factor F1 is more important in influencing the change in the economic growth rate and represents 54% of the overall dispersion. The factor is formed by the following indicators: income, employment, percentage increase in budget deficit and public debt. Indicators pressing the factor axis of this component are closely related to it namely: unemployment, the rate of the shadow economy (the reverse effect) and the rate of corruption (the reverse effect). The second factor, F2, reflects 45% of the overall dispersion and has less impact than the first, and is formed by indicators of GDP growth, growth of final consumption, investment growth, inflation decline, government debt reduction and the shadow economy.
Table 5: Matrix of factor capacity

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Factor 1 (F1)</th>
<th>Factor 2 (F2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1</td>
<td>0.028712</td>
<td>0.999588</td>
</tr>
<tr>
<td>X2</td>
<td>0.229515</td>
<td>0.973305</td>
</tr>
<tr>
<td>X3</td>
<td>0.822367</td>
<td>0.568958</td>
</tr>
<tr>
<td>X4</td>
<td>-0.171669</td>
<td>0.985155</td>
</tr>
<tr>
<td>X5</td>
<td>0.942772</td>
<td>0.333438</td>
</tr>
<tr>
<td>X6</td>
<td>-0.968509</td>
<td>-0.248980</td>
</tr>
<tr>
<td>X7</td>
<td>-0.206028</td>
<td>-0.978546</td>
</tr>
<tr>
<td>X8</td>
<td>0.954648</td>
<td>-0.297737</td>
</tr>
<tr>
<td>X9</td>
<td>0.874313</td>
<td>-0.485363</td>
</tr>
<tr>
<td>X10</td>
<td>-0.813855</td>
<td>-0.581068</td>
</tr>
<tr>
<td>X11</td>
<td>-0.999507</td>
<td>-0.031405</td>
</tr>
</tbody>
</table>

Eigenvalue | 5.965684 | 5.034316 |
Total dispersion share % | 54 | 45 |

Source: the authors.

The generalized system of linear equations of the dependent factors Y and the main components X (generalized factors) will look like this:

\[ Y_1 = 0.028712F_1 + 0.999588F_2, \]
\[ Y_2 = 0.229515F_1 + 0.973305F_2, \]
\[ Y_3 = 0.822367F_1 - 0.568958F_2, \]
\[ Y_4 = -0.171669F_1 + 0.985155F_2, \]
\[ Y_5 = 0.942772F_1 + 0.333438F_2, \]
\[ Y_6 = -0.968509F_1 - 0.248980F_2, \]
\[ Y_7 = -0.206028F_1 - 0.978546F_2, \]
\[ Y_8 = 0.954648F_1 - 0.297737F_2, \]
\[ Y_9 = 0.874313F_1 - 0.485363F_2, \]
\[ Y_{10} = -0.813855F_1 - 0.581067F_2, \]
\[ Y_{11} = -0.999507F_1 - 0.031405F_2. \]

Dependence of the values of the main components on the values of dependent indicators can be described using the system of equations:

\[ F_1 = 0.04X_2 + 0.14X_3 - 0.03X_4 + 0.16X_5 - 0.15X_6 - 0.03X_7 + 0.16X_8 + +0.15X_9 - 0.14X_{10} - 0.17X_{11}, \]
\[ F_2 = 0.2X_1 + 0.19X_2 + 0.1X_3 + 0.19X_4 + 0.07X_5 - 0.05X_6 - 0.2X_7 - 0.06X_8 - -0.1X_9 - 0.12X_{10} - 0.01X_{11}. \]

The generalized dependence factors have made it possible to construct a simple mathematical model of the integral indicator of economic development in Ukraine and to identify factors that improve or degrade its level. Regarding the problem of corruption, we see that its strong correlation is direct or reverse with indices of population income, rate of employment and unemployment rate, budget deficit, state debt rate and shadow economy. In the analyzed period the indicator of corruption has insignificant influence on the rates of GDP growth, final consumption, inflation and investments.

5. Conclusion

The article examines the models of state economic policy in transitive economies and the choice of tools influencing the economic development of the state. One can see that depending on the originator of transformations (among which we considered internal factors, "elites conspiracy" or consensus), the government is developing productive or unproductive models of state economic policy, where the role of the government can be active, moderate or
passive. In the study we examined Ukraine's example: the country with an unproductive model of state economic policy and passive government involvement in solving economic problems. It is assumed that corruption is one of the main factors that stop the economic development of Ukraine. The described dependency model allowed us to conceptualize the structure of factors that have an impact on the indicators of Ukraine's development. The analysis made it possible to distinguish between two groups of factors that describe 99% of the total dispersion and to reduce the dimension of the primary set of analyzed parameters. One of the objectives of the study was to determine whether corruption affects macroeconomic indicators that describe the economic development of the economy and characterize its impact. The described model clearly shows the high dependence of changes in income of population, employment rate and unemployment rate, budget deficit, government debt rate and shadow economy on the change in the rate of corruption. Another important result of the study is the impact of corruption on the social factors that describe the country's economic development. That is why, in our opinion, the directions of fighting corruption in transitive economies, and in particular in Ukraine’s case, should be carried out in the area of maintaining positive dynamics of social indicators.

References


TRADITIONAL AND NEW FORMS OF WORK
– TAXONOMY OF WORK

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Abstract
The aim of the paper is to provide overview of the different kinds of work that could be performed by the individual persons (natural persons) or eventually artificial machines (intelligent non-human machines). The result of this paper is the creation of a taxonomy of work, including crowd work, and work-on-demand via apps, which are typical for the gig-economy and including work of artificial machines. The taxonomy of work is based on the theoretical economic and legal articles and official legal acts and it also provides information about legal regulation of various forms of work either in member states of the European Union (if applicable), or in other states of the western world. Different classification criteria were used for classifying the work, such as legal/illegal, paid/unpaid, human/performed by artificial creature, taxed/non-taxed, dependent/independent, regular/irregular. In the current digital economy and society, new forms of work will be more common. The taxonomy of work, which will continue to evolve as working conditions in society change, gives business leaders an overview of existing (and progressive) forms of work and provides them a basis for strategic decisions on the company’s employment policy. The taxonomy of work also provides researchers a framework for describing various forms of work and stimuli for further study and investigation of various forms of work.

Key words
work, taxonomy of work, dependent work, human work, artificial machine, self-employment, unpaid work

JEL classification
J23, J42, J46, K31

1. Introduction
There is a long literature describing the role of the labour (work) in our society. Work, labour and jobs occupation have been a subject of sociology (e.g. Morse and Weiss, 1955; Wrzesniewski, 2003; Wrzesniewski, Dutton and Debebe, 2003) as well as economy (mostly in the connection with the labour market and employment) and management (e.g. Cartwright and Holmes, 2006; Thompson and Smith, 2010). Adult human beings spend more than half of their lives by performing work. However, there is no any systematic overview of the different kinds of work, which individuals can perform. Theoretical and empirical studies focus only on the specific kinds of work, usually from the partial point of view.

One of the possibilities how to classify different kinds of work systematically, is by using the taxonomy. Taxonomies were originally used in biology to classify various kinds of animals; gradually they were applying also in other areas of the social and technical sciences and business practice. According to Graef (2002), taxonomy is a tool or structure that can be
used to organize things. As a vocabulary of a domain and as a set of defined constructs, taxonomies can add to a discipline’s knowledge base and therefore lay the basis for future research approaches (March and Smith, 1995 In Nickerson et al., 2013). Bedford (2014) stated, that taxonomy can be constructed as flat structure such as simple controlled vocabularies, rings such as synonyms or authority control applications, hierarchies such as classification schemes, faceted structures such as metadata, network or complex taxonomies such as thesauri or semantic networks. He also elaborated economic consequences (such as value, production costs, externalities, public goods and opportunity costs) of taxonomies. According to Nickerson et al. (2013), there are three approaches to construct taxonomy – inductive (involves observing empirical cases which are then analyzed to determine dimensions and characteristics in the taxonomy), deductive (derives a taxonomy from theory or conceptualization. It identifies dimensions and characteristics in the taxonomy by a logical process derived from a sound conceptual or theoretical foundation), and intuitive (the researcher uses his or her understanding of the objects to be classified to propose a taxonomy based on the researcher’s perceptions of what makes sense).

Taxonomy created as a result of this article was constructed as a classification scheme in the form of matrix, by using the combination of deductive and intuitive approaches.

2. Methodology

The aim of the article is to provide overview of the different kinds of work that could be performed by individual persons (natural persons) or eventually artificial creature (intelligent non-human creature). Based on the analysis of more than hundred legal acts from the labor law area and self-employment area (as part of business law) of all European Union member states, theoretical and empirical contributions and official documents and statistics of the International Labour Organization (www.iло.org), I tried to sum up legally used definitions of the work (as dependent work performed by the employee for employer). Most of the labor law acts in the European Union countries deal with the social protection of workers / employees and with the termination of the employment relationship. Most of the legislation deal also with the prohibition to dismiss certain groups of employees (such as pregnant women and parents caring for a child). In some countries (e.g. Hungary), also employees who are approaching the statutory age limit for old-age pension are protecting against the termination of the employment relationship. Almost no legislation focuses on the specification/definition of the work (as dependent work performed for employer), except of Slovakia, Czech Republic, the United Kingdom, Estonia, and Finland (in both countries indirect definition of dependent work, via defining employment contract), partly in Latvia and Romania. However, only in Slovakia and Czech Republic, clear and specific definition of dependent work is legally promulgated.

In the Table 1, there are information about the most relevant legal acts regulating work and employment in European Union countries, other chosen countries (Japan, China, Canada, the United States of America) and sources of official legal information. From all legal acts regulating work, working conditions and employment conditions, I selected those, which are relevant for private area and for concluding labor (work, employment) contract.
Table 1: Legal regulation of work in European Union countries, Japan, China, Canada, and the USA

<table>
<thead>
<tr>
<th>Country</th>
<th>Main legal acts regulating employment relationship (contract)</th>
<th>Official source of legal acts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyprus</td>
<td>Termination of Employment Law, Law 24 of 1967, as amended</td>
<td><a href="http://www.cygazette.com">http://www.cygazette.com</a></td>
</tr>
<tr>
<td>Denmark</td>
<td>Employment Contracts Act, Salaried Employees Act, White-Collar Workers Act</td>
<td><a href="https://www.retsinformation.dk">https://www.retsinformation.dk</a></td>
</tr>
<tr>
<td>Finland</td>
<td>Employment Contracts Act (55/2001)</td>
<td><a href="http://www.finlex.fi">http://www.finlex.fi</a></td>
</tr>
<tr>
<td>France</td>
<td>Law n°2016-1088 relating to work, modernisation of social dialogue and securisation of professional careers</td>
<td><a href="https://www.legifrance.gouv.fr">https://www.legifrance.gouv.fr</a></td>
</tr>
<tr>
<td>Germany</td>
<td>Works Constitution Act</td>
<td><a href="http://www.gesetze-im-internet.de">http://www.gesetze-im-internet.de</a></td>
</tr>
<tr>
<td>Greece</td>
<td>Law 4336/2015, Law 4387/2016</td>
<td>Efimeris tis Kivernissenos</td>
</tr>
<tr>
<td>Ireland</td>
<td>Workplace Relations Act 2015</td>
<td><a href="http://www.irishstatutebook.ie">http://www.irishstatutebook.ie</a></td>
</tr>
<tr>
<td>Italy</td>
<td>Law 183/2014, the so-called “Jobs Act”,</td>
<td><a href="http://gazzette.comune.jesi.an.it/">http://gazzette.comune.jesi.an.it/</a></td>
</tr>
<tr>
<td>Latvia</td>
<td>Labour Law, Zinotajs, 2001-08-09, No. 15</td>
<td><a href="https://likumi.lv/">https://likumi.lv/</a></td>
</tr>
<tr>
<td>Slovenia</td>
<td>Employment Relations Act, 2013</td>
<td><a href="https://www.uradnilist.si">https://www.uradnilist.si</a></td>
</tr>
<tr>
<td>Sweden</td>
<td>Employment Protection Act (1982:80)</td>
<td><a href="http://www.notisum.se">http://www.notisum.se</a></td>
</tr>
<tr>
<td>Japan</td>
<td>Labour Standards Law (Law No. 49 of 1947).</td>
<td>The Japan Institute for Labour Policy and Training, Tokyo, Japan</td>
</tr>
</tbody>
</table>

Source: the author.

According to the available legal definitions, theoretical and empirical works, I distinguish between the traditional forms of work (those categories of work, which are standardly
regulated by the labor law or business law in most of the chosen countries), and new forms of work (which are either not legally regulated or are partly regulated only in few countries and which exist or may exist in the future because of the technological changes influencing also labor market). Traditional forms of work are all kinds of paid work, including dependent work (including all kinds of employment contracts, such as part-time work, full-time work, working contract for the definite period, working contract for the indefinite period, homework, telework), independent self-employed work, work performed according to the business law contracts (such as contract with a commission agent, mandate contract, managerial contract, contract on the manager director function in the private limited company), and work performed according to the civil law contracts (such as contract of intermediation). Traditional forms of work include also all forms of unpaid work (performed in households by husband and wife, by children, or other household’s members, as well as work performed within the neighborhood relationships, and volunteer work). Also, illegal work belongs to the traditional forms of work. New forms of work include economically dependent self-employment, crowd work and work-on-demand via apps, and work performed by artificial creatures. As a result of identifying traditional and new forms of work, I elaborated a taxonomy of work.

3. Traditional forms of work

I based distinguishing between the traditional and new forms of work on the situation on the Slovak labour market completed by the situation in other countries of the European Union. As traditional forms of work I consider standardly performed dependent work (according to the employment contract between the employer and employee as human being, regardless the contract duration, working hours, shifts) and independent work performed by entrepreneur (self-employed natural person). We can classify standard work also on the paid work (employment or dependent work and entrepreneurship or self-employment) and unpaid work (work performed in the households, for which neither salary nor wage or other remuneration is paid). We also distinguish legal work (according to the valid and efficient national and international labour legislation) and illegal work (I consider them traditional forms of work, as well).

To distinguish between dependent and independent work, it is necessary to consider legal features of both of them. In Slovakia, dependent work is regulated by the Labour Code (Act no. 311/2001 Coll. Labour Code, as amended by later acts) and independent work (activities of entrepreneurs, including natural persons as entrepreneurs) is regulated by Business Code (Act no 513/1991 Business Code, as amended by later acts). The § 1 of the Labour Code defines dependent work as a work performed by subordinated employee for superior employer, personally by employee for employer, according to the instructions of the employer, on the name of employer, during the working time pre-set by employer and for the wage or other earnings. Dependent work can be performed only according to the working contract (it is not allowed to perform dependent work under the business contract according to the Business Code or any other civil contract according to the Civil Code).

If work performed by individual person fulfil all the conditions stipulated in the § 1 of Labour Code, this work is always considered as dependent work. Even if the contract is named differently (not a working contract), it is necessary to regard it as relationship concluded according to Labour Code. If at least one criterion of the work performed by individual person set by Labour Code is not fulfilled, then work is not dependent and cannot
be regulated by the Labour Code. In this case, work can be performed either under the business contract (as an independent work performed by independent entrepreneur) or under the Civil Code contract.

According to the Czech Labour Code, dependent work exists between employees and their employers within the relations referred to as “labour relations”. Dependent work means work that is carried out within the relationship of the employer's superiority and his employee's subordination in the employer's name and according to the employer's instructions (orders) and that is performed in person by the employee for his employer. Dependent work is performed for wage, salary or other remuneration for work done, at the employer's cost and liability, at the employer's workplace or some other agreed place within the working hours.

In the United Kingdom, Labour Code defines term dependent contractor. Dependent contractor means a person, whether or not employed under a contract of employment, who performs work or services for another person for compensation or reward on such terms and conditions that he or she is in relation to that person in a position of economic dependence on, and under an obligation to perform duties for that person more closely resembling the relationship of employee than that of an independent contractor. In this case, dependent contractor could be either employee working for employer under the employment contract, or economically dependent self-employed person (more about economically dependent self-employment in the following part of this article).

We can find partial regulation of the dependent work also in the legislation of Estonia and Finland (through the definition of the employment contract). According to the Employment Contracts Act in Estonia, on the basis of an employment contract a natural person (employee) does work for another person (employer) in subordination to the management and control of the employer. The employer pays to the employee remuneration for such work. Employment Contracts Act in Finland states that employment contracts are contracts entered into by an employee, or jointly by several employees as a team, agreeing personally to perform work for an employer under the employer's direction and supervision in return for pay or some other remuneration. According to the Labor Law in Latvia, an employee is a natural person who, on the basis of an employment contract for an agreed work and remuneration, performs specific work under the guidance of an employer. In Romania, an individual employment contract is an agreement under which a natural person, called employee, undertakes to perform the work for and under the authority of an employer, natural or legal person, against a remuneration called wage (Labour Code of Romania). In Latvia and Romania, however, only few features of the dependent work are regulated (authority or guidance of the employer, work performed for wage or other remuneration).

Slovak Business Code (act no. 513/1991 Coll., as amended by later acts) regulates independent work of the entrepreneur. The § 2 defines business activity as permanent activity performed by entrepreneur, on his own name and under his own responsibility, with the aim to gain profit. In this legal definition, condition of independency is stressed. It means, entrepreneur (both legal entity and natural person) cannot perform his activity according to the relationship regulated by Labour Code, according to the orders and instructions of other person (such as employer) and by using tools and material of other person (unless it is agreed in the business contract). Other member states of European Union define entrepreneurship in very similar way and the common feature of all kinds of entrepreneurs (or self-employed persons) is independency. Independency of self-employed persons is based on the financial autonomy and on the contractual autonomy (autonomous decisions about entering to the
contractual relationships with other persons). In some countries, also specific forms of self-employment are regulated. For example, Federal Law No. 100/2002 Federal Act on Corporate Staff and Self-Employment Provision regulates status of quasi-freelancer and quasi-freelance employment relationships in Austria.

Dependent work (performed by employee for employer) and self-employment as independent work are both kinds of paid work. On the other side, there is a set of activities, which are not subjects of the supply and demand on the labour market. These activities belong to the unpaid work. Unpaid work is any work performed in households (own household or for other households). Unpaid work includes food preparation, housekeeping - cleaning, preparation and maintenance of clothes, growing ornamental plants, pet care, preparation and maintenance of equipment, shopping and services, growing agricultural plants, breeding farm animals, building and reconstructions, children care, adults care. Also, volunteer activities are part of the unpaid work (Uramová and Orviská, et al., 2016). Work in the households include work performed by husband and wife (according to the act no. 36/2005 Coll. On family as amended by later acts, husband and wife are equal in all rights and duties, including equal participation on the economy and everyday activities in the household). Work in the households include also work of the children. In the contrary to the Slovak labour law (according to which it is not allowed to conclude working contract with minor child younger than 15 years of age who does not complete compulsory education), Slovak family law permits also work of the minor children (this work must be performed only in the households). In some countries, also specific kinds of work performed in the household of other persons are legally regulated. In Austria, Federal Law no. 235/1962 Act Governing Domestic Help and Domestic Employees regulates status of employees who provide domestic services for their employer or members of such employer’s household. In Canada, The Employment Standards Code (act no. 6/2007) defines status of domestic worker (domestic worker means an employee who is employed to work primarily in the management or operation of the employer's private residence, including activities such as cleaning, laundering, cooking or gardening; or is employed, in a relationship of some permanence, to provide care or supervision for a member of the employer's household, and is required to reside in the employer's residence) and residential caregiver (residential caregiver means an employee who is employed to provide care or supervision for a minor or for an adult who requires assistance to live independently, where the care and supervision is provided in the care recipient's residence; the residence is not the employer's private residence; and the employee is required to reside in the care recipient's residence during periods of work). Domestic help in Austria, domestic work and residential caregiver (even if they perform work in the household) do not belong to the unpaid work categories. We can consider them as specific types of dependent work (performed according to the specific type of working contract).

4. New forms of work

Atypical (new) forms of the work are linked with the changing situation on the labour market. As new forms of work I consider economically dependent self-employment, crowd work” and “work-on-demand via apps”, which are typical for so-called gig-economy, and work performed by artificial creatures.

Economically dependent self-employed work is relatively new term in all European Union countries. This term characterizes person, whose job activities are on the border between
dependent employment (which employee performs for employer under the working contract) and independent entrepreneurial activities (which natural person – entrepreneur performs on his own name and on his own responsibility according to the business or civil contract). This term includes those situations, when person performs de jure independent entrepreneurial activity but de facto he is dependent on one committer.

According to the study „Social protection rights...“ (Eichhorst, 2013) there are only few countries in European Union, in which „hybrid“ category of dependent self-employed persons is legally allowed. These countries are Austria (it is possible to work as a free service workers, new self-employed workers and contractor of work and services), Germany (free service contract workers) and Italy (contracts of continuous and coordinated collaboration and contracts for a project). In the United Kingdom, dependent self-employed workers are also legally recognized category. Boheim and Muehlberger (2006) stated, that in British legislation there is legally regulated status of employee (individual who is working under the contract of employment), status of employed person (individual who is working under any other contract personally to execute any work or labour) and status of the worker (individual who agrees to personally carry out work under the contract and without running a genuine business of their own). Another country, where status of economically dependent self-employed workers is legally recognized, is Spain (Garcia and Gonzáles, 2012).

In Malta, there is also regulation of economically dependent self-employed workers. According to the provision 3 of the Employment status national standard order, when considering the employment status of a person who is nominally self-employed and is prima facie not considered as an employee, it shall be presumed that there is an employment relationship and that the person for whom the service is provided is the employer, if at least five of the following criteria are satisfied in relation to the person performing the work:

a) he depends on one single person for whom the service is provided for at least 75% of his income over a period of one year,

b) he depends on the person for whom the service is provided to determine what work is to be done and where and how the assigned work is to be carried out,

c) he performs the work using equipment, tools or materials provided by the person for whom the service is provided,

d) he is subject to a working time schedule or minimum work periods established by the person for whom the service is provided,

e) he cannot sub-contract his work to other individuals to substitute himself when carrying out work,

f) he is integrated in the structure of the production process, the work organization or the company’s or other organization’s hierarchy,

g) the person’s activity is a core element in the organization and pursuit of the objectives of the person for whom the service is provided,

h) he carries out similar tasks to existing employees, or, in the case when work is outsourced, he performs tasks similar to those formerly undertaken by employees.

Features of economically dependent self-employed persons were summed up in the study Economically dependent self-employed workers (2014). According to it, economically dependent self-employed workers:

1. do not work for employer under the working contract,

2. work mostly on their own and do not have employees,

3. work for the same „employer“ for more than 70 % of their time,
4. keep continued relation of collaboration with the employer,
5. work in the framework or with the reference of a company or organization which depend on the employer.

Definition of dependent self-employed person was provided by the study „Social protection rights...“ (Eichhorst, 2013). According to it, dependent self-employment is „a working relationship where the worker is formally self-employed yet under conditions of work similar to those of dependent employees“.

Modern labour markets have faced new phenomena arising in a so-called gig economy. More and more millennials (generation of persons born between 1979 and 1994) (Smola and Sutton, 2002), are entering to labour markets and their expectations about the working environment and working conditions (mostly using the sharing platform, digital platforms and on-demand platform of the work) are different from the traditional employee – employer relationships. Economic conditions in which Millennials prefer to organize their working habits, is called gig-economy, eventually collaborative economy (Hook, 2015). Forms of work in the gig-economy include crowd work, and work-on-demand via apps, under which the demand and supply of working activities is matched online or via mobile apps (de Stefano, 2015). Crowd work usually referred to working activities that imply completing a series of tasks through online platforms (Bergvall-Kåreborn and Howcroft, 2014; Cherry, 2011 In de Stefano, 2015). Work on-demand via apps is a form of work in which the execution of traditional working activities such as transport, cleaning and running errands, but also forms of clerical work, is channelled through apps managed by firms that also intervene in setting minimum quality standards of service and in the selection and management of the workforce (Alości, 2015; Dagnino, 2015 In de Stefano, 2015). In general we can understand work situation in the gig-economy as a situation powered by independent workers selecting jobs that they're interested in, rather than one in which people are forced into a position where, unable to attain employment, they pick up whatever temporary gigs they can land.

Different approach of Millennials and arising of the gig-economy is now more visible in the United States. However, we can expect, that similar situation will arise also in European labour market. Partial regulation of the gig-economy in the European Union is in Italy. With the efficiency from the 1st January 2016, it is possible to conclude coordinated and continuous collaborations relationships (so-called, “co.co.co.”) contracts in Italy. In the co.co.co., collaborations will consist in the performance of work which will be mainly (not exclusively) personal and whose performance is not organized, also in terms of place and working hours, by the employer (Legislative Decree no. 81/2015 Code for contracts). The Decree also regulates the intermittent employment agreement (also called job-on-call). Job-on-call is defined as agreement, with open-term or fixed-term, whereby an employee places himself/herself at the disposal of an employer who can make use of the relevant job performance periodically or intermittently (Article 13, paragraph 1 of the Decree). This regulation, however, does not cover all the eventualities and features of the crowd work and work on-demand via apps.

Ideas about creating intelligent creature, which will be smart enough to replace (substitute) human beings in their work origins in 1990’s (e.g. Brooks, 1991; Balkenius, 1995). In 2002, Brooks stated that “the robotics revolution is in its nascent stage, set to burst over us in the early part of the twenty-first century. Mankind’s centuries-long quest to build artificial creatures is bearing fruit. Machines are now becoming autonomous in the areas that bypassed them in the industrial revolution. Machines are starting to make judgements and decisions that
have kept people in the loop for the last two hundred years. There will soon be less need for people to engage in the moment-to-moment control of manufacturing machines, and we are starting to see intelligent robots that can operate in unstructured environments, doing jobs that are usually thought to still require people. But these robots are not just robots. They are artificial creatures. Our relationships with these machines will be different from our relationships with all previous machines. The coming robotics revolution will change the fundamental nature of our society.” (Brooks, 2002). In 2013, Rotman (2013) summed up theories and studies concerning to the jobs standardly occupied by humans and their reduction due to the technological progress. According to his paper, “fact that robots, automation, and software can replace people might seem obvious to anyone who’s worked in automotive manufacturing or as a travel agent. …Technologies like the Web, artificial intelligence, big data, and improved analytics all made possible by the ever-increasing availability of cheap computing power and storage capacity — are automating many routine tasks. Countless traditional white-collar jobs, such as many in the post office and in customer service, have disappeared.” (Rotman, 2013). In 2017, Frey and Osborne in the study The future of employment: How susceptible are jobs to computerization (2017) elaborated a model for predicting probability of computerization of the jobs. They included 702 occupations in their model and according to their findings, 170 occupations will be computerized for more than 90% in the near future. Between them, there are for example: telemarketers, insurance underwriters, cargo and freight agents, new accounts clerks, library technicians, loan officers, shipping, receiving, and traffic clerks, driver/sales workers, radio operators, bookkeeping, accounting, and auditing clerks, hosts and hostesses, restaurant, lounge, and coffee shop, cashiers, receptionists and information clerks. On the other side, between least computerizable jobs there are surgeons and mental health consultants, teachers and educational experts, nutritionists, psychologists, human resources managers.

Nowadays, Internet of Things (e.g., the smart building), the Internet of Vehicles and soon also the Internet of Autonomous Vehicles, becoming a fundamental part of our everyday lives. They still serve only as devices which facilitate work of human beings. There are no legal regulations concerning the independent work of intelligent artificial creatures, taxation of such a work or control of the working environment or working conditions of these creatures. It is, however, just matter of time when particular governments initiate also legal regulation of independent work performed by autonomous artificial creatures.

5. Taxonomy of work

Taxonomy of work elaborated in this article is based on the types of work regulated in Slovakia, completed by the types of work performed in other member states of the European Union and western word. The result of this article, taxonomy of work, is organized as a matrix, with several classification criteria. In the table 2, there is a taxonomy of work (including traditional and new forms of work) displayed.
### Table 2: Taxonomy of work

<table>
<thead>
<tr>
<th>Classification criteria</th>
<th>Performed by Human Being</th>
<th>Paid</th>
<th>Unpaid</th>
<th>Taxed</th>
<th>Untaxed</th>
<th>Dependent</th>
<th>Independent</th>
<th>Legal</th>
<th>Illegal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working contract</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agreements similar to working contract</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-employment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freelance</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracts according to business law</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contracts according to civil law</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by wife and husband in households</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by children under 15 in households</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by children under 15 in employment relationship</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by minors older than 15 in households</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by minors older than 15 in employment relationship</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>mixed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteer work</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood Relations</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crowd work</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-on-demand via apps</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economically dependent self-employment</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performed by artificial creature*</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Nowadays, artificial creatures are only technical devices that facilitate human work. In the future, work performed by artificial creature could have the same structure/classification as human work as we know it at present days.

Source: the author.

In the taxonomy, I used following classification criteria: work performed either by human being or by artificial creature, paid or unpaid work, taxed or untaxed work, dependent or independent work, legal or illegal work. Lists of the classification criteria as well as different kinds of work are not definite and could be a matter of changes or completing. Working contract in the taxonomy includes all possible kinds of work performing according to the working contract, such as homework, telework, full-time work, part-time work, work for an indefinite period, work for a fixed term, shift work.

6. Conclusion

The aim of this article was to provide overview of the different kinds of work that could be performed by individual persons (natural persons) or eventually artificial creature (intelligent non-human creature). I intended to contribute to the basis of work classification by
systematically investigating what different types of work exist and by developing a taxonomy of work, including traditional forms of work as well as new forms of work. Using the available legal definitions, theoretical and empirical works, I elaborated list of the traditional forms of work (work categories, which are standardly regulated by the labor law or business law in most of the chosen countries), and list of new (or atypical) forms of work (which are either not legally regulated or are partly regulated only in few countries and which exist or may exist in the future because of the technological changes influencing also labor market). Traditional forms of work are all kinds of paid work, it means dependent work (including all kinds of employment contracts), independent self-employed work, work performed according to the business law contracts, and work performed according to the civil law contracts. Traditional forms of work include also all forms of unpaid work (performed in households, in the neighborhood relationships, and volunteer work), and illegal work. New forms of work include economically dependent self-employment, crowd work and work-on-demand via apps, and work performed by artificial creatures.

The final taxonomy and its creation was, however, distort by insufficient sources of legal information in English, different structure of legal acts in chosen countries, in case of available English version of legal acts also by using inconsistent terminology. That is why I used in the taxonomy only those kinds of work, which was possible to identify clearly and without any doubts. To get complete overview about all different kinds of work which is possible to perform in European Union and western world, it will be necessary to study in details also other parts of legislation, including business and entrepreneurship law, working conditions of minor children and other specific groups of the population, family law (regarding the unpaid work in the households), volunteer work regulations, etc. For the purpose of this article, it was, however, not possible to analyze all mentioned areas, and they can be included in future researches.

Contribution of this paper is in creating a tool that gives business leaders an overview of existing and potential future forms of work as a basis for strategic decisions and at the same time provides researchers with stimuli for future investigations in the dynamic changes of the labour market due to the technological changes and development.

The taxonomy is not intended to serve as a replacement for occupational classifications but rather is a tool for systematically categorizing works characteristics. The taxonomy will continue to evolve as technical development and organizations´ changes progress. It will be necessary to improve this taxonomy systematically for more accurate data on different kinds of work.

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ININVOLVEMENT OF COMPANIES IN SLOVAKIA IN INTERNATIONAL RESEARCH PROJECTS

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Abstract

The main objective of this paper is to analyse the involvement of companies (especially small and medium-sized enterprises, “SMEs”) in Slovakia in international research projects, whereas the specific was to identify the companies’ motivation of involvement and non-involvement in international research projects. Research projects in Slovakia are in line with the national goals outgoing from the Europe 2020 strategy highlighting smart growth through more effective investments in research, education and innovation. We will focus on the national innovation environment and the importance of the Research and innovation strategy for smart specialization of the Slovak Republic (RIS3) which is fully in line with the EU strategy mentioned above.

Key words

international research projects, innovation, SMEs

JEL classification

F23, B17

1. Introduction

Current trends indicate that cooperation is taking a relevant role within corporate strategies of innovative firms, regardless of their size. The increasing dynamism of small and medium-sized enterprises (SMEs) in technology-intensive industries, such as biotechnology and ICT, cooperating with other companies and with research institutions, illustrates this fact (Barajas et al., 2016).

The small and medium-sized companies are the backbone of the EU and Slovak economy as well. SMEs make up 99.8 % of all EU28 enterprises, 57.4 % of value added, and 66.8 % of employment in 2015. Of the 1.2 million exporting SMEs (in 2015), 1 million were exporting to the EU27 and 0.6 million were exporting to countries outside the EU27, and a number of these SMEs were exporting to both. Exporting micro SMEs tend to export mainly within the EU, with less than 50% engaging in outside the EU exports. In contrast, 85% of exporting medium-size SMEs are exporting within the EU and 72% are exporting outside the EU (Muller et al., 2016).

According to Teirlinck et al. (2013), SMEs lack absorptive capacity and hence technology intermediaries are useful for them. They further argue that research cooperation and R&D outsourcing often offer possibilities to complement the internal research resources, but they need absorptive capacity and managerial skills of the internal personnel. Havriemiková and Srovnaliková (2016) believe that only a small part of SMEs in Slovakia possesses sufficient
capacities as well as know-how for realization of all activities of innovative process, therefore it is needed to fill this gap with services of specialized consulting organizations.

2. International research projects in the light of the Europe 2020 strategy

Köster (2009, p. 12) in her publication defines international projects as “simultaneously multicultural projects relating to diverse cultures, be it national, organizational or functional cultures.” International projects are more frequent with globalization, mergers and acquisitions and there are more factors which have influence on international projects.

A project that involves multiple locations, entities, business units and organizations is an international project (Lientz and Rea, 2003).

In order to deal with the challenges of the 21st century, the strategic document “Europe 2020 Strategy” was proposed. Priorities of this EU strategy includes smart growth through more effective investments in research and innovation and education, sustainable growth thanks to a decisive move towards a low-carbon economy and inclusive growth with a strong emphasis on poverty reduction and job creation.

The Europe 2020 Strategy focuses on five goals:
1. Employment rate of residents between ages 20-64 should be increased to 75 %.
2. To invest in research and development 3 % of the EU’s GDP.
3. Reduce greenhouse gas emissions by at least 20 %, increase the share of renewable energy sources to final energy consumption by 20 % and increase energy efficiency by at least 20%.
4. To reduce the early school leaving to 10 % and at the same time to increase the share of 30-34-year-olds with completed university education for minimum 40 %.
5. To have at least 20 million fewer people in or at risk of social exclusion and poverty.

To implement this strategy, the EU governments have set national targets to help achieve the overall EU targets, and are reporting on them as part of their annual national reform programmes.

The EU goals and priorities were translated into the EU funding research programmes. The exhaustive list of available funding opportunities for all actors (incl. SMEs) is published on the web of the European commission. In Figure 1 the main EU programmes were selected where also SMEs are invited to participate.

The current EU funding programmes are based on previous FP7 (7th research framework programme) and Competitiveness & Innovation Programme (CIP) initiatives for 2007-2013.

The overall success rate, taking all applications from all Member States together, for applications to Horizon 2020 is approximately 16 %. To Horizon 2020 applied in first place universities in terms of the overall number of eligible applications, followed by the private sector and research organizations.

All necessary information, manuals, reports and other documents (useful especially for beginners) are available on the Participant portal, including the current statistics. This portal is used also for the future evaluators of the EU projects, so called “experts”. They can register to be added to a database of experts anytime. They may be selected to evaluate tenders or monitor activities related to programmes that receive EU funding. Also the professionals from companies (incl. SMEs) are invited to participate from the EU28.
Figure 1: Selected EU programmes for 2014-2020

Selected EU Programmes 2014 - 2020

- **H2020**
  - **1/Excellence Science**
    - European Research Council (ERC)
    - Future and Emerging Technologies (FET)
    - Marie-Sklodowska-Curie Actions
    - Research Infrastructures
  - **2/Industrial Leadership**

- **COSME**
  - Competitiveness of Enterprises and Small and Medium-sized Enterprises

- **Research Fund for Coal and Steel**
  - Funding for high quality research projects which support the competitiveness of the European Coal and Steel industries


Another initiative to support SMEs is so called “Business innovation coach” who can be funded via the SME instrument (see chapter 2.1). An expression of interest for experts willing to become Business Innovation Coach for the SME instrument is available on the EASME website (Executive Agency for SMEs). Candidate coaches will also be asked to provide more detailed information on their competence and experience.

The overall H2020 statistics from 2014 to 2015 is displayed in Figure 2. The EU universities submitted in total 43,037 applications with the 14 % success rate and private sector submitted 37,862 applications with 15 % rate. This low success rate is often used by researchers to explain the unwillingness of companies (especially SMEs) to apply for this type of funding.

According to statistical data of European Commission 68 Slovak SMEs (out of overall 287 participant from Slovakia) received € 14.76 million in H2020 (www.ec.europa.eu). Based on long-term insufficient investments into research and development in Slovakia, the European Commission recommend to increase the quality of the science base and promoting academia-business cooperation, as well as streamlining the administrative framework for implementation of the research and investment policy and increasing coordination among the involved institutions. Within H2020 programme, Slovakia asked for specific support on improving the framework conditions for start-ups and high-growth innovative companies.

The specificity of Slovakia is the difficulty of accessing the external resources of funding which was identified in numerous researches e.g. Ivanová (2017) stated that 77 % of enterprises in Slovakia have this problem.

Vermoesen et al. (2013) state that one of external sources for SMEs is venture capital and that it tends to target start-ups in a selected, but limited number of sectors.
The national Research and innovation strategy for smart specialization of the Slovak Republic (RIS3) was proposed in 2013 which was formulated in accordance with the Europe 2020 strategy. This document sets goals and policy measures which are aimed at research, innovation and education. Goal 1 tackles challenge of the dual economy and aims at increasing embeddedness of key industries in Slovakia. Goal 2 relates to support to economic growth via results of excellent science. Goal 3 aims at creating dynamic, open and inclusive innovative society as a condition for improving quality of life contains three policy measures on grand societal challenges. Goal 4 aims at improving quality of human resources for innovative Slovakia contains policy measures aimed at improving system of vocational education and supporting excellent higher education.

2.1 SME instrument

SME instrument is focused on all types of innovative SMEs showing a vigorous ambition to develop, grow and internationalise. It is for all types of innovations, including non-technological and social innovation under the condition that each activity has a clear European value added and substantial impact on future commercial development of the applicant. The aim of this initiative is to overcome the lack of funding for the initial stages of high-risk research and innovation, stimulation breakthrough innovations and increase the commercialization of research results in the private sector. SMEs can decide with whom to collaborate, including subcontracting tasks and can decide how best to organise the project.

According to SME Instrument impact report (published by the European Commission in 2017a) the SME Instrument has proven its appeal to the European innovation ecosystem with more than 2,000 small companies funded and with more than 31,000 applications received. A total of 882 million euro in direct, equity free funding, 2,457 companies have received funding from 2014 to the end of 2016. SME Instrument also offers business innovation...
services to accelerating the pace of innovation, through which it connects selected SMEs with experienced entrepreneurs, experts, investors, peers, corporate and other partners. The turnover for the funded SMEs, with less than 1 billion euro of EU funding invested in business support, is more than 20 billion euro expected.

The program is delivered in two Phases, in Phase 1, Feasibility study, a lump-sum grant of 50,000 euro is offered. Phase two, Innovation Action, invests between 0.5 and 2.5 million euro in activities such as testing, prototyping, pilot lines, demonstration and etc. From 2014 to the end of 2016, 1,864 projects were funded by 93 million euro in the Phase 1 and 480 projects were funded by 789 million euro in the Phase 2. In the Phase 1 94 % of applications were submitted by single companies and in the Phase 2 82 % were submitted, instead of consortia, by single companies. After three years, the overall success rate for Phase 1 is 8.4 % and for Phase 2 5.5 % so we can say that the SME Instrument is highly competitive.

Almost half of all funded SMEs, 47 %, participating in the SME Instrument came from Spain, Italy and United Kingdom. The most successful countries in this initiative are Austria (13 %), Ireland (13 %), Iceland (20 %), Sweden (12 %) and Denmark (13 %) compared to Slovakia with only 3 %.

Figure 3: The size of SMEs by the Phase of the SME Instrument

As is stated in Figure 3, surprisingly, the micro companies are willing to apply for this type of funding more often than small or medium-sized companies.

SME Instrument is very attractive mostly because of the support available to a single company, the possibility to resubmit applications and also the grant is available for individual projects.

3. Methodological approach

We analyzed the involvement of chosen companies in international research projects within the period of 3 years. In this case, the qualitative nature of research was proposed. We sent all questions in advance and provided managers space to describe the situation as precisely as possible to give us the detailed required information. The interview contained seven open questions focusing on preferred funding schemes and companies’ involvement (not involvement) in international research projects.

The project managers were the respondents who represented a range of different hierarchical levels, functional areas, and geographical locations. To triangulate the data,
written project documentation (proposals, reports) was used to further improve the validity of the information.

The project managers from two companies were selected based on the length of participation on the project (minimum one year) and their role in the project. Interviews were conducted in person with two project managers. The first manager was from a start–up company established in 2014 in Bratislava (company 1). They focus on the development of ICT innovation, more specifically on the internet of things (IoT) and its applications in the areas of smart energy and smart transport. Since the company 1 was established, their employees initiated 6 projects in the program Horizon 2020. They got the funding for 2 projects (in the subprogrammes: Industrial leadership; Societal Challenges). This company has also the experience from FP7 programme where two projects got the funding.

The second project manager works for a small company in Košice (company 2) operating in the market for 11 years, employing young people in the field of IT. This company has 14 employees and has implemented over 1,700 projects in various areas. They develop applications, games, creates and optimizes websites, e-shops and one of their key activities is the software development, whether network software, internet software, intranet software or other, all according to the client's individual requirements. The company does not have the project department, but they have a project manager who has rich experiences with the preparation and leading the projects of different kinds.

The interviewees were asked 10 questions related to their involvement in international research projects. Both interviews were provided in May 2017 and June 2017.

4. Findings and discussion

The main reason for involvement of the company 1 in international research projects was the acquisition of finance for the development of their own products and services for the period 2019 – 2020. The company plans to directly use the results of the projects in their products and services that they plan to launch on the market. The second reason why they are participating in these types of projects is the high level of transparency of Horizon 2020 and the appropriate bureaucratic burden associated with participation. Other benefits from international research projects are in building a pan-European site of partnerships, and their place in the first innovation league in the EU. This type of funding can considerably help them to stay competitive on the European market.

The company 2 established in Košice but operating globally is highly experienced in innovation IT projects. They have only limited information about EU funding programmes so far. This company is going to develop a new application where they see the potential of using the EU funding programmes for SMEs. The overall budget needed for the research and development of their new application was estimated about 310 000 euro. Time horizon needed for the research and development of this interactive application is approximately 18 months. The company is able to develop the application without involving any additional project partners. According to these criteria, and the fact that the company is the SMEs category we can recommend the programme SME Instrument (as was described in chapter 2.1), specifically topic Open Disruptive Innovation Scheme, phase 1 with multiple cut-offs. This topic focuses on companies proposing disruptive ICT concepts, products and services applying new sets of rules, models and values which ultimately create new markets or disrupt existing markets.
According the *Results of Horizon 2020 Stakeholder Consultation* (2017b) the reason for participating in Horizon 2020 mainly identified by businesses are solutions development, products and commercialization but also growth opportunities, the ability to develop innovations faster and secured or better position on markets. This research was based on 3483 responses (EU28 companies) to the online questionnaire which confirmed that the most common reasons of non-involvement in international research projects, besides not being funded, are limited human and/or financial resources to be able to participate and success rates are too low to be worth applying. In case of SME Instrument the reasons for participating are more or less similar. Again the reasons of limited human and financial resources were mentioned. Moreover, the low success rate decreases considerably the motivation of SMEs to apply for this type of funding. They often lack the experience with this type of projects. Some companies consider the preparation phase as time and resource demanding.

5. Conclusion

In this paper we used the findings from the quantitative research of the European Commission and the qualitative primary research provided in two SMEs in Slovakia. The main objective of this paper was to analyse the involvement and non-involvement of companies (especially SMEs) in Slovakia in international research projects and at the same time to identify their motivation in this type of projects. The results from all EU28 members are rather similar to companies in Slovakia. Both groups of companies are motivated by fudging the development of new products and the ability to innovate faster. As for barriers of their participation in international research projects, the SMEs in Slovakia identified mainly the lack of information and insufficient human resources. They are occupied with daily operative tasks not able to find additional time and energy to go through funding manuals which are often long and written in complicated way for someone who is focusing only on one specific industry. At the EU level, the companies highlighted mainly limited human and financial resources (for preparation phase or co-funding programmes). The government acknowledge the problems described above therefore six new “Regional advisory centres for EU funding” were established in 2016. This might help especially in the preparation phase to tackle the problems which were identified by companies in Slovakia. The trained and experienced personnel offer these services free of charge.

References


IMPORTANCE OF INFORMATION
IN THE MANAGEMENT OF INNOVATION OF AN ENTERPRISE

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Abstract

The paper focuses on the information and its importance in the process of innovation management. Innovation can be a strategic tool for gaining a competitive advantage, a prerequisite for long-term success and performance of an enterprise. The information management plays a significant role in managing the innovation since the enterprises need to have qualitatively and quantitatively appropriate information about innovation for further decision making. The main aim of the paper is to research the importance of information in the management of innovation within the Slovak enterprises, which can be used for their proper decision-making, especially when preparing the innovation strategy and managing the innovations. By using selected mathematical and statistical methods, the results of a survey focused on the innovation data acquisition within Slovak enterprises are analysed and described. The importance of information as a part of innovation planning process in the enterprises is investigated in order to help the enterprises achieve the sustained success.

Key words

information, information management, innovation, management of innovation, business success, business intelligence

JEL classification

O31, L26, M15

1. Introduction

The innovation plays a significant role in managing the success of an enterprise; it is a strategic tool in gaining a competitive advantage, long-term performance, and business excellence. The enterprises need to work with qualitatively and quantitatively appropriate information about all aspects of business (both internally and externally), especially innovation so that they can make proper decisions when achieving the success.

The main aim of the paper is to research the importance of information in the management of innovation within the Slovak enterprises, which can be used for their proper decision-making, especially when preparing the innovation strategy and managing the innovations. The paper is divided into three main sections: introduction, core, and conclusion. In the core section, the scientific aim, methods, and procedure of preparing the paper, theoretical background for the hypotheses’ development as well as the results and discussion to the topic are described and presented. The main findings of the paper are summarised in conclusion and key directions for further research are pointed out to manage the innovations by means of information management.
2. Literature review of the information and its role in the management of innovation and the hypotheses' development

The innovation itself does not stand for a competitive advantage; it is usually not the result of a spontaneous activity of the enterprise. It is necessary for the enterprise to create a system of management of the innovation activities to generate, realize, implement, and control them in a systematic and coordinated manner. The information might be crucial when managing innovation. Based on the opinions of different authors, the question is not about the relevance and necessity of being innovative but rather how innovation capability can be developed within a company and how information capability and knowledge management are integrated into the innovation process (McEvily and Chakravarthy, 2002; Prajogo and Ahmed, 2006, In Jaca et al., 2016). In fact, the use and efficient management of information, can become a critical success factor that enables organisations to improve their results, and consequently may be a source of competitive advantage (Zárraga-Rodríguez and Alvarez, 2013, In Jaca et al., 2016). In today's business, firms' innovative activities mainly depend on complementary information sources that can be obtained internally or externally (Bach et al., 2015). Authors also state, the importance of information sources for innovation is apparent and the available studies explore the statistical relationships between certain sources of information and innovation performance (supporting the positive link between different sources of information and innovation performance). Also, according to Biktimirov and Syunturenko (2016), the problems of information support of research, development, innovation activities, and technology transfer are increasingly relevant. Information systems and information technologies are a system forming the integrating basis of the modern innovation infrastructure. Trantopoulos et al. (2017) also highlight the vital role of information technology for innovation in the enterprises. For several decades, the innovation literature emphasizes that successful innovation requires a clear marketing focus and a superior understanding of customer needs. Both marketing and sales have information about customers and may contribute to a customer focused innovation process (Keszey and Biemans, 2016). To gain the information about customers and to use them in the process of innovation, the enterprises need to acquire the right amount of appropriate type of information about the market (customers, competitors, possible partners etc.). Gómez et al. (2016) mention the lack of literature sources focusing on the extent to which various kinds of innovation rely on diverse sources of knowledge. The authors found out that the six sources (internal, suppliers, customers, competitors, consultants, and universities) play a role in producing innovation and confirmed the previous papers finding that innovations are developed by using knowledge from a diverse set of internal and external sources of information and not just from that generated by R & D investments. They also investigated, each source influences the innovation differently, depending on the type of innovation: to obtain product innovations, firms rely on customers and internal sources, although information from competitors and universities is also important; to obtain process innovations, internal sources and suppliers are the main contributors as well as consultants and universities.

These sources and the information support, mentioned above, are certainly important when generating innovative ideas and planning the innovation. However, specifically the small and medium-sized enterprises (researched in Slovak Republic, but also in UK, Portugal and Spain) face the size-related issues such as lack of the access to information about markets and customers (poor information about market, poor market knowledge, lack of market
information), technologies (low information on technology), new potential partners, institutional support – perceived and called barriers of knowledge (e.g. Jeck, 2014; Horvátová et al., 2012; Mutula, 2010; plus Segarra-Blasco et al., 2008; Tovstiga and Birschall, 2007; Silva et al., 2007; Vieira, 2007. In Cordeiro and Vieira, 2012), so that they have different starting point when managing the innovation than the large-sized enterprises.

Based on the previous literature review as well as the expert experience, we set the first hypothesis to be verified.  

\[ H_1: \text{There is a positive and statistically significant association between the size of the enterprise and the acquisition of the information about the innovation.} \]

In compliance with previously mentioned barriers to innovation that small and medium-sized enterprises confront, we also investigated the main advantages and disadvantages of using the outsourcing to analyse this information about innovation. Without using the appropriate and analysed information for proper decision making about innovation, the information acquisition is ineffectual. The small and medium-sized enterprises might experience the disadvantages of using the outsourcing in form of hidden costs. It becomes apparent, that although outsourcing is (or should be) cost-effective, the supplier must make a profit and some hidden costs involved in signing a contract may occur. Tayauova (2012, p. 190) also puts the hidden costs into the main disadvantages of outsourcing: “a company will sign a contract with the outsourcing company that will cover the details of the service that they will be providing. Anything not covered in the contract will be the basis for the company to pay additional charges”.

Considering the previous literature searching, we set the second hypothesis which needs to be confirmed or rejected. \[ H_2: \text{There is a positive and statistically significant association between the sales volume of the enterprise and the frequency of using the outsourcing to analyse the information about innovation.} \]

The scientific aim, methods and detailed procedure is described in following section of the paper.

### 3. Scientific aim, methods, and procedure

The main aim of the paper is to research the importance of information in the management of innovation within the Slovak enterprises, which can be used for their proper decision-making, especially when preparing the innovation strategy and managing the innovations. By using selected mathematical and statistical methods, the results of the survey focused on the acquisition of information about innovation within Slovak enterprises are analysed and described. The results are based on the questionnaire survey within 189 Slovak enterprises. To answer the research questions, we examined specific items of qualitative character from the questionnaire, thus chosen methods used to process the answers are based on the analysis of qualitative statistical variables (such as the size of the enterprise, acquisition of the information about the innovation, sales volume, and the frequency of using the outsourcing to analyse the information). Statistical variables of dichotomy (binary) character were taken into consideration. When finding the statistical association (dependence) between two statistical variables, the significance level of 1 %, 5 % and 10 % was used \((\alpha = 0.01; 0.05, \text{ and } 0.1)\). Following variables and their mutual relationships were utilised when researching the associations: the size of the enterprise and the acquisition of the information about the innovation; the sales volume over the past 5 years and the frequency of using the outsourcing to analyse the information about innovation.
To confirm or reject the null hypotheses (H1_0: There is no statistically significant association between the size of the enterprise and the acquisition of the information about the innovation; and H2_0: There is no statistically significant association between the sales volume of the enterprise and the frequency of using the outsourcing to analyse the information about innovation), we used several statistical methods and procedures, mainly for the reason that the extent of our selected sample was relatively small (189 or 185 enterprises).

The methods were divided into three groups. The first group of methods is based on statistical analysis of the dependences between two qualitative statistical variables. We used a chi-square test for independence (the association between qualitative variables of dichotomy character). For the reason of small sample size, we sorted out the sample into fourfold contingency table (2-by-2 values of any statistical variable), and we used small letters of Latin alphabet in case of occurrence of the variable value (“a” for the variable A, “b” for the variable B) and small letters of Greek alphabet in case of absence of the variable value (α for the variable A, β for the variable B). This labelling is used for all chosen (below mentioned) statistical methods. The formulas which were used are as follows:

a. Chi-square test:

\[ \chi^2 = \sum_{i=1}^{2} \sum_{j=1}^{2} \frac{(o_{ij} - e_{ij})^2}{e_{ij}}, \]  

where \( o_{ij} \) is the quantity of the statistical values empirically observed (o – observed), \( e_{ij} \) is the quantity of the statistical values theoretically expected when the null hypothesis is confirmed (e – expected), indexes \( i \) or \( j \) represent the order number of the rows or columns in the contingency table. The statistics specified by the formula (1) is controlled by chi-square distribution with one degree of freedom;

b. Pearson contingency coefficient and the modified Pearson contingency coefficient was used in the case of positive statistical association between the variables A and B [according to the formula (1)] and we set the strength of association according to following formula:

\[ C_p = \sqrt{\frac{\chi^2}{\chi^2 + n}}, \]  

where \( \chi^2 \) is the value of chi-square statistics set in accordance with the formula (1) and \( n \) is the sample size. The modified Pearson contingency coefficient, normalized to the interval <0, 1> is formulated as follows:

\[ C_p^{mod} = \frac{C_p}{\sqrt{q}}, \]  

where \( C_p \) is the value of the Pearson contingency coefficient calculated by using the formula (2) and the value \( q = \max \{r, s\} \), where \( r \) is the number of the rows and \( s \) is the number of the columns in the contingency table;

c. Cramer contingency coefficient was used to determine the strength of association between the variables A and B and was set by the formula:

\[ C_c = \sqrt{\frac{\chi^2}{n(q-1)}}, \]  

where \( \chi^2 \) is the value of chi-square statistics set in accordance with the formula (1) and \( n \) is the sample size. The value \( q = \max \{r, s\} \), where \( r \) is the number of the rows and \( s \) is the number of the columns in the contingency table.
The second group of the methods are the empirical criteria of the association. We used following criteria (while applying the same symbols in the relations as the symbols in fourfold contingency table):

\[
\frac{n_{ab}}{n} = \frac{\langle n_{ab} \rangle}{n}, \quad (5)
\]

\[
\frac{n_{ab}}{n} = \frac{\langle n_{b} \rangle}{n}, \quad (6)
\]

\[
\frac{n_{ab}}{n} = \frac{\langle n_{a} \rangle}{n}, \quad (7)
\]

while in the formulas (5), (6) and (7), one of the three mathematical relations can occur and can be written as “>”, meaning positive association, “=” means no association and “<” means negative association. The last two are put in the square brackets.

To describe the strength of association, we also used following formulas:

a. Yule coefficient of association

\[
Q_{AB} = \frac{n_{ab}n_{ad} - n_{a\beta}n_{ab}}{n_{ab}n_{ad} + n_{a\beta}n_{ab}}, \quad (8)
\]

b. Correlation coefficient

\[
R = \frac{n_{ab} - n_{a\alpha}n_{b\beta}}{\sqrt{n_{a\alpha}n_{b\beta}n_{\alpha\beta}n_{\alpha\beta}}}, \quad (9)
\]

c. Yule coefficient of colligation

\[
Y = \frac{n_{ab}n_{\alpha\beta} - n_{a\beta}n_{ab}}{\sqrt{n_{ab}n_{\alpha\beta} n_{a\beta}n_{ab}}}, \quad (10)
\]

The third group of the methods lies in the analogy with the linear regression method, which is used to describe the association between the dependent variable and the independent variable of quantitative statistical character. The formulas of the regression functions are as follows:

\[
\begin{align*}
\left( \frac{n}{n} \right) &= \frac{n_{a\alpha}}{n_{a\alpha}} + \left( \frac{n_{ab} - n_{a\alpha}}{n_{a\alpha}} \right) \left( \frac{n_{a}}{n} \right),
\end{align*}
\]

or

\[
\begin{align*}
\left( \frac{n}{n} \right) &= \frac{n_{b\beta}}{n_{b\beta}} + \left( \frac{n_{ab} - n_{b\beta}}{n_{b\beta}} \right) \left( \frac{n_{b}}{n} \right),
\end{align*}
\]

where the left size of the formulas (11) and (12) corresponds in the linear regression to the values of dependent variable (expressed in percentage of the total amount of the statistical units), lying on the regression line, and the formulations \( (n_{a}/n) \) or \( (n_{b}/n) \) correspond to the observed values of the independent variable (expressed in the percentage of the total amount \( n \)).

4. Findings and discussion to the topic of information in the innovation management

To confirm the hypotheses, we processed 189 questionnaires from the enterprises in the Slovak Republic (4 questionnaires were excluded as the answers were not suitable for other usage or were not completed). To test the hypothesis H1, we sorted out the answers into the
contingency table. In the table, one of the qualitative variables (A) was the size of the enterprise and the other qualitative variable (B) was the acquisition of information about innovation (if the respondent does acquire the information or does not). Since the dichotomy statistical variables were used in both cases, the variable “size of the enterprise” was encoded as follows (in compliance with the symbols used in the contingency table and described in the section 3): the modification (value) “a” corresponds to micro-, small- and medium-sized enterprises, the modification (value) “α” corresponds to large-sized enterprises. In case of the statistical variable B, the symbols were associated with the ascertained quantities in following manner: the modifications (answers) “rather no” or “no” correspond to the value “b” and the modifications (answers) “rather yes” or “yes” correspond to the value “β”. Based on this encoding, we elaborated following contingency table for the hypothesis H1 (table 1):

Table 1: Contingency table for the hypothesis H1

<table>
<thead>
<tr>
<th>Variable A</th>
<th>Variable B</th>
<th>b</th>
<th>β</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td></td>
<td>33</td>
<td>131</td>
<td>164</td>
</tr>
<tr>
<td>α</td>
<td></td>
<td>2</td>
<td>23</td>
<td>25</td>
</tr>
<tr>
<td>Σ</td>
<td></td>
<td>35</td>
<td>154</td>
<td>189</td>
</tr>
</tbody>
</table>

Source: the authors.

Identically, we sort out the selected sample into the contingency table for the hypothesis H2. The encoding was processed similarly as follows: the statistical variable A means the sales volume over the past 5 years and the statistical variable B means the frequency of using outsourcing to analyse the information about innovation. The value “a” corresponds to the modification “the sales volume up to 10 million Euro (including)”, the value “α” corresponds to the answer “the sales volumes over 10 million Euro”, the value “b” corresponds to the modification of answer “we use the outsourcing to analyse the information half-yearly, once a year or never” and the value “β” corresponds to the answer “we use the outsourcing to analyse the information daily, weekly or monthly”. Following contingency table describes the results of the sorting (table 2):

Table 2: Contingency table for the hypothesis H2

<table>
<thead>
<tr>
<th>Variable A</th>
<th>Variable B</th>
<th>b</th>
<th>β</th>
<th>Σ</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td></td>
<td>115</td>
<td>34</td>
<td>149</td>
</tr>
<tr>
<td>α</td>
<td></td>
<td>18</td>
<td>18</td>
<td>36</td>
</tr>
<tr>
<td>Σ</td>
<td></td>
<td>133</td>
<td>52</td>
<td>185</td>
</tr>
</tbody>
</table>

Source: the authors.

Proceeding from sorting of the sample in the contingency tables and from application of the statistical methods and procedures described in the section 3, we obtained the results which are presented in following table (table 3).
Table 3: The results of research on the information acquisition and innovation management

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>H1</th>
<th>H2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The association between the size of the enterprise and the acquisition of information about innovation</td>
<td>The association between the sales volume over the past 5 years and the frequency of using the outsourcing to analyse the information about innovation</td>
</tr>
<tr>
<td><strong>Statistical method (number of formula)</strong></td>
<td><strong>Chi-square test:</strong></td>
<td><strong>Chi-square test:</strong></td>
</tr>
<tr>
<td></td>
<td>- Chi-square statistics</td>
<td>- Chi-square statistics</td>
</tr>
<tr>
<td></td>
<td>- Quantiles of chi-square distribution</td>
<td>- Quantiles of chi-square distribution</td>
</tr>
<tr>
<td></td>
<td>- p-value</td>
<td>- p-value</td>
</tr>
<tr>
<td></td>
<td>( \chi^2 = 2.116 )</td>
<td>( \chi^2 = 10.06 )</td>
</tr>
<tr>
<td></td>
<td>( \chi^2_{0.01;1} = 2.71 )</td>
<td>( \chi^2_{0.05;1} = 3.84 )</td>
</tr>
<tr>
<td></td>
<td>( \chi^2_{0.00;1} = 6.63 )</td>
<td>( \chi^2_{0.00;1} = 6.63 )</td>
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<tr>
<td></td>
<td>p-value = 0.146</td>
<td>p-value = 0.0011</td>
</tr>
<tr>
<td></td>
<td>( \chi^2 = 10.06 )</td>
<td>( \chi^2 = 10.06 )</td>
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<tr>
<td></td>
<td>( \chi^2_{0.01;1} = 2.71 )</td>
<td>( \chi^2_{0.05;1} = 3.84 )</td>
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<td></td>
<td>( \chi^2_{0.00;1} = 6.63 )</td>
<td>( \chi^2_{0.00;1} = 6.63 )</td>
</tr>
<tr>
<td></td>
<td>p-value = 0.0011</td>
<td>p-value = 0.0011</td>
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<tr>
<td></td>
<td>( C_P )</td>
<td>( C_P )</td>
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<tr>
<td></td>
<td>(2)</td>
<td>(2)</td>
</tr>
<tr>
<td></td>
<td>0.105</td>
<td>0.233</td>
</tr>
<tr>
<td></td>
<td>( C_{P,mod} )</td>
<td>( C_{P,mod} )</td>
</tr>
<tr>
<td></td>
<td>(3)</td>
<td>(3)</td>
</tr>
<tr>
<td></td>
<td>0.149</td>
<td>0.329</td>
</tr>
<tr>
<td></td>
<td>( C_C )</td>
<td>( C_C )</td>
</tr>
<tr>
<td></td>
<td>(4)</td>
<td>(4)</td>
</tr>
<tr>
<td></td>
<td>0.106</td>
<td>0.239</td>
</tr>
<tr>
<td></td>
<td>( (n_{ab}/n) &gt; (n_a/n) )</td>
<td>( (n_{ab}/n) &gt; (n_a/n) )</td>
</tr>
<tr>
<td></td>
<td>(5)</td>
<td>(6)</td>
</tr>
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<td>0.2012 &gt; 0.08</td>
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<td>0.1746 &gt; 0.1607</td>
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<td>( (n/n) = 0.8506 + 0.0923(n/n) )</td>
<td>( (n/n) = 0.6538 + 0.2108(n/n) )</td>
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Source: the authors.

Based on the testing of the first hypothesis (H1), we can claim following. Resulting from the value of chi-square statistics (2.116), which is determinative for decision on accepting or rejecting the null hypothesis, and comparing it with the quantiles of chi-square distribution for common significance levels (1 %, 5 % and 10 %), it implies that we have no reason to reject the null hypothesis (we must not confirm the assumption that the smaller the enterprise, the less likely it does acquire the information about innovation). We come to the same result using the p-value (0.146), which is higher than common accepted values of significance levels. The root cause of the results might be following: we have only 2 statistical units in the contingency table (table 1), however the theory requires the numbers in each field of contingency table to be of minimum value 5 for chi-square statistics. Our assumption, which was incorporated in the alternative hypothesis of H1 (H1_a), could be accepted if we tested the association at the 0.146 significance level or higher. Even though the assumption, that the size of the enterprise and the information acquisition are dependent was not confirmed, we could have calculated the strength of association. Based on the values set according to the formulas (2), (3) and (4), or (8), (9) and (10), we can claim that the strength of the association is low to moderate. The association is positive, thus the larger the size of the enterprise, the more expected is the acquisition of the information about innovation. The relationships analogous to the linear regression [formulas (11), (12)] imply that: if any enterprise was small-sized \( (n_a/n) = 1 \), i.e. 100 % of the enterprises were small-sized), then 92 % of the enterprises would not acquire the information about innovation, or reversely just 8 % of small-sized enterprises would acquire the information about innovation. Similarly, if any enterprise was large-sized \( (n_a/n) = 0 \), i.e. 0 % of the enterprises were small-sized), then 8% of large-sized enterprises would not acquire the information about innovation. Considering the real number of small-sized enterprises in the sample (86.77 % of the enterprises were small-sized), theoretically just
18.52% of small-sized enterprises would acquire the information about innovation, which confirms the assumption that the bigger the size of the enterprise, the more frequent the acquisition of the information. Supposing that no enterprise would be interested in the information about innovation \((n_b/n = 1, \text{i.e. } 100\% \text{ of enterprises were not interested in the information})\), we could expect 94.29% of enterprises being small-sized in the sample, which supports the assumption on the positive relationship between the size of the enterprise and its interest in the information about innovation (or acquisition of the information).

Resulting from testing the second hypothesis (H2), we claim following. Based on the value of chi-square statistics (10.06), which is determinative for decision on accepting or rejecting the null hypothesis, and comparing it with the quantiles of chi-square distribution for generally accepted significance levels (1%, 5% and 10%), it implies that we reject the null hypothesis (we confirm, there is statistically significant association between the sales volume of the enterprise and the frequency of using the outsourcing to analyse the information about innovation). Also, the utilisation of p-value (0.0011), which is lower than common accepted values of significance levels, approves the assumption that the higher the sales volume of the enterprise, the more frequent is the usage of the outsourcing to analyse the information. The strength of association is determined [according to the formulas (2), (3) and (4), or (8), (9), (10)] as moderate and positive [formulas (5), (6), (7)]. Application of the relationships analogous to the linear regression [formulas (11), (12)] shows that: on the condition that any enterprise had low sales volume - up to 10 million Euro \((n_a/n = 1, \text{i.e. } 100\% \text{ had low sales volume})\), then 77.18% of the enterprises would use the outsourcing less frequently or not at all. Next, if any enterprise had high sales volume – over 10 million Euro \((n_a/n = 0, \text{i.e. } 0\% \text{ of the enterprises had low sales volume})\), 50% of these enterprises would use the outsourcing services less frequently or not at all. Taking the real number of the enterprises with a low level of sales volume into account (80.54% of the enterprises in the sample have low level of sales volume), 71.89% would theoretically use the outsourcing services less frequently or not at all, which supports the assumption that the higher the sales volume of the enterprise, the more frequent the usage of the outsourcing to analyse the information about innovation.

The results we achieved imply that: the information is crucial for the enterprises when managing the innovations, although the small- and medium-sized enterprises might face the issues related to their limited budgets (the smaller the enterprise, the less likely it does acquire the information about innovation and the smaller the enterprise, the less likely it does use the outsourcing to analyse this information). The information (and its management) is a part of innovation planning process in the enterprise (searching for the information about markets, customers, technologies is one of the first steps in the innovation process). The information management (who, where, when and how to acquire the information about innovation, if and how to use the outsourcing to analyse the information etc.) should be incorporated into the innovation strategy and management of the innovation to help the enterprises manage for the sustained success. The innovation strategy is a variety of decisions towards achievement of the innovation objectives of the enterprise. One of the basic elements of the innovation strategy, besides the investment into the R & D, is searching for internal and external sources of knowledge, project partnerships and outsourcing of the projects in the innovation area, as well as the protection of the innovation outputs. Based on the statement of Gómez et al. (2016), for years the process of obtaining innovations was developed under the logic of closed innovation, where internal R & D investment was the most important factor of the innovation process. As the small- and medium-sized enterprises often overcome some types of size-
related competitive challenges (lack of information access, lack of resources incl. human and finance, limited capabilities), specific strategies are appropriate to be used. The acquisition of the information could be included into the specific management approach to the innovation, where the internal and external sources of knowledge are fully utilised, mainly when collaborating with other small- and medium-sized companies (i.e. open innovation strategies – collaboration with other SMEs, external research, joint ventures, knowledge sharing etc.). The term open innovation means the purposive inflows and outflows of knowledge to accelerate innovation, and to expand the markets for external use of innovation (Chesbrough, 2006, In Cornell, 2012). Also, Jackson and Richter (2017) define the open innovation as an innovation framework proposing that established firms use external sources as pathways to new ideas, technologies, business models and markets and based on the work of Negny et al. (2017), this type of the innovation relies on collaboration which should enable a community, with a very broad spectrum of skills, to share data, information, knowledge, and ideas. To use the external knowledge and networks, information management (and information system) is a vital element as it supports knowledge exchanges between enterprises (e.g. to acquire the information about potential partners on the market or the customers' needs). The appropriate amount of appropriate information is enabler as well as the result of the open innovation strategy in small- and medium-sized enterprises.

5. Conclusion

The main aim of the paper was to research the importance of information in the management of innovation within the Slovak enterprises, which can be used for their proper decision-making, especially when preparing the innovation strategy and managing the innovations. We used various mathematical and statistical methods to achieve the results of what is the relationship between the size of the enterprise and the acquisition of information about innovations (first hypothesis) as well as the sales volume of the enterprise and the frequency of using the outsourcing to analyse the information about innovation (second hypothesis). Although the first hypothesis was not confirmed at the generally accepted significance levels, we found the positive association (dependence) between the sales volume and the utilisation of outsourcing to analyse the information about innovation. We came to conclusion that these findings should be incorporated in the innovation strategy (or management of innovations) of the enterprise in the form of open innovation concept. The appropriate information is not only the result of enterprise's openness but also the enabler which allows (mainly small- and medium-sized) enterprises to collaborate and overcome the size-related challenges to manage for the long-term success.

References


THE FORMATION AND DEVELOPMENT
OF CROSS-BORDER CLUSTERS: WORLD EXPERIENCE FOR UKRAINE

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Abstract
Among the solutions to the problems of regional development in a globalizing world economy, the scientists in this branch define cluster formation. This states that competitiveness and clustering process are inextricably linked and determined. In terms of cross-border cooperation the cross-border regions are fully engaged in the process of clustering. Cross-border clusters have their own characteristics, they cover adjacent border areas of neighboring countries and their institutions including the company placed on both sides of the border. In Ukraine the border regions do not use the full potential of cross-border cooperation, which allows to speed up the European integration processes and strengthen the internal reserves of the socio-economic development by creating cross-border clusters. The objective of this paper is to identify priority areas of cross-border clusters in Ukraine. The paper used comparative, systematic research methods and modeling techniques. The theoretical concept of cross-border cooperation and its importance for the development of Ukrainian border area were studied with the use of comparative method. The concept of clusters and cross-border clusters in particular was studied as well. We have also systematically analyzed joint cross-border regions of Ukraine with its neighbors and world experience of clustering. Modeling method was used in the international (cross-border) cluster modeling on the principle of diversified business enterprises. Studies are conducted in cooperation with the Institute of Cross-border Cooperation and European Integration (Lviv, Ukraine). The study identified the priority areas of cross-border clusters in Ukraine.

Key words
competitiveness, cross-border cooperation, cross-border region, cross-border cluster

JEL classification
F23, O18, R13, R58

1. Introduction
The priorities of the contemporary stage of economic development of Ukraine are considered to be ensuring high rates of increasing GDP by means of improving effectiveness of production and achieving a proper level and quality of life of the country’s population on this basis. One of the ways of solving this complex problem is cross-border cooperation. The legislature of Ukraine (as of 1993, 2004, 2009) considers cross-border cooperation to be a process carried out between adjacent territories, a specific sphere of external economic, political, ecological, cultural and educational and other types of international activity performed on a regional level and which comprises all their general forms. The basis of cross-border cooperation is the process of formation of connections and agreement relationships on cross-border territories with the purpose of looking for solution of common and identical problems.
Cross-border cooperation in Europe began to develop actively in 1950s, after WWII, when representatives of many cross-border regions began to meet to discuss the possibility of elimination of border barriers and further development of cross-border cooperation (Păuna, 2014; Svensson, 2013). The knowledge and experience acquired in the process of such cooperation became the basis for formation of future integrational unions, are relevant nowadays and may be used for building our state. In the 21st century, in the context of accelerated globalization, there is a departure from hierarchical management structures that can no longer ensure the high level of competitiveness of any objects. This necessitated the development and implementation of new mechanisms for improving the competitiveness of the border regions, among which special attention is paid to the cluster approach.

From English, the word "cluster" is translated as a part, a bouquet, a brush, or as a group, a concentration (for example, people, objects), or as a bee swarm. This value is added to the meaning of this word and from an economic point of view. In the early 90's of the twentieth century an American scientist Michael Porter formulated the concept of cluster development, which has become widespread in the world. The scientist described it for the first time in the book "Competitive Advantage of Nations" published in 1990. In 2008, in his book On Competition, he identified the cluster as the geographical concentration of interconnected companies, specialized suppliers, service providers, companies from related industries and related institutions that compete and cooperate with each other.

Given that clusters have a wide range of activities, there is a need to classify them according to the territorial division of labour. Thus, regional, interregional and international, in particular, cross-border clusters, are distinguished. Cross-border clusters are emerging as a new form of cross-border cooperation in the current conditions for the development of cross-border cooperation between neighbouring countries.

A cross-border cluster is a form of integration of independent companies and associated institutions that are geographically concentrated in a cross-border region, are specialized in different branches, related by common technologies and skills, and mutually complete each other, which is based on availability of an agreed strategy of development of participants of the cluster (Dobreva, 2013). A peculiarity of cross-border clusters is that its participants are located in different fiscal, customs, legislative environments of neighbour countries, however may have common enterprises and organizations, use shared infrastructure, and function, mostly, on cross-border markets. Another peculiarity is that intensiveness of network interactions in a cross-border cluster is limited by presence of a border, which creates additional barriers for a free flow of goods, workforce, and capital. Different mentality, traditions, language, culture, negative pages of history etc. may also be barriers to establishing cooperation. For clusters to become successful, time is necessary – numerous examples testify that formation of a cluster takes a decade or so to work out a considerable and real competitive advantage (Mikula, 2011).

Such a form of cross-border cooperation as cross-border clusters is spread in the leading countries of the world and developing countries, however it is most spread on European borders where the main purpose of a cross-border cluster is accelerating economic growth due to unity efforts of the participants, ensuring competitive advantages for cross-border regions. Nowadays there is a number of successful examples of the formation of international and cross-border clusters in the EU. In particular, one of the most successful transborder cluster "Biodolina" in the valley of the Upper Rhine (Switzerland - FRG - France). There are also successful examples of cross-border clusters with the participation of Central and Eastern
European countries: cluster of glass (Upper Austria (Austria) - Bavaria (FRG) - Bohemia (Czech Republic)); technological cluster: (Styria (Austria) - Slovenia) and many others. The experience of using a cluster approach is also known in the organization of transportation in maritime cross-border regions. Researches by some scientists are devoted to the study of international clusters in the Baltic Sea region, the vast majority of which are transboundary (Mikhaylov, 2014; Kurowska-Pysz, 2016; Neženko, 2017). World practice has shown that the clustering of the economy determines and has a decisive influence on the processes of strengthening competitiveness and accelerating innovation. This is a new economic phenomenon that can withstand the onslaught of global competition and adequately meet the requirements of national and regional development. It is therefore argued that the competitiveness and clusterization process are inextricably linked and mutually determined.

Thus, the policy of using cross-border clusters testifies that functioning of this form of cross-border cooperation significantly favors economic development of border territories, encourages innovational and investment development of the region, ensures effective use of resources, creates working places in peripheral regions etc. regardless of such peculiarities of cross-border clusters as presence of borders, different mentality, traditions, language, culture, location of participants of the cluster in different fiscal, customs, legislative environments of neighbor countries and other barriers for a free flow of goods, workforce, and capital. Cross-border regions of the EU countries fully involved in the processes of clustering get synergic effects on cross-border markets.

In the analysis of recent research and publications, this paper is devoted to many research outcomes and publications. The theoretical foundations for the formation of clusters were started in writings by M. Porter, A. Marshall, E. Lymer, V. Feldman, M. Enright, V. Anderson, V. Price, M. Steiner, S. Hartman, S. Rosenfeld and others. Problems of regional policy, cross-border cooperation, the creation and development of Euroregions, positive effects and other features are covered in the writings of such scholars as P. Belenky, A. Vavrynyjuk, M. Dolishnii, M. Landel, P. Lutsyshyn, Yu. Makogon, E. Matveev, N. Mikula, A. Mokhii, V. Tolkovanov and others. Ukrainian scientists S. Sokolenko, M. Voinarenko, L. Fedulova, N. Mikula, A. Mokii and others have devoted their studies to the processes of formation of cross-border clusters. At the same time, we note that the problems of the formation of cluster structures in Ukraine need further study. There are a number of unresolved issues regarding the development and effective functioning of cross-border clusters in Ukraine, in particular the adaptation of world-class cluster-making experience to Ukrainian realities.

The aim of this paper is to determine the priority areas for the development of cross-border clusters in Ukraine. To achieve this goal, the following tasks are solved in the article:
1. the study of world experience in the formation and development of cross-border clusters,
2. the disclosure of prerequisites for the creation of cross-border clusters in Ukraine,
3. the construction of the model of the international (cross-border) cluster based on the principle of diversified enterprise activity on the example of a real-life enterprise located in the western border region of Ukraine.

2. Research results

In Ukraine, cross-border cooperation is an important component of the state regional policy, an effective tool for socio-economic development of the border regions and a powerful catalyst for European integration processes at the regional and local levels. It covers all areas
of the functioning of the regions: economic, social, scientific and technical, ecological, cultural, etc. At the same time, it is the quality of life of the inhabitants and the growth of the economy of the regions that are indicators of the effectiveness of its development.

The main tasks of cross-border cooperation, based on its economic component, are the development of border areas of Ukraine and deepening of its European integration processes. For Ukraine, the strategic course on European integration and deepening of partnership with the EU stipulate the need for intensification of cross-border cooperation of the western border regions of Ukraine. Formation of clusters and their development at the cross-border level would allow local enterprises to effectively integrate into the European economic space and enter European markets.

In the context of intensifying the integration processes associated with the signing of the Association Agreement between Ukraine and the EU, the impact on spatial organization of the economy of the border regions will have short-term and long-term consequences. The short-term will be to intensify the production and export to the EU of agricultural raw materials, with the simultaneous cessation of the functioning of industries with outdated technologies under the influence of imports from the EU member-states of products processing industries. The long-term consequences will be the creation of new enterprises of various industries, aimed at production and its further export to the EU member states.

The formation of a favourable investment environment and the creation of appropriate technical and social infrastructure should become the main tasks of state and local authorities. The technical infrastructure should be targeted at the priority export types of production, and social infrastructure - for the training of workers for them.

It is worth paying attention to the fact that, in order to save money on the creation of technical and social infrastructure and increase the efficiency of their use, it is necessary to pursue a policy of its concentration at selected growth points rather than even distribution in the region. From this point of view it is expedient to talk about the cluster type of spatial organization of economy in the border regions of the EU with the regions of Ukraine, which will be characterized by the functioning of specialized clusters of production for export, which will be distinguished by an infrastructure complex and skilled personnel. It should be emphasized that the training of personnel should be carried out according to the cluster principle, concentrating it in 5-6 educational centres of the Western region of Ukraine.

Given the fact that the economy of the border regions is an integral part of the transboundary economic area along the western border of Ukraine, it is necessary to take into account the importance of forming common organizational and legal forms of entrepreneurship development, in particular the operation of new forms of cross-border cooperation - cross-border clusters.

In the long term, the deepening of international integration processes through institutional support for the cluster development of transboundary territories of Ukraine will contribute to the formation of fiscal sustainability of the border economy, the improvement of the institutional level of decision-making within the cross-border area; will promote the improvement of economic relations between countries in the framework of cross-border cooperation, affecting not the level of policy, in particular where it can be applied; the formation of a positive impact on the environmental sustainability of the area of cross-border cooperation, etc. Creation of cross-border clusters in Ukraine will help increase the productivity and innovative activity of enterprises that are part of the cluster, as well as increase the intensity of small and medium-sized enterprises, increase the attraction of
investments, and ensure the accelerated social and economic development of transborder regions, which ultimately will increase the number of workers places, wages, and receipts into budgets of all levels, to increase the stability and competitiveness of the regional economies.

It is also worth noting that in the conditions of social and economic development of the border regions and strengthening their integration into the international economic system, it is important not only to create conditions for the activation of foreign economic activity and cross-border cooperation, but also to determine and analyze their results. Therefore, it is necessary to focus on transboundary effects as a consequence of cooperation between border regions. This should be done in order to enable them to predict and strategically develop in the future. The definition of transboundary effects should maximally bring us closer to the effective implementation of the goals of Ukraine's integration strategy and the implementation of the tasks of cross-border cooperation. The study of cross-border effect will give an opportunity to look at cross-border cooperation in another and actively collaborate in it. At the same time, the application of cluster analysis will promote the creation of such conditions that will stimulate an increase in the use of their own potential of territories and the benefits of their location.

To apply the world experience of clustering in the cross-border space of Ukraine, it is necessary, first of all, to determine precisely existing preconditions for this. As it is common knowledge that cross-border clusters comprise adjacent border territories of neighbor countries, we should review cross-border regions of Ukraine and perspectives of application of a cluster approach in them.

Ukraine is a state with high specific weight of border territories – 19 of 25 regions of Ukraine border on neighbor states. Ukraine borders on seven countries – Poland, Slovakia, Hungary, Romania, Moldova, Russia and Belarus. According to that the perimeter of the state border of Ukraine is comprised by: Ukrainian-Russian; Ukrainian-Belarusian; Ukrainian-Romanian; Ukrainian-Moldovan; Ukrainian-Hungarian; Ukrainian-Slovak and Ukrainian-Polish cross-border regions. Apart from that, there are sea borders in the basins of the Black and the Azov seas, which determine sea cross-border regions (with Georgia, Turkey, Romania, Russia and Bulgaria).

Thus, Ukraine has significant opportunities for the implementation of cross-border cooperation in all its forms. Regarding the prospects for the formation of cross-border clusters in Ukraine, it is worth noting that they have regional specifics. The structure of the economy of the western border regions of Ukraine, the lack of large capital and large industrial enterprises weakens the possibility of forming cluster structures in the field of production and determines their specialization mainly in the services sector. The East and South of the country have significant potential for the creation of cross-border production clusters. However, given the military aggression on the part of Russia and, consequently, the weakening of Ukrainian-Russian cross-border interactions, cross-border innovative structures formed with the participation of the Russian side, today do not show signs of development.

Given the existing differences in the preconditions for the development of regions of Ukraine, significant differences in the levels of their socio-economic development have been formed. The peculiarities of the development of the border regions of the country are, on the one hand, their proximity to the state border, and on the other - the remoteness from the central regions of the country, which today serve as areas of concentration of investment and economic activity. Increasing the transparency of borders, the attractiveness of foreign labor markets and educational services are factors that intensify the processes of outflow of skilled
labor and youth in the border regions of neighboring countries. At the same time, they have additional competitive advantages related to the opportunities offered by the implementation of cross-border cooperation, which is intended to become an important instrument for the implementation of the state regional policy precisely at the border areas.

Considering the prospects for the formation of cross-border clusters on the borders of Ukraine, it should also be noted that they will primarily be determined by the level of development of cluster approaches both in the border regions of Ukraine and in neighboring regions of neighboring states. The processes of formation and development of cross-border clusters in the border regions of Ukraine are determined both by internal and external factors.

The internal factors of the development of cross-border clusters in the border regions of Ukraine should include: a) positive: increasing interest of enterprises, regional authorities and scientific institutions in cluster initiatives; the potential of forming clusters in the main branches of the economy of the border regions; the first positive experience in cluster formation in the regions of Ukraine; increasing understanding of the importance of cross-border partnerships and cooperation among potential cluster initiatives; the presence of individuals, firms, organizations that can catalyze the process; growth of volumes of information on the functioning of clusters; b) negative: weak tendency of enterprises to cooperate with other enterprises and organizations; lack of knowledge about clusters in the business and government environments; lack of competence in network and cluster management; the weakness of business support institutes, which should be catalysts for cluster initiatives; lack of programmatic and targeted approaches and financial support for the formation of clusters at the regional level; lack of models of cooperation networks management adequate to the conditions of Ukraine.

The external factors of the development of cross-border clusters in the border regions of Ukraine include: a) positive ones: the dynamic development of the European cluster policy; formation of clusters in neighboring regions of neighboring countries; financial support for the development of cross-border cooperation within the EU programs; the emergence of expert groups dealing with cluster issues; the development of platforms for information exchange, the growth of mutual trust; b) negative: lack of trust or motivation from potential foreign participants in cluster initiatives; lack of legal support for cluster activities; the absence of a well-defined policy of central authorities aimed at developing clusters; low level of financial support for cross-border cooperation by the state.

On the territory of the cross-border regions of Ukraine the processes of formation of cross-border clusters began since 2000s. Thus, a building cluster was created in Ukrainian-Russian cross-border region (2007), the processes of formation of cross-border logistic and touristic clusters in the west, and financial, touristic and nanocluster in the east of the country began, since 2004 a great work of formation of the mega-cluster Sevastopol has been carried out, and possibilities of creation of other cross-border clusters has been considered. Moreover, with the purpose of supporting the formation of cross-border clusters in Ukraine in 2008, the Ministry of regional development, building and household economy of Ukraine together with the National academy of sciences of Ukraine, and executing the order of the Cabinet of Ministers of Ukraine, developed the project of ‘National strategy of formation and maintaining cross-border clusters’. In the Strategy mentioned above a general vision of the state was reflected concerning formation and supporting the development of cross-border clusters taking into account the peculiarities of every border/cross-border region of Ukraine.
Formation of cross-border clusters is possible on the basis of the development of cluster initiatives in the border regions of Ukraine. Over the past 10 years, with the participation of Ukraine, about 18 innovative infrastructure objects have been created, which can be called cross-border, of which 15 clusters.

Nowadays, implementation of regional initiatives concerning formation of cross-border clusters in Ukrainian-Russian space is made impossible. In Luhansk oblast, they studied possibilities for realization of cross-border cluster initiatives in transport mechanical engineering, agricultural production, medicine. Apart from that, in Donetsk and Luhansk oblasts of Ukraine and Belgorod oblast of Russia a cross-border nanocluster was at the stage of development, which was planned to be extended to other neighbor regions. There are other functioning cross-border clusters at the stage of decay, in particular, a cross-border building cluster of Kharkiv and Belgorod oblasts as part of the Euroregion ‘Slobozhanshchyna’ (March 2008). Besides, in 2008, on the basis of Kharkiv National Economic University (department of tourism), OJSC ‘Kharkiv regional foundation for support of entrepreneurship’, Belgorod State University (department of tourism), Belgorod oblast foundation for support of small entrepreneurship, a cross-border touristic cluster was formed, the pilot project of which is being introduced in Zolochiv (Ukraine) and Gayvoron (Russian Federation) regions. In the same year, Agreement on formation of pharmaceutical cluster and creating conditions for organization of contemporary shared production of medicines on border territories of Kharkiv and Belgorod oblasts was prepared for signing.

During 2004-2009, Sevastopol municipal state administration together with Chamber of Commerce and other partner organizations realized a set of events concerning finding out and support of cluster initiatives. Particularly, they created Coordination council for questions of development of cluster structures, the corresponding studies were carried out, particularly, concerning formation of the mega-cluster ‘Sevastopol’ as a form of cross-border cooperation in the Black Sea region (NAS of Ukraine, 2015, pp. 11-14).

The analysis of development of cross-border cooperation in Ukraine in the segment of border regions testifies that a cluster form of organization of economy has not acquired enough application and extension. Cross-border cooperation is carried out within ten Euroregions created on the borders of Ukraine and its neighbor countries: ‘Dnister’, ‘Upper Prut’, ‘Carpathian’, ‘Bug’, ‘Dnipro’, ‘Yaroslavna’, ‘Slobozhanshchyna’, ‘Donbas’, ‘Black Sea’ and ‘Lower Danube’. The majority of them functions as a structural subdivision of oblast state administrations differing from EU Euroregions which are mostly formed and function on the level of territorial communities. The activity of the above-mentioned Euroregions is concentrated mostly on the development of projects of cooperation, and not on their implementation. That is why the influence of Euroregions on the development of cross-border cooperation in Ukraine is insignificant, and they have not become the organizational and financial platform for coordination of cross-border cooperation.

The performed analysis of the foreign experience of formation and functioning of cross-border clusters as well as of national practice concerning finding out and development of cluster initiatives testifies the necessity of complex support on the side of the state on the questions of the development of cross-border clusters as new forms of cross-border cooperation. On the other hand, restricting factors for the development of cross-border clusters in Ukraine are absence of orientation of many national enterprises at the international market; lack of partnership skills of national subjects of economy for balanced development and formation of common plans for actions with foreign partners; low level of the
participants’ awareness of the methodology of cluster formation and of the possibilities of inter-sector interaction on the level of territorial community. Also, such a fact as a short-term margin of planning (real advantages from the development of the cluster will appear only in 5-10 years) makes you pay attention to the question about the scale of regional development management. When the scale is limited to 5 years (production cycle), it is impossible to speak of any long-term strategy (Dobreva, 2013, p. 249). However, scientists (Mikula, 2009, p. 121) have ideas on using Euroregions of Ukraine as coordinating structures of those cross-border clusters the participants of which are subjects of economy of border territories of Ukraine. Undoubtedly, for such use of Euroregions, it is necessary to carry out their reorganization and ensure popularization and informing the community about the development of cross-border clusters. To determine perspectives of cooperation of Ukraine with adjacent countries by means of formation of cross-border clusters and diversification of activity of Euroregions in the direction of their use as coordinating structures, one should pay attention to readiness of the subjects of economy themselves to become participants of the cross-border cluster. In the example of a national enterprise, we will consider the possibility of formation and functioning of an international (cross-border) cluster. In table 6, the results of the activity of Public Joint Stock Company ‘Horodok mechanical plant’ are shown, which is located in the town of Horodok of Lviv oblast, which is situated in 54 km from the border with Poland.

The results of activity of PJSC ‘Horodok mechanical plant’ (table 1) are grouped into two periods: I period – when the production of the plant was manufactured for the order of the internal market and sold mostly there; II period – when the enterprise started cooperation with foreign customers having changed their assortment policy and the strategy of their development. The data of table 6 testify the growth of values of the listed indicators due to international cooperation. Thus, international cooperation unlike selling of one’s own production on international markets ensured for the enterprise the status of not only potential but also real seller, which encouraged the flow of foreign investments, obtaining and retaining the share of the foreign market, decreasing the level of risk, informational support of prosperity of the enterprise due to increasing innovational activity etc.

However, among the advantages of international cooperation there are downsides as well the main ones of which are that the production of the enterprise is considered to be production of foreign manufacture, significant trade barriers, fees, transport costs which considerably increase the prime cost of production as well as difficulties during the use of production connected with the necessity of engaging local resources to eliminate insignificant defects. That is why one should consider other options of common effective interaction of enterprises located in different countries, for example, international clusters, which allow by using the possibilities of all the interacting enterprises of different countries ensuring the desired advantages for everyone by means of formation of effective synergic effect from their interaction.

Taking into account the peculiarities of formation and advantages from the use of synergic strategical selection (Kozyk, 2016; 2017) it is reasonable to consider the possibility of formation and functioning of international clusters according to the principle of activity of diversified enterprises as a whole of certain strategical units of business (SUB*), provisioning (PBU) and supporting business units (SBU) located in different countries. At the same time, different variants of their location between countries (figure 1) and interactions between them are possible. Besides, every PBU and SBU in their countries (on national markets) can have the status of SUB, and SUB – the status of PBU and SBU.
Table 1: The results of activity and the strategy of development of PJSC ‘Horodok mechanical plant’ regarding its presence on the international market

<table>
<thead>
<tr>
<th>Strategy of entrepreneurship</th>
<th>Increase the loading of productive capacity by means of international cooperation</th>
<th>Direction of change of value of the indicator in case the enterprise enters an international cluster by quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of indicators</td>
<td>Increase of productive capacity for national and international markets*</td>
<td>Value of indicators for years</td>
</tr>
<tr>
<td>Income from servicing, thousand hryvnias</td>
<td>+7</td>
<td>2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Level of satisfaction of the market needs in innovational production</td>
<td>1 1,3 1,1 1,2 1,4 1,5</td>
<td>+1,2</td>
</tr>
<tr>
<td>Volume of production that is detained in warehouses of the enterprise over the norm, pc.</td>
<td>35 133 103 49 17 0</td>
<td>+7</td>
</tr>
<tr>
<td>Coefficient of mark. perspectives</td>
<td>0,65 0,64 0,77 0,8 0,63 0,8</td>
<td>2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Level of quality</td>
<td>0,96 0,98 1,1 1,2 1 1,3</td>
<td>+7</td>
</tr>
<tr>
<td>Reserve of capacity</td>
<td>0,76 0,4 0,56 0,68 0,9 0,86</td>
<td>2 3 4 5 6 7 8</td>
</tr>
<tr>
<td>Income of the enterprise, thousand hryvnias</td>
<td>i/e</td>
<td>+7</td>
</tr>
<tr>
<td>Coefficient of effectiveness of advertising and means of encouraging sale</td>
<td>-</td>
<td>0,14</td>
</tr>
<tr>
<td>Coefficient of variability</td>
<td>0,15 1 0,73 0,56 0,1 0,6</td>
<td>+7</td>
</tr>
<tr>
<td>Level of correctness and sufficiency of information on the enterprise</td>
<td>-</td>
<td>0,12</td>
</tr>
<tr>
<td>Expenses of the enterprise, thousand hryvnias</td>
<td>i/e</td>
<td>-13,6</td>
</tr>
<tr>
<td>Specific weight of principally new production</td>
<td>- - - 0,46 -</td>
<td>0,63</td>
</tr>
<tr>
<td>Coefficient of novelty</td>
<td>1,3 1,23 1,47 1,6 1,32 1,71</td>
<td>+7</td>
</tr>
<tr>
<td>Number of created samples of new production, units</td>
<td>- - - 1 - -</td>
<td>+7</td>
</tr>
<tr>
<td>Number of created samples of modernized production, pc</td>
<td>9 20 17 15 - -</td>
<td>+7</td>
</tr>
<tr>
<td>Share of new and modernized production in general volume of sold production, %</td>
<td>22,2 48,6 10,1 6,7 - -</td>
<td>+7</td>
</tr>
</tbody>
</table>

Legend: 
- Value of the indicator will remain unchanged
- Value of the indicator will increase
- Value of the indicator will decrease

Source: the authors.

The created synergetic effect during functioning of international clusters, the basis for which are models of diversification offered in drawing 1, will lead to obtaining certain advantages which can be grouped in two types:

- general, which will be present for all structural elements of the created cluster (SUB, PBU and SBU) and will result in decrease or elimination of certain trade barriers, union and wider possibility of the use of resources and potentials of two or more countries, avoiding competition on the side of partners, better awareness of the needs and likings of local
consumers and the demands and conditions of functioning of this market, more efficient application of special skills and expertise, increasing differentiation of goods/services, quick entering the market, increasing potential for studying, accepting the company as a national manufacturer by consumer, necessity of less investments;

- specific, which for: SUB result in low import and investment barriers; low expenses due to the use of cheap workforce, raw materials, materials etc.; better quality of production due to specialization of the manufacturer; close location to the manufacturer of production; PBU – appearance of a stable share of the foreign market; absence of necessity to adapt the product to the foreign market; absence of limitations for sale of the offered merchandise (providing services) on the foreign market; insignificant barriers to the exit from the market due to the use of the available infrastructure; SBU – high level of return of investments.

Figure 1: Examples of possible variants of the constituents of the structure of an international cluster

At the same time, such cooperation will ensure the change of values of the considered indicators for PJSC ‘Horodok mechanical plant’ for the better (Table 6 column 8).
The peculiarity of the formations offered in drawing 1 is difficulty of their management, which demands formation and use of the corresponding administrative systems and concrete instruments of management on the level of certain states.

3. Conclusion

The conducted research shows that Ukraine has significant potential for the implementation of cross-border cooperation in all its forms. Particularly promising is the application of modern forms of international specialization and co-operation of production in the border areas of Ukraine and adjoining territories of countries bordering with it, such as transboundary clusters. The urgency of the cluster approach in cross-border cooperation is confirmed by the world experience of their effective functioning and wide-scale application.

Ukraine already has some experience in creating cross-border clusters within the boundaries of its frontier borders of the trans-border regions. However, some of them, due to certain circumstances, have not acquired their further development, and some have not been created, leaving only cluster initiatives. At the same time, Ukraine's strategic course towards European integration and deepening of the partnership with the EU today require the intensification of cross-border cooperation between its western border areas. This, in turn, implies the expediency of intensifying the development of existing ones and the creation of new cross-border clusters in this territory, in particular by reorganizing already existing Euroregions in Ukraine.

The authors focus on the willingness of business entities to become participants in a cross-border cluster. An attempt to build a model of an international (cross-border) cluster based on the principle of diversified enterprise activity of PJSC "Horodok Mechanic Plant", located in the western border region of Ukraine, indicates the real possibility of implementing this process, but at the same time its complexity. This indicates the need for significant state support on the formation and development of these structures.

The results of the study make it possible to establish priority directions for the development of cross-border clusters in Ukraine: to review the existing legislation with the purpose to improve the trans-border clusters’ formation and development on the level of central and local government authorities, which will provide the formation of the institutional environment for the development of the trans-border clusters; improvement of business climate and business administration in Ukraine; involvement of the wide range of participants to the clusterization process – state and regional government authorities, research and consulting establishments, financial structures, investment funds, public organizations, production enterprises etc.; system personnel training focused on creation and development of the trans-border clusters; raising of the operational effect of the trans-border infrastructure, safety improvement on the borders; the breaking of the administrative, institutional and infrastructural barriers for the unobstructed movement of goods, services, and people; monitoring of the development of trans-border regions in Ukraine, which will give the opportunity to analyze and reveal the potential for the trans-border clusters formation; system research of the peculiarities of the trans-border clusters’ functioning, changes of the market trends; managerial decision-making in accordance with the up-to-date market requirements.

It is worth paying attention to the fact that under conditions of certain contradiction between the theory and practice of the market-developed countries clusterization and Ukrainian realities of the transformational economy, an effective development of the trans-border clusters in Ukraine requires certain adaptation of the world’s experience. Alongside
with that, it is necessary to take into consideration the fact that the diverse nature of the application of the cluster approach to the territories development administration is marked by a lack of the unified generally-accepted, universal approaches and schemes for the creation and development of the trans-border clusters.

References


THE INFLUENCE OF THE DEVIATION FROM RATIONALITY WITH FINANCIAL DECISION

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Abstract

Behavioural finance is an increasingly accepted approach to explaining human behaviour in the market. This article describes the behavioural economics and finance as part of a new approach to economics. It argues that psychology is a necessary part of economics and finance, because they are focused on rationality, and psychology can help explain when and why rationality fails. The main aim of this article is to explore variations in the rationality of financial behaviour, and how this impacts investors’ decisions. The presence or absence of irrational behaviour is explored through a questionnaire analysis.

Key words

behavioral economics, behavioral finance, deviations from rationality

JEL classification

G02

1. Introduction

The current mainstream in economics relies on the concept of \textit{homo economicus} - a person who is always rational, and manages to get the most out of every situation. According to this assumption, the financial decision making of investors is the search for optimal solutions to maximize profit. But investors often do not make rational decisions and therefore deviations from rationality arise. Investors make financial decisions based on feelings, emotions, or attempts to deal with their individual limitations. The fact that investors do not always make rational decisions has been often confirmed. For example the existence of financial bubbles suggests irrational behaviour. The recent emergence of behavioural finance represents a new approach to financial markets, and is a response to the perceived limitations of the rational behaviour assumptions.

“Behavioural finance is the study of the influence of psychology on the behaviour of financial practitioners and the subsequent effect on markets. Behavioural finance is of interest because it helps explain why and how markets might be inefficient” (Shewell, 2007).

Behavioural finance is the study of how psychology affects financial decisions and financial markets (Shefrin, 2001).

According to Baláž (2009), behavioural finance is an interdisciplinary science that applies knowledge about cognitive and emotional deviations from rationality in researching economic decisions in financial markets.

As we can see, these definitions of behavioural finance differ somewhat, and this reflects the fact that the subject is relatively new object of study.
In our opinion, behavioural finance can be defined as the study of psychological and sociological factors that affect the financial decisions of individuals, groups or organizations. Kahneman and Tversky (1979) describe several classes of choice problems in which preferences systematically violate the axioms of expected utility theory. In the light of these observations they argue that utility theory, as it is commonly interpreted and applied, is not an adequate descriptive model and they propose an alternative account of choice under risk. This has created a prospect theory, in response to the inability of the theory of expected utility to explain some phenomena that are not in line with its underlying assumption that people behave perfectly rationally. It has shown that there may be limitations in human thinking that lead to a systematic violation of the underlying assumptions of probability theory.

According to Baláž (2009), attention to behavioral finance focuses in particular on the following issues:

- Research into systematic deviations from rationality in implementing economic decisions. The interest is how these deviations arise, how they manifest themselves and how they influence the prices of financial instruments, the revenues from them and the allocation of resources. There is also interest in the impact of deviations from rationality on the formation of market trends and the emergence of financial bubbles and subsequent bankruptcies. Can these adverse consequences be avoided, and if, how?
- Financial analysis and advice. How do deviations from rationality affect the financial health of investors? Can such deviations from rationality be corrected, and how?
- Use of experimental methods to simulate and analyse decision-making processes in financial markets.

Psychology and neurology have shown that a person does not always only act rationally. In addition to reason, his emotions are important for his behavior, even to a greater extent than logical considerations. Most decisions are made on the basis of intuitive approaches that arise from personal preferences and character traits. Some deviations from rationality are called adaptable, because they allow people to adapt to certain situations and take more efficient and quicker solutions. Other deviations from rationality arise as a result of people not having developed proper mental mechanisms to solve some problems, or by using mechanisms that are not well suited to dealing with these specific problems (Pilch, 2014a).

As Pilch (2014a) states, deviations from rationality can occur at any stage of the decision-making process. Starting from the form in which the new information is presented, until the decision is taken. The decision-making process has several phases, each of which can be changed significantly.

Furthermore, we may break the deviations on the basis of whether the deviations from rational behavior are based on incorrect information processing or result from the personal characteristics of the investor. Accordingly, we divide them into cognitive and emotional (Baláž, 2006).

Cognitive deviations from rational behavior are based on incorrect collection, analysis, and interpretation of information. They can be corrected by learning, or by appropriate financial counseling (Pilch, 2014b).

Emotional deviations from rationality in thinking and acting are conditioned by emotional factors, especially by desire and concern. Not every emotion must be an expression of irrationality. Emotions, however, support the adoption of fast and economical decisions, which are beneficial especially when the problems are very complex and their rational
solution would take more time than is tolerable. In certain situations, emotions can suppress rational thinking and result in malicious or irrational behavior.

The problem of behavioral finances in the Slovak Republic is dealt with by very few authors. The book processing of this issue was published in 2006 by Vladimír Baláž, under the title Reason and Feelings in the Financial Markets. In the book, however, the author focuses on the subject only marginally. In 2009, the same author published the book “Risk and uncertainty”. Introduction to Behavioral Economics and Finance. In it behavioral economics and behavioral finance are elaborated in more detail. A detailed analysis of the issue was provided by Ctibor Pilch, a series of articles on Behavioral Finance, which emerged from 2011 to 2013. The most important work that helped to develop behavioral economics and finances is Prospect Theory: Decision Making Under Risk, by Kahnemann and Tverske, published in 1979. Authors use different psychological techniques to explain rational behavior anomalies. Other authors include Simon (1955), Thaler (1985, 1997, 1999), Shefrin (2001, 2010). Among the newer publications we can list the authors Bikas et al. (2013), Branch (2014), Kliger et al. (2014), Nawrocki and Viole (2014).

2. Methodology

The aim of this paper is to compare the level of rationality in financial decisions of individual investors and corporate managers. Much research has demonstrated that the working experience of respondents influences their level of rationality. We used a primary data source, specifically a questionnaire survey. The questionnaire consisted of closed questions with one choice of answer and closed questions with multiple choices of answer.

The questionnaire was completed by 33 corporate managers, and 620 individual investors. The group of managers comprised 26 men (78.79%) and 7 women (21.21%). All the managers who worked for the addressed companies had work experience of over 12 months. The age structure of managers is shown in Chart 1.

Graph 1: Age structure of managers by numbers

![Graph 1: Age structure of managers by numbers](image)

Source: the authors.

The individual investors included 352 men (56.77%) and 268 women (43.23%). Individual investors were college students. All individual investors had less than a year’s work experience.
The aim of the questionnaire was to determine the presence of selected deviations from rationality on the part of the respondents. We chose the most frequent deviations from rationality, and the questions were formulated on the basis of various research.

3. Results and discussion

The first and second questions were closely related. They focus on overconfidence. Overconfidence is one of the behavioral biases most analyzed by economic and finance researchers, because it is related to the volume of negotiated shares, for instance, with market bubbles, investment decisions and forecasts of financial return (Merkle and Weber, 2011). This can be characterized as a discrepancy between investor knowledge of financial products and financial market experience on the one hand, and real behaviours on the other hand. We asked respondents how they would characterize their investment experience, and what financial products they have personal experience of. If a respondent identifies themselves as an experienced investor, but their experience is limited to a term deposit or life insurance, we can talk about overconfidence. Table 1 shows the presence of this deviation in the respondent groups.

Table 1: Presence of excessive overconfidence in respondent groups

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>76.92 %</td>
<td>23.08 %</td>
</tr>
<tr>
<td>Women</td>
<td>14.29 %</td>
<td>85.71 %</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 1, shows the deviation of overconfidence in both groups. However, it is more prevalent amongst individual investors.

We also see that more men than women, whether managers or individual investors, suffer from excessive self-confidence. We can say that the level of work experience does not affect the presence of this deviation.

The other question was aimed at detecting the presence of availability bias. “The availability bias is a rule of thumb, or mental shortcut, that allows people to estimate the probability of an outcome based on how prevalent or familiar that outcome appears in their lives. People exhibiting this bias perceive easily recalled possibilities as being more likely than those prospects that are harder to imagine or difficult to comprehend” (Pompian, 2006, p. 94). We asked the respondents the question: Suppose you are planning to buy stocks in a pharmaceutical company. Just before you do so you hear on a popular financial news show that another pharmaceutical company just reported great earnings and the stock is up 8 per cent on the news. What is your response to this situation? A) I will likely take this information as confirmation that pharmaceutical company stock is a good area to buy in, or B) I will purchase shares of a company whose price has risen, because I expect growth to continue. The results are shown in Table 2.
Table 2: Presence of deviation in availability in respondent groups

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>69.23 %</td>
<td>30.77 %</td>
</tr>
<tr>
<td>Women</td>
<td>57.14 %</td>
<td>42.86 %</td>
</tr>
<tr>
<td></td>
<td>85.23 %</td>
<td>14.77 %</td>
</tr>
<tr>
<td></td>
<td>77.61 %</td>
<td>22.39 %</td>
</tr>
</tbody>
</table>

Source: the authors.

We see that most respondents are influenced by information that is given a lot of space in the media, and decide without any further information. The difference in the presence of this deviation between men and women is minimal. In this case, women are a little less affected than men. But the more notable difference in results is related to the respondents’ degree of work experience. To a larger extent, individual investors, who do not yet have long work experience, are affected. However, it is surprising that this deviation also affects managers who should be rationally decree not based on media information.

According to Kahneman and Tversky (1979), people tend to overestimate the value of low probability events. We focused on this deviation in the following question. Respondents had a choice of € 5,000 with a probability of 0.1% or € 50 with a probability of 100%. Respondents' decisions are shown in Table 3.

Table 3 Presence of the deviation of the over-estimation of low probabilities in the groups of respondents

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>7.69 %</td>
<td>92.31 %</td>
</tr>
<tr>
<td>Women</td>
<td>0.00 %</td>
<td>100.00 %</td>
</tr>
<tr>
<td></td>
<td>71.59 %</td>
<td>28.41 %</td>
</tr>
<tr>
<td></td>
<td>10.45 %</td>
<td>89.55 %</td>
</tr>
</tbody>
</table>

Source: the authors.

In this case, we see significant differences between men and women as well as between managers and individual investors. In the group of managers, all women would have chosen even if they were smaller but certain profits. Even most men prefer a certain investment gain. In individual investor groups, most men would accept a larger, albeit uncertain, profit. This effect may also be due to the fact that respondents cannot imagine 0.1% probability. On the contrary, women again prefer a certain profit. We see that in this case the difference in the level of work experience among men is very significant.

The other two questions related to the use of mental accounting. Respondents had the option of using a 50 € discount when paying the invoice today, but they had to go back to the store for 45 minutes. The first question assumed the invoice value was 200 €. In the second it was assumed to be 10,000 €. The results are shown in Table 4.

As we can see in Table 4, the use of mental accountancy was almost the same in both groups of respondents. Most respondents would return to the store at a 200 € invoice and take advantage of the discount. A 10,000 € invoice would be returned by less than half of the respondents, the results should be the same because the savings of 50 € is the same in both cases. However, in the case where the invoice was higher, respondents considered this money as other, less valuable.
Table 4: Using mental accountancy in groups of respondents

<table>
<thead>
<tr>
<th></th>
<th>Managers</th>
<th></th>
<th>Individual</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
</tr>
<tr>
<td>200 € Invoice</td>
<td>Go back</td>
<td>88.46%</td>
<td>85.71%</td>
<td>80.11%</td>
</tr>
<tr>
<td></td>
<td>Do not go back</td>
<td>11.54%</td>
<td>14.29%</td>
<td>19.89%</td>
</tr>
<tr>
<td>10 000 € Invoice</td>
<td>Go back</td>
<td>38.46%</td>
<td>42.86%</td>
<td>43.18%</td>
</tr>
<tr>
<td></td>
<td>Do not go back</td>
<td>61.54%</td>
<td>57.14%</td>
<td>56.82%</td>
</tr>
</tbody>
</table>

Source: the authors.

The other two questions were aimed at detecting the effect of myopia. According to Thaler (1997) people assess near and distant time periods differently. In the question, we asked the respondents which they think is better. Option A, having 1,000 euros now, or option B, having 1,150 euros in a month’s time. The results are shown in Table 5.

Table 5: Presence of deviations myopia in groups of respondents

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>7.69 %</td>
<td>92.31 %</td>
</tr>
<tr>
<td>Women</td>
<td>14.29 %</td>
<td>85.71 %</td>
</tr>
</tbody>
</table>

Source: the authors.

In the group of managers, the incidence of myopia was small, and showed only small differences between men and women. Most would choose 1,150 euros a month, which is even more when inflation is counted. The real extra value of the second option would be reduced by inflation. But the incidence of the deviation of myopia was very large in the group of individual investors, and there are much larger differences between the gender responses. So we can say that in this case the difference in work experience is very important.

This last was confirmed by the replies to the next question. We asked the respondents which they think is better: Option A, having € 1,000 in a year’s time, or Option B, having € 1,150 in a year and one month. The results are shown in Table 6. When we extended the time period by one year, the responses of the group of managers did not change. But amongst the group of individual investors more respondents were willing to wait. For them a higher proportion was willing to wait an extra month at a year’s distance in time, for an extra benefit of now reduced discounted value. We could attribute this result to a difference in the level of work experience.

Table 6: Presence of deviations myopia, the second variant in the groups of respondents

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>7.69 %</td>
<td>92.31 %</td>
</tr>
<tr>
<td>Women</td>
<td>14.29 %</td>
<td>85.71 %</td>
</tr>
</tbody>
</table>

Source: the authors.
The last question was about the anchoring effect. Anchoring is an important bias to be studied in the decision-making field, because individuals tend to make inadequate estimates based on an initial value (Tversky and Kahneman, 1974). The bias ‘anchoring’, within the business environment, may impair a decision, since the decision maker can lock in mistaken and subjective values or information (Caputo, 2014).

We asked about the price at which respondents would be willing to sell a house that they had bought 15 years ago for 250,000 €, whose current estimated price is 900,000 €. After several months of failure to find a buyer, the broker re-estimated the house price at 10% lower than originally proposed. Respondents who were not willing to lower the price by 10% have an anchor effect. The anchor is for them the originally proposed price of 900,000 €. The effect of anchoring is shown in Table 7.

Table 7: Presence of anchoring effect in respondent groups

<table>
<thead>
<tr>
<th></th>
<th>Corporate managers</th>
<th>Individual investors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>15.38 %</td>
<td>84.62 %</td>
</tr>
<tr>
<td>Women</td>
<td>28.57 %</td>
<td>71.43 %</td>
</tr>
<tr>
<td></td>
<td>With deviation</td>
<td>Without deviation</td>
</tr>
<tr>
<td>Men</td>
<td>80.40 %</td>
<td>19.60 %</td>
</tr>
<tr>
<td>Women</td>
<td>75.37 %</td>
<td>24.63 %</td>
</tr>
</tbody>
</table>

Source: the authors.

As shown in Table 7, the anchoring effect was much more pronounced for individual investors, amongst whom men had a slightly higher probability to anchor than did women. Amongst managers anchoring was much less common than for individual investors and less common for men than for woman. Again the level of work experience has substantial effects on the results.

“Human behaviour concerning decision-making processes has been the object of many studies essentially focused on understanding the influence of behavioural and cognitive aspects on the decisions made” (Costa et al., 2017, p. 1776).

Traditionally oriented economists question the methods used in behavioural economics, especially experiments and tests. They point to the fact that people often say one thing but do another. However, if experiments and tests are performed professionally, their results are comparable in different situations and environments (Baláž, 2006).

Richard Thaler began to sample several thousand volunteers and found that patterns of behaviours are determined by mental abbreviations, resulting in systematic and predictable mistakes (Thaler, 2008).

Kahneman and Tversky (1984) have been able to systematically disrupt the main theory of rational theory by their numerous experiments.

Behavioural economics provides us with a number of practical findings that can be used in life. By recognizing its radical findings people can correct mistakes and achieve greater value in their decisions. As the scope of behavioural economics expands and more anomalies are explained, more people will become aware of its implications and their decision-making will improve.
4. Conclusion

Behavioural economics is currently more appropriate to resolving certain economic problems than standard economic theories. It brings new possibilities for interconnecting psychology, neurobiology, neurophysiology and economics. This interconnection seems to be enriching because it allows us to unravel the solution of the anomalies with which standard economic theory cannot deal. Based on the questionnaire survey, we can confirm that the presence of selected deviations from rationality is more common amongst individual investors than for managers. We can say that the level of work experience affects the decision-making of respondents. Some selected deviations from rationality are more pronounced than others, but their presence is evidence that the assumptions of conventional economics are insufficient for the full analysis of current observations.

All the businesses we've been approached in which managers have decided to rationally achieve ROA values above 15%. Their average value was 22.86%. For these businesses, the average value of the ROE indicator is relatively high, up to 43.57%. These companies also had high ROS values at 13.28%. Conversely, companies that have been in managers showed deviations from rational decision-making should the value of the indicator ROA of less than 10%. The average value was only 3.22%. These businesses also achieve a very low ROE of only 7.85% and a low ROS of 2.23%. Based on our questionnaire survey, we can conclude that the presence of deviations from rationality has a major impact on the financial performance of businesses.

References


ALTERNATIVE METHODS OF VOLATILITY CALCULATION FOR ETF SPY AND ETF SHY

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Abstract

Financial volatility can be understood as a magnitude that indicates the degree of deviation of the financial asset from the return over the time. From the investor’s point of view, on the one hand, volatility represents the risk but on the other hand the market opportunity. The research question is what approach should be used to estimate the volatility. The classic method of calculating historical volatility is using the standard deviation also known as Close-to-Close volatility. In this paper, we focus on volatility calculations using the variant methodological approaches and compare the resultant values with Close-to-Close volatility. The first approach characterizes selected methodological basis in the conversion of historical volatility. The second approach characterizes the volatility conversion using the method of moving averages. The last approach used in the paper is based on the GARCH model. The data base consists of two Exchange Trading Funds (ETF): ETF SPY and ETF SHY. The aim of the paper is to evaluate the functionality of the advanced approaches to measuring the volatility of underlying instruments.

Key words

volatility, moving average, GARCH

JEL classification

C22, C51

1. Introduction

Each investor concentrates his attention on two fundamental variables: return and risk. The risk of the underlying asset is measured by the different methods. The most commonly used method of determining the risk of a financial instrument is its volatility. Volatility is characterized by the instability of financial instruments. With volatility, we can determine how much the measured values of a particular time period deviate from the average return. Volatility itself can be expressed in different ways. Therefore, it is a research question of whether there is no approach that, compared to others, can more accurately determine the volatility value and subsequently provide a more accurate estimate for the future. In this paper, we are approaching the measurement of volatility within two groups. The first group is aimed at comparing different approaches to determining historical volatility. The second group compares the volatility recalculated by moving averages and the GARCH (1,1) model. The aim of the paper is to evaluate the functionality of the advanced approaches to measuring the volatility of underlying instruments. In the case of historical volatility estimates, we
compare the results with the classic approach: Close-to-Close volatility. The issue of determining and predicting volatility has become one of the main areas of interest for many economists in the recent past, as it is one of the most important financial problems. Volatility modeling is also closely linked to financial markets because many indicators of technical analysis are based on volatility values. This indicator is therefore not only a measure of risk but also an opportunity for an investor.

2. Theory, data and methodology

We measure volatility based on daily logarithmic returns of underlying assets. The first part of the paper focuses on various approaches of historical volatility measurement. A classic approach to volatility determination is the Close-to-Close volatility, which is measured as a standard deviation in the return on the underlying for a reference period. Criticism of this approach lies in the fact that volatility is measured only at closing prices, which ignores other price movements over time. The formula of logarithmic relative return is:

\[ r_t = \ln \left( \frac{c_t}{c_{t-1}} \right), \]  

where \( r_t \) is logarithmic return at time \( t \), \( c_t \) is close price at time \( t \) and \( c_{t-1} \) is close price at time \( t-1 \). Then the historical Close-to-Close volatility is given by:

\[ \sigma_{C-C} = \sqrt{\frac{1}{N} \sum_{t=1}^{N} (r_t - \bar{r})^2}, \]  

where \( N \) is the number of observations, \( \bar{r} \) is mean return.

The first advanced approach to the determination of volatility was made by Parkinson (1980). This estimator uses the maximum and minimum prices of underlying asset in the period. This approach should be more accurate in quantifying the volatility of the underlying asset over the previous approach. However, similar to Close-to-Close volatility, there is a strong predisposition for continuous trading, which may cause volatility to be underestimated. Parkinson volatility is given by:

\[ \sigma_p = \sqrt{\frac{1}{N} \left( \frac{1}{4 \times \ln(2)} \sum_{t=1}^{N} \left( \frac{h_t}{l_t} \right)^2 \right)}, \]  

where \( h_t \) is the highest price at time \( t \), \( l_t \) is the lowest price at time \( t \).

Later, in 1980, Garman and Klass expanded Parkinson volatility estimator, which in addition to maximum and minimum prices includes the closing price of the asset. This estimator, therefore, is a combination of Close-to-Close volatility and Parkinson’s approach and does not take into account the change in the price of the underlying asset when the markets are closed. The formula of Garman-Klass estimator is:

\[ \sigma_{G-K} = \sqrt{\frac{1}{N} \sum_{t=1}^{N} \frac{1}{2} \left( \ln \left( \frac{h_t}{l_t} \right) \right)^2 - (2 \ln(2) - 1) \times \left( \ln \left( \frac{c_t}{c_{t-1}} \right) \right)^2}. \]
\[ \sigma_{R-S} = \sqrt{\frac{1}{N} \sum_{t=1}^{n} \ln\left( \frac{h_t}{c_t} \right) \times \ln\left( \frac{h_t}{o_t} \right) + \ln\left( \frac{h_t}{c_t} \right) \times \ln\left( \frac{h_t}{o_t} \right)} , \]  

where \( o_t \) is the open price at time \( t \).

The latest approach used is Yang-Zhang (2002) estimator. As the Rogers-Satchell volatility, it takes into account the assumption of the non-zero average return (drift) of the underlying asset. The biggest advantage is that as the most comprehensive of the estimators, volatility also occurs at a time when the financial markets are closed. It is calculated as a weighted average of Rogers-Satchell volatility and Open-to-Close volatility. Yang-Zhang volatility is given by:

\[ \sigma_{Y-Z} = \sqrt{\sigma_{\text{overnight volatility}}^2 + k \sigma_{\text{open to close volatility}}^2 + (1-k)\sigma_{R-S}^2} , \]  

where:

\[ k = \frac{0.34}{1.34 + \frac{n+1}{n-1}} , \]  

\[ \sigma_{\text{overnight volatility}}^2 = \frac{1}{n-1} \sum_{t=1}^{n} \left[ \ln\left( \frac{o_t}{c_{t-1}} \right) - \ln\left( \frac{o_t}{c_{t-1}} \right) \right]^2 , \]  

\[ \sigma_{\text{open to close volatility}}^2 = \frac{1}{n-1} \sum_{t=1}^{n} \left[ \ln\left( \frac{c_t}{o_{t-1}} \right) - \ln\left( \frac{c_t}{o_{t-1}} \right) \right]^2 . \]  

The easiest way to determine historical volatility is to calculate the Close-to-Close volatility of the underlying asset. Other estimators bring more complex approaches to conversion, which should mean their higher efficiency, defined by Brandt and Kinlay (2005) as the ratio of the dispersion of standard Close-to-Close volatility to the variance of the alternative estimator. In the case of advanced volatility estimators, we will compare our findings with Brenett’s and Gil (2012)’s efficiency of volatility estimators.

**Table 1: Summary of advanced volatility estimates**

<table>
<thead>
<tr>
<th>Estimate</th>
<th>Prices taken</th>
<th>Drift</th>
<th>Overnight jumps</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close-to-close (CC)</td>
<td>Close</td>
<td>NO</td>
<td>NO</td>
<td>1</td>
</tr>
<tr>
<td>Parkinson (P)</td>
<td>High, Low</td>
<td>NO</td>
<td>NO</td>
<td>5,2</td>
</tr>
<tr>
<td>Garman-Klass (GK)</td>
<td>Open, High, Low, Close</td>
<td>NO</td>
<td>NO</td>
<td>7,4</td>
</tr>
<tr>
<td>Rogers-Satchell (RS)</td>
<td>Open, High, Low, Close</td>
<td>YES</td>
<td>NO</td>
<td>8</td>
</tr>
<tr>
<td>Yang-Zhang (YZ)</td>
<td>Open, High, Low, Close</td>
<td>YES</td>
<td>YES</td>
<td>14</td>
</tr>
</tbody>
</table>

Source: Bennett and Gil (2012).

*Volatility based on moving averages and GARCH (1,1)* model

In this part we focus on MA, EWMA and GARCH (1,1) model. We compare reactions of these models to price changes of two ETFs. Previous approaches have dealt with volatility expression based on historic logarithmic returns of underlying assets, so they only describe past volatility. However, in practice, an estimate of future volatility is sought. One approach is through the Moving Average (MA) method. The principle is that the future volatility estimate is calculated as the arithmetic mean of a certain number of historical volatility observations. Assigning the same weight in a sample can cause sharp leaps (or long-term sustainability of
high volatility) in the volatility conversion due to extreme values. The moving average method also does not take into account the fact that values closer to the present have a greater impact on future volatility than the older ones. This knowledge better reflects EWMA (exponentially weighted moving average) model. The principle of this method is that the weights of individual observations in the past exponentially decrease, which better reflects the impact of extreme values against the MA model. The EWMA model is given by:

$$\hat{\sigma}_t^2 = (1 - \lambda) \times \hat{\sigma}_{t-1}^2 + \lambda \times \hat{\sigma}_{t-1}^2,$$  \hspace{1cm} (7)

where $\lambda$ is the smoothing parameter.

In the last part of the paper we model the returns of financial instruments given by the following relationship:

$$R_t = \mu_t + \epsilon_t, \quad \epsilon_t = \sigma_t \epsilon_t, \text{ where } \epsilon_t \sim iid(0,1).$$  \hspace{1cm} (8)

The return at time $t$ is therefore the sum of the conditional mean value and the residuals, which are represented by conditional volatility and external shocks.

The Generalized Autoregressive Conditional Heteroskedasticity (GARCH) model is another approach to the volatility estimation of financial markets. This model allows volatile (conditional dispersion of random component) to depend on its previous delayed values. This model captures the conditional volatility of selected financial instruments, which depends on their past value and the impact of external shocks. GARCH (1,1) model can be written as:

$$\hat{\sigma}_t^2 = \omega + \alpha(\sigma_{t-1} \epsilon_{t-1})^2 + \beta\sigma_{t-1}^2 = \omega + \alpha(R_{t-1} - \mu_{t-1})^2 + \beta\sigma_{t-1}^2.$$  \hspace{1cm} (9)

To estimate the conditional mean value, we use the AR model (1) where the conditional average is the linear function of the last yield value. The AR model (1) can be written by:

$$\mu_t = \mu + \delta(R_{t-1} - \mu).$$  \hspace{1cm} (10)

The data base for estimators and volatility models consists of 2 Exchange trading funds (ETFs), namely: ETF SPY and ETF SHY. ETF SPY is a financial instrument that tracks the S&P 500 index. The composition of index is based on the valued average of the 500 largest US listed companies. From the risk nature of the stock, this index (and ETF) is more prone to higher volatility in the return. On the other hand, ETF SHY tracks an index composed of US bonds with a remaining maturity of 1-3 years. Bond composition of this ETF has the lower effect of price changes. By using different risk groups, we monitor the functionality of individual estimators and models on the different composition of the underlying asset. In both ETFs we use daily data from 4.10.2005 to 4.10.2017 for capturing the turbulent situations (The Great Depression) but also relatively stable period (before and after the economic crisis). We evaluate the volatility on the annual scale based on the square root of time rule. To calculate volatility, it is recommended to use at least 20 historical data. We will use 30 historical observations. The data are processed in SPSS and MS EXCEL programs using the NumXL add-in.

3. Results and discussion

Figure 1 shows the daily returns of both analyzed ETFs. For ETF SPY, a higher volatility rate (-10%, +14%) is visible than for ETF SHY (-0.5%, +0.5%). This difference is understandable from the investment strategy of both investment instruments. The chart also shows the volatility clustering effect, which means that after high changes in the price of the underlying instruments, there is a period with relatively lower changes in their price. This
change is a factor in time, i.e. the period until the overall volatility returns to its average values.

Figure 1: Logarithmic returns of ETF SHY and ETF SPY

In the Tables 2 - 4 we present descriptive statistics and the effectiveness of the individual historical volatility estimators for ETF SPY. During the reporting period, individual estimates based on historical volatility reached relatively similar values. The highest values in all estimators were reached at the time of the economic crisis (2008-2009) when the Yang-Zhang estimator reached the maximum value. This was due to the occurrence of gaps (jump in price during closed financial markets) during turbulent times. The only estimator, achieving an efficiency of less than 1, is the YZ estimator, because of a higher price change response than other estimators. The remaining estimators were similar efficiency values to C-C volatility (Efficiency values 2). In the case of ETF SPY, the significantly increased efficiency values of the estimators have not been confirmed compared to Bennett’s and Gil’s (2012) efficiency of volatility estimators. The correlation matrix points to a strong direct linear dependence among all estimators. Therefore, the analysis does not indicate the preference of advanced approaches versus the classic C-C approach.
ETF SHY also achieves the most significant historical volatility values at the time of the economic crisis. In the first year of the tracking period (2005), the ETF was characterized by relatively frequent gaps, what caused increased Yang-Zhang estimator values. When using different types of underlying assets, the higher sensitivity of Yang-Zhang estimator is still reflected in price changes. Reaction on gaps caused that calculation of volatility based on advanced estimators was higher than the Close-to-close volatility that was reflected in lower efficiency of this estimators. (Table 6) Compared to the previous ETF, the correlation coefficient values are lower, but there is still a strong direct linear dependence between the individual estimators. Again, there was no higher efficiency of advanced estimators than C-C, so we do not prefer advanced approaches for this type of financial instrument. Brand and Kinlay (2005) confirm our results. They tested financial volatility estimators on simulated and empirical data. Through simulated data, they modeled time series with drift and gaps. The resulting correlation matrix between different approaches was much higher at empirical data than at simulated data.

Table 2: Descriptive statistics of historical volatility estimators for ETF SPY

<table>
<thead>
<tr>
<th></th>
<th>Count</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>2995</td>
<td>0.050</td>
<td>0.865</td>
<td>0.160</td>
<td>0.112</td>
<td>3.202</td>
<td>13.507</td>
</tr>
<tr>
<td>P</td>
<td>2995</td>
<td>0.045</td>
<td>0.703</td>
<td>0.135</td>
<td>0.092</td>
<td>3.176</td>
<td>12.842</td>
</tr>
<tr>
<td>GK</td>
<td>2995</td>
<td>0.046</td>
<td>0.709</td>
<td>0.135</td>
<td>0.093</td>
<td>3.180</td>
<td>12.875</td>
</tr>
<tr>
<td>RS</td>
<td>2995</td>
<td>0.046</td>
<td>0.736</td>
<td>0.137</td>
<td>0.096</td>
<td>3.166</td>
<td>12.761</td>
</tr>
<tr>
<td>YZ</td>
<td>2995</td>
<td>0.065</td>
<td>0.924</td>
<td>0.178</td>
<td>0.122</td>
<td>3.042</td>
<td>12.219</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3: Efficiency of historical volatility estimators for ETF SPY

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>P</th>
<th>GK</th>
<th>RS</th>
<th>YZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance</td>
<td>0.00662</td>
<td>0.00303</td>
<td>0.003083</td>
<td>0.00347</td>
<td>0.008843</td>
</tr>
<tr>
<td>Efficiency</td>
<td>1</td>
<td>2.1776</td>
<td>2.1468</td>
<td>1.9055</td>
<td>0.7486</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 4: Correlation coefficients of historical volatility estimators for ETF SPY

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>P</th>
<th>GK</th>
<th>RS</th>
<th>YZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>1</td>
<td>0.981</td>
<td>0.979</td>
<td>0.974</td>
<td>0.983</td>
</tr>
<tr>
<td>P</td>
<td>0.981</td>
<td>1</td>
<td>0.997</td>
<td>0.993</td>
<td>0.989</td>
</tr>
<tr>
<td>GK</td>
<td>0.979</td>
<td>0.997</td>
<td>1</td>
<td>0.998</td>
<td>0.992</td>
</tr>
<tr>
<td>RS</td>
<td>0.974</td>
<td>0.993</td>
<td>0.998</td>
<td>1</td>
<td>0.991</td>
</tr>
<tr>
<td>YZ</td>
<td>0.983</td>
<td>0.989</td>
<td>0.992</td>
<td>0.991</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: the authors.
Table 6: Efficiency of historical volatility estimators for ETF SHY

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>P</th>
<th>GK</th>
<th>RS</th>
<th>YZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variance</td>
<td>8.4E-08</td>
<td>1.1E-07</td>
<td>1.4E-07</td>
<td>2.3E-07</td>
<td>4.9E-07</td>
</tr>
<tr>
<td>Efficiency</td>
<td>1</td>
<td>0.76</td>
<td>0.60</td>
<td>0.36</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 7: Correlation coefficients of historical volatility estimators for ETF SHY

<table>
<thead>
<tr>
<th></th>
<th>CC</th>
<th>P</th>
<th>GK</th>
<th>RS</th>
<th>YZ</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC</td>
<td>1</td>
<td>0.888</td>
<td>0.874</td>
<td>0.841</td>
<td>0.905</td>
</tr>
<tr>
<td>P</td>
<td>0.888</td>
<td>1</td>
<td>0.993</td>
<td>0.981</td>
<td>0.977</td>
</tr>
<tr>
<td>GK</td>
<td>0.874</td>
<td>0.993</td>
<td>1</td>
<td>0.995</td>
<td>0.967</td>
</tr>
<tr>
<td>RS</td>
<td>0.841</td>
<td>0.981</td>
<td>0.995</td>
<td>1</td>
<td>0.951</td>
</tr>
<tr>
<td>YZ</td>
<td>0.905</td>
<td>0.977</td>
<td>0.967</td>
<td>0.951</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: the authors.

3.1. Moving average, exponential moving average and GARCH (1,1)

In this section, we compare the Moving Average (MA), exponentially weighted moving average (EWMA), and GARCH (1,1). For the calculation of MA and EWMA we used a 30 day base. For EWMA, we chose the value of 0.94 as the lambda parameter according to the RiskMetrics (1996) methodology. The parameters of the GARCH (1,1) and AR (1) are listed in the table 8.

Table 8: Parameter estimations for GARCH(1,1) and AR(1) models

<table>
<thead>
<tr>
<th></th>
<th>SPY</th>
<th>SHY</th>
</tr>
</thead>
<tbody>
<tr>
<td>μ</td>
<td>0.0006</td>
<td>0.0002</td>
</tr>
<tr>
<td>AR(1)</td>
<td>-0.08</td>
<td>-0.12</td>
</tr>
<tr>
<td>ω</td>
<td>2.41E-06</td>
<td>7.28E-07</td>
</tr>
<tr>
<td>α</td>
<td>0.115</td>
<td>0.06505</td>
</tr>
<tr>
<td>β</td>
<td>0.863</td>
<td>0.06505</td>
</tr>
</tbody>
</table>

Source: the authors.

GARCH (1,1) has a beta coefficient at 0.86, which tells us that volatility at time t will depend on about 86% of previous volatility. All three models achieve increased values over the same periods. The GARCH (1,1) model responding to volatility change earlier than the remaining two models. EWMA and MA models reach relatively similar values, which can be caused by choosing a relatively short time horizon (30 days) and a high lambda smoothing parameter at 0.94.
Bond ETF SHY is characterized by much lower volatility (figure 1), therefore the beta coefficient of GARCH (1,1) model is very low. For this reason, the use of GARCH (1,1) is weak, so we do not compare it with MA and EWMA models. Again, we see a high similarity with both volatility models. In this case, EWMA responds more quickly to high volatility changes over time due to the introduction of the lambda parameter. This parameter gave us a more accurate expression of volatility over time. As we mentioned, in the first two years (2005 and 2006), there was relatively frequent appearance of strong gaps at ETF SHY so in both models (MA and EWMA) are values of volatility jumping in these two years. The highest values of volatility were observed at the time of the financial crisis.
Table 9 shows correlation coefficients between MA, EWMA and GARCH (1,1) model. There is a strong direct dependence in the monitored period between all models. For both ETFs there were periods with faster volatile growth, also known as spike. By using the classic MA model, volatility tended to hold on higher values. When we add the lambda parameter, or using the GARCH (1,1) model, volatility values jumps higher than MA model but these jumps were followed by significant decrease. EWMA and GARCH (1,1) gave us more realistic values of volatility.

Table 9: Correlation between MA, EWMA and GARCH (1,1) for ETF SPY and SHY

<table>
<thead>
<tr>
<th></th>
<th>SPY</th>
<th>SPY-MA</th>
<th>SPY-EWMA</th>
<th>SPY-GARCH</th>
<th>SHY</th>
<th>SHY-MA</th>
<th>SHY-EWMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPY</td>
<td>1</td>
<td>0,984</td>
<td>0,935</td>
<td></td>
<td>SHY</td>
<td>1</td>
<td>0,984</td>
</tr>
<tr>
<td>SPY-MA</td>
<td>0,984</td>
<td>1</td>
<td>0,980</td>
<td></td>
<td>SHY-EWMA</td>
<td>0,984</td>
<td>1</td>
</tr>
<tr>
<td>SPY-GARCH (1,1)</td>
<td>0,935</td>
<td>0,97951</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

4. Conclusion

The aim of paper was to evaluate the functionality of the advanced approaches to measuring the volatility of underlying instruments. We selected two different ETF funds as underlying instruments. Both have different risk aspects (stock and bond). In the first part we analyzed the approaches to determining historical volatility. Efficiency of advanced estimators did not show up on the theoretical values in any of the ETF funds. Even the Yang-Zhang estimator has reached values of efficiency below 1. This estimator is the most complex among the remaining estimators (considering drift and jumps in prices). Paradoxically, its theoretical ability to include jumps in prices has caused low value of final efficiency. For both ETFs we did not confirm significantly higher efficiency of the estimators (the highest Parkinson volatility). Our results are also confirmed by the high correlation coefficient values. Therefore, we do not prefer advanced estimators compared to the classic Close-to-Close approach. In the second part of the paper, we modeled volatility based on moving averages and the GARCH (1,1) model. Because of the low volatility in the ETF SHY price, it was not possible to use GARCH (1,1). Using the weights in the EWMA model (lambda parameter) has redefined the volatility results after sharp price changes. The use of GARCH (1,1) for ETF SPY slightly increased volatility over EWMA. On the other hand, the model responded most rapidly to volatility changes compared to the moving average. The overall high similarity of volatility via all methods could be due to the high lambda parameter and the relatively low moving width.

References


DESTINATION MANAGEMENT AND GOVERNANCE
– THEORY AND PRACTICE IN SLOVAKIA

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Abstract
Tourism destinations are nowadays broadly discussed topic in the scientific literature. The approaches to examine the tourism development in destinations evolve. The topic of destinations management and governance is discussed mainly in foreign literature. The aim of the paper is to find out the interactions between tourism management and governance in the wine destination Pezinok (district Pezinok) and to identify the main problems in the implementation of the good governance principles in existing stakeholders’ network. The conducted study is based on the results of the qualitative research based on in-depth interviews conducted in 2017 among the identified stakeholders in the destination. The responses of respondents are evaluated by means of ATLAS software. The paper formulates main problems in the implementation of good governance principles from view point of main stakeholders. The municipalities have the problems in the efficiency and effectivity, mainly when we take into consideration the activities and actions connected with the tourism development. The tourism organizations have the greatest problems in the implementation of the principles as transparency, effectiveness and efficiency and trust.

Key words
destination management, destination governance, tourism, Slovakia

JEL classification
L48, O16

1. Introduction

Due to the changing conditions on the tourism market, the need for flexibility and dynamics in co-ordination of the tourism destination and lack of authority in the management of the destinations, the destination management organizations have difficulties in the performance of the tasks of the destination management. These difficulties have impact on the changes in the research of the destinations and the concept of the governance applied to tourism started to be discussed. This concept takes better into account various interests of stakeholders.

The term governance is not new one and in the context of destinations the greater attention has been paid to the governance since 2007. United Nations (UN, 2012) defines the governance as the process of decision making process and decisions implementation. The term governance can be used in various contexts such as political governance, business governance or territorial governance (destination governance).
2. Literature review

Prior studies on destination management stressed the role of the government and took into account a “top-down” approach. The role of the government in the creation of the suitable decisions and policies and dealing with public affairs have been researched. For the meantime, tourism scholars and researchers have shifted attention from the destination management to the destination governance perspective, highlighting multi-actor complexity, resource dependencies, public–private interdependency, coordination, control and leadership (Zhang and Zhu, 2014, p. 126; Svensson et al, 2006, p. 83). Identically, Hall (2008, p. 257) and Vernon et al. (2005, p. 327) understate a „top–down“, centralized and bureaucratic approach of the public sector, and provide recommendations to an alternative “bottom–up“, decentralized form of governance in which stakeholders, together with local communities, are determined to take more responsibility for destination management, marketing and planning of collaborative actions.

The origin of tourism destination governance has been discussed by academic scholars and researchers. Beritelli et al. (2007, p. 96) have contributed to the discussions by putting together two separate perspectives, the political science and corporate approach; argued that “the concept of governance applied to tourism destinations consists of setting and developing rules and mechanisms for a policy, as well as business strategies, by involving all the institutions and individuals”. Taking corporate approach into consideration, Pechlaner et al. (2012b; 2015b) advert to the creation of interplay between corporate governance and regional governance. Whereas corporate governance, an approach to enhance business management, encompasses the organization of a company’s top management in order to create a balance between competency, control and responsibility; regional governance is “an appropriate approach for coordinating and controlling regional integrated processes” while concentrating on the ability to self-organize and control regional structures (Pechlaner et al., 2012a, p. 24; Pechlaner et al., 2015a, p. 85).

Destination governance contains two core dimensions: structures and processes. Destination governance structure refers to the self-organization of destination governance in a destination which may occur in the form of clusters, networks or multi-agency partnerships. In a destination setting, the non-profit governance structure gives the most appropriate impression. Both for-profit and non-profit governance structures have six key co-ordination mechanisms (dimensions) such as organizational purpose, collective ownership, residual claims, decision making, control and accountability, and embedded incentives (Enjolras, 2009, p. 770; Spyriadis et al., 2011, pp. 190-192).

Destination governance process is mainly about multi-stakeholder processes which refer to the ways how destination stakeholders manage their common affairs. Thus, literature on destination governance is concerned with the stakeholder theory, in which certain principles might be detected, e.g. cooperation, complexity, value creation and competition (Spyriadis et al., 2011, p. 194).

The destination governance comprises rules and procedures focused on the stakeholders networks. It is the process, which must be based on the common vision of the tourism development, suitable organisational structures and instruments for decision making and leaders, who are able to lead stakeholders and to motivate them in their common efforts.

The vast majority of research on tourism destination governance has concentrated on linkages and relations between public and private actors of non-hierarchical and interdependent environment. The authors Baggio et al. (2011, p. 160) and Spyriadis et al.
(2011, p. 190) agree, that regarding the resources in a destination dispersed among different actors, the cooperation of autonomous tourism service providers and organization in a destination network is the best way to achieve common goals. Collective goals are significant to give the network a direction and to focus on important activities (Zehrer et al., 2014, p. 59). At this point of network approach, Baggio et al. (2010, p. 54) stress the need for a destination to be collaborative environment, in which stakeholders work together and create the tourism product (Jesus and Franco, 2016, p. 166).

Destination governance is also based on good governance principles. Good governance is shaped by stakeholders incorporated in a destination; simultaneously, good governance is given by its principles which serve as a base for evaluating the quality of governance. Ruhanne et al. (2010) have conducted the systematic literature review dealing with the political governance and business governance issues. This review was not focused on the destination governance, but the principles described by these authors could be implemented also on the destination governance. Shields et al. (2016) have taken over characteristics of good governance identified by United Nations Development Programme (UNDP, 1997, p. 19) and used them as 10 principles of good governance of protected areas. Moreover, OECD (2012), as well as Hemmati et al. (2002) contributed to the research of good governance principles (Table 1).

Table 1: Review of good governance principles

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Accountability</td>
<td>Accountability</td>
<td>Accountability</td>
<td>Accountability</td>
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<tr>
<td>Transparency</td>
<td>Transparency</td>
<td>Transparency</td>
<td>Transparency</td>
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<tr>
<td>Involvement</td>
<td>Effectiveness</td>
<td>Effectiveness and efficiency</td>
<td>Effectiveness</td>
</tr>
<tr>
<td>Structure</td>
<td>Involvement</td>
<td>Involvement</td>
<td>Involvement</td>
</tr>
<tr>
<td>Effectiveness</td>
<td>Efficiency</td>
<td>Responsiveness</td>
<td>Responsiveness</td>
</tr>
<tr>
<td>Power</td>
<td>Strategie vision</td>
<td>Rule of law</td>
<td>Rule of law</td>
</tr>
<tr>
<td>(de)centralization</td>
<td>Rule of law</td>
<td>Legitimacy</td>
<td>Legitimacy</td>
</tr>
<tr>
<td>Shareholders rights</td>
<td>Public participation</td>
<td>Inclusiveness</td>
<td>Inclusiveness</td>
</tr>
<tr>
<td>Knowledge management</td>
<td>Consensus orientation</td>
<td>Integration</td>
<td>Integration</td>
</tr>
<tr>
<td>Legitimacy</td>
<td>Equity</td>
<td>Capacity</td>
<td>Capacity</td>
</tr>
</tbody>
</table>

Source: the authors.

These principles can be implemented also in the tourism destination governance. Aside from good governance principles, destination governance also requires various means to achieve the desired results. Raich (2006) proposed four means of governance such as (1) money, (2) trust, (3) knowledge and (4) cooperation. Based on Raich (2006), Pechlaner (2016, p. 28) indicates five instruments of destination control denoting control mechanisms of destination governance such as money, formal power, knowledge, trust and theme.

The good governance principles comprise many of them, but the most frequent are accountability, transparency, effectiveness and efficiency, participation, strategic vision, rule of law which are implemented by means of money, power and trust.
The accountability means that the DMO, leading firm or other public entity has legal power and responsibility for leading the stakeholders in the process of tourism development in the destination, has proper knowledge and skills in the creation of the tourism development strategy and its implementation. It has also responsibility for involvement and explanation to all stakeholders the accepted and implemented decisions and has responsibility for the achieved results in tourism development.

The transparency is connected with the rules of law and with the public access to all accepted decisions, the publishing the reports on the financial spending, activities, plans, budget etc.

The tourism development is closely connected with the involvement of all stakeholders, it means, that population and private and public sector representatives should have possibility to participate in the decision making process connected with the contemporary and future development of the destination. All stakeholders should have the equal power in the decision making process. The clear structure of the entities but also stakeholders who create stakeholders’ network should be clearly identified including fair voting system in the destination organizations. Effectiveness and efficiency is focused on the meeting clearly formulated objectives in the tourism development and in the effective utilization of all resources (human, material, financial etc.). The power is influenced by all principles. The power should be properly distributed in the destinations, so that no one has too much power in the decision making process. The power is influenced by existing legal system, but also by disposable financial resources and by knowledge.

Good destination governance is precondition for the sustainable tourism development, has positive impact on the economic, social, cultural and environmental dimensions of the tourism development in the destination.

3. Research methodology

The aim of the paper is to find out the interactions between tourism management and governance in the wine destination Pezinok (district Pezinok) and to identify the main problems in the implementation of the good governance principles in existing stakeholders’ network. The conducted study is based on the qualitative research based on in-depth interviews conducted in 2017 among the identified stakeholders in the destination. The primary research was focused on municipalities and tourism organizations as the main stakeholders in tourism destination. The in-depth interviews were made with the representatives of four municipalities – Častá, Doľany, Šenkvice and Pezinok; and three tourism organizations – the Association of Municipalities of Small Carpathian Region (AMSCR, public sector, 21 members), the Small Carpathian Wine Route Association (SCWRA, NGO, private sector, 408 members) and the local DMO Small Carpathy (DMO, PPP, 16 members). This research sample represents the outcome of purposive sampling, where the stakeholders were chosen based on their ability to influence the tourism development and destination governance. The in-depth interviews were done in two stages. At first the stakeholders described their attitude to tourism development in the destination. After the initial stage, seven question concerning good governance principles were asked. The aim of the questions was to navigate the stakeholders to the good destination governance principles without exactly stating the principle. This step was chosen in order to minimize the subjectivity of the answers.
The recorded interviews were rewritten and used as a source for qualitative analysis. The qualitative analysis was done by the computer-aided qualitative data analysis (CAQDA) process by means of Atlas.ti7 software. The CAQDA helps to organize data, code and explore them. The stakeholders were grouped into two sub-groups – municipalities and tourism organizations. Their answers were proceed by Word Cruncher Analysis, in order to find out the most used key words and the statistical difference was conducted. Moreover the network view of the key words focusing on good destination governance principles was done, in order to visualize the findings.

4. Research results

In order to evaluate the application of the destination governance principles in wine region Pezinok, the attitude to tourism development was examined and the application of good governance principles was analyzed (accountability, transparency, trust, effectiveness and efficiency, participation, strategic vision and power).

At first, the general opinion on tourism development in the destination was analyzed. The aim was to find out the attitude to tourism development, its management and governance in the destination and to find out whether there is a difference between the opinions of municipalities and tourism organizations. Table 2 summarizes the most used key words used by selected sub-groups of stakeholders.

Table 2: The attitude of stakeholders to tourism development

<table>
<thead>
<tr>
<th>Key words/ Frequency of use</th>
<th>Municipalities</th>
<th>Tourism organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>actions</td>
<td>12</td>
<td>27</td>
</tr>
<tr>
<td>activities</td>
<td>18</td>
<td>5</td>
</tr>
<tr>
<td>Bratislava</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>cultural activities</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>cycling</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>destination promotion</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>information</td>
<td>14</td>
<td>4</td>
</tr>
<tr>
<td>members</td>
<td>9</td>
<td>37</td>
</tr>
<tr>
<td>meeting</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>Pezinok</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>quality of services</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>residents</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>resources</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>stakeholders</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>tourism businesses</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>tourists</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>support</td>
<td>18</td>
<td>3</td>
</tr>
<tr>
<td>wine</td>
<td>14</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: the authors.

Based on the Word Cruncher Analysis performed by Atlas.ti7, there are some differences in the opinions of municipalities and tourism organizations on tourism development in the
destination. While municipalities are more oriented on tourism support, activities, cultural activities and provision of information on tourism development and stakeholders, tourism organizations, on the other hand, stress more the interests of their members, actions, the creation of wine product, the regular meetings as well as the importance of tourists and the service quality. However, both sub-groups of stakeholders highlight the destination Pezinok as the main and the most important geographical area of their interest as well as Bratislava as the wider region, where tourism development should be strengthened. Moreover, the residents and tourism businesses are important for both municipalities and tourism organizations.

The Word Cruncher Analysis of opinions on general tourism development in the examined destination provided an important outcome for the evaluation of destination management and governance. The roles of municipalities and tourism organizations are defined clearly and correctly, without unnecessary overlapping. Municipalities are more oriented on provision of public services, while tourism organizations are focused on the wine product development and visitors’ management. Both of them stress the importance of stakeholders, which is the main prerequisite for destination governance. Therefore it can be stated that destination governance is interconnected with the model of destination management, which has great impact also on the destination stakeholders and vice versa.

The second stage of the interview with the respondents has been aimed on their perception on the good governance principles. The examined stakeholders were asked questions concerning accountability, transparency, trust, effectiveness and efficiency, participation, strategic vision and power. The most used key words are summarized in table 3.

**Accountability.** Every stakeholder should be accountable for the outcome of its activities and also the use of financial resources. Municipalities try to be responsible for their activities in tourism development and try to contribute to the objectives of tourism stakeholders. In municipalities, the funding depends on municipal budgets and accuracy is secured by general binding regulations. Tourism organizations secure its financial accountability by double-entry accounting.

**Transparency.** The provision of information and decisions about tourism activities is done by several ways. Municipalities provide information on their web pages, information boards, or in local newspapers. Moreover, locals are able to ask for any information according to law on free access to information. The transparency among tourism organizations is insufficient. Only SCWRA publishes the annual reports and introduces them to members at annual general meetings. DMO does not provide annual reports, in spite of the fact, that according to the Law 91/2010 Coll. and its amendments every DMO has to publish these reports and inform about its activities. It means, that the DMO does not meet rules of law.

**Effectiveness and efficiency.** The effective utilization of resources is controlled and secured by the internal and external auditing. AMSCR and SCWRA realize only internal audits. DMO does not realize any audit, which can have negative impact on the transparency and effective utilization of the resources. In term of efficiency, the meeting of clearly formulated objectives in tourism development should be monitored by means of selected indicators. The municipalities monitor the number of tourists by the imposed tax on accommodation. Other form of monitoring are done only by Slovak Statistical Office. Among tourism organizations only SCWRA monitor the economic impact of the organized events or reactions of visitors during the events and presents them to the members. This is influenced also by the fact, that SCWRA has the longest tradition in the development of wine routes in this region and due to
their activities, the Pezinok region has become well – known all over Slovakia as wine region which has a lot to offer. AMSCR, nor DMO monitor the outcomes of their actions.

*Participation.* The opportunity to participate in decision making process connected with the contemporary and future development of the destination is an important principle of good governance. Every tourism stakeholder has the right to be a member of tourism organization. All municipalities are active members of tourism organizations (SCWRA, DMO, AMSCR), where they can influence the future of tourism development, take part in decision making process. Tourism businesses, mainly vintners, who operate either small- and medium sized businesses or big winery companies can become a member of SCWRA and thus become co-creators and co-decision makers. The SCWRA is nowadays composed of 408 members and all play the same role and decide about the organization's actions. Other organizations and associations, whose concern is tourism development, can be a member of DMO and thus participate in decision making process.

Table 3: Good governance principles from the view of the stakeholders

<table>
<thead>
<tr>
<th>Good governance principle</th>
<th>Key words</th>
</tr>
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</table>
| Accountability                    | activities  
double-entry accounting  
financial resources  
general bidding regulations |
| Transparency                      | annual reports  
information  
information boards  
web pages |
| Trust                             | actions  
official contracts  
misunderstandings |
| Effectiveness and efficiency      | internal audit  
external audit  
monitoring |
| Participation                     | co-creator  
co-decision makers  
member |
| Strategic vision                  | cooperation  
events  
marketing plan  
plan of economic and social development  
product  
quality  
strategic plan  
visitors |
| Power                             | DMO Bratislava Region Tourism  
leader  
rights  
voting system |

Source: the authors.
Strategic vision. Another important principle of good governance is strategic vision. All municipalities follow the plan of economic and social development where their vision is clearly stated. They try to support the construction of relevant infrastructure that will strengthen the tourism development (e.g. cycling trails), they are aiming at deepening the cooperation with tourism organizations and other municipalities as well as on supporting the organized thematic events. Among the tourism organizations, DMO and SCWRA have its strategic and marketing plan. The vision of the tourism organizations is to attract more visitors, create comprehensive tourism product and increase the service quality.

Power. In terms of power the analysis was focused on the decisions and voting system in the destination, as well as on identification of the leader in tourism development. None of the stakeholders holds predominant power to make decisions and influence the directions of tourism development, or has bigger rights over the others. Even all stakeholder associated in the tourism organizations have the same voting power, thus all stakeholders are equal. Moreover, the stakeholders agreed that the leader of tourism development in the destination is nowadays regional DMO Bratislava Region Tourism, because of the funding possibilities and the visibility of the official web page of the whole Bratislava region. However the newly established local DMO Small Carpathy should strengthen its position and should better lead the destination in the future, as it is more closely associated with the Pezinok region and should better know its problems and perspectives.

Trust. There are positive, as well as negative attitudes to trust among respondents. The confidence and trust of stakeholders in activities and actions of municipalities is increasing. The trust is supported by positive attitudes of municipal representatives to tourism development in the whole region. The activities of tourism organizations are not based on mutual trust, because no official contracts are made to acknowledge the correctness of relationships. The members of tourism organizations try trust each other, however one can find some misunderstandings, mainly in organizing the events.

The examined key words concerning good governance principles were visualized based on network view (figure 1). The network view enables to highlight the problems of destination governance in the destination. The municipalities try to implement the good governance principles mainly in the accountability, transparency, strategic vision and participation. We can estimate, that this is influenced mainly by valid rules of law, which is focused generally on the public sector and especially on the municipalities. The problems can be seen in the efficiency and effectivity, mainly when we take into consideration the activities and actions connected with the tourism development. The outputs of the particular actions are not measured. On the other hand, tourism organizations has the greatest problems in the implementation of the principles of transparency, effectiveness and efficiency and trust. These principles are interconnected. In case that tourism organizations do not publish their annual reports, do not publish the results of the internal and external audit, do not measure the outputs of their activities, we cannot await, that there will be the trust among members. The DMO Bratislava Region Tourism has the power in the tourism development also in envisaged region Pezinok. This power is influenced mainly by available financial resources for tourism development activities. The power among envisaged stakeholders is fairly distributed and the whole structure of the existing organizations in Pezinok region can be defined as fragmented.
Figure 1: Network view of good governance principles from the view of the stakeholders

Source: the authors.
5. Conclusions

The tourism development is closely connected with the involvement of all stakeholders, it means, that population and private and public sector representatives should have possibility to participate in the decision making process connected with the contemporary and future development of the destination. The good governance principles comprise many of them, but the most frequent are accountability, transparency, effectiveness and efficiency, participation, strategic vision, rule of law which are implemented by means of money, power and trust. The aim of the paper was to find out the interactions between tourism management and governance in the wine destination Pezinok (district Pezinok) and to identify the main problems in the implementation of the good governance principles in existing stakeholder’s network.

While municipalities are more oriented on tourism support, activities, cultural activities and provision of information on tourism development and stakeholders, tourism organizations, on the other hand, stress more the interests of their members, actions, the creation of wine product, the regular meetings as well as the importance of tourists and the service quality. Both of them stress the importance of stakeholders, which is the main prerequisite for destination governance.

The municipalities try to implement the good governance principles mainly in the accountability, transparency, strategic vision and participation. The problems can be seen in the efficiency and effectiveness, mainly when we take into consideration the activities and actions connected with the tourism development. The tourism organizations have the greatest problems in the implementation of the principles of transparency, effectiveness and efficiency and trust.

Based on the conducted research, we can conclude that the destination Pezinok is on a way to fulfill the requirements of good destination governance principles, although there are still things that should be improved. The analysis shows that the computer-aided qualitative data analysis method is an appropriate way how to research the good governance principles in a destination. Nevertheless, the research has some limitations. It has been conducted only in one destination with rather limited number of stakeholders. Therefore the implications for further research arise. The authors recommend to analyze more destinations and to focus on the other types of stakeholders, in order to find the suitability of presented method in researching destination governance concept.

Acknowledgements

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References


EFFECTIVENESS OF INVESTMENT IN HUMAN CAPITAL IN ENTERPRISES

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Abstract

Identification and introduction of the concept of human capital relates to the development of economic science. In the past, economists were interested in the determination of the production factors to draw attention, in addition to labor and physical capital, to the ability of humans that create and put into action new machinery, equipment and technology. These skills are specific and unique to humans and need to be grown and developed in order to achieve the progress. All activities, which make the value of human capital increases, i.e. activities that are growing and improving knowledge, skills and attitudes of each person or extending the operation of human capital are called investment. Investment in human capital has several forms. There are investment in education, health, safety and ergonomics in the workplace. Activities that are carried out mainly in the long-term, have a role to increase revenue derived from the human capital in future periods. For entities that spend funds to improve the quality and range of human capital, thus investing, it is important to know the conditions under which the investment is effective, and on the other hand, when the cost of the investment does not return. The aim of the article is to identify the various methods for assessing the effectiveness of investment in physical and subsequently in human capital, so that these methods could be used in business practice.

Key words

human capital, effectiveness, investment, methods

JEL classification

M12, J24

1. Introduction

Identification and introduction of the concept of human capital (HC) relates to the development of economic science. In the past, economists were interested in the determination of the production factors to draw attention, in addition to labor and physical capital, to the ability of humans that create and put into action new machinery, equipment and technology. These skills are specific and unique to humans and need to be grown and developed in order to achieve the progress.

After comparing different views on the definition and understanding of the role of human capital in the present, we can say that, in principle, it is microeconomic and macroeconomic approach. Considering microeconomic view, there are two basic approaches. In terms of business economy, human capital is considered for enterprise factor of production or input and in terms of management, enterprise source or asset that is part of the market value of the enterprise. Macroeconomic approach sees human capital as one of the factors of production, or a source of economic growth.
Professional knowledge and skills, work and social habits, development potential and personal aspirations contribute to the better use of people in the enterprise (Šikýř and Šafránková, 2016). The entities that spend funds to improve the quality and range of human capital, thus investing, it is important to know the conditions under which the investment is effective, and on the other hand, when the cost of the investment does not return.

2. Objective and methodology

Methods for assessing the effectiveness of investment in physical capital, or investment projects represent a common part of professional literature on the investment decision-making, investment, corporate finance and managerial economics. Methods for assessing the effectiveness of investment in human capital are, however, not concentrated in one place in the literature, and it is necessary to study a large number of professional and scientific resources in order to systemize available knowledge.

The objective of the paper is to characterize the investment in human capital, to point out their specifications, to identify different approaches and metrics for assessing the effectiveness of investment in human capital. To achieve the objective, there was applied the procedure followed by the general to the specific. First, we characterized the known methods of assessing the effectiveness of investment projects, we found out the possibility of their application in human capital. Finally, we identified, compared and systemized the metrics published to evaluate the effectiveness of investment in human capital in the corporate practice. We used the results of our research on the effectiveness of human capital and the effectiveness of investment in human capital, too.

3. Investment in human capital

All activities, which make the value of human capital increases, i.e. activities that are growing and improving knowledge, skills and attitudes of each person or extending the operation of human capital are called investment. These activities that are carried out mainly in the long term, have a role to increase revenue derived from the human capital in future periods. The special feature of investment in HC is the fact that the cost of investing will now bring revenues in the future (Becker, 2009). When investing in HC, each economic entity decides rationally, the same as in the investment in the capital of physical nature. The difference between investment in physical capital and human capital is that investment in HC are unique because of their very complicated measurement in terms of cost, but mainly in terms of revenues expected and achieved. Complicated measurability of costs and revenues of HC is affected by various subjective factors.

The source of the entire activity, productivity and prosperity of enterprises lies in human resources. Therefore, enterprises should provide working conditions for their employees (Hitka et al., 2014).

Increasing the value of HC takes place just by carrying out various forms of investment in HC. Investment in HC according to forms are divided into: expenditures on health care, expenditures on safety at work and ergonomics, expenditures on education.

The enterprises can invest to the health and safety of its employees through medical examinations, lunch or avoidance of activities with a high degree of probability of an accident or death. Of course, most health investment is carried out of work of firms, households,
hospitals and medical offices. The cost of investment in safety includes expenditures on security staff training, protective equipment, ergonomics and etc.

Anthropometric characteristics of the adult population have effects on work safety (Mračková et al., 2014). Regular monitoring of anthropometric data on employees contributes to the design and evaluation of tasks, jobs, products, environments and systems in order to make them compatible with the needs, abilities and limitations of people. By investing in improving working conditions and safety at works, by improving the quality of work equipment, the enterprises prevent accidents, workers' health damage.

Villa (2015) discusses conceptions of human capital and the problems of economics and evolution, arguing how the paradigm could work better considering: the economics of flexibility of welfare systems and their capacity to adapt to socio-economic and environmental changes; the need of adopting assumptions on human nature that do not detach body, mind and environment; the opportunity to work with contexts- and evolutionary-based approaches in social policy.

The education is a process during which a person acquires and develops new knowledge, skills, abilities and attitudes (Chodasová et al., 2015). The institutionalization of interaction of science, education and equipment, acquisition of systematic, steady and natural character by it is a significant factor of economic development and increase of the industrial enterprises efficiency in modern conditions (Gorokhova and Sekerin, 2016). Every enterprise, that wants to remain competitive, must have qualified employees who are able to flexibly adapt to emerging changes. Having such employees requires to ensure their continuous training and development, increasing the quality of their skills and abilities. Education and professional development are therefore very important in any enterprise that focuses on progress. Investing in human capital, enterprises contribute to the overall implementation of the strategy and improving economic performance.

There are other forms of business competition (Uramová et al., 2015), however, this paper pays attention to just investment in human capital and their effectiveness as one of determinants of competition.

3.1. Investment funding entities in human capital

Enterprises funding the investment in human capital cannot estimate return on investment (effectiveness, effect measurability), which is a serious problem in the willingness to issue funds for educational programs. The households and the State must face the same problem. The classification of economic entities funding the investment in HC is finally based on the principle of the future benefits of investment. According to what benefits from the investment in the future benefits, entities funding this investment can include:

- individuals who expect to increase salaries and social status,
- enterprises, which expect a labor productivity growth, improve in the quality of production and services, increase in the competitiveness, etc.,
- government or the society expecting an increase in standards and cultural level. According to Villa (2015) welfare state goals should move from compensation to production, by investing in human capital and promoting its efficient use. Government's role in investing in human capital was analyzed by Sensuse et al. (2015a, b).
3.2. Costs and benefits of investment in human capital

The decision of any economic entity on the investment in human capital within the meaning of the theory of HC depends on a comparison of costs and revenues and the revenues of this investment should be greater than total sum of the cost spent.

The cost of investment in education is divided into direct and indirect. The direct costs include the cost of tuition, textbooks, study aids, protective equipment, ergonomically designed working environment and furniture, fitness centers, reconditioning stays, medical examinations, etc. They are different from indirect costs that they can be objectively measured. The indirect costs, in other words the cost of opportunity, include, in particular, lost wage. The latter is the highest part of the costs of the investment in education in the form of opportunity.

The benefits of the investment to HC will be divided into:
- economic – reported on the basis of quantitative indicators,
- extra-economic – are not quantified, but are related to the overall social level of people,
- direct – e. g. a man with a higher education earns more,
- indirect – reflected, for example, as positive impacts on the environment (Kucharčíková, 2014).

4. Effectiveness of investment

Investment decisions in enterprises represent a complex process due to the risk associated with it. The result of this process is the realization of the investment which binds a large amount of financial resources, is time-consuming and a demanding process, and has to bear the company's future benefit (Malichová et al., 2016).

Human resources are usually valued as the most important source of any organization. Each organization also needs other resources, i.e. material, finance, or information, but capable and motivated employees are indispensable to achieve expected organizational performance (Šikýř, 2015). To make investment in HC contribute to increasing the financial performance and success of a business, the effectiveness of this investment needs to be assessed.

For a proper understanding of the nature of the investment, it is necessary first to focus attention on the generally accepted knowledge in the field of the assessment of the effectiveness of the investment projects. Then, we will specify the investment for the development of human capital through education.

Investment is the commitment of funds in order to get compensation in future in the form of payments for an investor in the next period of time, who bound his funds, the expected rate of inflation and the uncertainty of future payments. Investment in human capital, there is all considered the costs associated with increasing the scope, quality, effectiveness and extending its operation.

4.1. Assessment of the effectiveness of investment in the investment projects

The basis for the decision on the implementation of the project is mainly the calculation of indicators of economic effectiveness, which point to the profitability of the resources used for the implementation of the project. There are static and dynamic methods used for the definition of these indicators.
Static methods do not take into account the factor of time or risk. These methods are applied in the framework of the projects, which have a short life span, low level of risk, or are less important than others. These are:

- **average annual cash flow** (the sum of all cash flows of investment / number of years the life of the investment = average amount of the cash flow of the investment for its life period),
- **average payback time** (the share of the investment costs and the average annual on return = repayment period on investment),
- **average percentage yield** (average annual percentage yield and investment costs = annual return of invested capital in percentage),
- **average yield of accounting method** (the ratio of the average projected profit and average net value of investment).

Dynamic methods are characteristic for current cash flows according to the date, the most common now. As opposed to static methods, these shall take account of the factor of time and risk. These are:

- **net present value** (NPV) – comparison of the discounted cash flows in future and investment expenditure at the beginning,
- **internal rate of return** (IRR) – discount rate at which the value of the cash flows is now equal to the input investment expenditures,
- **payback period** (PP) – cash flows are expressed only through the current value,
- **profitability index** (PI) – profit investment ratio and input capital expenditures,
- **economic value added** (EVA) – based on economic profit, the profit respects all the cost on the capital spent.

The most frequently used methods include: return of capital (return of equity – ROE, return on assets – ROA and long-term return on investment – ROI), the period of return, the criteria of discounting methods (net present value, economic value added, index of profitability, internal yield percentage) (Kislingerová et al., 2004).

The methods for the assessment of effectiveness of investment in physical capital or investment projects are a common part of the professional literature in the field of investment decision-making, investment, corporate finance and managerial economics. Methods for the assessment of the effectiveness of investment in human capital are, however, not concentrated in the literature, it is necessary to study a large number of professional, in particular, foreign literature in order to systemize the available knowledge. Regarding the use of the above methods, it is necessary to carefully consider the options and challenges of their application for investment in human capital.

### 4.2. Effectiveness of investment in human capital

The quality and scope of human capital are influenced by many factors, for example, educational level, knowledge, experience and ability to use them effectively. All costs of activities, thanks to which the value of HC increases, thus the activities through which the knowledge, skills and attitudes of each person increase and improve or the operation of HC extends are called investment in HC. These activities, which are primarily implemented in the long term, are about to increase revenues accruing from the HC in the future periods (Becker, 2009).

The most important process affecting the development of employees is the possibility of professional training and development of competencies improving the performance. Due to
changes in the external and internal environment, it is necessary to periodically review and assess the effectiveness of the policies and procedures affecting the development and retention of the employees (Vetráková et al., 2016).

Education and training are considered the basic types of investment in human capital. Using the knowledge achieved people know how to be better applied to the labor market, can influence more effectively their own economic situation and its development in the country and contribute to enhancing the quality of life of the company.

Investing in human capital is a process that enterprises use to the development of employees. Enterprises are investing in the education of employees in order to improve the business activities, which represents a reduction in the number of unskilled workers and increasing the overall effectiveness of employees. Those enterprises become successful, which work with people and invest in their human capital in the long term. The investment is returned through the low fluctuation rate, increased loyalty, increased quality of services provided and the performance achieved. Mankiw et al. (1992) show that increasing investment in human capital by 1 %, output per worker will increase by 0.6 %.

4.3. Research about investment in human capital in enterprises

The aim of the questionnaire was to evaluate the use of human capital management and the effectiveness of investment in human capital in enterprises in Žilina region. The questionnaire was distributed in electronic form, 62 were questionnaires completed.

In general, it is possible to argue that the enterprises in Žilina region do not usually with the management of human capital. Some of them use the human resources management and the rest is not interested.

A positive finding is that enterprises, which already use the management of the human capital in any form, have developed this problem more complex. They have created the basic measuring system for the determination of the size of human capital and try to evaluate the effectiveness of investment in the development of employees´ human capital.

The most used tool for investment in human capital in enterprises include training and corporate training, which according to the responses, bring even the most results/benefits. By contrast, the development of the personality, the promotion of sport and health are not so used, and do not provide such results. A greater focus on these activities, however, would bring greater attractiveness of the enterprise for current and potential employees. It would encourage them to perform better and better use of their potential and capital.

However, the problem how clearly quantifies, or measures the size of the HC and then its effectiveness causes that the enterprises themselves are not clear; often do not know how to proceed in this area. Here is the space for the implementation of educational activities in the area of metrics for determining the size, effectiveness of human capital as well as in the field of the assessment of the effectiveness of investment in the most valuable resource/assets of the undertaking.

4.4. Indicators to measure the effectiveness of investment in human capital in enterprises

Investment decision making in enterprises is not just related to investment in physical capital, but also investment in human capital. It is important for enterprises to become aware of this investment in education lead to increasing its level, which, in turn, has an impact on raising the individual and overall business performance. Assessing the efficiency of use and
human capital and the effectiveness of investment in human capital is a task of human capital management.

A standard indicator to measure the effectiveness of investment is the indicator of the rate of return on invested capital (ROIC). We can calculate profitability - the rate of return on the capital invested as a percentage of the net operating profit after taxes and the average invested capital (invested capital at the beginning of the year and invested capital at the end of the year/2). The indicator reflects the ratio of investment achieved or lost to the value of funds invested.

\[
ROIC = \frac{\text{Net operating profit after taxes}}{\text{Average invested capital}}
\]

The rate of human capital return of investment (HC ROI), which shows the interaction between the enterprise income and its investment to HC may be a key indicator for investment in human capital, which is derived from ROIC.

\[
HCROI = \frac{\text{Net return of investment}}{\text{Total cost of the investment}}
\]

If the value of HC ROI is greater than 1 the investment generates profit, otherwise the loss. It is important to remember that the return on investment in HC is generally long term and the results are apparent with time delay. Considering the investment decisions, it is necessary to take into account, in addition to the amount of investment and the expected return, the risk of investing in HC (Mankiw et al., 1992).

There is another indicator of profitability based on the principle of ROIC, or return on human capital investment (RHCI). It expresses what proportion of the total value of the enterprise's profit is invested in human capital of its employees.

\[
RHCI = \frac{\text{Total operating profit}}{\text{Total staff cost}}
\]

Another adjusted indicator of the effectiveness of investment in human capital include human capital return of investment (HC ROI) by Fitz-Enz (2009), which is used to calculate value added tax, which goes to a single monetary unit wage costs. The indicator of HC ROI contains the main elements, where the enterprise improves, can finally lead to an overall increase in its profits. It means that the indicator grows only in the case of an increase in profit in combination with the management of investment in people. On the basis of this indicator, it is thus possible to see how investing in employees reflects in overall performance of the organization.

\[
HCROI = \frac{\text{Income - (total cost - cost of remuneration)}}{\text{Cost of remuneration}}
\]

HC ROI is a universal indicator. On the basis of the results an enterprise may compare its measurements with measurements of other entities operating on the market. Various consulting companies or enterprises use the indicator referred in practice in various
modifications. For example, Wynford Group has adjusted ROI for human capital and indicates the metric as return of investment on human capital (ROI on HC) as follows:

\[
ROI_{on\ HC} = \frac{Income - (operating\ costs - cost\ of\ HC)}{Total\ cost\ of\ the\ HC}
\]

(5)

Investment in education is the most important investment in human capital. Therefore, the next indicator is focused on measuring the value of training investment value (TIV). This metric allows the enterprise to assess the value and return on investment in human capital, to assess the effectiveness and benefits of internal processes and activities, to identify opportunities for improvement, for example, a better organization of the human capital in the enterprise (Evans, 2007).

\[
TIV = \frac{Total\ investment\ in\ education}{Number\ of\ employees}
\]

(6)

There are a number of studies from different authors that deal with the quantification of the rate of return on investment in human capital. For enterprises, they can be considered certain recommendations about the value of the rate of return on investment in education can be or should be. They are briefly summarized in Table 1.

Table 1: The rate of return on investment in HC according to authors selected

<table>
<thead>
<tr>
<th>Author</th>
<th>Rate of return on investment to human capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heckman</td>
<td>On the basis of his study he concluded that the average rate of ROI to HC is 10%.</td>
</tr>
<tr>
<td>Griliches</td>
<td>He concluded in his research that increasing the training of employees in the U.S. over the past 50 years participated in a third of the productivity growth in the U.S.</td>
</tr>
<tr>
<td>Jenkins</td>
<td>Based on the research carried out in the UK for the period 1971-1992, he indicates that increasing the proportion of workers with higher skills of the 1% increases in annual production about 0.42 - 0.63%.</td>
</tr>
<tr>
<td>Mankiw, Romer and Weil</td>
<td>They concluded that when increasing investment in HC by 1%, there is an increase in output per employee about 0.6%.</td>
</tr>
<tr>
<td>Kendrick</td>
<td>He indicates the average rate of ROI in HC from 11.7% to 12.6%.</td>
</tr>
<tr>
<td>Čaplánová</td>
<td>Studies average rates of ROI to HC through the revenues of education moving at the level from 5% to 15%.</td>
</tr>
</tbody>
</table>

Source: the authors.

The factors that affect the return on investment in human capital include technologies, level of organization of work, level of innovation, motivation of employees, level of education, political environment, etc. All studies agree in the fact that investment in human capital contribute to increase the output whether at macroeconomic or enterprise level. The enterprise that would like to rely on the results of these studies, however, many of them do not provide any specific instructions on how to calculate the effectiveness of investment in HC. They rather focus on proving causality between certain forms of investment in HC and increasing output on the basis of statistical comparisons. The benefit of these studies is rather
to promote in numbers the fact about the importance and return on investment to HC and convince that the investment in HC can really induce positive effects.

Figure 1: The link between investment in human capital and business performance

Investment in education has a beneficial effect for enterprises. They contribute to increasing the effectiveness of human capital and, ultimately, lead to increasing the overall performance of the enterprise. Prokopenko et al. (1996) indicate that developing human capital and potential for a 10% lead to increase in overall productivity about 8.6%, while the increase in value of the machine by 10% will increase the total productivity by only 2.3%. This analysis resulted that investing in people is approximately three times more profitable than investing in machinery.

Human capital cannot be assessed on the basis of return on the capital invested calculated, but it should be taken into account the intangible values of employees. These are various kinds of knowledge acquired from previous experience, relations with the surroundings, its recognition and other additional values that specify the individual employee.

One of the new tools for measuring the effectiveness of investment in human capital is the rate of return on talent (ROT). This reflects whether or not managers are able to make effective use of human capital, and invest in it in order to achieve business success. It is calculated in such a way that the knowledge acquired is divided by investment in workers’ talent. The enterprises should be aware of talent of their people to be able to support the development of their knowledge and take advantage of what the talent of their employees can offer. Otherwise the company may lose a lot. Talent is what creates new, innovative knowledge. The value of the whole enterprise is being increased using creativity and innovation at the same time. In case, if the employee is able to create a lot of interesting proposals, and none of them is implemented, return on investment for the enterprise is zero. Therefore, managers should try to make the knowledge that employees achieve, thanks to the
enterprise, are given an opportunity to implement. The value of the knowledge of employees increases only in that case, if it is used correctly. The knowledge that is used effectively increases the value of the ROT indicator. If the management wants to achieve effective investment in human capital, it must continually measure the ROT and adjust its policy for the management of human capital in the field of investment (Chowdhury, 2008).

\[
ROT = \frac{\text{Acquired knowledge}}{\text{Investing in talents of workers}}
\]  

(7)

A number of authors expect that the measurement of the performance of enterprise and return on assets will be pushed back in the future and the calculation of the rate of return on investment in talent measurement gets in the foreground (ROT), which is considered an important indicator of success.

It is necessary to choose such metric for the assessment of the effectiveness of investment in human capital, or education at the level of enterprise that best reflects the nature and purpose of the investment, or the particular conditions of business of the enterprise concerned. Considering the educated, experienced and skilled managers who having acquainted with metrics identified, there will not be a problem to modify them on the conditions of own enterprise, or propose new ones.

5. Conclusion

Present is represented by a constant pressure on the competitiveness of enterprises. Also the pressure to achieve high business performance continues to grow (Tokarčíková et al., 2014). Investing is a normal activity carried out by entities, which are expecting a specific future benefits from the investment. In literature, there are usually very well elaborated methods for the assessment of the effectiveness of investment in physical capital. We have characterized some of them in the article. However, this does not apply to the investment in human capital, or education as the most important form of this investment. Knowledge is scattered in the literature in a number of professional and scientific publications. The ambition of the authors of the article was to identify some of the knowledge available in domestic and foreign literature from this area so that they can be used in business practice.

Acknowledgements

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References


METAMORPHOSIS OF ORGANIZATIONAL DEVIANCE
IN A CONTEMPORARY WORKPLACE

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Abstract
Organizational deviance is increasingly gaining more attention of academics, practitioners and policymakers, who are interested in how to reduce negative financial and non-financial outcomes. An increased interest in workplace aggression has been stimulated by the mass media and social networks. Nevertheless, the concept of deviance in a contemporary workplace remains ambiguous. Traditionally, deviance has been related to deviant behaviours, which refer to a range of volitional acts at work that harm or intend to harm organizations and their stakeholders, clients, employees, and customers. The paper addresses new trends in an interdisciplinary discourse and aims to provide conceptual clarity by distinguishing different types of deviance. By employing bibliometric analysis and snowballing techniques to investigate the state of the art in the main fields such as management, marketing, sociology, and psychology, this paper also provides an overview of the latest scientific literature. The findings reveal various types of deviance and insights for further investigations.

Key words
organizational deviance, workplace aggression, deviant behaviour, contemporary workplace

JEL classification
D23, D74, D91, K42

1. Introduction

Recent studies on organizational behaviour have focused on organizational deviance and its impact on profit, the quality of work, the well-being of employees in terms of deviant behaviours (the authors like Costa and Neves, Pyc et al., Turel, Hsieh et al.). Research investigating deviant behaviours has been carried out to contribute to the general understanding of the influence of deviant behaviour on psychological, social and economic costs.

To address these issues, the concept of organizational deviance has gained the importance among researchers, with a rapid increase in the number of articles and journals analysing this topic in the last decade.

Also, companies have become aware of the need to prevent negative outcomes as the side effect of several forms of deviant behaviours related to production deviance, property deviance, political deviance, and personal aggression (Robinson and Bennett, 1995). A rapidly changing business environment and new trends in management involve the metamorphosis of organizational deviance. A great deal of previous research has focused on different forms of deviant behaviours – abusive supervision, workplace ostracism, counterproductive and extra-role behaviours, digital work simulation, absenteeism, corruption, etc (Fidrmuc et al., 2017; Vveinhardt and Kuklytė, 2017, Jenkins et al., 2016).
A large number of scientific articles (the authors like Shaheen et al., Balogun, Ahmad et al.) analyse deviant behaviours in a workplace environment mainly from the perspective of public sector, some studies on this issue in private sector can also be found (Kapouněk, 2017; Kundu and Gaba, 2017; Guay et al., 2016). The number of studies is sufficient; however, in order to define different types of organizational deviance, sociocultural context and interest of policymakers and practitioners required a deeper analysis and synthesis of scientific literature.

Since the plethora of recently revealed types of organizational deviance remains ambiguous, it is worthwhile to make a comparison to seek out the consensus. The aim of this study is to provide a conceptual clarity by distinguishing different types of organizational deviance, which is the object of this paper.

2. Origins of organizational deviance

This section provides a short introduction to organizational deviance and its development over the decades, revealing the historical origins of the related concept, i.e. deviant behaviours, and considering it from the perspective of different disciplines.

The term deviance originated in sociology as it is an inherently social and collective phenomenon. It has always been a fundamental tenet of sociology that a social entity is more than simply the sum of its individual participants and members (Goode, 2015). Deviance is discussed from the sociological perspectives of positivism and essentialism.

By taking an interdisciplinary approach, deviance has been typically viewed through the prism of an individualistic approach in sociology, psychology, criminology, and management. It is very important to note that deviance and crime are carried out on the behalf of organizations, and by using resources that organizations possess or are able to provide.

According to Bamberger and Sonnenstuhl (1998), in the most common invocation of the term organizational deviance, the organization is conceived of as the “actor” that carries out deviant and criminal activities. Several authors (Judge, 1993; Parilla et al., 1988) introduce the concept of deviant behaviour. Deviant behaviour is defined as detrimental behaviour, which is explained by the role theory – experiencing strain in conflict situations leads to coping responses such as avoidance of face-to-face contact or a lack of volunteering in a workplace environment (the paper by Kahn et al.). Deviant behaviours have been analysed as antisocial behaviour (the paper by Robinson and O’Leary-Kelly). Moreover, Merton (1968) explains that deviant behaviours appear when individuals use “illegitimate means and methods,” which are not sanctioned in an organization. Raelin (1994, p. 483) emphasizes that under the existing untenable work conditions individuals have the option of leaving before choosing deviant or adaptive behaviours; however, a number of circumstances such as “family considerations, seniority-based benefits, unavailability of alternative jobs, or even inertia, might militate against this choice”. The transformation among professionals to become deviant is related to labelling and herding behavior (see e.g. Becker). Thus, coping responses expressed by adapting behaviour continuously may evolve into deviant behaviours such as interpersonal sabotage, upholding secrets, absenteeism, alienation, counterproductive work behaviour, working to death “karoushi” in Japan, and thefts (the works of Wei and Si Knapp et al., Fox et al., Tubbs, Kanungo, Kristensen).

Contrary to the above considerations, Hollinger and Clark (1983) predicate that deviant behaviour can appear as a consequence of a lack of social control devices and a lack of commitment enhancing policies. Raelin (1984, p. 421) supports this approach and adds that “employees’ behaviours have the potential for moving to deviancy if an appropriate
accommodation cannot be reached with the organization.” What is more, a severe dissonance among employees reacting to bureaucratic constraints by engaging in excessive rule tropism has been noticed (Gouldner, 1957). Deviant behaviours might be initiated by a supervisor and interpreted as a corporate psychopathy related to an abusive supervision (e.g. the paper by Cheang and Appelbaum). Thus, the bureaucracy, reward and control systems, the observation of social norms, job or performance appraisal, the mediating role of trust and justice, partiality and the false promises lie under the organizational deviance practice.

The concepts of organizational deviance or crime have been sometimes used as familiar concepts (Lyons et al., 2016; Goode, 2015). Besides, organizational deviance is often associated and sometimes confused with an organized crime. Organizational deviance is carried out in the context of an organization with legitimate goals, whereas organized crime has referred to organizations directly dedicated as an illegal activity. When analysing deviance in organizations, authors apply different approaches to understand the nature of deviance: strain theory, social learning theory, social control theory, social bonding theory and affective events theory (Michel et al., 2015). Research on antecedents of deviant behaviours has focused on the management of human resources and personal factors such as emotional intelligence, job characteristics such as the level of autonomy and organizational factors such as control systems (e.g. the paper by Sackett and DeVore). Glomb and Liao (2003) introduce core aspects of a contagious pattern of deviant behaviours: workplace diversity and dissimilarity among employees, which lead to the employee’s deviance. Bennett and Robinson (2003) extend the conceptual framework of organizational deviance and analyse it in three different ways: 1) deviance is conceptualized as a reaction to negative experiences in a workplace environment; 2) deviance reflects the personality of employees, which is related to counterproductive behaviour; and (3) deviance as an adaptation of social context at work. These authors also define 4 types of organizational deviance and suggest scales to identify deviant behaviour in a workplace environment.

3. Research methodology

The previous section of the paper gave an overview of the history, definition and relevance of organizational deviance. Organizations in different sectors may prevent tangible and intangible losses and reach unexplored competitive advantage in case they have knowledge of different types of deviant behaviours to reduce misbehaviour of employees. To fill the research gap, the following research question was formulated: What are different types of organizational deviance in a contemporary workplace?

In order to provide the answer to the research question, two methodological techniques were used. We used a bibliometric research, which is a form of meta-analytical research of scientific literature (Kim and McMillan, 2008, p. 99). This method enables the analysis of published data to represent quantitative side through measuring texts, authorships, affiliation, citations and key words (Van Raan, 2003, pp. 20-21). Bibliometric analysis has proven to be essential in the evaluation of social science research performance, as can be seen from earlier studies, for instance, concerning management, marketing, sociology, and psychology. What is more, a bibliometric review is a relevant method, which helps to reveal the most cited authors, mentioned keywords and journals in which they were published (see e.g. Geissdoerfer et al. (2017) and references therein).

The data was collected from Clarivate Analytics Web of Science and Scopus in August, 2017 using the main keywords “organizational deviance” or organizational AND deviance
(Table 1, Table 2). Only publications in English which were published after 1945 were taken into consideration. For the statistical and network analysis of the records of organizational deviance, the open source software NAILS was used and irrelevant publications found in Clarivate Analytics Web of Science and Scopus were filtered out by scanning titles and abstracts (e.g. the work by Knutas et al.).

Table 1: The number of articles, conference papers and reviews in the research field, found in WOS within the period from 1945 to 2017

<table>
<thead>
<tr>
<th>Term</th>
<th>The number of articles and reviews found in Clarivate Analytics Web of Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>“organizational deviance”</td>
<td>62</td>
</tr>
<tr>
<td>organizational AND deviance</td>
<td>647</td>
</tr>
</tbody>
</table>

Source: the author using open source software NAILS.

Snowballing technique was employed for the initial sample including relevant publications. The data set contained papers, found in Clarivate Analytics Web of Science and Scopus databases within the period from 1945 to 2017 (Table 2). In addition, a snowballing process was applied, in which bibliographies found in the collected papers also served as sources for the identification of new references and different types of organizational deviance.

Table 2: The number of articles, conference papers and reviews in the research field, found in Scopus within the period from 1945 to 2017

<table>
<thead>
<tr>
<th>Term</th>
<th>The number of articles and reviews found in Scopus</th>
</tr>
</thead>
<tbody>
<tr>
<td>“organizational deviance”</td>
<td>118</td>
</tr>
<tr>
<td>organizational AND deviance</td>
<td>389</td>
</tr>
</tbody>
</table>

Source: the author using open source software NAILS.

4. Results

This section summarizes an identified variety of different types of organizational deviance in publications, suggesting the extended typology.

The initial typology of deviance in organizations was presented by Hollinger and Clark (1983), who divided it in two categories: property (thefts) and production deviance (counterproductive behaviours). In the following decade, Robinson and Bennett (1995) broadened the typology by identifying 4 categories and suggesting a research methodology (Table 3). Researchers have defined deviant behaviour as voluntary behaviour which damage meaningful organizational rules, norms and harm the welfare of organization and its employees (Robinson and Bennett, 1995). It has been proven that employees may take excessive breaks and deliberately work slowly because of the dissatisfaction with low wages or express feelings such as outrage anger or frustration, and job dissatisfaction (e.g. Bennett and Robinson (2003) or the work by Robinson and O'Leary-Kelly).

Recent studies have focused on workplace delinquency, aggression and digital means in terms of deviant behaviours due to the prevalence and costs of organizational deviance providing the understanding why professionals engage to become deviants. Modern trends in global business force organizations to create a work environment where “employees with
diverse traits and perspectives can perform effectively and contribute toward organizational goals” (Liao et al., 2004, p. 969). These changes require reconsidering of the typology of organizational deviance by using an interdisciplinary approach. A bibliometric analysis of scientific literature enable to transform the metamorphosis of the typology by dividing it into 4 categories: interpersonal deviance, organizational deviance, customer deviance and off-duty deviance (Figure 1).

Table 3: Four types of deviance in a workplace

<table>
<thead>
<tr>
<th>The type of deviance</th>
<th>Deviant behaviours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production deviance</td>
<td>Leaving early</td>
</tr>
<tr>
<td></td>
<td>Taking excessive breaks</td>
</tr>
<tr>
<td></td>
<td>Intentionally working slowly</td>
</tr>
<tr>
<td></td>
<td>Wasting resources</td>
</tr>
<tr>
<td></td>
<td>Sabotaging equipment</td>
</tr>
<tr>
<td>Property deviance</td>
<td>Accepting kickbacks</td>
</tr>
<tr>
<td></td>
<td>Lying about working hours</td>
</tr>
<tr>
<td></td>
<td>Stealing from the company</td>
</tr>
<tr>
<td></td>
<td>Showing favoritism</td>
</tr>
<tr>
<td></td>
<td>Gossiping about co-workers</td>
</tr>
<tr>
<td></td>
<td>Competing nonbeneficially</td>
</tr>
<tr>
<td></td>
<td>Sexual harassment</td>
</tr>
<tr>
<td>Political deviance</td>
<td>Verbal abuse</td>
</tr>
<tr>
<td></td>
<td>Stealing from co-workers</td>
</tr>
<tr>
<td></td>
<td>Endangering co-workers</td>
</tr>
</tbody>
</table>

Source: adapted from Robinson and Bennett (1995, p. 565).

The category of interpersonal deviance includes various deviant behaviours: organizational cynicism, social ostracism, age discrimination as rate-busting, harassment and mobbing, favouritism, and cronyism (e.g. the papers by Chung, McClellan and Beggan Shaheen et al., Schmidt et al., Richerson et al., Raver). Destructive relationships between co-workers may induce social comparison and competition, and intentions to leave an organization (e.g. the papers by Glaeser et al., Huang et al.). Interpersonal conflicts in organizations are linked to co-worker presenteeism, job satisfaction and organizational commitment, and work-to-family conflict (e.g. the papers by Mackey et al., Shamsudin et al., Sliter et al.). Organizational deviance is defined by synthesising a classical approach, i.e. production and property deviance (Robinson and Bennett, 1995; Hollinger and Clark, 1983).

Front-line deviance is defined as employee deviance, which includes an employee-customer interface. In professional selling it is targeted at customers and prospects by using deceptive selling tactics to obtain a sale, acting out work-related frustrations in front of a customer, or not following specific customer rules or etiquette (e.g. the paper by Chawla). The most common concept used to refer to the category of such deviant behaviours is service nepotism. According to Rosenbaum and Walsh (2012, p. 242), this phenomenon describes relationship between employees and customers based on “socio-collective commonalities and without qualified substantiation” by delivering benefits intentionally to inflate customer loyalty. Moreover, this deviance may reduce patronage and affect customers; on the basis of
their experience with frontline employees, customers may reciprocate or retaliate the organization.

Figure 1: Typology of organizational deviance

Off-duty deviance (ODD) is a very specific type of deviance, which addresses interactions of information and communication technologies (ICTs) in different environment. Thus, ODD is divided into two subcategories: traditional ODD (Lyons et al., 2016) and computer-focused cyber deviance (Louderback and Antonaccio, 2017). Traditional ODD is defined as deviant behaviours of employees committed outside the workplace, which are targeted against „organizational or societal standards, jeopardize the employee’s status within the organization that threaten the interests and well-being of the organization and its stakeholders“ (Lyons et al., 2016, p. 463). Commonly, ODD is linked to criminal activities (e.g. public intoxication, solicitation, trespassing, neglect, etc.) and non-criminal activities. Computer-focused digital deviance includes cybercrimes such as cyber offending, damaging sensitive data and stealing confidential documents, disclosing financial details, and online malware (e.g. the papers by Kuklytė and Usas, Reyns, Furnell). Louderback and Antonaccio (2017, p. 662-663) reported that individuals with a high level of thoughtfully reflective decision-making (TRDM) tend to avoid computer security violations and are “more amenable to being prevented by deliberate cognitive decision-making”. On the other hand, the respondents with a low TRDM tend to act without taking time to collect full information on potential negative consequences of the involvement in various types of deviant behaviours. Moreover, a low TRDM has impact on computer-focused cybercrime victimization by leading more individual involvement in cyber activities, which makes those individuals more vulnerable to computer security breaches.
5. Conclusions

In the light of the overviewed literature, the present paper defines organizational deviance as intentional deviant behaviours which violate organizational and societal rules, standards and norms, threatening to the reputation, resources and the well-being of the organization. The paper also reveals that deviance among employees is related to antisocial behaviour, corporate psychopathy and organized crimes.

It was found that organizational deviance is an emerging topic gaining more attention from researchers in the recent years. Although the roots of organizational deviance are traced in sociology, this concept has spread to other disciplines such as management, marketing, psychology, and criminology. These findings enable to analyse the topic by applying an interdisciplinary approach.

Based on the reviewed literature, the understanding of different types of organizational deviance was extended to interpersonal deviance, organizational deviance, front-line deviance, and off-duty deviance. In addition, this paper not only contributes to the conceptual development of organizational deviance but also expresses a deeper research interest, motivation and practical implications in public and private sectors.

The limitation of this paper derives from the methodology applied in the review of the scientific literature. A bibliometric analysis assumes that researchers published the most important findings in high impact journals, found in Clarivate Analytics Web of Science and Scopus. However, contributions may arise from unpublished manuscripts in academic journals. To reveal conceptual framework and trends, a bibliometric analysis was based on a snowballing technique. This may cause a selection bias.

The knowledge of various types of organizational deviance is very important as it may help to reduce costs of deviant behaviours and prevent from high turnover rate, bankruptcy, and damaged reputation. What is more, human resources professionals can use this information to engage job satisfaction, minimize the loss of employees who decide to leave the organization and improve organizational climate. The presented conceptual framework is important for future investigations in order to conduct cross-national researches by taking situational factors.

References


CONSUMER´S MILK VALUE PERCEPTION

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Abstract

Statistics show that Slovak consumers drink less milk every year. This trend is increasingly observed in various countries around the world. Researchers try to find reasons for this negative development by studying consumer behavior. In connection to this, we aimed on examining the milk’s value perceptions of Slovaks to determine what encourages and discourages consumers in buying milk. Value perceptions were studied via the free association technique whose results were processed by the benefit/cost approach. The examination showed that huge majority of associations belonged to the group of product, individual and process benefits. Only minor numbers of associations were classified as costs of which the greatest proportion concerned health problems and low quality of milk. All in all, the word of health, cow, taste, coffee, cocoa/Granko, white color, calcium, drink, bones, childhood, children, cooking, pudding, nutrition and proteins created a list of top 15 consumer’s milk associations. These findings are applicable within the branding, positioning, packaging and advertising activities of businesses and even in defining further product development or extension possibilities.

Key words

consumer, value perception, associations, benefits, costs, milk

JEL classification

M31

1. Introduction

The consumption of milk in Slovakia is declining steadily. In the last 25 years (i.e. from 1990 to 2015) the consumption of drinking (animal) milk has declined by 62.8 kg per Slovak consumer what represents a drop of 43.37% (the Statistical Office of the Slovak Republic1, 2017). Similar negative trend could be observed also in other European as well as non-European countries, such as e.g. Austria, Czech Republic, France, Italy, Sweden, the United Kingdom or the United States of America (Central Statistics Office, 2015–20172; United States Department of Agriculture, 20163). Researches show that a negative shift in the consumer milk behavior could be attributed to a number of indicators like e.g. changes in consumer’s lifestyle, i.e. a rise of healthism, (Horwath et al., 1995), increasing consumer’s concerns about health, i.e. lactose intolerance (Horwath et al., 1995), gastrointestinal problems (Mobley et al., 2014), weight gain or increased cholesterol (Gulliver and Horwath, 2001), concerns about ethical treatment of animals (Mobley et al., 2014), rising negative consumer’s perceptions about milk’s consumption, e.g. milk is full of fat (Horwath et al.,

1995) and sugar, then cost of milk (Mobley et al., 2014) and distaste (Mobley et al., 2014; Horwath et al., 1995). Resulting from this it may be perceived that milk is losing its importance, what can lead to several negative consequences for national dairy industry. So the question is: “What should be done to prevent it?” One of possible ways is to find out what do create the value of milk because a value represents a key prerequisite for the existence and future success of any business. Taking this into the consideration the main aim of this paper is to examine the value perceptions about milk by Slovak consumers.

2. Theoretical background

When a consumer purchases a product, he does not do it just because of its flawless features, outstanding performance, good quality, favorable price or other “tangible” features but in primarily because of its value. Marketing literature defines the term “value” as “the trade-off between the benefits received from the offer vs. the sacrifices to obtain it” (Johnson and Weinstein, 2004, p. 4). The benefit part of the value formula groups everything what a consumer gets (i.e. economic, functional and emotional value or benefits) and on the other hand the sacrifice part makes up everthing a consumer gives up (i.e. monetary, time, psychic and energy costs) in order to obtain a product of his choice (Kazmi, 2007). In the connection to this, there is one rule a consumer always follows when considering the purchase of a product and it is to obtain maximum benefit or utility of a product at the lowest level of costs sacrificed for its acquisition and utilization.

Khalifa (2004) introduced three main categories of customer value concepts by the means of which the basis of (customer) value could be explained. The first category includes the value components models. These models clarify the principal elements of value; specifically esteem value, exchange value, and utility value. The benefits/costs ratio models or the utilitarian models belong to the second category. These models explain value as a relation or difference between benefits received (including tangible and intangible product’s attributes) and costs incurred (including monetary and non-monetary factors). The last category groups so called the means-ends models. The basis of these models lies in explaining relationship between product attributes (means), consequences of product’s consumption (means), and personal values of consumers (ends).

Every man is different because as it is impossible to find two identical fingerprints, it is also impossible to find two people who think, behave and act in the same way. This is valid for the concept of value, too. Dodds (2003, p. 5) wrote: “No two people ever see the same thing exactly the same way. What one customer views as delightful could be viewed as only OK by another. What is unacceptable to one customer may be perfectly acceptable to another. It all boils down to how a customer perceives the product or services s/he are receiving.” This implies that the way how the value of a product is created and communicated by a business (value proposition) differs from the way how the value of a product is seen from customer to customer (value perception). Value perception is changing not only from customer to customer but it also it differs from one product category to another one. Food products represent one of the most important products for a human life because without them a man is not able to live. To the group of most general categories of food choice values belong taste, health, cost, convenience and managing relations but many people consider ethics, religion, family traditions and the environment as also relevant when considering a choice of food (Bisogni et al., 2011).
3. Materials and methods

For the purpose of examining the value perceptions about milk by Slovak consumers we decided to apply the free association technique. This method is used by researchers to identify consumer perceptions of a product (e.g. attitudes, benefits or values) and its roots reach to the expectancy-value theory that states that the most important consumer associations act as the best predictor his behavior (Beckley et al., 2012). The free association (also denoted as elicitation) technique “is defined as a non-structured, disguised form of questioning in which respondents are asked to express the first thoughts that come to mind in response to a key stimulus” (Grebitus, 2008, p. 71). Simply said, the basis of this technique lies in asking a person to verbalize first thoughts that come to his mind when hearing some word or expression (stimulus).

In our survey we asked our respondents following question: “What do come to your mind when hearing the word of milk?” For answering this question we provided them with big blank text-box where they were asked to write from three to five words they associate with the word of milk. This question was included in the quantitative consumer survey we conducted within the period from 15 April to 15 July 2015 with the main intention to gather primary descriptive data on factors influencing consumers when purchasing milk. This survey was conducted in the form of on-line questionnaire (via the tool of Google Form) on the sample of 1,033 Slovak respondents of which 87.80% belonged to the group of milk consumers and remaining 12.20% belonged to the group of milk non-consumers. The survey sample was selected by applying the non-random quota sampling method. The quotas were identified on the basis of gender and age (minimum of 18 years). In terms of basic socio-demographic data the survey was participated by 60.79% of women and 39.21% of men of which 41.92% were from 18 to 35 years old, 47.43% were from 36 to 65 years old and remaining 10.65% were over 65 years old. According to the highest level of achieved education 4.65% of respondents had the elementary education, 9.49% graduated the high school education without graduation, 36.01% graduated the high school with graduation and 49.85% had the university education. Finally, considering the place of respondent’s residence 64.57% of respondents introduced that they lived in a city and remaining 35.43% came from countryside.

The survey results gathered by the means of free association technique were firstly processed on the basis of the benefit/cost approach. This approach is based on the (above described) benefits/costs ratio models according to which the value of a product is the function of the benefits (obtained) and the costs (sacrificed) in product’s purchasing and its consequent using. From the marketing literature, we know that the benefit and cost part of the food consumption value (FCV) formula are composite variables and their classification differs from author to author. For the purpose of this paper, we decided to build on the concept of value introduced by Dagevos and van Ophem (2013) and the one presented by Seegebarth et al. (2016) with respect to the benefit part of the value formula and to avail the categorization of perceived risks introduced by Manning (2015) with respect to the cost part of the value formula (see Figure 1). Subsequently, we used the method of content analysis and the method of counting for providing the explanations on consumer’s milk value (CMV) perceptions. We opted for this qualitative way of processing data due to the shortage of secondary data concerning milk value perceptions as well as because of the soft nature of studied issue.
Figure 1: Conceptual framework

4. Results and discussion

Our respondents introduced in total 2,527 words or associations that emerged in their minds in the connection to the word of “milk” what represents on average 2.45 associations per a respondent. We divided all of these associations into five groups of benefits and five groups of costs. As mentioned above we availed the combination of two approaches in classifying the benefit part of the consumer value perception formula. In the concrete, we used the categorization of food consumption value by Dagevos and Ophem (2013) as a basis. They identified four elements creating the food consumption value. The first element is the product value, and it focuses on food product attributes (i.e. nutritional value and sensory properties including texture, color, freshness, taste and flavor), functionalities and the price-quality relation. The second element is the process value, and it refers to characteristics, methods, practices and processes of food production. The third element is the location value, and it refers to the settings (i.e. physical settings, like e.g. assortment and spaciousness, and experience characteristics, like e.g. arousal or entertainment) in which food is purchased or consumed. The last element is the emotional value, and it includes emotions, feelings and experiences evoked through the meanings of food product, production process, producer’s reputation and places of food purchase and consumption (Dagevos and Ophem, 2013). The second approach we considered in developing the categorization of the benefit part of the consumer perceived value formula is the one proposed by Seegebarth et al. (2016). They recognized the financial benefits (i.e. the price of a product and quality to price ratio), functional benefits (i.e. the intrinsic and extrinsic product characteristics), individual benefits (i.e. the product’s meaning and contribution to the well-being and satisfaction of a consumer) and social benefits (i.e. the image, status and prestige recognized within a consumer’s social group).

When comparing the two above mentioned approaches we could perceive a certain similarity between the product value (by Dagevos and Ophem) and the functional and financial benefits (by Seegebarth et al.) as well as between the emotional value (by Dagevos and Ophem) and the individual benefits (by Seegebarth et al.). Taking this into the consideration, we decided to select product, process and location (value) benefits from the approach of Dagevos and Ophem and individual and social benefits from the approach of Seegebarth et al. for the categorization of the benefit part of the consumer perceived value formula. As it could be seen in the Table 1 the greatest part of consumer associations related to the word of “milk” was linked to the product benefits (53.89%) from which most of them concerned functional utility of milk (21.50%), i.e. for the coffee (5.62%) and cocoa
preparation (5.46%) or cooking purposes (1.94%); then its sensory attributes (14.38%), like taste (151 associations), color (125 associations) or texture (80 associations) and its nutritional composition (9.90%), specifically the component of calcium (4.87%), nutrients, proteins (1.50%) or vitamins (1.27%).

Table 1: Consumer milk’s associations – the benefit part of the consumer perceived value formula

<table>
<thead>
<tr>
<th>Core Category</th>
<th>Sub-category (%)</th>
<th>Concept (Number)</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product benefits (5.80%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingredient</td>
<td>(499)</td>
<td></td>
<td>Coffee (5.62%), cocoa/Grancko (5.46%), cooking (1.94%), pudding (1.62%), semolina pudding (1.07%), cereals/muesli (0.87%), food ingredient (0.83%), cake/dessert (0.51%), soup (0.44%), milkshake/milk cocktail, pancake (0.24%), own milk products (0.20%), chocolate (0.16%), tea (0.12%), mashed potatoes, milk rice, Nutella (0.08%), bun, cake, Caro, cookies, rum, sauce, wriggle pasta (0.04%).</td>
</tr>
<tr>
<td>Complement</td>
<td>(48)</td>
<td></td>
<td>Food (0.71%), dumplings (0.67%), bread/pastry, Christmas cake, patty (0.08%), potato pancake, steamed buns (0.04%).</td>
</tr>
<tr>
<td>Sensory attribute</td>
<td>(14.38%)</td>
<td>Taste (151)</td>
<td>Taste (5.78%), sweet (0.20%).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Colour (125)</td>
<td>White colour (4.87%), snow (0.08%).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Texture (80)</td>
<td>Drink (3.13%), milk foam (0.04%).</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Snell (7)</td>
<td>Fragrance (0.28%).</td>
</tr>
<tr>
<td>Nutrition composition</td>
<td>(9.90%)</td>
<td>Nutrition (250)</td>
<td>Calcium (4.87%), nutrients, proteins (1.50%), vitamins (1.27%), lactose (0.40%), minerals (0.20%), fat (0.12%), fibre (0.04%).</td>
</tr>
<tr>
<td>Product offer</td>
<td>(5.88%)</td>
<td>Offer (147)</td>
<td>Yoghurt (1.31%), cheese (1.03%), milk products (0.87%), cream (0.47%), acidified/butter milk, curd (0.44%), milk (0.28%), butter, whey (0.24%), sheep cheese, whipped cream (0.12%), cheese threads, thickened milk, availability (0.08%), Parmenica, wide assortment (0.04%).</td>
</tr>
<tr>
<td>Qualitative attribute</td>
<td>(1.19%)</td>
<td>Quality (30)</td>
<td>Freshness (0.63%), cleanliness (0.20%), quality, durability (0.16%), reliability (0.04%).</td>
</tr>
<tr>
<td>Package</td>
<td>(0.92%)</td>
<td>Container (23)</td>
<td>Glass cup/bottle (0.40%), box (0.24%), cup/mug (0.12%), Tetra Pack (0.08%), jug with milk, kettle of milk (0.04%).</td>
</tr>
<tr>
<td>Brand</td>
<td>(0.12%)</td>
<td>Brand name (3)</td>
<td>Coop Jednota (0.04%), Rajo (0.04%), Tamu (0.04%).</td>
</tr>
<tr>
<td>Individual benefits (24.66%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health benefit</td>
<td>(442)</td>
<td>Habit (43)</td>
<td>Habit (0.55%), refreshing (0.40%), thirst (0.32%), necessary (0.16%), satiation (0.08%), dietary, feeding, needed, no cramps, part of life (0.04%).</td>
</tr>
<tr>
<td>Need</td>
<td>(43)</td>
<td>Childhood (70)</td>
<td>Childhood (2.69%), school/nursery (0.28%), home (0.20%), holiday, school canteen (0.12%), youth (0.08%), boarding house, fairy tales, motherhood, past, squeaky pot (0.04%).</td>
</tr>
<tr>
<td>Memories</td>
<td>(93)</td>
<td>Favourite (36)</td>
<td>Favourite (0.36%), delicious (0.32%), comfort/relax (0.28%), sucking (0.12%), fine (0.08%), excellent, future, happiness, indispensable, pleasant, pleasure, satisfaction (0.04%).</td>
</tr>
<tr>
<td>Perception</td>
<td>(36)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Preferences</td>
<td>(0.20%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social benefits</td>
<td>(3.45%)</td>
<td>Social setting (87)</td>
<td>Children (2.30%), family (0.51%), grandma/grandpa/parents (0.36%), mother (0.08%), Arnold Schwarzenegger, cat, daughter, husband, PINK (0.04%).</td>
</tr>
</tbody>
</table>

Source: the authors.
The second largest part of consumer milk´s associations were linked to the individual benefits (24.66%), specifically those ones concerning motives behind the purchase or consumption of milk (19.33%), such as e.g. for health (12.39%), strong bones (2.73%) or teeth (0.71%); and those ones originating from personal emotions and feelings recalled by memories (93 associations) of e.g. childhood, school or nursery or personal perceptions of milk (36 associations). The third most numerous group of consumer associations on milk concerned the (production) process benefits (11.50%) of which dominant part (266 associations) was related to the origin of milk, i.e. who is its producer – cow (9.50%), goat (0.36%) or sheep (0.24%). In total, we classified 98% (2,470) of respondent´s associations as elements creating the benefit part of the consumer perceived milk´s value formula.

We included the remaining part of consumer milk´s associations to the cost part of the consumer value perception formula. We applied the approach introduced by Manning (2015) for the classification of individual elements of sacrifice. He distinguished five groups or categories of losses, risks or sacrifices. The first category included the physical losses, i.e. negative consequences of consuming products low on quality and safety and high on artificial or unhealthy ingredients on consumer’s health and body. The second category contained the performance losses, i.e. the elements causing negative performance of product. The third category grouped financial losses, i.e. the price and costs related to product acquisition, utilization, removal and health recovery. The fourth category associated time losses, i.e. time waste aroused from the lack of product’s convenience, its replacement and recovery from illness suffered. The last category was psychological losses, i.e. emotional concerns, negative feelings and worries caused by bad experiences of consumers with product’s consumption or handling (Manning, 2015). Considering this, there were only 2% of associations we recognized as costs a consumer has to face when making decisions about a purchase and consumption of milk. To the group of most significant costs, there belonged the physical (1.11%) and performance (0.80%) ones (see the Table 2). In the concrete, it showed that consumers worry about their health (0.67%) and excessive formation of mucus (0.20%); then they are concerned about low quality of milk (0.24% – opinion “it is not a milk; it is a water”, 0.16% – low quality of milk); or they simply do not like milk skin (0.20%).

Table 2: Consumer milk´s associations – the cost part of the consumer perceived value for

<table>
<thead>
<tr>
<th>Category (%)</th>
<th>Concept (Number)</th>
<th>Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical costs (1.11%)</td>
<td>Health harm (28)</td>
<td>Health problems (0.67%), mucus (0.20%), TBC (0.08%), bacteria (0.04%), cholesterol (0.04%), scrabbling (0.04%), and risk/uncertainty (0.04%).</td>
</tr>
<tr>
<td>Performance costs (0.80%)</td>
<td>Product harm (20)</td>
<td>Water (0.24%), milk skin (0.20%), quality (0.16%), taste (0.16%), chemistry (0.04%).</td>
</tr>
<tr>
<td>Cow harm (4)</td>
<td>Cow suffering (0.12%), hormones/antibiotics (0.04%).</td>
<td></td>
</tr>
<tr>
<td>Financial costs (0.12%)</td>
<td>Financial harm (3)</td>
<td>Price (0.12%).</td>
</tr>
<tr>
<td>Time costs (0.04%)</td>
<td>Time harm (1)</td>
<td>Boiling (0.04%).</td>
</tr>
<tr>
<td>Psychological costs (0.04%)</td>
<td>Psychological harm (1)</td>
<td>Trauma from childhood (0.04%).</td>
</tr>
<tr>
<td>Total (2%)</td>
<td>57</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Figure 2 exhibits the list of top 15 consumer associations related to the word of “milk” (with the percentage representation of 65.91%). As it could be seen most respondents associate the word of milk with the word of “health” (12.39%). This finding is in line with the
research results of Mobley et al. (2014), Krešič et al. (2010), Nagyová et al. (1998) and Park and Ureda (1999) within which the healthy aspect of milk consumption proved to be one of the most crucial driving forces of milk purchasing and consumption by consumers. Apart from the health, there were other two associations we categorized as individual benefits within the consumer perceived milk’s value formula and those were the words of “bones” (9th place) and “childhood” (10th place). The consistency of these findings, especially those ones concerning the positive impact of drinking milk on bones, could be find in Mobley et al. (2014), and Gulliver and Horwath (2001). Considering the category of the process benefits, there was only one word that got into the top 15 consumer milk’s associations and it was the word of “cow” (2nd place). Similar situation occurred in relation to the category of the social benefits when just the social element (word) of “children” (11th place) was placed in the list of top 15 consumer milk’s associations. The quantitatively largest representation of associations, i.e. ten, belonged to the group of product benefits, and they occupied from 3rd to 8th place and then from 12th to 15th place. The importance of these factors in influencing consumer milk behavior was also acknowledged by Mobley et al. (2014), Krešič et al. (2010), Nagyová et al. (1998) and Park and Ureda (1999) in the connection to the factor of a taste; Krešič et al. (2010) in the connection to the factor of a (white) color; Mobley et al. (2014), Gulliver and Horwath (2001) in the connection to the factor of calcium; and finally Nagyová et al. (1998) in the connection to the factor of cooking. On the other hand, in terms of cost categories, the word of “healthy problems” or “healthy issues” (0.67%) was shown as the most significant association what is in line with the research findings of Mobley et al. (2014), and Horwath et al. (1995).

Figure 2: Top 15 consumer milk’s associations

Source: the authors.

5. Conclusion

Milk gradually disappears from the diets of many consumers. This is evidenced by the national statistical surveys as well as outlook reports monitoring the level of milk consumption. Milk increasingly appears in the eyes of consumers as unhealthy and unnecessary drink; its production is considered to be unethical, its quality low and taste discouraging. We agree with the statement of Pelzer, senior vice president of strategic
communications for Dairy Management Inc., who introduced that the source of this problem lies in the fact that “the industry has treated milk as a commodity instead of giving consumers what they want, where they want it and how they want it”4). For the purpose of finding what consumers really want we aimed on examining the value perceptions of milk by Slovak consumers by applying the free association technique in primary data gathering and the benefit/cost approach in their processing.

The results of our examination showed that the huge majority, i.e. 98%, of associations concerned the benefits that consumers could obtain from the consumption and usage of milk. For our surprise, these findings are in contrast with above mentioned claims about the influence of negative perceptions of milk on declining milk consumption. This discrepancy may be caused by the cultural context that can be different from the studies realized abroad. It is obvious that significant number of Slovak consumers perceives milk positively with some minor negative associations but as we do not have data from studies about perceptions of Slovaks from the previous era (e.g. 10 years ago) it is very difficult to judge the extend of a possible change. Moreover, majority of our respondents were milk consumers what provides a valuable potential especially for managerial implications in current demand enhancement.

According to the answers of our respondents, the product benefits (53.89% of the total number of associations), individual benefits (24.66%) and process benefits (11.50%) became top three categories of perceived benefits (forming the first part of consumer value formula). To the group of most introduced product related associations belonged sensory attribute of “taste”, “white color” and (texture of) “drink”, then nutritional property of “calcium”, “nutrition” and “proteins”, and finally utility of milk in “cooking” and preparing “coffee”, “cocoa/Granko” and “pudding”. In terms of individual benefits our respondents mostly associated the word of “milk” with the word of “health”, “bones” or “childhood”. Finally, what refers to the group of process related benefits, the most verbalized association was the word of “cow”; and to the group of top 15 consumer milk’s associations there was yet placed the word of “children” that we categorized to the group of social benefits creating the consumer perceived value formula. Apart from benefits, the second part of the consumer value formula includes the costs or sacrifices suffered in obtaining and consuming a product of consumer’s want or choice. In our survey there were identified only 2% of associations that were related to the costs, risks or sacrifices that may arouse to consumers when consuming milk. Health problems, low quality of milk and specific sensory attributes of milk (i.e. milk skin) represented the most significant (cost) elements reducing the perceived value of milk in Slovak consumers.

The concept of consumer value represents a cornerstone in creating a competitive product offer, building relations and a loyalty of customers, and generating returns on investment. Therefore, we see the practical implication of above introduced results in providing the basis for defining competitive advantage and unique selling proposition (e.g. on the basis of practical utility of milk, its effect on health and body or its sensory attributes), then branding, positioning, packaging and advertising of milk (e.g. emphasizing health effect or sentimental emotions in branding and positioning of milk and using cow, white color or children in package design and visualization of milk within marketing communication) as well as drawing an inspiration for the actual milk’s offer enhancement (e.g. enhancing some nutritional components of milk like vitamin D for strengthening immunity) or extension (e.g.

developing special kinds of milk for people suffering specific diseases). In addition to this, our survey pointed out some negative aspects of milk consumption perceived by consumers concerning healthiness, quality, taste or production of milk. These issues should be discussed by so called “third parties”, i.e. doctors, biologists, nutriologists or experts on food in order to prevent bias and to disprove myths about milk that spread through various information channels to consumers. On the other hand, we see the limitation or our survey in reaching the representativeness of sample, then in finding the degree of importance of individual associations for target respondents as well as in explaining their mutual linkages or relations. Nevertheless, we consider the effort put into doing this research as meaningful because it provided a valuable insight into the milk’s value perception and a starting point in carrying out further alike and advanced researches within which it can be tested if there exists any relationship between perception of milk and decreasing volume of milk consumption, then whether product benefits represent the most significant components of (perceived) consumer’s milk value and physical costs represent the most significant components decreasing (perceived) consumer’s milk value, and whether health-related issues are crucial factors influencing consumer’s milk value perception.

References


CROSS-BORDER PARTNERSHIP
– THE APPROACH IN THE PROJECTS
CO-FINANCED BY EUROPEAN UNION FUNDS

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Abstract
Cross-border projects should be helpful to solve significant problems or take the challenges which will face the expectations of the borderlands' community. Most of these projects, supported by European Union funds, are focused only on short time relations, whereas they should be related to the sustainable cross-border partnership. It means that cross-border project should be the first step to development of flexible, profitable and perspective cooperation between partners and their environment, leading to evaluation of bilateral agreement in network cooperation on the borderlands. There are some conditions of partnership which showing if the cooperation fulfils the expectations of the partners, border society and other stakeholders. Therefore the aim of the paper is defining the main determinants of long-term cooperation in the widely understood cross-border environment. The author applies representative research realized on Polish-Czech, Polish-Slovak and Polish-Germany borderlands. The results and some recommendations coming out from this issue can be helpful for the partners implementing cross-border projects and other entities interested in the development of the borderlands.

Key words
borderland, cross-border project, partnership, networking, EU funds

JEL classification
F36, F55, O19

1. Introduction
In the EU's socio-economic convergence policy, strong emphasis is placed on equalizing developmental differences in the border areas, integrating local communities in the neighbouring states and working together to address issues on both sides of the border (Hooper and Kramisch, 2004, p. 107). In order to achieve these objectives, cross-border partnerships of the neighbouring countries, regions, local areas (e.g. municipalities), most often is supported by European Regional Development Fund under the INTERREG program on European territorial cooperation. The catalyst for the development of cross-border partnerships are, among others, projects co-financed by the European Union, which ensure high standards of cooperation (Medeiros, 2011). Such projects should be implemented in a sustainable way, on both sides of the border, by at least two partners from neighbouring countries. The results of cross-border projects achieved so far, indicate that their effectiveness
is directly correlated with the quality and durability of cross-border partnerships. Considering
the important role of all forms of inter-organizational cooperation in building the social and
economic convergence of the European Union (Selsky and Parker, 2005), the author
undertook a research topic that addresses the rationale for developing cross-border
partnerships in terms of the requirements for using EU funds and the behaviour of
organizations cooperating within the partnership (Harguindéguy, 2007).

The aim of the work is to define the key requirements for cross-border partnerships, co-
financed by the European Union, in particular under the INTERREG program, and to assess
these requirements from the perspective of the long-term objectives of the cross-border
partnership and the behaviour of partnering organizations. The author's intention is to verify
the assumption that the EU INTERREG program contributes to the development of cross-
border partnerships, and this impact is sustained beyond the implementation of joint projects
and shapes the behaviour of partner organizations.

The author used in his paper her own empirical and qualitative research conducted among
organizations involved in cross-border partnerships on the Polish-Czech, Polish-Slovak and
Polish-German border. The research was conducted in the years 2016 and 2017 by means of
individual in-depth interviews with representatives of 30 organizations involved in cross-
border projects, co-financed by the European Union.

The conclusions from the research are useful for the cross-border project stakeholders as
well as to those responsible for sustainable development policy in the border areas, in
particular for the authorities managing the INTERREG program.

2. Theoretical backgrounds

Inter-organizational co-operation consists in cooperative organizations undertaking
mutually compatible and complementary activities that are positive in terms of their impact on
the achievement of specific objectives. Inter-organizational co-operation is characterized by
permanent relationships or temporary configurations resulting from urgent needs that the
organization is unable to meet independently. Projects are the most popular mechanism for
developing inter-organisational and cross-border cooperation in the European Union.
Cooperation of partners in projects also allows i.a. reducing the costs of joint actions,
streamlining and improving the efficiency of implemented processes, achieving a common
competitive advantage and achieving other expected benefits, e.g. from the implementation of
innovations. In the context of cross-border cooperation, the implementation of a project co-
financed by the European Union, i.e. the INTERREG program, must take into account not
only the interests of the partners but also the interests of the border regions of the
neighbouring countries where this cooperation is carried out.

Collaborating organizations undertake mutually compatible and complementary activities
that are positive in terms of their impact on the achievement of specific intentions (Chebbi et
al., 2006, pp. 139-173). The cooperation of independent organizations is currently being
realized i.a. in a growing number of partnerships of different nature (Africa, 2003, pp. 66-79),
targeted not only on economic issues but also on social or environmental issues. The
cooperation should be based on stakeholder agreement to optimize the use of available
resources, tools and partnership mechanisms.

The cooperation of independent organizations is currently being realized i.a. in a growing
number of partnerships, voluntary undertakings of different character, targeted not only on
economic issues but also on social or environmental issues. The cooperation should be based
on stakeholder agreement to optimize the use of available resources, tools and partnership mechanisms. Examples of cross-border inter-organisational cooperation are cross-border partnerships, developing on the border of two or more countries (Aulakh et al., 1996, pp. 1005-1032).

They are based on the potential of entities, institutions and organizations on both sides of the border, pursuing common objectives that are relevant from the point of view of their interests and in the context of the development of the entire frontier (Gramillano et al., 2016). Partnerships generally respect the principle of equality in resource sharing, accountability, risk and benefits, and one aspect of cross-border cooperation between partners is the exchange of knowledge and experience (Lepik and Krigul, 2009, pp. 33-45). Under the European Union conditions, these canons are preserved primarily when the cooperation is co-financed by public funds (i.a. the INTERREG program). Most of these types of partnerships are formed between local government units and public institutions, as well as non-governmental organizations. Entrepreneurs are less likely to participate.

Modern cross-border partnerships are part of the network economy, with a great diversity of informal networks of processes that take place between people, as well as formal cooperation in the form of clusters, networks, different types of unions, associations. Bilateral cooperation is also developing strongly, based mainly on agreements concerning cooperation between cities and partner regions, the so-called twinning agreements (Kurowska-Pysz, 2016). Another example of network partnerships and cross-border links is the European Grouping of Territorial Cooperation TRITIA, which implements cross-border cooperation in order to develop and improve the living conditions of the inhabitants of the Czech-Polish-Slovak border. This is the first institution of this type, established in Poland, based in Cieszyn.

With the development of the partnership, the evolution of cooperation should take place: from short-term cooperation, through long-term cooperation, to the most advanced partnership. The partnerships may aim at both taking short-term joint actions without establishing permanent relationships and long-term co-operation, depending on the current interests and arrangements of the partners.

At present, both public institutions, commercial entities and non-governmental organizations are increasingly supporting various types of partnerships and networking (i.a. the European Union supports cross-border partnerships, clusters and networks with the grants) as it perceives positive multiplier effects resulting from these activities. Inter-organizational networks are of particular importance, as they lead not only to the development of partner institutions, but also to the development of regions and strengthening the competitiveness of specific areas.

3. Conceptual research framework

The research problem concerns the rationale for the development of cross-border partnerships in terms of the requirements for using EU funds and the behaviour of partner organizations. Co-operating entities using EU funds are obliged to meet specific quality and durability requirements of the partnership concluded between them. Partnership management is also evaluated during project implementation and after its completion it should be maintained or developed over a fixed period of time, typically 5 years. These obligatory requirements concern organizations applying for the funds from the INTERREG program and represent minimal expectations for/towards the management of project partnerships. Regardless of the willingness to obtain the EU funds, co-operating organizations often make
additional, non-project partnership activities, based on common needs, or on the contrary, it turns out that the actual partnership is not as advanced as it is presented for the needs of EU statistics and project control (Medeiros, 2015).

There is often a gap between the formal requirements for the partnerships under the INTERREG program and the real dimension of partnerships in the projects. The effectiveness of the cross-border partnership, that is the outcome of the actions taken, described by the relation of the obtained effects to the expenditures incurred, can be related to the level of realization of the common objectives of the partners achieved through established cooperation. At the same time, however, the effectiveness of the cross-border partnership co-financed by the INTERREG program is based on project assumptions regarding both, the achievement of the common objectives of partners achieved through cooperation and the implementation of the objectives of the INTERREG program from which the partnership is financed. The INTERREG program in its cross-border component serves to strengthen relations between the neighbouring regions on the border of the EU member states, and to balance differences in their development with particular reference to cross-border areas of concern.

You can distinguish the effectiveness of the ex-ante partnership, resulting from the project assumptions prior to obtaining funding and the effectiveness of the ex-post partnership, regarding the actual achievement of the partnership objectives of the INTERREG partner. The relationships between the effectiveness of ex-ante and ex-post partnerships in the projects co-financed by the INTERREG program are as follows:

1. Partnership develops in accordance with the project co-operation direction and the resulting ex-post partnership efficiency is higher than the planned efficiency of the ex-ante partnership.
2. Partnership develops in accordance with the project co-operation direction, but the resulting efficiency of the ex-post partnership is lower than the planned effectiveness of the ex-ante partnership.
3. Partnership develops in accordance with the project co-operation direction and the resulting ex-post partnership effectiveness is at the level of the planned ex-ante partnership effectiveness.

From the point of view of the implementation of the INTERREG program, the option described above is most desirable. It should be noted that the cross-border partnership between the cooperating organizations can develop both in line with the co-operation set by the project as well as in other areas, which is the added value of the cross-border project (Thomas, 2007, pp. 383-388).

The author has adopted the research assumption that the EU INTERREG program contributes to the development of cross-border partnerships as described in option 1 above, which means that the effectiveness of the ex-post partnership is higher than the effectiveness of the ex-ante partnership. This is due to the long-term partnership objectives of the ex-ante partnership’s effectiveness and the behaviour of the cooperating organizations.

In the earlier studies, among the key cross-border characteristics of the broader-area relations referring to the wider context of cross-border co-operation include i.a. the dependence of the activities of organizations implementing cross-border cooperation projects on external financing.

The partnership is based on the cooperation of the lead partner (the organization responsible for the whole project) and the other partners cooperating within it.
Responsibilities of the Lead Partner are set out in Art. 20 of Regulation (EC) No. 1080/2006 of the European Parliament and of the Council of 5 July 2006 on the European Regional Development Fund. It indicates that it is responsible for:

- preparation of the partnership and its management and establishing the effectiveness of the ex-ante partnership,
- transferring the contribution of the European Regional Development Fund to the partners participating in the project,
- monitoring of financial settlements,
- coordination of cooperation between partners in the project,
- ensuring the implementation of the project and achieving its objectives, including the least the expected ex-ante effectiveness of the partnership.

On the other hand, the other partners are responsible for carrying out the tasks under the project and partnership agreement, they are responsible in a case of irregularities in the expenditure declared, they work for the project and achieve its objectives, including the least expected ex-ante effectiveness of the partnership.

According to the binding guidelines, resulting i.a. from Regulation (EC) No. 1080/2006 of the European Parliament and of the Council of 05.07.2006 on the European Regional Development Fund partners' cooperation must be based on at least two of the following out of the four criteria:

- joint preparation - the project is the result of the work and arrangements of all partners, the partners who are in constant contact actively participate in its preparation (i.a. determine the effectiveness of the ex-ante partnership),
- joint implementation of the project - partners jointly participate in the implementation of the activities envisaged in the project, contributing to the achievement of its objectives and striving to achieve the assumed effectiveness of the ex-ante partnership,
- joint staff - a joint team that works for the project,
- joint funding - the project has one common budget, which includes expenditure incurred by all partners. The financial commitments of the partners are based on the activities they carry out within the project.

Taking into account the conditions described above, the author has determined the definition of key requirements for cross-border partnerships, co-financed by the European Union funds, in particular under the INTERREG program and the verification of these requirements from the perspective of the long-term objectives of the cross-border partnership. These goals result from the project requirements as well as the expectations and behaviours of the organizations cooperating within the projects. Conclusions from this study may be useful for many institutions and entities involved in cross-border cooperation within the European Union. They may also provide an interesting overview for entities involved in cross-border partnerships involving different principles in other parts of the world.

4. Method

To achieve the purpose of the work, the author used qualitative studies and empirical research. The study is primarily an analysis of available literature and other materials related to the issues of cross-border cooperation, partnerships and project management. The conclusions of these studies are presented in the previous chapters.
Qualitative research has included organizations that have participated in at least two completed, cross-border projects co-financed by INTERREG program, i.e. local governments, public institutions and non-governmental organizations. A total of 30 respondents participated in the survey, including: 15 respondents from Poland, 7 respondents from the Czech Republic, 5 respondents from Slovakia and 3 respondents from Germany. All research organizations operate in the border area. The study was conducted in 2016 and 2017.

Oral or phone interviews were chosen as the method of the study. The interview script was consisted of 9 questions in three thematic blocks, which are described below.

The first issue concerned the process of partnership preparation, including:
- motivation to participate in a cross-border project and how to choose an organization for cooperation,
- knowledge of the conditions of implementation of projects co-financed by the INTERREG program in the context of partnership requirements and readiness to meet these requirements,
- the process of defining the terms of the future partnership, including the ex-ante evaluation of the future partnership.

As part of the second research topic, the respondents spoke about the project's implementation from the perspective of partnership development in the following areas:
- conditions for the implementation of the project according to the INTERREG program and the long-term objectives of the partnership,
- cooperation in the project team, possible conflicts and changes in the project due to the divergent interests of the partners,
- striving for a set level of ex-ante effectiveness of the partnership, and the behaviour of the cooperating organizations.

The most recent research topic addressed the objectives of the INTERREG program and the objectives of the cooperating organizations. Respondents were asked, among others, about:
- the level of ex-post efficiency achieved in the project and the factors that had affected it,
- the continuation of the partnership after the project completion,
- the achievement of long-term partnership objectives as a result of INTERREG projects implementation.

With regard to the research problem, apart from the methods described above, the author's own observations were used, which in 2001-2017 involved about twenty cross-border projects: Polish-Czech and Polish-Slovakian, both at the planning stage of the partnership in projects as well as project implementation and their sustainability.

5. Results

The main conclusions of the research carried out in the three thematic blocks are as follows: preparation of the partnership; partnership management; implementation of the objectives of INTERREG program and the objectives of the cooperating organizations. Table 1 below shows the dominant views on the partnership preparation process.
Table 1: Respondents' views on the process of partnership preparation

<table>
<thead>
<tr>
<th>Research problem</th>
<th>Most frequent responses, dominant views</th>
</tr>
</thead>
<tbody>
<tr>
<td>motivation to participate in the project</td>
<td>extension of activities, mobilization of organization resources, acquisition of funds for development, pressure of the environment, implementation of statutory objectives</td>
</tr>
<tr>
<td>knowledge of the conditions of implementation of projects co-financed from the INTERREG program in terms of partnerships</td>
<td>initially poor knowledge of the terms of the program, improving during the implementation of projects, focus on what can be financed in projects and which organizations can benefit from grants, lack of a deeper analysis of the right partner selection beyond meeting the criteria required in projects, joint preparation, implementation, funding, staff and sustainability of the project over an appropriate period of time</td>
</tr>
<tr>
<td>way of choosing the organization for cooperation and the willingness to fulfil the conditions for carrying out cross-border projects in partnership</td>
<td>the partners were selected mainly for the needs of similar activities implementation, in many cases the partners did not cooperate with each other before submitting the application, the plans for the development of cross-border co-operation were focused only on the duration of the project in building partnerships, the focus was only on the objectives of the project, the requirements of the INTERREG program, i.e. joint preparation, implementation, financing, staff and sustainability of the project for the required period of time, were treated as obvious, other forms of cooperation were not used</td>
</tr>
</tbody>
</table>

Source: the authors.

Respondents' responses show that the effectiveness of ex-ante partnerships was identified by the organizations working in cross-border projects, mainly with the objectives and results of joint projects, in line with the objectives of the INTERREG program. Only a part of the surveyed entities indicated the desire to learn from the better ones as a motivation for cooperation.

Many organizations as a goal of cooperation declared the use of EU funds, they had no other plans for their partners. Studies show that the development of cross-border cooperation in projects is largely governed by the requirements of the INTERREG program, which those seeking to apply for the funds seek to conform, and the partnership is perceived as working towards achieving the objectives of the project rather than the added value of the project.

In the next block of questions the respondents spoke about the management of partnerships in cross-border projects, and the most important conclusions from these statements are presented below.

In the frame of the research problem concerning the conditions for implementation of projects in accordance with the INTERREG program and the long-term goals of the partnership the most frequent responses, dominant views are as follows:
• under certain circumstances, some partners in the project are trying to expand their cooperation with other activities (e.g. new common needs appear or the assumed project goals for partners are insufficient),
• in unfavourable conditions (e.g. personal or institutional changes in cooperating organizations), the partnership may lose its relevance and the organizations are only striving to complete the project without further prospects for cooperation,
• long-term partnerships in the project formally refer to at least the duration of their sustainability, i.e. around 5 years, and the intensity of cooperation after the project completion can be significantly reduced, which is influenced by a number of factors dependent and independent of the partners.

In the frame of the research problem concerning the cooperation in project team, behaviour of cooperating organisations the most frequent responses, dominant views were as follows:
• cross-border cooperation is based on relationships between organizations and between people representing these organizations,
• the quality of interpersonal relationships in the project team significantly influences the project's implementation and the long-term objectives of the partnership,
• harmonious cross-border co-operation involves overcoming institutional barriers (e.g. differences in the legal system) and personnel ones (e.g. language barriers);
• the behaviour of the organizations cooperating in the project is affected by i.a. internal situation, not directly related to the project; personnel changes and changes in the organization's own priorities; changes in the project environment,
• increasing the risk of failure of the project causes the co-operating organizations to stiffen in their mutual relationships, they prefer formal contacts, focus on protecting their own interests, which is not conducive to the development of partnerships,
• proper implementation of the project and achievement of the intended objectives favours the extension of the partnership beyond the level established in the project.

The above-mentioned responses show the relationship between the quality of cross-border cooperation, the situation in the project and the internal situation in the cooperating organizations. It is possible that, due to reasons independent of the project, the partnership will be disintegrated during its implementation (e.g. personnel changes in the project team) and the opportunity for further development of the partnership will be lost. This is possible, among other things, even when one of the parties stops cooperation because of changing their priorities. Disturbances in the development of cross-border co-operation during project implementation may come from partner organizations or from individuals who, on behalf of partners, work together in a project team. These may be disturbances dependent or independent of the partners.

There may be situations in which: organizational behaviour of partners will encourage cross-border cooperation beyond the objectives set in the project, or - in spite of the disturbances - partners will maintain this cooperation at least at the level guaranteeing project completion and settlement of the grant or cooperation disappears and makes it difficult to finalize the project or makes it impossible. In practice, the latter of the options described occurs least often, but it is the most severe in terms of developing cross-border cooperation.

In the last part of the survey, the respondents were asked about the functioning of cross-border partnerships after the completion of joint projects, primarily from the perspective of long-term partnership objectives. In this part of the interview, all respondents participated,
however, some of them declared (12 persons) that following the completion of the project, real cooperation with partners was not continued, mainly due to the following factors:

- low satisfaction with the implementation of the joint project,
- lack of good cooperation in the project team,
- lack of ideas for further joint actions,
- changing the priorities of the cooperating organizations,
- lack of funds to maintain cooperation,
- involvement of co-operating organizations in other projects and other partnerships.

On the other hand, respondents, who sustained or developed the partnership after the end of the project, pointed out the following mechanisms for the implementation of long-term cooperation objectives and characteristic behaviour of their organizations:

- building mutual trust and good interpersonal relationships between people representing partners in the project team,
- establishing possible areas of future cooperation while implementing the joint project,
- networking, i.e. engaging in cross-border co-operation, also with other entities cooperating with each partner,
- the genuine need for partnerships from the target groups represented by the partners,
- common problem solving in the project,
- mutual assistance and support also in areas not directly related to the project,
- seeking synergies and complementarity of resources and activities of partners as a means of further developing the cross-border partnership,
- a declaration of willingness to continue cooperation, regardless of whether another EU grant can be obtained.

The obtained responses indicate that the effectiveness of the ex-post partnership is a result of many factors, both dependent and independent of the partners. The effectiveness of the ex-post partnership is already evolving since cooperation within the project is launched as different situations may occur during its implementation, positively or negatively impacting the final result of cross-border cooperation and the future cooperation after the completion of the project.

6. Conclusion

Analysis of the responses received from respondents during the interviews allowed to define the key requirements for cross-border partnerships, co-financed by the European Union funds, in particular within the INTERREG program.

The opinions of the partners involved in the program have been assessed from the perspective of the long-term objectives of the cross-border partnership objectives and the behaviour of the organizations cooperating within in partnerships. Synthesized conclusions from the studies are presented below.

In the frame of requirements of the INTERREG program there are presented below the main conclusions concerning the purpose of the project, the long-term objective of the partnership as well as the Behaviour of organizations cooperating within the partnership.
Table 2: The requirement - joint preparation of the project

<table>
<thead>
<tr>
<th>The purpose of the project, and the long-term objective of the partnership</th>
<th>Behaviour of organizations cooperating within the partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>not only the project objective but also the long-term goal of the partnership should be set in a good partnership based on the project, indicating a serious approach to cooperation</td>
<td>resource mobilization to achieve the planned objectives</td>
</tr>
<tr>
<td>a long-term partnership objective in line with the objective of the project, where partners work together, especially when cooperation is just beginning</td>
<td>communication between partners at project design stage and partnership objectives</td>
</tr>
<tr>
<td>the long-term goal of the partnership going beyond the project's objectives, as long as the partners are already better acquainted with each other and work together at both the project level and beyond</td>
<td>allocation of human, financial and material resources and knowledge to the project objectives / long-term partnership objectives</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3: The requirement - joint implementation of the project

<table>
<thead>
<tr>
<th>The purpose of the project, and the long-term objective of the partnership</th>
<th>Behaviour of organizations cooperating within the partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>evaluation of the long-term goals of the partnership in terms of the changing situation of the cooperating organizations, the situation in the project and the situation in the project and partnership environment</td>
<td>ensuring equal rights for all partners, ensuring equal benefits for all partners, transparency in relations, building mutual trust; maintaining continuous communication between partners</td>
</tr>
<tr>
<td>flexible response to the development of cooperation, update of the partnership's long-term goals in terms of changes in partners, in the project, and in the project environment</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Table 4: The requirement - joint financing in the project

<table>
<thead>
<tr>
<th>The purpose of the project, and the long-term objective of the partnership</th>
<th>Behaviour of organizations cooperating within the partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>utilization of the funds from the INTERREG program for the realization of the project objectives</td>
<td>monitoring the correct use of funds in line with the objectives of the project and the objectives of the partnership</td>
</tr>
<tr>
<td>providing partners’ own funds or resources from means from other sources for the implementation of long-term partnership objectives</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.
Table 5: The requirement - shared personnel in the project

<table>
<thead>
<tr>
<th>The purpose of the project, and the long-term objective of the partnership</th>
<th>Behaviour of organizations cooperating within the partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>ensuring that the partners' project objectives and long-term partnership objectives are understood by the personnel involved in the cooperation</td>
<td>integration of the project team and strengthening relationships among people in the team, rapid response to conflicts in the team, development of the competence and skills of project team members in the management of partnerships</td>
</tr>
<tr>
<td>partnership management aimed at meeting the project objectives and long-term partnership objectives</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Table 6: The requirement - ensuring sustainability of the project

<table>
<thead>
<tr>
<th>The purpose of the project, and the long-term objective of the partnership</th>
<th>Behaviour of organizations cooperating within the partnership</th>
</tr>
</thead>
<tbody>
<tr>
<td>joint action to maintain the results of the project at least for a fixed period of time</td>
<td>modification of the composition and structure of the partnership in relation to the current needs of the partners (e.g. extension of the partnership)</td>
</tr>
<tr>
<td>sustaining the project's objectives during its sustainability</td>
<td>transformation of the project team into a team of associates representing individual partners in long-term cooperation</td>
</tr>
<tr>
<td>evaluation of long-term partnership objectives with reference to the new situation (project completion)</td>
<td>providing resources for continuation of cooperation after the project completion</td>
</tr>
</tbody>
</table>

Source: the authors.

Organizations working in cross-border partnerships for project implementation are not obliged to achieve only the stated objectives of the projects, but through appropriate behaviour they should seek to generate the added value that sets the long-term objectives of the partnership. This is a desirable approach to building long-term goals based on cross-border partnerships initiated in the INTERREG program is presented below. According to the literary analysis and opinions of respondents, the high efficiency of ex-post partnership occurs when the partners were properly selected, according to their needs and expectations of cooperation, the realized project was only a stage of cooperation, not the sole purpose of its establishment. Certainly, the EU's INTERREG program contributes to the development of cross-border partnerships, i.e. creates the conditions for ex-ante partnership so that the efficiency of ex-post partnership outperforms the ex-ante partnership. Below there are identified the key features of a cross-border project that offers the possibility of meeting the above relationship:

- it is a response to the real needs of each partner,
- engages the cooperating parties in the partnership in a manner consistent with their capabilities,
• leads to results, which should lead to further development of the partnership, e.g. defined on the basis of the created cooperation strategy.

To sum up, the cross-border partnership opens the door to the possibility of joint implementation of INTERREG projects, but does not guarantee that the objectives set by the cooperating organizations will be achieved. The INTERREG program is designed to associate cross-border partnerships in order to address border issues jointly, but also in order to build lasting partnerships between the neighbouring entities i.a. to balance developmental differences and strengthen competitiveness at the international level. It cannot readily be assumed that this goal will only be achieved through projects, so it is expected that their added value of these will be persistent alliances of the cooperating organizations consisting in the long-term goals of cooperation. As mentioned in the introduction, this approach is at odds with the real motives of many organizations that treat cross-border partnerships only as an agreement for a shared use of EU grants. The above considerations clearly demonstrate that the requirements for cross-border projects co-financed by the INTERREG program are conducive to setting long-term partnership objectives. These goals can be realized and thus the expected, high efficiency of the ex-post partnership can be achieved, provided that the cooperating organizations are well prepared for this, especially from the point of view of managing the partnership they co-create.

References


APPLICATION OF TOURISM PARTNERSHIP LIFE CYCLE MODEL
– CASE STUDY OF SLOVAKIA

DIANA KVASNOVÁ

Abstract
The literature on destination management in the recent years has focused on attending to understand
the tourism destinations as the group of stakeholders linked by mutual relationships, where the action
of each stakeholder influences those of the others. Networking and partnerships have been promoted
as an effective economic development strategy within the sector of tourism. This has lead scholars to
develop a tourism partnership life cycle model. The model has examined the dynamics of relations
among different stakeholders, identified the stages and phases of collaborative processes in a tourism
destinations. The aim of the paper is to analyze the selected characteristics of regional destination
management organizations (DMOs) in Slovakia as the representatives of public-private partnerships
and to identify their stages of the life cycle. To meet the aim of the paper primary and secondary data
are used, and processed by descriptive statistics. The case study identified the stages of 5 regional
DMOs’ life cycle in Slovakia take-off (1), growth (3) and prime (1). Afterwards, the recognition of the
stage enables to assume recommendations for improving the activity of DMO and to prevent its
stagnation.

Key words
partnership, tourism partnership life cycle model, destination management organization

JEL classification
L83, Z33

1. Introduction
Tourism in the developed economies is perceived as an economic activity generating the
positive economic and social effects. Therefore, theory and practice of tourism are looking for
solution how to maximize positive impact and to ensure its sustainability in the future.
Changes on tourism market in last decades have brought the new approach to managing
tourism development in destinations - destination marketing management. The concept
presents a tool ensuring cooperation and coordination of stakeholder’s interests in tourism
destinations and enhances establishing of destination management organizations (DMOs).
The application of the concept in Slovakia is connected with the enforcement of Tourism
Support Act no. 91/2010 Coll. The act was a stimulus for establishing DMOs on the base of
public-private partnerships at local and regional level. The DMOs operating in Slovakia are
heterogeneous, differs mostly in the years of their existence, numbers of members, realized
activities, level of cooperation and relations. The study interprets DMOs as the collaborative
entities characteristic by their dynamics and evolution, which is well illustrated in tourism
partnerships life cycle models.
2. Theoretical background

Cooperation and partnership are not such a new topic in tourism literature and many authors are interested in this issue (Gray, 1989; Bartl and Schmidt 1998; Wang, 2008; Palatková, 2011; Morrison, 2013; Gursoy et al., 2015). We agree with Fyall et al. (2012) who define tourism destination not only as the geographical area for visitors’ consumption, but as a group of stakeholders linked by mutual relationships, where the action of each stakeholder influences those of the others so that common objectives must be defined and attained in a coordinated way (Menente and Minghetti, 2006). Wang (2008) argues that collaboration and partnership are a natural response to the marketing and managing challenges of tourism destinations representing system made up of various components that may work with or against one another.

The terms “cooperation” and “partnership” are often used as equivalents and describe joint effort. Gray (In Peroff et al., 2016) defines cooperation as the pooling of appreciations and/or resources (e.g. information, money, labour) by two or more stakeholders in tourism destinations, to solve a set of issues which neither can solve individually. Palatková (2011) considers cooperation as the broader term than partnership, including not only partnership but also coordination and mutual relationships. In the context of tourism destination we can define partnerships as the collaborative effort of autonomous stakeholders from organizations of two or more sectors with interest in tourism development, who engaged in an interactive process using shared rules and structures at an agreed organizational level and over a defined geographical area to act or decide on issues related to tourism development (Long In Caffyn, 2000). Specific forms of partnerships depend on the level of tourism development in destination, the tourism destination´s stage of life cycle, current economic, political, cultural context and the stakeholders´ willingness to share responsibility. Following the recommendations of domestic and foreign authors the any form of partnership should involve stakeholders from both, public and private sectors. Augustyn and Knowles (2000) identified five crucial factors for success of public-private partnerships in the context of tourism destination. They are staff professionalism, joint objectives expert preparation, underlying objectives, developmental structure, effective and efficient actions, and sustainable nature of the partnership.

Destination management organizations (DMOs) represent various forms of partnerships in tourism destination. According to Wang and Fesenmaier (2007) were they developed because of the need to plan, to coordinate and to promote tourism destination. They are responsible for managing and marketing of tourism destination and for supporting activities of stakeholders involved in tourism development. Volgger and Pechlaner (2014) characterized DMOs as a team consisting of experts who lead and coordinate destinations´ stakeholders. Nowadays, DMOs are responsible for fulfilment of tasks of marketing management representing current approach to management of tourism destinations in countries with developed tourism. Seaton and Bennett (1996) define destination marketing management as a process which essence is in influencing the level, timing and structure of demand in a way enabling of tourism destination to achieve its objectives. Its aim is to connect tourism offering in destination with its target markets of visitors, bringing benefits to all stakeholders (businesses and organizations of private and public sector, visitors and residents) and tourism destinations as well (Palatková, 2011). According to Morrison (2013), the main tasks of DMOs are:

1. Leadership and coordination: Setting the strategies and plans for tourism development in destination and coordinating effort of stakeholders toward their achieving.
2. Planning and research: DMO as an enhancer of systematic planning and research needed to attain the set of destination goals.

3. Product development: To develop destination product in a compliance with the supply of destination and the needs of visitors.

4. Marketing and promotion: Creating a marketing and communication mix as the predominant role of DMOs.

5. Partnership and team-building: DMO as an instigator of willingness to cooperate of stakeholders and to share responsibility for tourism development.

6. Community relations: An effort of DMO to involve local community leaders and residents in tourism development and to monitor the attitudes towards tourism.

There are many forms of DMOs globally at the national, territorial, regional and local levels and no standardized structural platform exists for DMOs. There has been a trend for DMO governance to move from public-sector only to public-private partnerships (Morrison, 2013). The dynamism of relationships among stakeholders in tourism destinations inspired some writers to focus on various stages through which collaboration typically pass. Proponents argue that identifying of the key tasks and understanding how they might be performed more effectively will enable participants in the collaboration to make more successful (Fyall and Garrod, 2005). The first model was developed by Gray (1985). Gray sets out a three-stage model through which collaboration usually develops. The first stage termed the “problem-setting” phase involves primarily identifying the key stakeholders in the problem domain, defining the key problems and building commitment to collaborate. In the second stage, the “direction-setting” phase, stakeholders share their values and goals, and arrive at common vision/plans. In the “implementation” phase stakeholders institutionalize the shared values and ensure compliance to collaboration decisions.

Also Waddock (1989) presents the three-stage model of the collaboration life cycle. The first, “issue crystallization” phase consists of forming the issues around participants intend to collaborate. The “coalition-building” phase involves integrating the key actors and balancing the power relationships among them. The last, “purpose-formulation” phase builds consensus among participants and establishes jointly agreed goals (Fyall and Garrod, 2005).

Grey’s and Waddock’s model are too generous and do not take into consideration current situation in tourism destinations. On the contrary, Selin and Chavez (1995)’s evolutionary model is adapted to changing conditions in tourism destinations. The authors identified five stages of collaboration. In the “antecedents” phase are various forces operating on would-be participants (technological, political, social, economic) drawing them together. The next, “problem-setting” phase consists of consensus of stakeholders and definition of common issues. The third, “direction-setting” phase involves establishing of main goals and jointing information. For the fourth stage termed as the “structuring” phase is characteristic formalization of partnership, assigning roles, elaborating tasks and monitoring of all processes. The final stage “outcomes” involves evaluation of benefits of collaboration.

The models presented above represent merely three examples of collaboration life cycle that might be applied in tourism destinations. As a complex model, undertaking a comparative analysis of previous models, is considered Caffyn (2000)’s Tourism Partnerships Life Cycle Model. Caffyn’s model mergers elements of theory (a comparative analysis of 11 life cycle models) and practice (case studies of 10 tourism partnerships in selected rural destinations). The model demonstrates how tourism partnerships evolve and how they might end (Perrof et al., 2016). Caffyn (2000) identified six phases through tourism partnerships proceed:
1. Pre-partnership: issues identified, formulation of goals, securing commitment and funding;
2. Take off: seeking wider support, staff appointed, inventory of resources, work program set, trust develops, first project implemented;
3. Growth: expand activities, refine internal organization, innovation, leadership;
4. Prime: stability and credibility, additional funds secured, held up as good practice, activities consolidated;
5. Deceleration: stagnation of activities, loss of interest, questioning commitment, objectives re-evaluated;
6. Continuation or After life options: community takes it on, absorbed into bigger partnership, split between partners, taken on by one organization, continues in different form, continues same, spawns other projects, finishes completely.

While not every tourism partnership follows the trajectory from the phase of pre-partnership to continuation, we consider Caffyn’s model as the effective tool for visualization and effective planning, managing, and evaluating of collaborative success. The recognition of the current stage enables to assume recommendations for improving the activity of DMO, to prevent its stagnation and to adoption of measures leading to partnership’s revival.

3. Methodology

The aim of the paper is to analyze selected characteristics of regional DMOs in Slovakia as the representatives of public-private partnerships and to identify their stages of life cycle. According to the recommendation of Caffyn (2000), Gajdošík (2012) and Peroff et al. (2016) were for identification of DMOs’ life cycle stages selected 6 main characteristics:
• the number of members of DMO,
• the total sum of subsidy obtaining from state budget (in euro),
• the number of years of existence,
• the number of realized activities,
• the level of cooperation among DMOs members (Likert scale),
• the power and the influence of DMO within the region (Likert scale).

To meet the aim of the paper, primary and secondary data are being used. For gaining primary data were used semi-structured interviews. We interviewed (in person, by phone) the managers of all 5 regional DMOs in Slovakia. The purpose of the semi-structured interviews was to investigate selected qualitative characteristics, which made able to identify the stage of DMOs’ life cycle. The interview has 17 questions and was designed to capture key elements of the partnership’s life cycle (i.e. its purpose, level of communication and cooperation, activities of partnership, its benefits and barriers). Moreover, the respondents were asked to judge the various performance-dimensions on a five-point Likert scale (1 being very unsatisfactory, 5 being very satisfactory). To increase the depth and consistency of these data were analyzed partnerships’ documents available on websites of DMOs, too. Information about the activities, tasks, financial subsidies of regional DMOs are also taken from documents of the Tourism section as a part of Ministry of Transport and Construction of the Slovak Republic and Statistical office of the Slovak Republic. The data were processed by descriptive statistics and presented by figures.
4. Results and discussion

Although in Slovakia are 8 self-governments regions, only 5 DMOs at this level have been established, namely in Bratislava region (Bratislava Region Tourism), Košice region (Košice Region Tourism), Prešov region (Nort-East Slovakia), Trenčín region (Trenčín Region) and Žilina region (Žilina Region Tourism). According to the Tourism Support Act no. 91/2010 Coll. regional DMOs should strive to perform regional marketing activities, to develop tourism strategy, to support implementation of the quality systems in tourism as well as to accumulate funds necessary for tourism development in the region and to provide consultancy. The Act no. 91/2010 Coll. also deals with the funding of regional DMOs. A subsidy for regional DMOs is the same as a member contribution of a region (no more than 10% of the accommodation tax collected in municipalities which were members of local DMO in a previous year). Supporting of activities of DMOs from public resources forces the need to examine how the organizations allocate their resources. The percentage share of subsidies given on activities of regional DMOs is listed in table 1.

Table 1: The share of subsidies on activities of regional DMOs in the period 2014 – 2017

<table>
<thead>
<tr>
<th>Activities/Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing communication and branding</td>
<td>61,4</td>
<td>62,2</td>
<td>62,8</td>
<td>68,8</td>
</tr>
<tr>
<td>Operating of Information centre</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
</tr>
<tr>
<td>Developing tourism products</td>
<td>12,7</td>
<td>24,3</td>
<td>23,9</td>
<td>0,0</td>
</tr>
<tr>
<td>Operation of booking system</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>19,7</td>
</tr>
<tr>
<td>Development of attractions and tourism infrastructure</td>
<td>19,9</td>
<td>13,0</td>
<td>12,9</td>
<td>8,9</td>
</tr>
<tr>
<td>Strategic planning, research and development</td>
<td>5,3</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
</tr>
<tr>
<td>Implementation of Quality systems in tourism</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
<td>0,0</td>
</tr>
<tr>
<td>Training and education</td>
<td>0,6</td>
<td>0,5</td>
<td>0,4</td>
<td>2,5</td>
</tr>
</tbody>
</table>


The dominant activity of regional DMOs in Slovakia is marketing communication and branding. Regional DMOs also finance developing of attractions and tourism infrastructure and develop tourism products. From 2015 to 2017 regional DMOs have not financed activities connected with strategic planning, research and development of tourism in the regions. In the selected period these organizations also have not exercised implementation of quality systems in tourism as well as training and education. According to these results, we identified deficiency in strategic planning, research and development, implementation of quality systems in tourism, training and education.

In accordance with Act no. 91/2010 Coll. about tourism support, in February 2012 was established the first regional DMO – Bratislava Region Tourism. Following this example was in March 2012 established Žilina Region Tourism. In December of the same year were also established DMOs North-East Slovakia as well as Košice Region Tourism. For now, the last regional DMO – Trenčín Region, was established in May 2015. As were mentioned before, on the territory of 8 self-governments regions in Slovakia are (in 2017) only 5 regional
DMOs. The necessity for establishment of organization responsible for managing and marketing tourism on the level of self-governments regions emerged as first in the most developed and the most attractive regions of Slovakia. Stakeholders in these regions have realised that, in this high competitive environment, is crucial to plan experience for visitors as a network consisting of products providing on local level (on the level of cities/villages). We argue that the key task of regional DMOs should be the networking of tourism offering providing on local level in a way increasing the competitive advantage and stressing the uniqueness of each region as well. Fulfilling this task demands responsible attitude to long-term planning of tourism development in the regions, determining the key products´ lines (e.g. summer/winter tourism, spa tourism, agrotourism) for key groups of visitors and their common promotion.

Table 2 summarizes selected characteristics according to those was able to investigate the current stage of life cycle of regional DMOs in Slovakia.

Table 2: Selected characteristics for identification of DMOs´ life cycle stages

<table>
<thead>
<tr>
<th>Characteristic/DMO</th>
<th>Bratislava Region Tourism</th>
<th>Košice Region Tourism</th>
<th>North-East Slovakia</th>
<th>Trenčín Region</th>
<th>Žilina Region Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of existence</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Number of members</td>
<td>160</td>
<td>131</td>
<td>92</td>
<td>109</td>
<td>126</td>
</tr>
<tr>
<td>Subsidy (in euro)</td>
<td>1,632,108.20</td>
<td>198,008.49</td>
<td>499,200.00</td>
<td>51,358.00</td>
<td>602,043.91</td>
</tr>
<tr>
<td>Number of activities</td>
<td>588</td>
<td>397</td>
<td>243</td>
<td>80</td>
<td>280</td>
</tr>
<tr>
<td>Cooperation among members</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Power and influence within the region</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Source: the author.</td>
<td></td>
<td></td>
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</tbody>
</table>

Successful tourism development requires the involving of stakeholders from both, public and private sectors (including profit/non-profit organizations). The largest memberships have Bratislava Region Tourism (160), Košice Region Tourism (131) and Žilina Region Tourism (126). The membership of North-East Slovakia consists of 92 stakeholders. These findings could be interesting, if is taking into consideration the area of single regions (in km²). The largest membership has the smallest, Bratislava region. On the contrary, North-East Slovakia operating in the largest Prešov region has the smallest number of members. In this case, more than the area of regions is more important the willingness of stakeholders to cooperate, which is evidently higher in the most visited regions with well developed tourism infrastructure.

The important resource of funding is for regional DMOs the subsidy from state budget. In accordance with Act no. 91/2010 Coll., the majority of governmental subsidies obtained Bratislava Region Tourism (1,632,108.20 euro), Žilina Region Tourism (602,043.91 euro) and North-East Slovakia (499,200.00 euro). These DMOs operate in the regions with the highest developed infrastructure. In this way the act itself contributes to the deepening disparities among regions in Slovakia. The lowest subsidy obtained DMO Trenčín Region.
(51,358.00 euro). In the contrary of these regional DMOs operating since 2012, Trenčín Region was established in May 2015 and obtained the subsidy only once in 2017.

The subsidy must be used for funding activities in compliance with Act no. 91/2010 Coll. The DMOs leading in number of realized activities are Bratislava Region Tourism (588), Košice Region Tourism (397) and Žilina Region Tourism (280). Trenčín Region has realized for 2 years of its establishment 80 activities. In activities of regional DMOs prevails marketing, developing of attractions and tourism infrastructure as was listed in table 1.

Other important characteristics influencing the regional DMOs´ stage of life cycle is the level of cooperation among their members and power and influence of DMOs within the region. According to the analysis of official documents of DMOs, ties among members as well and results of semi-structured interviews, following findings can be presented. The highest level of cooperation (5) and the power to influence tourism development (4) was identified in Bratislava Region Tourism and Košice Region Tourism (4;3). In Trenčín Region was investigated the level of cooperation 2 and power and influence of DMO within the region 1. In this regional DMO are members at the beginning of cultivating of mutual trust and developing of stronger ties necessary for product development and other activities as well.

Taking into consideration recommendations of Caffyn (2000), Gajdošík (2012), Peroff et al. (2016) and previous characteristics, the regional DMOs´ life cycle stages presents figure 1. Trenčín Region was identified in the take-off stage. The DMO is seeking wider support in the region, working on mutual vision and key products lines. Members are teaching mutual trust and are developing methods of effective information sharing. North-East Slovakia, Žilina Region Tourism and Košice Region Tourism are in the stage growth. Although these regional DMOs are in the same stage of life cycle, were identified some differences among them. These differences in selected characteristics are interpreted in the picture in dissimilar level of success. Bratislava Region Tourism was identified in the stage prime. The DMO distinguished by stability, strong ties among DMOs´ members, innovations in product development and promotion, and consolidation of activities.

The identification of current stage of life cycle enables to assume recommendations for DMOs improving their activity. For Trenčín Region are crucial tasks to seek wider support in the region, to establish its clear identity, to involve the key stakeholders into partnership and to reinforce ties among them. North-East Slovakia and Žilina Region Tourism should focus on new projects implementation and innovation of their activities, and consolidate themselves as the leader’s organizations in tourism development. For Košice Region Tourism is also important to hold its leader’s position in tourism development, to support innovations in product development and promotion, and to involve new stakeholders into partnership, also from bordering countries. Bratislava Region Tourism is hold up as a good practise, distinguished by number of innovative activities, stability and high level of cooperation among its members.

As the future threat, negatively influencing the DMO can be considerate possible loss of interests about deepening collaboration, uncertainty of future aims or fulfilling the main vision (without finding the new one).
5. Conclusion

Globalization, high competition, changes in visitors’ behavior and fragmented nature of tourism have caused exceptional changes in managing and marketing of tourism destinations as well as experiences of their visitors. For tourism destinations is now crucial responsible attitude to tourism development, forming and becoming a part of collaborative entity – destination management organization (DMO), connecting stakeholders from public and private sector supporting their competitiveness and long term success on the market. Cooperation among different stakeholders presents the means how to achieve strategic goals of tourism destinations which are unreachable, if stakeholders prefer their individual interests. DMOS are entitled to enforce the concept of marketing management into managerial practice. Their main roles are leadership and coordination, planning and research, product development, marketing, partnership and community relations. The aim of the paper was to analyze the selected characteristics of regional DMOS in Slovakia as the representatives of public-private partnerships and to identify their stages of life cycle. The paper is based on primary and secondary data processed by selected methods of descriptive statistics.

Partnerships and collaboration have been promoted as an effective economic development strategy within the tourism destinations for several decades. In turn, researchers have developed criteria for success, identified stages of collaborative process, and proposed a life cycle of partnership. Case studies of tourism partnerships in destinations have been explored in many countries and in a multiple context (e.g. planning, marketing, policy). However, nearly all studies have been conducted in areas with developed infrastructure and long tourism tradition. In this study, we applied Caffyn’s partnership life cycle model in the context of Slovakia and examined the stages of life cycle of regional DMOS. Till 2017 was in Slovakia established 5 regional DMOS, which were identified in 3 different stages: the stage take-off (Trenčín Region), the stage growth (North-East Slovakia, Žilina Tourism Region, Košice Tourism Region) and the stage prime (Bratislava Tourism Region). We provided a visualization of DMOS’ partnership trajectory for clear interpretation of our findings. The study demonstrates how partnerships in tourism destinations evolve and points out some
Difficulties characteristic for each stage of partnerships, which should the managers of DMOs be aware. Moreover, we assume Caffyn’s model as a tool encouraging the success of planning and managing of partnership and can help to situate one group’s shared experience among others partnerships with similar challenges. As the crucial characteristics determining the life cycle of partnerships were identified legitimacy, funding arrangements, involving of key stakeholders and how successfully can work collaboratively. In further research is our aspiration to investigate the stage of life cycle of local DMOs operating in Slovakia (36) and to assemble set of recommendations for each stage, improving their success on domestic as well as on foreign tourism market.

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References


BEHAVIORAL APPROACHES TO HOUSEHOLD FINANCE: WHERE DO WE STAND?

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Abstract
This article reviews the recent literature on household finance, which is trying to adopt behavioral approach in this field of study. It summarizes the most relevant findings of empirical evidence from different developed countries. These findings are underlying the limits of standard finance theory and of traditional neoclassical assumptions of households’ economic decision-making process. Four main fields of household finance seem to be most discussed by current authors: savings behavior, investment behavior, debt behavior and financial literacy determinants. Individual psychological, cultural and social factors, affecting these aspects of household behavior are underlined in our paper.

The perspective of future research is presented, with a special emphasis to social processes impact – the concept of social finance.

Key words
household finance, behavioral economics, savings behavior, investment behavior, mortgage decisions, financial literacy

JEL classification
D14, D91, E21

1. Introduction

Household finance studies the way in which households utilize (positive approach) or should utilize (normative approach) financial instruments in order to achieve their goals. Financial behavior of households attires attention of current researchers and policymakers for multiple reasons. Firstly, this behavior has an impact on financial stability in economy. The crisis which started in 2008 showed that the problems of a limited group of households can be amplified to the level of serious international macroeconomic problems. Moreover, the challenges of future demographic situation motivate the governments at all levels to encourage households to be more in charge of their own financial situation, especially after retirement. Thus, the analysis of different aspects of household finance processes like financial planning, risk taking or savings behavior are of growing interest of economic research (see Brounen et al., 2016; Bommier et al., 2017). This research is also catalyzed by establishment and development of research networks – e. g. Household Finance and Consumption Network managed by the European Central Bank.

Naturally, the application of behavioral approaches to household finance keeps the most important general issues connected to household finance analysis. As being underlined by Campbell (2006), two main challenges are particularly important: (1) difficulties in measurement and (2) ambiguity in approaches to modeling. The problem of data availability about household finance is partially solved by realization of household surveys, which are
organized regularly even at the international level (see Badarinza et al., 2016). These household surveys data can be completed by data from governments and financial institutions, as well as data coming from financial technology companies that aggregate information for households. Concerning the macro-level administrative data, they are mostly compiled in national accounting system (Andreasc and Lindner, 2016). Concerning new data sets coming from financial innovation outputs, they motivate the current debate about big data versus survey data utility for household finance research (see for example Whitaker (2014). The current tendency of economic research is trying to combine different data sources in order to better capture the real economic situation in households (see for example Kavonius and Honkkila (2016).

Another challenge to household finance study is connected with modeling issues. As being stressed by Molina (2011), the traditional model of household economic behavior which assumed a nuclear family and a standardized structure, were applied in household economic behavior research for decades. However, recent fundamental shifts in families and households compositions lead to discussions about appropriate model taking into account possibility of bargaining and transmission of economic situation between family members. The latter approach lead to adoption of non-unitary alternative models. Another aspect of households’ behavior modeling concerns the fact that household finance behavior empirical research focuses mainly on middle-class households because of data availability. By doing so, poor households and extremely wealthy households are normally not captured in empirical modeling.

There is an additional aspect linked to household finance modeling based on the limits of standard finance neoclassic assumptions of households’ rationality. Because of important level of irrational and non-optimal choices made by households in their financial behavior, one can observe a rapid growth of literature focusing on households’ mistakes explanation. This literature, following the stream of interdisciplinary and transdisciplinary approaches to current problems research, is analyzing not only economic factors having impact on households finance decisions, but also individual motives well-known from other social disciplines. Such approach, making a part of behavioral economics (Mullainathan and Thaler, 2000), is focusing not only on demographic factors, but also on psychological factors like motivation and attitudes which can eventually be relevant in household decisions-making processes. The main idea of this research reflects the limited cognitive abilities of households that constrain their decisions in different fields of households finance study.

Our paper tries to summarize the main findings of authors which are applying behavioral approaches to household finance analysis. We stress the psychological and cultural patterns of determinants which occurred as statistically significant and important in the empirical research in different developed economies. Four areas of household finance research seem to be specifically important: savings behavior, investment behavior, debt behavior and financial literacy determination. So, we organize next parts of our paper according to these study fields.

2. Savings behavior

Recent literature propose several approaches to savings behavior determinants. Le Blanc et al. (2015) published a cross-country empirical study based on data from Household Finance and Consumption Survey in 15 members of the euro zone. The authors underlined that “studying which motives drive households' savings within countries at different stages of their life cycle is fundamental for understanding household saving behavior” (Le Blanc et al.,
Thus, their approach corresponds to influential behavioral life-cycle (BLC) hypothesis formalized by Shefrin and Thaler (1988). The authors analyse different savings motives (home purchase, other purchase, set up a private business, invest in financial assets, provide for unexpected events, provide for old-age, travels, support for children, bequests, take advantage of state subsidies) and the determinants of these motives. Age, household size, education level, self-employment occurred as statistically significant determinants for the most relevant savings motives. The authors conclude by finding evidence on homogeneity across European countries in motives for saving, which could indicate a limited impact of cultural factors in this field. On the other hand, they found a certain heterogeneity in the field of credit constrains impact on financial behavior, which could eventually indicate cultural factors can play some role in saving behavior.

Brounen et al. (2016) analyses behavioral factors affecting savings patterns in Netherlands. They found that an individual’s propensity to save decreases with age and is higher among the financial literate. Moreover, they found that saving behavior varies across Dutch generations, and is significantly dominant among baby boomers. Their results offer evidence for “parental influence – so the effects of the psychological and behavioral metrics of numeracy, self-efficacy, locus of control and future orientation. A good understanding of these personality variables helps to explain why some take financial responsibility while others do not.” (Brounen et al., 2016, p. 95). Analogical findings are described by Beckamn et al. (2013) in the group of Central and Eastern European countries. According to the authors, young and old people are less likely to save than middle-aged people, but older respondents’ propensity to dissave is smaller than the life-cycle hypothesis would predict. This is possibly due to a bequest motive or to memories of past economic turbulences.

According to BLC hypothesis, people’s financial behavior over the course of life is determined by their ability to control impulses and the costs connected to exercising such self-control. Depending on one’s mental accounts and how he/she categorizes money, it is more or less costly for him/her to save for the future. Respecting this logic, Biljanovska and Palligkinis (2016) examine the relationship between self-control and household wealth. On the basis of US households’ analysis, the authors conclude that self-control failure is strongly associated with different household net wealth measures and with self-assessed financial distress. Analogically, Strömbäck et al. (2017) identify a self-control impact in case of Swedish households. The authors identify that people with good self-control are more likely to save money from every pay-check, have better general financial behavior, feel less anxious about financial matters, and feel more secure in their current and future financial situation.

Risk aversion seem to be a significant factor affecting savings, too. Bommer et al. (2017) demonstrate on the basis of data from German households that more risk averse agents, when controlling for wealth, income risk, and mortality risk, tend to save less.

Moreover, non-traditional determinants of savings are also analysed by Gogolin et al. (2017). The authors create individual measures of cultural values. On the example of Dutch households, they show that the self-expression values (non-cognitive factors) are an important determinant of the household saving decision. In particular, they find that being unhappy, not playing an active role in society, and being distrusting of others are important negative predictors of saving behavior among households.
3. Investment behavior

At the level of households finance, the investment behavior is represented by diversification of assets allocation by applying more risky investment. Badarinza et al. (2016) underline that “households with higher income, greater financial wealth, and better education tend to invest more in risky assets and also invest more efficiently, i.e., in a more diversified fashion, and paying lower fees. For both these reasons, such households tend to earn higher average returns”.

According to standard finance theory, individual investment decisions are determined by risk and return. Lounio et al. (2015) apply behavioral approach by taking other determinants into account. According to their findings, investment intentions are stronger when not only economic, but also functional and emotional value is expected from investing. In addition to standard risk theory findings, psychological risk and emotional value contribute negatively to investment intentions. On the other hand, the findings of Døskeland and Pedersen (2016) field experiment in Norway show that wealth is more important than morality for individual investors, what is in line with standard finance assumptions.

Gogolin et al. (2017) focus on cultural determinants of investment in risky assets in Netherlands. The authors find no indication that values or value orientations are predictive of whether a household owns risky assets. Instead, the financial demographic variables of self-employment and net worth are important explanatory variables of a household’s decision to invest.

Numerous studies measure the impact of financial literacy on different aspects of investment behavior. According to van Rooij et al. (2012), low-literacy households in the Netherlands are less likely to participate in the stock market. In case of Central and Eastern European countries, Beckamn et al. (2013) identify positive impact of financial literacy on portfolio diversification. According to these authors, those who perceive themselves as risk averse, are more likely to underdiversify their portfolios, possibly because they stick to one familiar saving instrument they trust.

4. Debt behavior

Debt behavior of households can be study from various points of view: debt choice, debt refinancing, debt default etc. Mortgages represent the most important item on the households’ liabilities side in every country (Badarinza et al., 2016). However, the other forms of credits are analysed by different authors as well. Gorbachev and Louengo-Prado (2017) concentrate on the credit card debt puzzle in the US population and find that respondents in the puzzle group which represent the households choosing to hold credit card debt and low-interest liquid assets simultaneously, are more likely to have middle levels of risk aversion, have slightly lower levels of financial literacy and completed education, and hold significantly higher levels of all types of debt.

Based on insights from behavioral economy, Chávez-Juaréz (2015) develops a model of family credit behavior aiming at explaining the relatively high debt ratios among poor and especially middle class families in countries with large access to credit. According to this author, it seems that the way households compare themselves to a reference group is very important. It might therefore be of particular interest to empirically and/or experimentally study the exact definition and importance of the reference group in the context of credit behavior.
In the context of Swedish economy, Almenberg et al. (2016) apply a novel survey measure of debt attitude, asking respondents if they are uncomfortable with debt. As underlined by authors, those who report being uncomfortable with debt have considerably lower debt levels, even when controlling for relevant socioeconomic variables. In addition, being uncomfortable with debt is strongly correlated between parents and children. Thus, the impact of social norms on debt behavior seems to be extremely relevant.

Breuer et al. (2015) apply behavioral approach to debt choice by examination of national culture as a reasonable predictor for household debt maturity. The authors show that culture is an important factor for households’ borrowing decisions and has even more predictive power than time preferences representing the standard finance theory determinant. Countries with higher individualism scores (cultural pattern) tend to have longer household debt maturity. As being stressed by the authors, this causality analysis completes the picture about the mechanisms between culture and household debt maturity, and highlights the importance of culture for financial decisions.

5. Financial literacy determinants

Behavioral approach to household finance can be seen as the study of impact of cognitive and non-cognitive factors on financial behavior. In general, cognitive factors are those which are possible to measure by testing, while non-cognitive factors are self-reported measures of personal preferences, personality, behavior, thoughts or feelings. Among all these factors, financial literacy attires a special attention in the household finance literature. The authors concentrate not only on the impact of financial literacy on households finance (see for example van Rooij et al. (2012)), but also on the determinants of financial literacy. The latter approach is generally applied in order to better calibrate the policy implications of the results.

In this context, Kaiser and Menkoff (2017) find that financial education significantly impacts financial behavior and, to an even larger extent, financial literacy. But their findings also suggest that financial education is less effective for low income clients as well as in low and lower-middle income economies. The authors underline that specific behaviors, such as the handling of debt, are more difficult to influence and mandatory financial education tentatively appears to be less effective.

Some findings concerning the impact of financial education on financial literacy and financial behavior are even more skeptical. Hibbert et al. (2012) investigate the role of financial education in household portfolio allocation decisions using data from a survey of 1,382 professors at universities across the United States. Their results find that investors with advanced knowledge of finance still tend to hold undiversified equity portfolios. The results of Fernandez et al. (2014) are also bringing doubts to this issue. The authors find that the partial effects of financial literacy diminish dramatically when one controls for psychological traits that have been omitted in prior research or when one uses an instrument for financial literacy to control for omitted variables. According to these findings, financial education has serious limitations that have been masked by the apparently larger effects in correlational studies. As a conclusion, the authors suggest a real but narrower role for “just in time” financial education.
6. Conclusion

Our paper attempts to summarize the main findings of current authors which are applying behavioral approaches to household finance analysis. By doing so, we tried to identify the sub-groups of problems in which the application of behavioral approaches was tested and empirical evidence confirmed that application of behavioral approaches was meaningful. The shortage of our outcome is that the list of papers which are presented in this study is not exhaustive. However, we believe that the most important findings corresponding to the most relevant determinants of four aspects of households finance, are included. This summary could inspire other authors in their research, e.g. while preparing the survey questions in the framework of their research projects.

There is a strong empirical evidence for applying self-control measures, risk aversion measures and values measures in households’ savings behavior analysis. The current knowledge seems to support additional research of psychological and social (cultural) factors affecting savings behavior. Analogically, behavioral economics insights seem to propose a relevant background for debt behavior analysis. Taking into account the psychological (attitudes) and social (cultural values) determinants of debt behavior, as an extension to traditional financial theory assumptions, seems to contribute to better understanding of households decision-making processes.

On the contrary, current literature doesn’t propose a clear evidence for relevance of applying behavioral approaches to risky investment behavior issues. In this field of study, standard financial economy seems to propose an appropriate theoretical background for further analysis.

The findings concerning the financial literacy determinants, especially the impact of economic and financial education on households’ financial literacy, are ambiguous. This conclusion can have a serious policy implication. While different studies confirm the role of financial literacy and other cognitive abilities factors like numeracy in households finance, there is not a clear evidence that financial and economic education itself proposes sufficient methods for these specific cognitive abilities increase.

To conclude, not all the areas of household finance research seem to be suitable for behavioral approaches application. In addition, one important track for the further research could be extracted from the realized literature review. Behind analyzing individual characteristics, the next research should concentrate more on the structure of social interactions between family members and family non-members, to identify how financial ideas spread and evolve. This approach, represented for instance by Gao and Fok (2015) in the research of households finance aspects in China, or by Ke (2017) in the context of U.S. households, could be named social finance approach. The latter could clarify how social processes affect financial behavior of households. Thus, this approach is promising for better general understanding of household finance and more efficient design of corresponding policies.

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References


THE IMPACT OF CAPITAL STRUCTURES WHEN REPORTING NON-FINANCIAL INFORMATION BY INSURANCE COMPANIES IN THE POLISH AND SLOVAK MARKET

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Abstract

This article presents an evaluation of the impact of capital structures when reporting non-financial information by insurance companies in the Polish and Slovak market. Specialist publications and prevailing legal regulations are reviewed and methods of deduction and induction as well as the author's own observations are applied. The study is divided into three major parts with evaluations of (1.) the degree of non-financial reporting by insurance companies in the Polish and Slovak market, (2.) capital structures of insurance companies compiling non-financial reports, and (3.) capital structures of insurance companies that fail to prepare non-financial reports. The proportion of foreign share capital of insurance companies compiling non-financial reports was found to be markedly higher than in all the other insurance companies, i.e. those that draft and do not draft non-financial reports, in the entire period under analysis. Studies of comparable research samples have not been found in literature resources.

Key words

insurance, accounting, corporate social responsibility, non-financial reporting

JEL classification

G22, M14, M41

1. Introduction

Development of non-financial reporting springs from a growing social awareness of and public interest in ethical aspects of business. This means not only good financial performance but also social acceptance is necessary. The specific nature of insurance operations, a result of their perception as institutions of public trust, affects their corporate culture, strategies and management systems (Lament, 2017a, p. 71). In accordance with Directive 2009/138/EU, insurance companies are bound to undertake a range of actions as part of their management systems. Consequently, they are anxious for their image, desire to be perceived as reliable and pursue appropriate information policies. This care for their image is expressed, inter alia, as implementation of the CSR idea (Wolak-Tuzimek, 2014, p.438) and reporting on socially responsible actions. Thus, image considerations are a major cause of non-financial reporting, particularly as it used to be voluntary (Krištofik et al., 2016, p. 161; Maráková et al., 2015, p. 57). Since 1 January 2017, the regulations of Directive 2014/95/EU have obliged insurance companies to disclose non-financial information.

Non-financial reporting by insurance companies is an underexplored area. It has been studied by AISAM (2006), indicating impact of non-financial reporting on reputation and image of insurance companies. Scholtens (2011) examined international insurance companies...
and demonstrated a diversity of non-financial reporting principles across types of insurers and across countries. The author believes social and ethical aspects of CSR are better integrated into the insurance business than environmental issues. Olowokudejo et al. (2011) addressed the impact of CSR actions on efficiency of insurance companies and concluded insurers realising CSR strategies perform better financially. The authors claim CSR actions improve effectiveness of insurance companies by boosting their profitability. Simona (2013) analysed 2011 non-financial reports of 16 insurers operating in Romania and stressed a qualitative diversity of these reports. Lock and Seele (2013) surveyed principles of non-financial reporting by chemical, banking and insurance sectors, showing the need to standardise its principles. Ngatia (2014) examined impact of CSR actions on financial performance of 51 insurers active in Kenya in 2009-2013. The author found a negative correlation between CSR actions undertaken and financial results. Kavitha and Anuradha (2016) analysed good CSR practices employed by insurers in India. Lament (2016, 2017) explored principles of non-financial reporting by insurance companies and by banks in the Polish market. They were found to be of varied quality.

Research into non-financial reporting by insurance companies shows it is not universal. This is caused by its non-obligatory status and differences of management systems. The duty of non-financial reporting drives its development to a maximum extent, as demonstrated by a KPMG study from 2015. It shows a rise of non-financial reporting in Asia Pacific from 49% in 2011 to 79% in 2015 as the reporting was regulated. The rate of reporting in Europe was high – more than 70% - in spite of its voluntary nature until 1 January 2017. The reporting in Western (2015 – 79%) and Eastern Europe (2015 – 61%) is clearly disproportionate. This may be due to differences of corporate management systems and shareholdings of foreign investors, who transfer their experience of non-financial reporting. This contributes to expansion of insurers’ information policies. The objective of the present study, therefore, was to determine effects of capital structure on non-financial reporting.

In this connection, a research hypothesis was formulated: the capital structure affects reporting of non-financial information.

In order to verify the hypothesis, shares of foreign capital in insurance companies in the Polish and Slovak markets have been examined as divided into two groups – those drafting and not preparing their non-financial reports in 2001-2015.

Realisation of this objective requires answers to the following research questions:

• What is the degree of non-financial reporting by insurance companies in the Polish and Slovak markets?
• Does a dominant foreign shareholding affect non-financial reporting?

In search for the answers, scientific literature and applicable regulations have been analysed, deductive and inductive reasoning as well as the author’s own observations have been applied.

2. Methods

The study covered insurance companies active in the Polish and Slovak markets in 2001-2015. They were divided in two major groups: those submitting and not preparing non-financial reports.

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1 In some countries, for instance, France and Denmark, the duty of non-financial reporting had been in place before 1 January 2017.
Not only insurers compiling independent non-financial reports but also companies whose parent entities drafted such reports were addressed. Details of the parent entities were established on the basis of the insurers’ financial reports for the period studied. The insurance companies submitting non-financial reports were found in the GRI (Global Reporting Initiative) database. Characteristics of the group are given in Table 1.

Table 1: Characteristics of the group studied

<table>
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<th>Years</th>
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</table>

Table 2: Degree of non-financial reporting by companies in the Polish and Slovak insurance markets

<table>
<thead>
<tr>
<th>Years</th>
<th>Poland</th>
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<tbody>
<tr>
<td>2001</td>
<td>1.4%</td>
<td>3.6%</td>
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<td>2015</td>
<td>49.1%</td>
<td>54.5%</td>
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</table>

Source: the author.

The study encompasses three main parts including evaluation of:

1. Degree of non-financial reporting by companies in the Polish and Slovak insurance market.
2. Capital structure of insurance companies that submit non-financial reports.
3. Capital structure of insurance companies that do not submit non-financial reports.

Details of the capital structure were established on the basis of financial statements of the insurers examined. They concern foreign shareholdings in the insurers’ capital. To begin with, the foreign shareholdings were determined for the particular companies drafting non-financial reports in a given year. Average shareholdings were then computed for the individual years and differences between the holdings in the insurance companies compiling non-financial reports and all of the insurance companies were determined.

3. Degree of non-financial reporting by companies in the Polish and Slovak insurance markets

The degree of non-financial reporting is the relation between insurance companies compiling non-financial reports and active insurance companies. It is designed to estimate popularity of non-financial reporting by insurers in the Polish market. The insurance companies drafting non-financial reports comprise not only insurers reporting independently but also those reporting via their parent entities. The results concerning the degree of non-financial reporting by companies in the Polish and Slovak insurance markets in 2001-2015 are shown in Table 2.

The research implies that the degree of reporting non-financial information was on the increase in the period studied: by 47.7%, from 1.4% in 2001 to 49.1% in 2015, as far as the insurance companies in the Polish market are concerned and by 50.9%, from 3.6% in 2001 to 54.5% in 2015, for the Slovak insurers (Figure 1).
Figure 1: Degree of non-financial reporting by companies in the Polish and Slovak insurance markets in 2001 - 2015

Source: the author.

In addition, the degree of reporting non-financial information was greater in the case of insurance companies in the Slovak market. It was only in 2003, 2011 and 2014 that it was higher for the Polish insurers. The differences in reporting are presented in Table 3.

Table 2: Degree of non-financial reporting by companies in the Polish and Slovak insurance markets in 2001 - 2015

<table>
<thead>
<tr>
<th>Country</th>
<th>Years</th>
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<td>45</td>
<td>40</td>
<td>35</td>
<td>30</td>
<td>25</td>
<td>20</td>
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<tr>
<td>Poland</td>
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<td>70</td>
<td>66</td>
<td>62</td>
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<td>57</td>
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<td>45</td>
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<td>25</td>
<td>21</td>
<td>17</td>
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<tr>
<td>Degree of non-financial reporting (%):</td>
<td></td>
<td>1.4</td>
<td>1.0</td>
<td>0.6</td>
<td>0.2</td>
<td>0.0</td>
<td>-0.2</td>
<td>-0.6</td>
<td>-1.0</td>
<td>-1.4</td>
<td>-1.8</td>
<td>-2.2</td>
<td>-2.6</td>
<td>-3.0</td>
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<td>-3.8</td>
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<td>Poland</td>
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<td>-1.0</td>
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<td>Slovakia</td>
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<td>-1.4</td>
<td>-1.8</td>
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<td>-3.0</td>
<td>-3.4</td>
<td>-3.8</td>
<td>-4.2</td>
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Source: the author.

Table 3: Differences in the degree of non-financial reporting between insurance companies in the Polish and Slovak markets (%)

| Years | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|-------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
|       | 2.2| 2.2| -1.4| 6.0| 8.2| 7.9|16.2| 8.1| 8.5|17.3|-0.8| 7.9| 5.8|-3.6| 5.4|

Source: the author.
4. Capital structure of insurance companies drafting non-financial reports

The results concerning the capital structure of insurers compiling non-financial reports and insurance companies in general (those reporting and not) are contained in Table 4.

The research implies:

- shares of foreign capital in the insurance companies drafting non-financial reports were greater than in all the insurers throughout the period studied;
- the share of foreign capital in the companies from the Polish insurance market is lower than in the insurers from the Slovak market and has tended to decline since 2011;
- the share of foreign capital in the companies from the Slovak insurance market tended to rise in the entire time under examination;
- initially, the foreign shareholdings of insurers compiling non-financial reports were 100% and parent companies of the insurers examined were the reporting entities. This proportion tended to shrink in the successive years;
- the difference in shares of foreign capital between the insurers compiling and not compiling non-financial reports tends to reduce. With reference to the insurance companies in the Polish market, this reflects development of non-financial reporting in the insurance companies with majority shareholdings of domestic capital. As far as the insurers in the Slovak market are concerned, the high shareholdings of foreign capital and development of non-financial reporting continue only among entities with majority holdings of foreign capital (Figure 2).

Figure 2: Differences in shares of foreign capital between insurance companies drafting non-financial reports and all insurance companies

Source: the author.

The research into the capital structure of insurance companies drafting non-financial reports corroborates the hypothesis that the structure of capital affects reporting of non-
financial information. Foreign shareholdings of insurers compiling non-financial reports were higher than among the insurance companies in general in the whole period analysed.

Table 4: Percentage shares of foreign capital in the insurance companies drafting non-financial reports

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<tr>
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<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>96.1</td>
<td>97.5</td>
<td>86.7</td>
<td>90.0</td>
<td>98.3</td>
<td>87.4</td>
<td>83.8</td>
<td>84.4</td>
<td>74.5</td>
<td>71.9</td>
<td></td>
</tr>
<tr>
<td>Slovakia</td>
<td>100</td>
<td>100</td>
<td>-</td>
<td>100</td>
<td>97.9</td>
<td>99.9</td>
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Insurance companies total:

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Differences in shares of foreign capital between insurance companies drafting non-financial reports and all insurance companies:

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<td>8.9</td>
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Source: the author.

5. Structure of capital in insurance companies not drafting non-financial reports

The results concerning the capital structure of insurers not compiling non-financial reports and insurance companies in general (those reporting and not) are contained in Table 5. The research implies:

- Shares of foreign capital in the insurance companies failing to compile non-financial reports were lower than in all the insurers (preparing and not preparing the reports) throughout the period studied;
- The difference in shares of foreign capital between the insurers not compiling non-financial reports and the insurers overall tends to reduce (Figure 3).

Figure 3: Difference in shares of foreign capital between the insurers not drafting non-financial reports and the insurers in general

Figure 3: Difference in shares of foreign capital between the insurers not drafting non-financial reports and the insurers in general

Source: the author.

The research into the capital structure of insurance companies not drafting non-financial reports corroborates the hypothesis that the structure of capital affects reporting of non-
financial information. Foreign shareholdings of insurers not compiling non-financial reports were lower than among the insurance companies in general in the whole period analysed.

Table 5: Percentage shares of foreign capital in the insurance companies not drafting non-financial reports

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Insurance companies total:

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Differences in shares of foreign capital between insurance companies drafting non-financial reports and all insurance companies:

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</table>

Source: the author.

6. Conclusion

This study has helped to answer the research question and positively verify the hypothesis – structure of capital influences reporting of non-financial information:

1. Reporting of non-financial information by insurance companies had not been compulsory till 1 January 2017 and chiefly undertaken for the purposes of image creation. This is confirmed by my estimation of the degree of non-financial reporting, which has tended to increase.

2. Insurance companies preparing non-financial reports are characterised by substantial shares of foreign capital. It was as much as 100% in the initial period covered (2001-2005), to decline subsequently.

3. Foreign shareholdings in insurance companies drafting non-financial reports are higher than in all insurers and those which fail to compile the reports. This is true of both the Polish and Slovak markets.

It must be concluded the capital structure affects reporting of non-financial information. This is particularly evident in the case of insurers in the Slovak market. Their shares of foreign shareholdings are greater than in the Polish insurance market, therefore, the degree of non-financial reporting is higher.

The future research may concern the assessment of the quality of non-financial reports, their standardization and the impact of non-financial reporting on the financial results of entities.

References


information by certain large undertakings and groups. Official Journal of the European Union L330/1.


THE FUTURE OF CLUSTERS IN THE BANSKÁ BYSTRICA REGION

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Abstract
The aim of the paper is to analyse the history of clusters in Banská Bystrica region, identify the potential clusters based on shift-share analysis and location quotient and present recommendations for creation and functioning of Slovak clusters and opportunities for their further development within the European Union. The paper uses the static location quotient and shift-share analysis to identify the most concentrated industries and the main changes in employment in Banská Bystrica region over the years of 2009 to 2016. The selected methods use national and regional data on employment and analyse the regional and industrial share of businesses in total employment. Based on the results, the authors present recommendations for further development of local clusters and their involvement in European cluster initiatives.

Key words
location quotient, shift-share analysis, clusters, industry, employment

JEL classification
O18, E24

1. Introduction

Clusters represent a complex form of industrial organization, in which social ties (the community), productive networks of local enterprises, and the web of local institutions and collective agents forms a co-operative and competitive density. M. Porter defines a cluster as a geographic concentration of interconnected companies and institutions in a particular field. Local actors, in addition to suppliers, competitors, and customers, may include complementary institutions, such as banks, research institutions, and vocational training organizations (Amin and Thrift, 1994 In Andersen and Bøllingtoft, 2011). Localized advantages and global competitive advantage are often combined. Clusters facilitate knowledge spillovers, as they are mediated by proximity and multiplex relationships between enterprises and localized institutions (Andersen and Bøllingtoft, 2011).

It is well known that co-location allows for lower transportation and transaction costs as travel, time and increased trust should produce lower costs. Clusters can also attract the required skilled labour, the mobility of which can enhance the exchange of ideas and knowledge throughout the cluster. There are also un-traded benefits that can arise such as mutual cooperation, learning and resource sharing and are sometimes referred to as either embedded benefits or “un-traded interdependencies”. The cluster literature also emphasizes numerous benefits for small businesses. This is especially the case given their resource
constraints, absence of internal specialisms and relatively weak supplier and market power (Blackburn and Conway, 2008 In Felzensztein et al., 2012).

Geographically clustered enterprises must cooperate while they compete (Mesquita, 2007 In Felzensztein et al., 2012). Institutional aspects, formal organizations, such as trade associations and the presence or absence of social capital, may play a critical role in creating the right environment and then influencing the climate for cooperation in regional clusters. Entrepreneurship in cluster formation is important with respect to new products and approaches to new markets. It is well known that entrepreneurs with business experience are more likely to build a sustainable business in a cluster. The public policy support of this entrepreneurial behaviour in clusters is an important element for successful clusters (Stam, 2009 In Felzensztein et al., 2012).

The aim of the paper is to analyse the history of clusters in Banská Bystrica region, identify the potential clusters based on shift-share analysis and location quotient and present recommendations for creation and functioning of Slovak clusters and opportunities for their further development within the European Union.

2. The history and current state of the clusters in the Banská Bystrica region

The first cluster initiatives in Slovakia started after the year 2004, with most of clusters being created in 2008, 2009 and 2012. These years correspond to the periods when support schemes for the emergence and functioning of clusters were announced, with the allocation of financial resources mainly from EU funds. Since 2004 the government has prepared several documents to support the emergence and functioning of clusters. It was the Innovation strategy of the Slovak Republic for 2007-2013 (consisting of two consequently following Innovation policies) and the Research and innovation strategy for smart specialization of the Slovak Republic (RIS3). RIS3 is the framework strategy document for the promotion of research and innovation in the programming period 2014 - 2020 and is the basis for the development of operational programs. The issue of cluster development in Slovakia is part of RIS3, while the growth of existing and creation of new cluster initiatives is included in the measure 1.1. The development of innovative capacities through cooperation between companies and research institutions and in the measure 3.2. Supporting research and innovation in environmental matters, including climate change adaptation.

Since the year 2004 there was officially established only one cluster in Banská Bystrica region – The first Slovak Engineering Cluster. It was created in 2008 as an initiative of Self-Governing region. Memorandum was signed by Banská Bystrica Self-Governing Region, ten engineering companies, one research and development organization, one consulting company, eight secondary schools focused in engineering and Technical University of Zvolen. At the beginning there were 22 members. Unfortunately, the cluster operated only for several years and after the decrease of the Self-Governing region’s support, the cluster has stopped all the activities.

In the Banská Bystrica region occurred another cluster initiative oriented on processing of aluminium (not yet formalized cluster organization). Cluster was emerging around the aluminium producer, ZSNP in Žiar nad Hronom. It is an innovative cluster by which Slovak Academy of Science (Institute of Materials and Machine Mechanics) founded in 2011 scientific competence and innovation centre INOVAL in order to cooperate with the companies in scientific research and innovation projects, as well as in the commercialization of innovative solutions.
Despite the clear effects from operations of clusters is their support in Slovakia insufficient and there is absence of a systemic approach to it. Although many official documents declare the importance of clusters in economic growth and competitiveness of the economy and the need to support it, the real implementation of incentives aimed at the creation and development of clusters in practice lags behind. Clusters in the Slovak Republic therefore arose primarily as a result of natural needs, especially sectoral collaboration, not because of targeted state support of cluster initiatives.

3. The identification of potential clusters

The methodology for the identification of potential clusters is quite various, either quantitative or qualitative, both with certain limitations and disadvantages. Still new methods or indices are coming into existence, as they are using different statistical processing or different entry data. The most of the methods identifies the cluster opportunities only according to the geographical concentration of industrial activities and ignores the relations between companies on which the cluster is conceptually based (Malmberg and Maskell, 1997). On the other hand, there exist methods identifying the linkages between industries and the intensity of supply chain relations (input-output analysis). But all methods are considerably dependable on available data, as the extent and details of dataset influence the punctuality of research. Detailed is the NUTS classification, more data is at hand and more complex is the processing. On the other hand, even the specialization is more accurately explained.

Other authors (McRae, 2002) stress the necessity to identify clusters according to the combination of quantitative and qualitative characteristics, which means in case of qualitative research to use expert methods processing the data that is impossible to be measured directly in numerical way.

As the criteria for potential clusters, the industry homogeneity will be utilized (sections and divisions of SK NACE), geographical area (Banská Bystrica region) and the quantity (absolute and relative quantities in employment). From methodological aspect we will utilize the location quotient based on total employment and shift-share analysis (we are aware of certain simplification in their application, so the results are presented individually and the end compared).

Location quotient represent the local extent, to which the region is specialized in appropriate industry. It expresses the uniqueness of such industry in comparison to its position in national economy or national average employment. In most cases it is expressed as the relative importance of employment in the region in comparison to its national importance.

Location quotient of 1.0 means that the region is not specialized in such industry and its employment is comparable with its development on national level (standard distribution close to normal distribution of employment in regions). Index bigger than 1.0 represents the higher importance of industry’s employment and identifies potential cluster of similar companies on the regional level. It is assumed then that regional cluster cumulates the economic activity of the same type. For the identification of potential clusters authors like Bergman and Feser (1999) recommended the location quotient of 1.25 and Isaksen (1996) actually more than 3.0. The following analysis relies on the recommendation of European Cluster Observatory, according to which the location quotient should exceed the value of 2.0. Such statement was confirmed even by Sölvell (2008). Thus the potential clusters in Banská Bystrica region will...
be identified through the number of employees in each sector (divisions and sections of SK NACE).

Shift-share analysis reveals that part of employment in the industry or cluster itself (through the number of employees), which was caused by national, regional or sectoral trends (or competitive advantages). It helps to consider overall regional performance in comparison to other regions and identify cross-regional problems that should be taken into consideration by all policy makers on regional or national levels (Potomová and Letková, 2011). Shift-share analysis quantifies total change in employment and splits it into national, industrial and regional effect (Karlsson, 1999, Matáková and Stejskal, 2012).

Limited validity in time is considered to be the main disadvantage of such method (Yasin et al., 2004), as well as its almost no predicting ability. It may have just theoretical contribution, when it is applied without taking regional situation into consideration. The identification of all three mentioned effects is coming out from following relations:

$$\begin{align*}
NS^t_{ir} &= E^t_{ir} \left( \frac{E^t_{SK}}{E^t-1_{SK}} - 1 \right) \\
IM^t_{ir} &= E^t-1_{ir} \left( \frac{E^t_{iSK}}{E^t_{iSK} - E^t-1_{iSK}} \right) - \left( \frac{E^t_{iSK}}{E^t_{iSK} - E^t-1_{iSK}} \right) \\
RS^t_{ir} &= E^t_{ir} \left( \frac{E^t_{iSK}}{E^t_{iSK} - E^t-1_{iSK}} \right) - \left( \frac{E^t_{iSK}}{E^t_{iSK} - E^t-1_{iSK}} \right)
\end{align*}$$

where $NS$ is national share, $IM$ is industrial share, $RS$ is regional share, $t$ is time period, $i$ is industry, $r$ is region, $E^t_{SK}$ is total employment in Slovakia, $E^t-1_{iSK}$ = total employment in industry, $E^t-1_{ir}$ is total employment in region.

Although some authors prefer dynamic shift-share analysis as the more proper research method splitting longer time period into shorter seasons (Barff and Knight, 1988), we will use its static form.

### 3.1 The identification of potential clusters in the Banská Bystrica region according to employment concentration

The analysis was based on the data gained from the Statistical office of the Slovak Republic. The data covered the development of employment in Banská Bystrica region during the years 2012 and 2016, so the analysis was focused on time changes as well. Employment data covers all types of companies and other organizations regardless to the company size and according to their prevailing activity. Data does not cover employees of self-employed persons.

Total employment in Slovakia went up in 2016 compared to 2015 by 0.32 %. In comparison to 2009 the shift was even higher and reached +15 %. In both years Bratislava region had the biggest share on total employment (25.13 % in 2016, 24.24 % in 2015, resp. 21.69 % in 2009), the smallest share on total employment had Trnava region (9.26 % in 2016, 9.67 % in 2015, resp. 9.65 % in 2009).

An increase in employment was noticed in all regions except of Trnava and Košice, Bratislava region had the biggest increase (+6.9 %), Trenčín region significantly grew as well.
(+5.5 %) during last two years. In Trnava and Košice regions the employment was going down (-1.2 %, resp. -1.24 %).

Employment in Banská Bystrica region indicated the same trend as the most of other regions, namely the gradual, although slight increase of employment. The industrial production had the biggest share on total employment (30 %). The shares of particular industries on total industrial production were quite low and that points out to a lower regional industrial specialization and rather general distribution of employment within the region.

Figure 1: The structure of employment according to regions in 2009 and 2016

Sources: the authors using data of the Statistical office of the Slovak Republic.

The manufacture of basic metals had the biggest share (4.11 %) on the employment, while total industrial production had 30 %. Wholesale and retail trade as a SK NACE division was the second biggest employer in the region with 13.88 % share and public administration with 12.17 % share the third one.

In comparison with 2015 the significant decrease in employment was quantified in financial and insurance activities (-29 %), real estate activities (-17 %), transportation (-9.85 %) and agriculture (-7 %). Industrial production/manufacturing grew by 8.5 %, water supply by 69 %, administrative and support activities by 32 % and construction by 14 %, although some of minor sectors had lower initial employment, thus the increase may seem to be significant.

As was already mentioned, firstly the location quotient was used for the identification of potential clusters. According to the processed data there were 4 potential clusters in 2016, 2015, 2013 and 3 in 2014, 2012, although the industries changed a bit.

Other industries with lower quotients are not presented in the chart, as the analysis focused only on potential clusters and the gap in quotients is too big in case of remaining industries.

In 2016 the importance of forestry and logging grew, but the manufacture of wood significantly felt down that points out to a fact that while the timber harvesting or “raw wood” production grew, the region’s ability to process it is limited, as the manufacture of wood products declined. On the other hand, manufacture of furniture is not presented in the chart, as it is under the level of desired quotient, but its value increased since 2015 by 0.62 and reached...
Therefore the above mentioned statement should be amended and interpreted also in the frame of this even more sophisticated production.

Figure 2: The highest location quotients in the Banská Bystrica region

![Bar chart showing location quotients for different industries in the Banská Bystrica region]

Source: the authors using data of the Statistical office of the Slovak Republic.

It is necessary to mentioned that Statistical office of Slovak Republic did not publish data in forestry in one of the regions, thus the employment from previous year was used instead. As the employment in Banská Bystrica region continually grew and in missing region fell, it is probable that calculated quotient is underestimated yet. Manufacture of basic metals was rather keeping stable values in time, while the manufacture of other non-metallic mineral products was not considered a cluster candidate in recent years. On the other hand, in 2015 and 2016 the manufacture of pharmaceuticals occurred among potential clusters. As seen in figure 2, this industry was not presented in previous years, as similarly to forestry, its employment in Banská Bystrica was not published by Statistical Office due to some confidentiality reasons. Past values were not used, as the trend (increase or decrease) was not obvious.

As it is visible in the figure 2, wood processing activities recorded the biggest downfall in the quotient’s value (not total employment, but regional importance of employment after it was compared with national employment). It went down by 1.6. Opposite trend was noticed in forestry and logging (+0.6). On the other hand, the manufacture of basic metals slightly fell down (-0.003) and manufacture of non-metallic mineral products’ quotient became non-perspective cluster candidate (-0.14).

### 3.2 The identification of potential clusters in the Banská Bystrica region according to shift-share analysis

While the previous chapter identified potential clusters according to the development of employment (although including some dramatic changes during the long-term period, but still fixed individually in each year), shift-share analysis takes even longer period into consideration and its outcomes were influenced preferably by the dynamics in the regional employment between 2009 and 2016.
This method is (similarly to location quotient) based on the employment data, because as the Isaksen stated (1998), clusters are more probably to be found in case of extraordinary employment or more concentrated production, which enables the regional specialization and establishment of local production networks. On the other hand, this analysis is not limited only on industrial sections (even though their dominance was confirmed in previous chapter), as they can be effectively supplemented by various commercial or public services as well.

Wholesale and retail trade section was the most dynamically developed activity in Banská Bystrica region during the period between 2009 and 2016, with regional contribution of + 2 295 working places (total employment grew by 8 326 employees). These activities cover, except of the sale of household goods, the maintenance of motor vehicles and supplementary trade activities (deliveries assembling, packaging or holding in storage).

Water supply, sewerage and waste management was the second most important section with regional contribution of + 1 892 jobs (although the total effect in employment was + 2 299 jobs). While wholesale and retail trade utilized even the positive growth of the sector (+ 4 163), water supply, sewerage and waste management section as a whole in Slovakia lost some jobs (- 28).

Public administration was the third most dynamic section according to the long-term changes in employment and thanks to the regional shifts it gained 850 working places. Its employment from the point of view of sector was going down year by year and this trend pulled the regional employment down (- 2 924). Thus the total employment did not increase as intensively (+ 587), as it was in case of trade activities (+ 8 326). More analysis’ outcomes are presented in the following table.

Table 1: Perspective clusters in Banská Bystrica region

<table>
<thead>
<tr>
<th>Section/Division</th>
<th>National effect</th>
<th>Sectoral effect</th>
<th>Regional effect</th>
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</tr>
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<td>A - Agriculture, forestry and fishing</td>
<td>873</td>
<td>-1 858</td>
<td>490</td>
<td>-496</td>
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<tr>
<td>E - Water supply, sewerage, waste management</td>
<td>435</td>
<td>-28</td>
<td>1 892</td>
<td>2 299</td>
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<tr>
<td>G - Wholesale and retail trade</td>
<td>1 867</td>
<td>4 163</td>
<td>2 295</td>
<td>8 326</td>
</tr>
<tr>
<td>O - Public administration and defence</td>
<td>2 661</td>
<td>-2 924</td>
<td>850</td>
<td>587</td>
</tr>
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<td>237</td>
<td>105</td>
<td>1 752</td>
<td>2 094</td>
</tr>
<tr>
<td>C31 - Manufacture of furniture</td>
<td>222</td>
<td>-261</td>
<td>780</td>
<td>741</td>
</tr>
<tr>
<td>E38 - Waste Collection</td>
<td>162</td>
<td>133</td>
<td>2 074</td>
<td>2 369</td>
</tr>
<tr>
<td>F41 - Construction of buildings</td>
<td>102</td>
<td>-19</td>
<td>2 150</td>
<td>2 233</td>
</tr>
<tr>
<td>G47 - Retail trade</td>
<td>1 101</td>
<td>2 120</td>
<td>1 345</td>
<td>4 566</td>
</tr>
</tbody>
</table>

Source: the authors using data of the Statistical office of the Slovak Republic.

The Industrial production (C) was not a dynamically developed section, but has two dynamic divisions – manufacture of basic metals and manufacture of furniture (confirming the interpretation from location quotient about the increase of its importance). Also the Water supply, sewerage and waste management and Wholesale and retail trade activities had one representative within the group of dynamically developed divisions.

Surprisingly, the second highest regional contribution and regional effect in employment was found in construction of buildings with total increase of 2 150 work places and total effect of 2 233 jobs (although the sector generally decreased in Slovakia). Waste collection regionally reached + 2 074 new jobs (confirming that just this activity helped to the
development of the whole section E) and manufacture of basic metals + 1 752 jobs. Although the region did not help to the development of employment in retail trade activities so intensively (“just” + 1 345 jobs), the division took advantage from the positive national development (+ 1 001) and development of the sector (+ 2 120), thus reaching total increase in employment between 2009 and 2016 at the level of 4 566 jobs.

Based on this, it can be assumed that quantitative methods are good for revelation of trends and identification of extraordinary business concentrations, but when the companies are not able to follow the same path and to join forces, to have the same vision, probably no clusters would occur. In spite of potentially favourable environment and intensive employment. Even quite stable industry with huge regional share on employment (or dynamic one with lower share) can be a good cluster candidate when sufficient number of stakeholders is combined.

4. Recommendations and opportunities for Slovak clusters

Barriers that hinder the creation and development of clusters in Slovakia are both external (e.g. legislative, institutional, financial), but also internal (e.g. concerns of mutual cooperation, lack of confidence, lack of knowledge, lack of cooperation). Positive is the fact that despite the mentioned problems and the lack of state and regional support, there are cluster initiatives in Slovakia as a result of spontaneous need for cooperation of enterprise and other stakeholders. On the other hand, an efficient system of state support would intensify the creation and development of clusters. The advantage of active cluster policy is that it can be targeted to specific sectors and regions. This scheme may have a more substantial impact on the desired direction of the economy and may be substantially more effective than support for individual enterprises because of its benefit to all members of the cluster and its positive effects are manifested beyond the cluster (multiplier effect).

Critical success factors for the creation and development of clusters can be classified as internal and external. For long-term stability and prosperity of clusters it is not sufficient to create only favourable external conditions. Cluster managers and member enterprises must care about successful development of cluster.

Based on the past research of formation and operation of clusters, as well as from positive experiences and studies (Balog, 2016) we have identified the following key assumptions of successful clustering and sustainable development of clusters (Lesáková et al., 2017):

- creation of pro innovative environment by the government and local authorities (system of financial, legislative, institutional support),
- sufficient sources of funding clusters (multi-source and stable funding),
- formal rules and official form of cooperation within the cluster (legal capacity of cluster organizations),
- motivation of members to cooperate, their belief in the need and benefits of clustering,
- active participation at the cluster activities, mutual trust,
- common vision and strategy of cluster, clearly defined objectives (based on common interests and areas for cooperation),
- the definition of specific activities of cluster focusing on innovative activities and long-term orientation of cluster activities,
- diversity of cluster members (companies, research and educational institutions, municipalities, etc.),
- education and training of cluster management and staff in all relevant areas,
cooperation with secondary schools and universities (e.g. vocational education of students as required by practice, research projects, development of innovation etc.),

• development of inter-regional, cross-sectoral, national and especially international cluster cooperation.

European cluster policy offers to EU member states several options for participation in the various cluster initiatives, whether through four cluster initiatives of INNO-Nets, participation in the European Cluster Alliance and also by utilisation of data from the European Cluster Observatory.

The European Union recommends that national clusters should build transnational and interregional partnerships with other clusters in Europe so that their members can participate in the development of strategic partnerships. The tools that can support these activities shall be:

• mapping of high-quality R&D infrastructure in Europe,
• mapping of SMEs providing services for specific technological and sector-specific application,
• European expert workshops supporting the linking of clusters, small and medium-sized enterprises and research institutions,
• European suppliers’ workshops, where clusters can link the demand side and potential solutions.

As the main tasks of Slovak clusters’ involvement in European clusters initiatives could be considered:

• linking of existing regional/national clusters, networks and entrepreneurship in Slovakia with cluster initiatives at European level (Meta-clustering/Strategic partnerships),
• seeking for opportunities for collaboration and knowledge transfer between stakeholders throughout the value chain in the Slovak and European area,
• developing the international, inter-regional and cross-sectoral educational activities/training,
• creation or participation in the communication platform within the EU,
• regional/national dissemination of best practices and projects in research and development and their use in activity of clusters in Slovakia.

5. Conclusion

Despite the clear effects from operations of clusters is their support in Slovakia insufficient and there is absence of a systemic approach to it. Although many official documents declare the importance of clusters in economic growth and competitiveness of the economy and the need to support it, the real implementation of incentives aimed at the creation and development of clusters in practice lags behind. Clusters in the Slovak Republic therefore arose primarily as a result of natural needs, especially sectoral collaboration, not because of targeted state support of cluster initiatives.

History of cluster initiatives in Slovakia is quite short, the first cluster in Slovakia was established only in 2004. In 2008 there was established the First Slovak Engineering Cluster in Banská Bystrica region, which was operating only for several years. Although there were some other cluster initiatives, up to now, there was not officially created other cluster in this region. By using selected methods of potential cluster identification we analysed the changing potential of industry sectors and identified those which give the highest potential for cluster
establishment in Banská Bystrica region. Finally we presented the recommendations for creation and functioning of Slovak clusters as well as opportunities of their further growth within the European Union.

Location quotient and shift-share analysis are simple instruments used for the identification of perspective clusters within strictly specified geographical areas and selected periods. Our one-time analysis focused on 2012 - 2016 data (with partial comparison from the point of view of time development) was completed with analysis of dynamics in a long-term development. In some sections and divisions similar results were revealed, other industries results were totally different. Manufacture of pharmaceuticals occurred just in 2015, but the reason is that data in previous years were missing. It means that manufacture of basic metals is a significant industry as to the regional employment (in all years) and increased importance since 2009 as well. Other industries were either a large employers (in case of location quotient analysis) or they changed dynamically during the time (in case of shift-share analysis results).

Analysis’ results are strongly influenced by the extent of business activity, total employment, foreign investors’ contributions, education structures and other factors. In case of developed regions the number of potential clusters is much bigger than in case of under-developed regions. Regional effect is three or four times bigger in case of Bratislava than in Banská Bystrica region. Shift-share analysis covered the period from 2009 to 2016, so partially the results were influenced by a post-crisis development and some industries’ performance may be over-estimated. As the location quotient was calculated for more years, analysis was able to exclude one-time effects (post-crisis revitalization, sudden change of small initial employment, etc.) in employment.

As it was already mentioned, the continuity in supply chain was not examined and the relations between supplying companies were not revealed. In some industries the „flow of values“ between companies is quite obvious (like the integration of production and services, or further processing of basic raw materials), but sometimes the interaction between companies is not known to a neutral analyst. Therefore for more detailed analysis even expert methods are necessary (panel discussions, case studies, etc.), for examination of cross-sectional relations the input-output analysis is efficient and in case of geographical proximity the Ripley’s K method could bring interesting results as it takes the distances into consideration and ignores the regional borders.

Cross-sectional industries are frequently ignored by the location quotient and shift-share analysis as they are not concentrated within the region, but spread over more regions (so their results in employment are spread over the regions as well). This can be also a good opportunity for future research, as then another type of cluster may be identified and supported. On the other hand, it gives more possibilities of industries combinations than it was in case of single industry oriented cluster. From previous text it is clear that such relations are possible even in case of Banská Bystrica region (metals and machines more intensively in the past or wood processing nowadays). As only the most attractive candidates (as to the regional effect) were summarized, some other are considered as not so dynamically developing within the scope of used methods. Anyway, an integration of other players into analysis and full supply chain coverage would characterize the cluster potential from other perspectives. Another possibility might be given also by evaluation of inter-regional cooperation, when the distances between companies are preferred and administrative regional borders are ignored.

Slovakia is a small country with significant regional disparities. Political decisions made in the past created artificial regions with administrative borders. Thus many methods bring strictly
geographically defined results, as the Statistical office keeps records according to such borders between regions. In case of areas with huge industrial activity (mostly in abroad) it is a common practice to apply such methods within the suburban areas or within the cities. Thus the identified cluster members are clearly heavy concentrated as the area of the city and the area of the region is mostly incomparable (except of large metropolitan areas). On the other hand, the nowadays trend of virtual clusters overcomes whatever distance the companies may have.

References


EVALUATION OF THE MODELS
PREDICTING FINANCIAL DISTRESS
IN SLOVAK AGRICULTURAL ENTERPRISES

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Abstract

Company failures belong to very important economic issues. It is a problem affecting the economy of a country, its policy makers, participants of industry, investors, managers, etc. Models predicting financial distress aim to help enterprises recognize the potential financial crisis and their failure. This paper focuses on the prediction ability of ten models predicting financial distress. The aim of this paper is to verify the prediction ability of models predicting financial distress in Slovak agricultural enterprises. Based on the evaluation and interpretation of achieved results, the relatively appropriate methods will be determined for the analysed sample of enterprises. The sample contains ten prosperous and ten unprosperous enterprises operating in agriculture. There are three assumptions formulated in the paper. We assume that the generally known methods of the multiple discriminant analysis have a lower prediction ability than methods designed for the Visegrad Four countries. We assume that methods designed for agricultural enterprises achieve a higher prediction ability than other methods of the multiple discriminant analysis. We assume that the logit and probit models achieve a higher categorization ability than methods of the multiple discriminant analysis. Based on the results of verification of the prediction ability of chosen models predicting financial distress, the validity of the assumptions is tested.

Key words
financial analysis, models predicting financial distress, Slovak agricultural enterprises

JEL classification
G30, M21

1. Introduction

The financial analysis can be defined as a set of activities designed to identify and evaluate the complex financial and economic situation of a company (Spuchlakova and Frajtová Michalíková, 2016, p. 2093). Several methods and techniques of the financial analysis can be found in the literature. In this paper, we focus only on the models predicting financial distress. Corporate failure can exist in various types and dimensions, and has different effects on stakeholders according to the magnitude of the failure and its type (Klieštík et al., 2015, p. 850). As presented by Úradniček et al. (2016, p. 25), properly managed enterprises are characterized by the management and employees of a company who do not wait for the crisis commencement, which is consequently handled by them, but, on the contrary, based on the thorough observation and analysis of the current situation in the environment or inside the company, they seek to identify potential reasons of the crisis before its outbreak. Herein we can see a significance of the models predicting financial distress the aim of which is to point
out the existence of a potential danger of a business bankruptcy in the future in advance (Lesáková et al., 2017). The bankruptcy models have the synthetic nature as they are a combination of several business ratios which are assigned weights and the weighted sum gives the score by which it is concluded if the enterprise is vulnerable to financial distress or bankruptcy (Spuchláková, 2016, p. 15). The decisive qualitative attribute of prediction models is their ability to classify the entity with sufficient reliability into the category of prosperous (solvent) or unprosperous (insolvent) entities (Králí and Janošková, 2016, p. 21).

Timely recognition of the signs indicating a potential bankruptcy provides a chance to avert it. This is why the economic research has long been on a quest for indicators that could signal the threat of bankruptcy at the earliest possible times (Karas and Režňáková, 2017). The earliest studies on company failures and company bankruptcies were univariate prediction methods. The most famous univariate method is probably the Beaver (1966)’s study. It was the basis for many other company failure prediction methods including statistical techniques such as the multiple discriminant analysis (the Altman’s Z-score, Taffler Model, Index IN, Beerman Function, etc.), logit and probit models (the Ohlson Model, Zmijewski Model, Jakubík-Teplý Model), neural networks, decision trees, genetic programming, etc. The literature review offers a wide as well as narrow view on the possible techniques used to create the models predicting financial distress. Though recently, the issue discussed in the academic community is, whether the models are transferrable, i.e., whether they can be applied in any environment other than that in which they were created (Karas and Režňáková, 2017, p. 116). This issue inspired us to choose the topic of the submitted paper the aim of which is to verify the prediction ability of models predicting financial distress on the selected sample of Slovak agricultural enterprises. Considering the nature of the sample, we have decided to verify ten models predicting financial distress (the Quick Test, Altman’s Z-score, Beerman Function, Financial Standing Radio, Taffler Model, Index IN01, CH Index, Gurčík Index, Ohlson Model and Zmijewski Model).

2. Aim of research and methodology

The aim of the submitted paper is to verify the prediction ability of models predicting financial distress on the selected sample of Slovak agricultural enterprises and based on the evaluation and interpretation of the achieved results determine relatively appropriate methods for the analysed sample of enterprises.

On the basis of the set aim, we formulated three assumptions which are tested by means of the results of the verification of models predicting financial distress.

Aim 1: We assume that generally known methods of the multiple discriminant analysis have a lower prediction ability than methods designed in the Visegrad Four countries.

Aim 2: When formulating the first assumption, we started from the fact that generally known methods (the Altman’s Z-score, Beerman Function, Financial Standing Ratio and Taffler Model) were designed for enterprises operating in the different business environment than that one of the Slovak Republic. The other methods of the multiple discriminant analysis we selected (the Index IN01, CH Index and Gurčík Index) were designed for the conditions in the Slovak and Czech Republics.

Aim 3: We assume that methods designed for agricultural enterprises achieve the higher prediction ability than other methods of the multiple discriminant analysis.

The CH Index and Gurčík Index made provisions for the specific features of agricultural enterprises and were designed for the needs of the agricultural department in the Slovak...
Republic. On the ground of the selection of the sample containing agricultural enterprises we assume the higher prediction ability of these models.

*We assume that the logit and probit models achieve the higher classification ability than methods of the multiple discriminant analysis.*

In some cases, logit and probit models achieve the higher prediction ability than methods based on the multiple discriminant analysis (Kordlar and Nikbakht, 2011). Compared to the multiple discriminant analysis, their main advantage is that their application does not have to meet requirements involved in the multiple discriminant analysis (Klieštík et al., 2015). The limitations of the discriminant analysis are following: these models consider only a normal distribution of independent variables, they calculate only with homogeneity of variation-covariance matrix, and assume only a linear relationship between the independent variables. In the submitted paper, we evaluate the prediction ability of two logit and probit models, namely the Ohlson Model (logit) and Zmijewski Model (probit).

When verifying the chosen models predicting financial distress, the selection of a proper criterion of categorizing enterprises between prosperous and unprosperous ones is very important. In the literature (Knox et al., 2009; Li and Liu, 2009; Alfaro-Cid et al., 2009; Bieliková, Čut and Úradníček, 2014 et al.) it is possible to find different criteria according to which enterprises can be categorized as prosperous and unprosperous. In this paper we prefer the approach of Neumaierová and Neumaier (2013) who used the EVA indicator (the Economic Value Added) as a criterion of categorization. The authors state that the EVA indicator is an aggregate characteristic of business financial performance. Before the application of the models predicting financial distress, we defined the sample of prosperous and unprosperous enterprises according to the given criterion. The enterprises that reached a positive EVA value in the period of 2012 to 2015 were classified as prosperous ones. The enterprises that reached a negative EVA value in that period were classified as unprosperous ones. In addition to the EVA indicator, we also observed another criterion – a value of the “Entrepreneur’s Index” (“index podnikateľa” in Slovak) of the selected businesses. We used a database published on the portal www.indexpodnikatela.sk. The value of the index in the database ranges from A++++, representing a financially stable and prosperous company, to under FX meaning a financially unstable and unprosperous company. The sample of the prosperous companies we analysed reaches the “Entrepreneur’s Index” values from A+++ to B. The sample of the unprosperous companies reaches the values from E to FX.

We decided to verify the selected models predicting financial distress (the Quick Test, Altman’s Z-score, Beerman Function, Financial Standing Radio, Taffler Model, Index IN01, CH Index, Gurčík Index, Ohlson Model and Zmijewski Model) on the sample of enterprises in 2014, which is, in the case of the unprosperous enterprises before their bankruptcy, i.e. 2015. We acquired the information from the final accounts published on the portal www.indexpodnikatela.sk. The sample contained 10 prosperous and 10 unprosperous agricultural enterprises (in accordance with the SK NACE classification, it is a section A01-Growing crops and breeding, hunting and affiliated services). According to the above stated criteria (the EVA indicator and “Entrepreneur’s Index” value) it was not possible to widen the sample of the unprosperous enterprises. In term of the size of enterprises, there are 10 small and 10 medium-sized enterprises.
3. Results and discussion

The analysed sample involves agricultural enterprises, therefore we consider appropriate to characterize this sector briefly. Its main role is to provide nutrition for the population. The main factor of production in the sector is land. The typical activities in agriculture involve soil cultivation, growing arable crops and farm animal breeding. The main products are articles of food for the population and fodder crops for farm animals. The secondary products include raw materials for the food and light industries. Between 1990 and 2004, the Slovak agricultural sector leaned towards small agricultural enterprises, i.e. farms, which were expected to reinstate the condition of the Slovak agriculture to the 50s of the last century. The supports, which, on the contrary, weakened many other agricultural subjects functioning till 1989, were adapted to this vision. In that period, the amount of farm animals slumped and the deficit of foreign trade including agricultural commodities was growing. In 1991, the trade margin of agricultural commodities reached 50 mil. euro. In 2004, the balanced scaled to 500 mil. euro. Since 2004, changes have occurred, particularly in the determination of clear rules and particular certainty in supports. This period is, however, also typical of the further decrease of the amount of farm animals and the foreign trade balance. Though, the investments in fixed assets in the agricultural sector may be evaluated positively. Different programmes, such as agro-environmental projects but also resources, which are not bound to the stocking rate of land by farm animals started to be pursued. Another characteristic feature of that period is the terrace raise. Recently, we have observed more frequent farm purchases made by foreign investors (Huba, 2011). The Statistical Office of the Slovak Republic yearly publishes statistics relating to the agricultural production in Slovakia by means of the STATdat database available at www.statistics.sk. The 2014 data relating to the gross agricultural production based on the gross sales is the latest available data presenting the total of 2.2 mld. euro of plant and animal production. The sales of agricultural products of the basic industry in 2015 recorded the total of 1.5 bil. euro of plant and animal production.

The interpretation of the results of models predicting financial distress verification is a sensitive and highly subjective matter. Hence, we encounter comments on the numeric expression of the particular methods’ prediction ability in the literature only in a few isolated cases. However, we can find the interpretation that if the prediction ability is lower than 64 per cent, it can be regarded as unfavourable. The prediction ability over 70 per cent is good and that one over 83 per cent has a relatively high prediction accuracy. The prediction ability higher than 97 per cent indicates the extremely high classification ability of a particular method. Different empirical researches focusing on prediction methods verification, however, confirmed that the reliability of particular prediction methods decreases in time (Gundová, 2015).

In the following, we evaluate the prediction ability of models predicting financial distress in Slovak agricultural enterprises, while we focus on the category of unprosperous enterprises in more detail. In case where an unprosperous company is included in the group of prosperous enterprises, we talk about an α error (a first type error).

The Quick Test classified only one of the 10 unprosperous enterprises sample as unprosperous. Other nine enterprises were included in the so-called grey zone by the Quick Test. We are not able to interpret the future financial situation of these enterprises since financial distress or favourable financial development may occur there. We can say that the Quick Test did not generate any α error but including an unprosperous company to the grey zone can also result in very bad consequences in the future. If a company would only rely on
the Quick Test results, it would not identify the approaching bankruptcy and unsustainability, and so it could not take proper remedial measures in time.

Table 1: Categorization of unprosperous enterprises

<table>
<thead>
<tr>
<th>Models</th>
<th>Unprosperous</th>
<th>Prosperous</th>
<th>Grey zone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Test</td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Altman’s Z-score</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Beerman Function</td>
<td>10%</td>
<td>60%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>Financial Standing Ratio</td>
<td>90%</td>
<td>10%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Taffler Model</td>
<td>30%</td>
<td>30%</td>
<td>40%</td>
<td>100%</td>
</tr>
<tr>
<td>Index IN01</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>CH Index</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Gurčík Index</td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
<td>100%</td>
</tr>
<tr>
<td>Ohlson Model</td>
<td>40%</td>
<td>60%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Zmijewski Model</td>
<td>30%</td>
<td>70%</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: the authors.

The Altman Z-score correctly included eight companies in the group of unprosperous enterprises. These enterprises are therefore endangered by serious financial distress. Two companies belonging to the sample of unprosperous enterprises were included to the so-called grey zone by the Altman Z-score. Hence, their future financial situation is not possible to be determined precisely. Although the Altman Z-score did not report any α error, we think that including two unprosperous enterprises to the grey zone can also have bad consequences for them. The grey zone identifies neither the bad nor good future financial situation of a company what would not be a problem in case of prosperous enterprises. However, in case of unprosperous ones this fact could negatively affect their operation as a company could not take remedial measures in time to improve its financial situation. Only one company out of ten unprosperous ones was included in the group of enterprises in a poor financial situation by the Beerman discriminant function. Three unprosperous enterprises reached the function value from 0.25 to 0.35, thus they are, according to the Beerman discriminant analysis, considered average, i.e. they are included in the grey zone. One company was identified by the method as a company with good financial situation, other five unprosperous enterprises were included in the group of enterprises with a very good financial situation. We find this as a negative fact and with a reported α error.

In Table 1, we see that the success rate of the Financial Standing Ratio in categorizing unprosperous enterprises into the group of unprosperous enterprises is up to 90 per cent, which can be seen as a very good classification ability with high accuracy. One company was, however, included in the group of prosperous enterprises and the Entrepreneur’s Index therefore reported a 10 per cent α error, which is considered a serious error in the process of categorization of unprosperous enterprises into the group of unprosperous enterprises.

In the previous table we can see that the success rate of the Taffler bankruptcy model in the categorization of unprosperous enterprises in the group of unprosperous enterprises is too low and that is only 30 per cent. The classification ability of the Taffler bankruptcy model is unfavourable and week. 40 per cent enterprises were included in the grey zone by the model, which we also regard as negative. But the most important is that the model included 30 per cent unprosperous enterprises in the group of prosperous ones, therefore it reported a 30 per
cent $\alpha$ error. The $\alpha$ error can have very adverse consequences for these companies in the future since they are not able to take remedial measures in order to improve their adverse financial situation in time. If those enterprises base their decisions only on the results of the Taffler bankruptcy model, they would not even reveal approaching financial distress.

The original IN index was already created in 1995 and with the name IN95. Since that year, it was modified several times, specifically in 1999 and 2001. The latest model of the index comes from 2005 with the name IN05. Its application is, however, appropriate for industrial companies, which are not the research object of this paper. Therefore, we decided to verify only the IN01 index. It can be applied in production enterprises. The classification ability of the IN01 index in categorization of unprosperous enterprises in the group of unprosperous enterprises is 80 per cent, which means very good accuracy of prediction. At the same time, the IN01 index did not report any $\alpha$ error but two companies were included in the grey zone what could bring certain problems to them in the future.

Chrastinová construed the CH Index as the first forecasting method to predict the financial situation of Slovak agricultural companies. The CH Index included all ten unprosperous enterprises in the sample in the group of unprosperous enterprises. The success rate of the CH Index in categorization of unprosperous enterprises in the group of unprosperous enterprises is 100 per cent, what represents an extremely high classification ability.

The Gurčík Index, also referred to as the G-Index, is another method designed for prediction of financial health of agricultural enterprises in Slovakia. Based on Table 1 we can deduce that the success rate of the Gurčík Index in categorization of unprosperous enterprises in the group of unprosperous enterprises is only 10 per cent, which represents a very negative classification ability of this method. The Gurčík Index did not report any $\alpha$ error, however, it identified up to 90 per cent of enterprises as average (the grey zone). The method thus did not reveal approaching problems of these companies a year before their bankruptcy, which can result in very bad consequences for those enterprises.

The Ohlson model included only four out of ten unprosperous enterprises in the sample in the group of unprosperous ones. The remaining unprosperous enterprises were categorized in the group of prosperous enterprises by the model, as the probability of their bankruptcy was lower than 50 per cent.

In Table 1, we can see that the success rate of the Zmijewski model in categorization of unprosperous enterprises in the group of enterprises endangered by a bankruptcy is only 30 per cent. We find this fact very negative since reliability of the Zmijewski model is unfavourable. The remaining 70 per cent of enterprises were included in the group of enterprises with lower than 50 per cent bankruptcy probability by the Zmijewski model. We find this result negative. Thus, we can state that the Zmijewski model reported up to 70 per cent $\alpha$ error. Based on this fact we argue that the Zmijewski model could be the cause of big problems if it does not identify approaching financial distress in time and evaluates a company as prosperous or not endangered by a bankruptcy.

The following Table 2 presents the results of the verification of prosperous enterprises. In this case, it is required that all companies are included in the category of prosperous enterprises. If a prosperous company is categorized as unprosperous, we talk about the $\beta$ error, i.e. the type II error.
Table 2: Categorization of prosperous enterprises

<table>
<thead>
<tr>
<th>Models</th>
<th>Unprosperous</th>
<th>Prosperous</th>
<th>Grey zone</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quick Test</td>
<td>10%</td>
<td>90%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Altman’s Z-score</td>
<td>0%</td>
<td>50%</td>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>Beerman Function</td>
<td>0%</td>
<td>90%</td>
<td>10%</td>
<td>100%</td>
</tr>
<tr>
<td>Financial Standing Ratio</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Taffler Model</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Index IN01</td>
<td>0%</td>
<td>70%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>CH Index</td>
<td>70%</td>
<td>0%</td>
<td>30%</td>
<td>100%</td>
</tr>
<tr>
<td>Gurčík Index</td>
<td>0%</td>
<td>80%</td>
<td>20%</td>
<td>100%</td>
</tr>
<tr>
<td>Ohlson Model</td>
<td>10%</td>
<td>90%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Zmijewski Model</td>
<td>0%</td>
<td>100%</td>
<td>0%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source: the authors.

In case of prosperous enterprises, the best prediction ability was reached by the Financial Standing Ratio, Taffler Model and Zmijewski model, which correctly categorized all ten prosperous enterprises and did not report any β error. Other details concerning the analysed data set of prosperous and unprosperous companies can be found in the work of Sedíleková (2017).

We verify the three above formulated assumptions only on the basis of the results of the analysis of ten unprosperous enterprises since we consider it more important. Subsequently we propose relatively appropriate methods of predicting future financial situation for the analysed sample of enterprises.

The generally known methods, the prediction ability of which we verified, include the Altman Z-score, Beerman discriminant analysis, Financial Standing Ratio, and Taffler bankruptcy model. The methods designed in the V4 countries chosen by us are the IN01 Index, CH Index and Gurčík Index. Table 1 presents the classification ability of the generally known prediction methods of the multiple discriminant analysis and models adapted to V4 countries. We supposed that the IN01 Index, CH Index and Gurčík Index achieved the higher classification ability than other methods. We can see that the highest classification ability in categorization of unprosperous enterprises in the group of unprosperous enterprises was just reached by the CH Index and this was 100 per cent. The second highest classification ability was, however, achieved by the Financial Standing Ratio, which was 90 per cent. The lowest classification ability was reached by the Beerman discriminant analysis, and – which is surprising – also the Gurčík Index – only 10 per cent. Yet other companies were included in the grey zone by the Gurčík Index, thus it did not report any α error. We can notice in the table, however, that by means of three out of four generally known methods several unprosperous enterprises were included in the group of prosperous ones, which did not occur with the use of other methods. The IN01 Index, CH Index and Gurčík Index did not report any α error. In accordance with the arithmetic mean (52.5 per cent) and median (55 per cent), the generally known methods of the multiple discriminant analysis achieved the lower classification ability than methods designed in V4 countries (mean = 63.3 per cent, median = 80 per cent). We can therefore confirm the first assumption.

The CH Index and Gurčík Index were designed for the needs of Slovak agricultural enterprises, while other selected methods, which we verified, were designed generally for manufacturing companies. The classification ability of the CH Index and Gurčík Index,
compared to other models predicting financial distress in unprosperous enterprises, is presented in the following table.

Table 3: Comparison of prediction ability of models for agriculture and other models

<table>
<thead>
<tr>
<th>Models</th>
<th>Unprosperous</th>
<th>Prosperous</th>
<th>Grey zone</th>
<th>Total</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>CH Index</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
<td>55%</td>
<td>55%</td>
</tr>
<tr>
<td>Gurčík</td>
<td>10%</td>
<td>0%</td>
<td>90%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altman</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beerman</td>
<td>10%</td>
<td>30%</td>
<td>60%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial Standing Ratio</td>
<td>90%</td>
<td>10%</td>
<td>0%</td>
<td>100%</td>
<td>58%</td>
<td>80%</td>
</tr>
<tr>
<td>Taffler</td>
<td>30%</td>
<td>30%</td>
<td>40%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN01</td>
<td>80%</td>
<td>0%</td>
<td>20%</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3 shows the reached classification ability of methods of the multiple discriminant analysis for Slovak agricultural enterprises compared with other selected methods. We can see that the CH Index achieved up to the 100 per cent classification ability and the Gurčík Index only the 10 per cent classification ability, which sharply decreased their mutual average classification ability as well as median only to 55 per cent. Based on the realized analysis, we found out that enterprises included to the grey zone by the Gurčík Index, i.e. up to 90 percent of them, disposed of high volume of assets and inventories, generated profit and also high revenues even though that we included them in the group of unprosperous enterprises according to the set criteria (the EVA indicator, Entrepreneur’s Index). We think these high values caused categorizing of these enterprises to the grey zone. The other selected methods of multiple discriminant analysis achieved the joint average classification ability of 58 per cent and their median value is up to 80 per cent. Three of these methods, namely the Altman Z-score, IN01 Index and Financial Standing Ratio, reached the 80 or higher classification ability. Accordingly, we can state that the assumption concerning the higher classification ability of methods designed for Slovak agricultural enterprises compared to other selected methods was not confirmed. Other selected multiple discriminant analysis methods achieved the higher average classification ability than methods designed for Slovak agricultural enterprises. A paradox though is that three of five other selected methods of the multiple discriminant analysis reported a serious α error, which did not occur in case of the methods designed for Slovak agricultural enterprises. As the CH Index achieved the very good classification ability and the Gurčík Index very bad one, we can say that the second assumption was partially confirmed.

Considerations concerning the third assumption issue particularly from strengths of the logit and probit models. Table 1 presents the classification ability of the logit and probit models in categorization of unprosperous enterprises compared to the methods of the multiple discriminant analysis. The logit and probit models, by contrast to the methods of multiple discriminant analysis, do not categorize enterprises in accordance to any valuing scale but simply determine the bankruptcy probability as a percentage. We regarded enterprises, which reached the bankruptcy rate higher than 50 per cent, as unprosperous. We can see that, on the basis of the Ohlson model, only 40 per cent of unprosperous enterprises achieved the
bankruptcy probability higher than 50 per cent and, on the basis of the Zmijewski model, only 30 per cent of unprosperous enterprises. It results from the Ohlson model that companies, which achieved the low bankruptcy probability, disposed of the lower volume of current assets, hence they bound less capital in inventories than enterprises with the higher bankruptcy probability. By means of the Zmijewski model verification we found out that enterprises correctly included in the group of unprosperous enterprises had generated lower profit after tax than enterprises incorrectly included in the group of prosperous enterprises. Likewise, correctly included unprosperous enterprises dispose of lower accrued liabilities than incorrectly included ones. We can therefore state that the logit and probit models did not achieve the higher classification ability by its verification in the sample of the Slovak agricultural enterprises than methods of the multiple discriminant analysis. Thus, the third assumption was not confirmed.

On grounds of the results achieved by the verification of the selected models predicting financial distress we can deduce that the existing prediction methods such as the Altman Z-score, Financial Standing Ratio, IN01 Index and CH Index are appropriate for the analysed sample of enterprises. These four prediction models achieved the highest classification ability in categorization of ten unprosperous enterprises in the group of unprosperous enterprises. The models thus could in time detect approaching financial problems a year before they arose, so they are able to draw management’s attention who can subsequently take remedial measures focused on the improvement of the company’s financial situation and prevent bankruptcy. The other selected prediction models achieved the low classification ability in categorization of ten unprosperous enterprises in the group of unprosperous enterprises. They did not reveal approaching financial problems a year before they arose which could cause serious problems to companies. Company management could not in time take remedial measures to improve their financial situation and the company thus can be one step closer to bankruptcy. However, it is striking that models, which did not detect approaching financial problems in time, also include the Gurčík model designed exactly for enterprises comprised in the chosen sample, i.e. Slovak agricultural enterprises. Within the frame of the four above mentioned methods, which best revealed approaching financial problems in the sample of ten unprosperous enterprises, we looked closer at concrete partial indicators. We found out that there are the equal or similar indicators in those four methods. The first indicator is Assets to Debt ratio, which is a part of the IN01 Index and Financial Standing Ratio. Debt involves the value of liabilities and accrued liabilities. The second equal indicator is EBIT to Assets Ratio, which is incorporated into IN01 Index and Altman Z-score. The third equal or similar indicator is an indicator putting company’s revenues and assets into proportion. This indicator is a part of three methods, although, in each of them it has a different numerator. The Financial Standing Ratio informs about total returns, the IN01 index about revenues and the Altman Z-score about sales generated by the main line of business. We are inclined to the opinion that the last option, i.e. sales generated by the main line of business containing revenues from sales of products, goods and services, is the most appropriate. We think that this item most objectively reflects the activity of a company. The paradox is that the CH Index, which achieved the 100 per cent classification ability, does not contain any single indicator equal or similar to the other three successful methods. The CH Index contains five indicators, two of which are the profitability indicators, namely the Assets Profitability and Sales Profitability. The values of both of them were low. Consequently, we can state that they accurately forecasted approaching financial problems in the selected enterprises. On that
account, we think that the profitability ratios are other proper indicators as a part of the modified prediction method. In addition to the above mentioned relatively appropriate existing methods, we propose the modified method for the analysed sample of agricultural enterprises, which would contain the mentioned five indicators. The ratios integrated in the discriminant functions of particular prediction methods were designed in different business conditions than the present ones. This implies that particular prediction methods have been loosing their verification ability and it is inevitable to modify them. Thereat, we propose the above given five indicators which best evaluated the financial situation in the sample of unprosperous enterprises as a part of the modified discriminant function for agricultural enterprises.

4. Conclusion

The financial analysis is a significant instrument for management, decision-making and, last but not least, also the control of current financial health of a company. The company should, though, carry out the financial analysis also for the purpose of revealing its future financial situation by means of the models predicting financial distress. As a result of rapidly changing business environment in recent years, however, the particular models predicting financial distress have been loosing their classification ability. The aim of the submitted paper was to verify the prediction ability of models predicting financial distress in Slovak agricultural enterprises and, based on the evaluation and interpretation of achieved results, determine the relatively appropriate methods for the analysed sample of enterprises. The analysis was carried out by means of the sample of agricultural enterprises affected by an external factor – the weather – on a large scale. The effects of this factor cannot be influenced by enterprises. As it results from the results of verification, the models predicting financial distress, such as the Altman’s Z-score (α error = 0 per cent), Financial Standing Ratio (α error = 10 per cent), IN01 Index (α error = 0 per cent) and Gurčík Index (α error = 0 per cent) are relatively the most appropriate for the analysed sample of agricultural enterprises. The discriminant equations of the given four models predicting financial distress contained the equal partial indicators, such as Assets to Debt (IN01 and Financial Standing Ratio), EBIT to Assets (IN01 and Altman’s Z-score), Revenues to Assets (IN01, Financial Standing Ratio, Altman’s Z-score), Assets Profitability (CH Index) and Sales Profitability (CH Index).

If an updated version of the models predicting financial distress in agricultural enterprises is created in the future, it should comprise the above partial indicators. Needless to say, on the basis of the analysis of 20 agricultural enterprises, the results obtained can not be generalized to the entire population of Slovak agricultural enterprises. The sample size can be considered one of the biggest limitations of the submitted article. They, however, create opportunities for the future research in which in-depth analyses can be carried out. We also suggest the extension of the future research focus by the comparison of verification results with some of the EU countries. The objectives of the future research can also focus on the more detailed comparison of the results of verification of the multiple discriminant analysis methods and results of the logit and probit models. Likewise, within the scope of the models predicting financial distress, in the future we consider interesting to concentrate on the identification of those financial ratios which most affect the incorrect classification of unprosperous enterprises in the category of prosperous ones or vice versa, i.e. aim at the identification of the discriminant (prediction) power of particular financial ratios. Our further proposal is to extend the focus of the future research by the issues of neuron networks representing a relatively...
new, interesting and original instrument to identify the negative financial situation of an enterprise in the future.

References


THE ESSENCE AND INDICATORS IN ASSESSMENT OF COMPETITIVENESS OF ENTERPRISES

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Abstract
The objective of the paper is to establish the essence and justification of assessment indicators of the enterprises competitiveness potential. This potential captures the ability of enterprises to provide a certain level of competitiveness in the future. A two-stage assessment of enterprise competitiveness potential is proposed. The first stage is the measurement of the existing level of competitiveness. At the second stage changes of the competitiveness indicators in the future are projected. Indicators of such changes will characterize competitiveness potential of enterprises. The division of these indicators into absolute and relative is further proposed. A hierarchy of indicators for assessing competitiveness and indicators for evaluation of competitiveness potential is developed. The low level of hierarchy involves indicators that characterize internal and external environments of competing companies. The middle level contains sales opportunities indicators of competing companies including optimal sales volumes for every type of the products. The high level involves indicators for comparing of competitors sales opportunities. It is shown that enterprises with a low level of competitiveness are often characterized by a higher potential of its growth. The conditions under which a company can increase sales opportunities parameters (even if the internal environment improvements occur slower than competitors' ones) are determined. Conditions for one of three scenarios of low competitiveness change are detected: an enterprise will constantly lose the competitive struggle to industry leaders; an enterprise will gradually get close to the leaders but not overtake them; an enterprise will exceed the leaders by the competitiveness level. A model of technological changes and a method for selection of the most competitive technology are proposed for the last scenario. The developed approaches to the competitiveness potential assessment are applied on the example of some Ukrainian enterprises.

Key words
competitiveness potential, evaluation, enterprise, indicator, technological update, technological level

JEL classification
C13, C18, D01, D50

1. Introduction

The enterprise is a complex open system; therefore, evaluating its potential is rather difficult task. It should be noted that for most enterprises the main purpose of their activities is to obtain proper financial results. For this reason, management of the enterprises requires a preliminary assessment of their economic potential. The evaluating the enterprise economic potential is covered in many scientific works (e.g. Teece, 2014; Kuzmin et al., 2012). Some of the scientists (e.g. Man et al., 2002; Malysheva et al., 2016) pay considerable attention to the
competitiveness of the enterprise as a factor in the formation of its economic potential. Also, a number of scientists (e.g. Iemelyanov et al., 2016; Rudychev et al., 2013) considers the competitive potential as a separate variant of cumulative economic potential.

The competitiveness is to a large extent affected by the management skills of business owners and managers. In particular, this refers to the ability to develop and implement a scientifically based strategy of competitive struggle and to manage the factors that shape the competitiveness. Nowadays much attention is paid to the assessing the competitiveness of both individual products and enterprises that produce them. Particularly, the patterns of the enterprise competitiveness formation are outlined (Maricic and Kostic-Stankovic, 2016; Carvalho and Costa, 2014). The factors of such formation are also analyzed (Ahmedova, 2015; Emelyanov et al., 2014). Various approaches to assessing the competitiveness of enterprises and produced products (e.g. Cetindamar and Kilitcioglu, 2013) were proposed.

Evaluating the potential for competitiveness increasing is an important condition for developing management measures for it. It is worth to mention that the issue of managing the enterprise competitiveness is studied by many scientists (Vojtovič, 2016; Gholamhosein, 2010; Aiginger and Vogel, 2015). At the same time, the issue of managing the competitiveness of enterprises in modern scientific literature is more focused on the problem of better use of the real enterprise competitive potential rather than the question of this potential developing. The purpose of this work was to establish the nature and justification of indicators for assessing the competitiveness. Therefore, the following main tasks were consistently solved: the essence and structure of the competitiveness potential were determined; the general approaches to its assessment were proposed; regularities of managing the factors of the enterprises competitiveness formation were determined; evaluating the competitiveness potential on the example of some Ukrainian enterprises was conducted.

2. The essence and structure of the competitiveness potential of the enterprises

Estimating future changes in the level of enterprise competitiveness and the possibilities of this increasing level have been established. It is assumed that such an increase will be due, first of all, to certain organizational and technical measures, the implementation of which will improve the internal environment of the enterprise. However, it is possible that during the forecast period even when certain management decisions would be implemented the level of competitiveness will not change or even decrease. The reason for this are mainly negative changes for the company in its external environment, for example, an increase in the number of competitors. Therefore, instead of the term "potential for increasing the competitiveness of the enterprise" it is advisable to use the broader notion of "potential of the enterprise competitiveness". Before starting to examine the components of the company's competitiveness potential, it is expedient to highlight some varieties of this potential, namely:

- short-term internal competitiveness potential (it characterizes the maximum possible level of competitiveness that it can achieve in the short run provided that the parameters of the activity of competitors, in particular the volume of sales of their products, will not change);
- cumulative short-term competitiveness potential (it characterizes the maximum possible level of enterprise competitiveness that it can achieve in the short run, taking into account changes in the external environment caused by the actions of competitors);
- cumulative perspective competitiveness potential (it characterizes the maximum possible level of enterprise competitiveness that it can achieve during a certain period, taking into account all possible changes in the internal and external environments of the enterprise).
Under these conditions, the short-term internal competitiveness potential will include two main components: the existing level of enterprise competitiveness and the short-term potential for its improvement. At the same time, each of these components contains components of the lower level (Table 1). However, the implementation of the short-term internal potential often leads to changes in the environment of the enterprise. In particular, the competitors in response to the increase in the company’s production sales can change their production prices and volume of sales. Considering the above reasons, cumulative short-term competitiveness potential (Table 2) may differ from the short-term internal competitiveness potential.

Table 1: Content of the short-term internal competitiveness potential of the enterprise

<table>
<thead>
<tr>
<th>Implemented part of the real competitiveness potential of the enterprise</th>
<th>Not-implemented part of the real competitiveness potential of the enterprise</th>
<th>Short-term potential of the competitiveness increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implemented part of the real competitiveness potential of the enterprise</td>
<td>Not-implemented part of the real competitiveness potential of the enterprise</td>
<td>Short-term potential of the competitiveness increase</td>
</tr>
<tr>
<td>Implemented part of the real competitiveness potential of the enterprise</td>
<td>Not-implemented part of the real competitiveness potential of the enterprise</td>
<td>Short-term potential of the competitiveness increase</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 2: Content of the cumulative short-term competitiveness potential of the enterprise

| Cumulative short-term competitiveness potential of the enterprise | Change of the competitiveness potential of enterprise owing to the changes in its environment that are caused by actions of competitors | Due to increasing the short-term internal potential of competitors | Due to the reaction of competitors to realize the short-term internal potential of competitiveness of this enterprise |

Source: the authors.

If the possible level of competitiveness of an enterprise in the future is evaluated, then it becomes necessary to predict all major changes in the internal and external environment of the enterprise which will occur for the appropriate period of time. Therefore, the cumulative prospective competitiveness potential should include such components (Table 3)
Table 3: Content of the cumulative prospective competitiveness potential of an enterprise

<table>
<thead>
<tr>
<th>Change of the competitiveness potential of an enterprise</th>
<th>Change of the competitiveness potential of an enterprise</th>
<th>Change of the sales markets conjuncture</th>
<th>Change of the resource markets conjuncture</th>
<th>Other changes (in particular, change the taxation conditions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Due to changes in the competitive environment of the enterprise</td>
<td>Due to changes in other components of the enterprise’s environment</td>
<td>Change in the number of competitors</td>
<td>Change in the competitors production volumes</td>
<td>Change of the competitors production price and quality</td>
</tr>
<tr>
<td>Change of the competitors production price and quality</td>
<td>Change of the sales markets conjuncture</td>
<td>Change in the competitors production volumes</td>
<td>Change of the producers price and quantity</td>
<td>Change of the sales markets conjuncture</td>
</tr>
</tbody>
</table>

Source: the authors.

3. Methodological approaches to assessing the enterprise competitiveness potential

Assessing the enterprise competitiveness potential is expedient to conduct in two stages. At the first stage, the real level of competitiveness is measured. At the second stage, changes in competitiveness indicators in the future are predicted. In general, an assessment of the competitiveness potential can be of two main types - qualitative and quantitative. Qualitative evaluation lies in differentiation of the ways of its level increasing. For example, such directions may be the reduction of some types of enterprise expenses or the improvement of certain quality parameters of its products, etc. Quantitative assessment envisages establishing a quantitative description of the reserves for increasing of its level. It is expedient to carry out such an assessment for each type of production with further generalization the results obtained for all types of its products. If we consider the enterprise competitiveness potential by a particular type of its products, then two types of generalizing indicators for assessing this potential can be distinguished: absolute and relative. Absolute generalizing indicators of assessing the enterprise competitiveness potential by a particular type of its products may be: the optimum natural volume of production of this type of products which maximizes the profit; the value of the maximum possible profit from this type of products sale; the size of the maximum possible excess profit from this type of products sale.

Introduction of the excess profit is expedient if the increase of competitiveness requires an investment. In general, profits are the difference between the actual profits and the product of investments invested in order to obtain this profit and the rate of return on investment (ROI):

\[ P_S = P - I \cdot N, \]  

where \( P_S \) – value of excess profit; \( P \) – actual return on investment; \( I \) – value of the investment; \( N \) – rate of return on investment.

In this case, the rate of ROI in the formula (1) represents its minimum level, in which investors will agree to invest in the production of this product. In other words, \( N \) is the profitability of alternative investment options taking into account the risk factor. Formula (1) for a particular product type can be presented in such form:

\[ P_S = (p_r - c) \cdot Q - i \cdot Q \cdot N = (p_r - (c + i \cdot N)) \cdot Q = (p_r - p_re) \cdot Q, \]  

where \( p_r \) – revenue price; \( c \) – costs; \( i \) – interest rate; \( N \) – rate of return on investment; \( Q \) – quantity of the product.
where \( p_r \) – actual price of this type of unit minus indirect taxes; \( c \) – unit cost; \( Q \) – the natural volume of enterprise sales of this type of production for a certain period of time; \( i \) – specific capital intensity, that is, the value of investments per unit of production \( (i = I / Q) \); \( p_{re} \) – equilibrium price per unit \( (p_{re} = c + i \cdot N). \)

The equilibrium price of the product in the formula (2) represents its price, in which the profitability of product investments equals \( N \). Respectively, under such conditions, demand for products will equal the supply. Generalizing indicators for assessing the competitiveness potential should preferably be of a relative nature. The values of absolute indicators should be used when calculating the relative indicators of the competitiveness potential assessment.

There are two types of relative indicators for assessing the competitiveness potential:

1) relative indicators, the calculation of which involves comparing the values of certain absolute indicators of the investigated enterprise with the values of these indicators of the competitors. However, both the absolute value of the indicator of a certain competitor and the total value of this indicator for all companies that compete, can serve as the comparison base. In particular, in the latter case, the relative indicator of the competitiveness potential of this enterprise can be the optimal share of this company in the sales markets of its products;

2) relative indicators, the calculation of which involves the comparison of relative indicators of the enterprise competitiveness of the first type with the actual values of the relevant indicators of this enterprise. An example of relative indicators of the second type may be the ratio of the optimal part of the enterprise in the certain products market to the actual share of the company in the same market.

We propose a hierarchy of performance evaluation of enterprises' competitiveness and, therefore, indicators for measuring of the competitiveness potential. The lower level of this hierarchy contains indicators that characterize the internal and external environment of competing enterprises. The average level of the hierarchy contains indicators of sales opportunities of competing enterprises, including the optimal sales volumes of each type of their products. The highest level of the hierarchy contains indicators for comparing of sales opportunities for competitors. Also, when assessing competitiveness potential it is necessary to distinguish between its theoretical and actual values. The theoretical value is calculated on the basis of the construction of certain economic-mathematical models. In most cases these models describe the process of establishing equilibrium in the certain products market.

Let’s carry out some modification of the existing models of equilibrium establishment in the certain product market taking into account the reaction of consumers on its quality improvement. May \( F(Q_S) \) be the function describing the relationship between the unit price and a variable \( Q_S \). This indicator represents the total natural volume of this product supply by all enterprises that produce it and compete with each other on a certain market of this product. In the future, we will need only two such standard features of the function \( F(Q_S) \): 1) this function is decreasing; 2) its derivative module also decreases or at least remains unchanged (in the case if \( F(Q_S) \) is linear) under the increase of the total volume of products supply.

Let's assume that this product has several varieties with different levels of their quality, and function \( F_1(Q_S) \) describes the relationship between price and volume of supply for the kind of products characterized by the lowest level of quality. May \( F_j(Q_S) \) be the function that describes the relationship between the unit price of \( j \)-kind of the product and the total natural volume of its offer by all enterprises. In the future, it will be assumed that the growth of the index \( j \) corresponds to the increase of the quality level of certain kinds of this product.
Obviously that for products with a higher quality, consumers will agree to pay higher price. That is why if \( m > k \), then \( F_m(Q_s) > F_k(Q_s) \). Thus, for the given total natural volume of this product supply \( Q_s \), its purchasers will agree to pay the price \( F_j(Q) \) for the unit of \( j \)-kind of product. This price will not depend on how many of these products units \( Q_s \) contain units of different varieties, but will be determined only by the total number of these units for all varieties of products sold. The functions \( F_j(Q_s) \) will be retained by certain transformation of \( F_1(Q_s) \). The forms of such transformations will depend on the specific preferences of the purchasers of the corresponding products. In particular, one can distinguish two simplest ways to change the \( F_1(Q_s) \) when moving to the higher quality level of certain kind of products, namely – when any \( Q_S \) the purchasers will agree with the increase of this product price: 

1) for a certain constant value if the quality level of this product increases. In other words, the unit price of \( j \)-type of product under such conditions will be calculated in the formula:

\[
F_j(Q_s) = F_1(Q_s) + \Delta F_j, \tag{3}
\]

where \( \Delta F_j \) – an increment of the unit price at the transition from its kind with the lowest level of quality to \( j \)-kind of the product;

2) for a certain constant percentage, if the quality level of this product increases. Therefore, the unit price of \( j \)-type of product under such conditions will be calculated in the formula:

\[
F_j(Q_s) = F_1(Q_s) \times \alpha_j, \tag{4}
\]

where \( \alpha_j \) – the rate of growth of the unit price in the transition from the kind of product with the lowest level of quality to \( j \)-kind of the product, times.

It should be pointed out that besides the above mentioned, there are other possible ways of the \( F_1(Q_s) \) function transforming. In particular, there is a certain combination of transformations represented by the expressions (3) and (4). It is more convenient to describe the transformation of \( F_1(Q_s) \) as a complex function \( G_j(F_j(Q_s)) \), namely \( G_j(F_j(Q_s)) = F_j(Q_s) \).

Let us consider the case where the following two conditions are fulfilled: firstly, all current production and sales costs as well as the investments are directly proportional to the actual volumes of this product; secondly, the value of the unit cost and volume of the investment per unit of production as well as the level of its quality for each enterprise that produce this product are clearly defined. Let the total actual volume of manufacturing this product by all other enterprises, except the studied, is \( Q_0 \). At the same time, this enterprise produces \( j \)-kind of this product. Then the value of the excess profit as a function of the actual volume of this product production of the investigated enterprise will be described by the following formula:

\[
P_{sl}(Q_t) = [G_j(F_1(Q_0 + Q_t)) - c_l - i_t \cdot N] \cdot Q_t, \tag{5}
\]

where \( P_{sl}(Q_t) \) – value of excess profit of the investigated enterprise; \( Q_t \) – actual volume of production; \( c_l, i_t \) – the unit cost and its specific capital intensity for the investigated enterprise, respectively.

Taking the derivative of function (5), comparing it to zero and performing mathematical transformations, we obtain:

\[
Q_{lopt} = \left( G_j(F_1(Q_0 + Q_{lopt})) - c_l - i_t \cdot N \right) \left( -G'_j(F_1) \cdot F'_1(Q_0 + Q_{lopt}) \right), \tag{6}
\]

where \( Q_{lopt} \) – the optimum volume of production manufacturing by the enterprise, under which its excess profit is maximized; \( G'_j, F'_1 \) – derivatives of the corresponding functions.

Substituting the expression (6) in the formula (5), we obtain:

\[
P_{sl, max} = \left( G_j(F_1(Q_0 + Q_{lopt})) - c_l - i_t \cdot N \right)^2 \left( -G'_j(F_1) \cdot F'_1(Q_0 + Q_{lopt}) \right), \tag{7}
\]
where $P_{sl\, \text{max}}$ – the maximum possible value of the excess profits of the investigated enterprise from the manufacturing and sale of the given product.

4. **Peculiarities of managing the factors of the enterprises competitiveness formation**

From the above it follows that the company's competitiveness potential on a certain type of its products is determined by product's level of quality, the specific current costs of its production and sales as well as specific capital intensity of the products. The listed indicators are to a greater extent interconnected. For example, products characterized by a higher quality level usually require higher manufacturing costs. Also, products with lower unit cost are often characterized by higher capital intensity. The relationship between the level of product quality, the cost of its unit and the specific capacity is often conditioned by the technology used by the enterprise. Therefore, the level of technological development in many cases is a decisive factor shaping the enterprise competitiveness potential. With this in mind, we will examine the impact of technology parameters on the enterprise competitiveness.

Let us consider first the case when all enterprises that compete with each other in the market of certain products, produce the same kind of product (that is, the level of quality of this product in all enterprises is the same). Then formulas (5), (6) and (7) acquire this form:

$$P_{sl}(Q_l) = (F_1(Q_0 + Q_l) - c_l - i_l \cdot N) \cdot Q_l;$$

$$Q_{lopt} = (F_1(Q_0 + Q_{lopt}) - c_l - i_l \cdot N) / (F_1'(Q_0 + Q_{lopt}));$$

$$P_{sl \, \text{max}} = (F_1(Q_0 + Q_{lopt}) - c_l - i_l \cdot N)^2 / (F_1'(Q_0 + Q_{lopt})).$$

From formula (8) it follows that regardless of the $Q_l$ value, that is, the actual volumes of production, the excess profits will be the highest if the value of the expression $c_l + i_l \cdot N$ would be the lowest. Let the indicators of the unit cost and the specific capital intensity will differ for the enterprises-competitors. Then, the highest value of the competitiveness potential will possess the company with the lowest value for expression $c_l + i_l \cdot N$.

Using expression (9) one can estimate the relative level of the competitive potential of two enterprises that produce the same products using different technologies:

$$R_{12} = Q_{lopt}/Q_{2\,lopt} = (p_e - c_1 - i_1 \cdot N)/(p_e - c_2 - i_2 \cdot N),$$

where $R_{12}$ – the relative level of the competitive potential of the first enterprise relatively to the second one by the indicator of the actual volumes of certain products production; $p_e$ – the equilibrium price of a unit of a given product which is the value of function $F_1(Q_S)$, where $Q_S$ – the total volume of the given product production by all enterprises-competitors if the market equilibrium is established, 1 and 2 – indices that refer the appropriate indicator to the first and second enterprises.

Note that the price in formula (11) corresponds to the state of the local equilibrium in the market. Local will be called the state of equilibrium under which for any of the enterprises is not profitable to change the volumes of production and sales of their products. Unlike local, the state of the general equilibrium in the market is characterized by the absence of the positive value of excess profits. It will be the general equilibrium that corresponds to the equilibrium price in the formula (2). Relative level of the competitive potential of two companies producing identical products using different technologies can be also estimated by the excess profits indicator. For this, the formula (10) should be used. Then we obtain:

$$R_{12}^{'\prime} = P_{1\,\text{max}} / P_{2\,\text{max}} = (p_e - c_1 - i_1 \cdot N)^2 / (p_e - c_2 - i_2 \cdot N)^2,$$
where $R_{12}^\prime$ – relative level of the competitive potential of the first enterprise relative to the second one in terms of the excess profit.

Thus, in the case of the existence of several variants of manufacturing technologies of the same product, the enterprise should choose the technology for which the value of the indicator $c_l + i_j \cdot N$ is minimal to ensure the maximum competitiveness. Let's consider first the case when the market of certain products is characterized by a high level of competition and accordingly the state of the general equilibrium is quickly established. Then, the most competitive will be the technology of products manufacturing, which in a state of general equilibrium in its market, provides the largest actual amount of this product supply. In formulas (8) - (10), the technology number was indexed $l$. Now let's move on to the numbering of the technologies by the index $j$ as the technologies will be linked to a certain level of quality of the products manufactured using them. In order to determine the total actual volume of all enterprises-competitors production which ensures the state of the general equilibrium, and if these enterprises use $j$ technology, such an equation should be solved:

$$G_j(F_1(Q_{sej})) = G_j(c_j + i_j \cdot N),$$

where $Q_{sej}$ – the desired value is the total actual volume of production and sales by all enterprises competing in its market, if these enterprises choose $j$ technology.

We will introduce $W_j$ which is inverse to the function $G_j$. Then the equation (13) will transform to:

$$W_j(F_j(Q_{sej})) = W_j(c_j + i_j \cdot N),$$

or

$$F_j(Q_{sej}) = W_j(c_j + i_j \cdot N).$$

Since the $F_j(Q_S)$ is declining, the maximum value $Q_{sej}$ corresponds to the minimum value of the expression in the right side of the equation (15). Consequently, the criterion of choosing the best technology will take the following form:

$$Z_j = W_f(c_j + i_j \cdot N) \rightarrow \min.$$

If the transformation of the function $F_j(Q_S)$ at the transition to the production of higher quality products occurs according to the formula (3), then criterion (16) takes the form:

$$c_j + i_j \cdot N - \Delta F_j \rightarrow \min.$$

If, however, the transformation of a function at the transition to the production of higher quality products occurs according to the formula (4), then criterion (16) takes the form:

$$(c_j + i_j \cdot N) / \alpha_j \rightarrow \min.$$

Let us consider that the market of products is characterized by a low level of competition. Then the choice of the most competitive technology among several technologies with different levels of product quality requires the application of maximum excess profit criterion. For this purpose it is necessary to use the formula (7). In particular, if the transformation of the function at the transition to the production of higher quality products occurs by the formula (3), then formula (7) takes the following form:

$$F_\text{max} = (F_1(Q_{sep}) + \Delta F_j - c_j - i_j \cdot N)^2 / (-F_1'(Q_{sep})),$$

where $Q_{sep}$ – total actual volume of production of this product by all competitor companies which corresponds to the state of local equilibrium in this market.
If, however, the transformation of the function $F_1(Q_S)$ at the transition to the production of higher quality products occurs by the formula (4), then formula (7) takes this form:

$$P_{2sJ \max} = \left( \frac{c_j - i_j \cdot N}{\alpha_j} \right)^2 = \frac{\alpha_j \left( F_1(Q_{\text{sep}}) - \frac{c_j + i_j \cdot N}{\alpha_j} \right)^2}{-\alpha_j \cdot F_1(Q_{\text{sep}})}.$$  \tag{20}

As follows from expression (19), if the transformation of the function at the transition to the production of higher quality products occurs according to the formula (3), then in this case and for the market with low level of competition, the expression (17) should be used. This is due to the fact that expression (19) can be represented as a function of expression (17). However, the expression (20) cannot be represented exclusively as a function of expression (18), since $\alpha_j$ in the (18) is put outside the brackets in the numerator of (20). Therefore, criterion (18) unlike criterion (17) cannot be used for a market with low level of competition.

The aforementioned approaches to choosing the most competitive technology are applicable to the case when the company has not yet begun the production of certain products. If the company already manufactures these products, but new technology has emerged, then the task of assessing the feasibility of transition from old technology to the new one arises. In order for such a transition to be expedient, such inequality must be met:

$$p - c_n - i_n \cdot N + \Delta p > p - c_a,$$  \tag{21}

or

$$\frac{(c_a - c_n + \Delta p)/i_n}{i_n} > N,$$  \tag{22}

where $p$ – current unit price of this product; $c_n, i_n$ – the unit cost and the specific capital intensity of the product with the new technology applied; $\Delta p$ – increase in product prices at the transition to a new technology (if products quality is higher); $c_a$ – unit cost minus amortization deductions based on the old technology.

Fixed values of indicators $c_n, i_n$ and $\Delta p$ increasing of the indicator $c_a$ leads to an increase of the value of the inequality’s left side (22). Consequently, the efficiency of technology substitution is relative. In other words, with a decrease in the level of enterprise’s technological development (which is reflected in the growth of the indicator $c_a$), the efficiency of replacing existing technology with the new one increases. Taking into account these considerations the enterprises with low production competitiveness may have a higher potential for their competitiveness growth than the enterprises with higher competitiveness levels. Implementing this potential, such enterprises can outstrip of the former technological leaders of the industry by the level of competitiveness. This is due to the fact that these leaders still have rather high level of technological development and it is still unprofitable for them to make the additional investment in technological upgrading.

Summarizing the considerations, one can state the following statement: a company with a lower level of competitiveness has a higher potential of competitiveness than a company - its competitor with a higher level of competitiveness, unless the second company do not possess any exceptional competitive advantages. This thesis can be explained by an example of technological changes. When studying the latters, we assumed that these technologies come from the outside environment to the enterprises-competitors. Accordingly, none of the competitor companies has exclusive rights to the new technologies. However, the situation will change if the enterprises are themselves developers of the technologies and do not disclose information about their technological developments. Under such conditions, if one
enterprise significantly outperforms another by the level of technological development, then in the future the first enterprise can remain a technological leader.

In the context of the study of the laws of competition, the following question arises: can a particular company increase its financial performance if improvements in its internal environment occur more slowly than in all its other competitors? To answer this question, let's consider a situation where there are \( n \) competitors in the market of certain products that produce these products with the same level of quality but the specific costs for each enterprise differ. Let’s assume that the market is in a state of local equilibrium. Let's also assume that all enterprises will reduce the unit cost by the same value. Consequently, if the function is inversely proportional and not all enterprises will reduce the unit cost by the same value, a decrease in the cost of production, if its share in the market of these products increases.

Obviously, inequality (25) cannot be performed at all enterprises, since the sum of all market shares is equal to one. Consequently, if the function is inversely proportional and not all

\[
P_{i\text{max}} = \frac{F_i(Q_{sep0}) - c_{i0} - i_{i0} \cdot N}{F_i(Q_{sep0})} = \frac{-F_i(Q_{sep0}) \cdot (F_i(Q_{sep0}) - c_{i0} - i_{i0} \cdot N)^2}{(-F_i(Q_{sep0}))^2} = -F_i'(Q_{sep0}) \cdot Q_{lopt0}, \quad (23)
\]

where \( P_{i\text{max}} \) – the maximum possible value of the enterprise's profits from the sale of this product before the reduction of the cost price of these products; \( Q_{sep0} \) – the total natural volume of sales of products by all enterprises before the reduction of the production cost; \( c_{i0}, i_{i0}, Q_{lopt0} \) – unit cost, its specific capital intensity and equilibrium output in the investigated enterprise before reduction of the production cost, respectively.

Assume that after reducing the unit cost by all enterprises at the same level, the market is again in a state of local equilibrium. Then, as follows from the expression (23), the condition of growth of excess profit of a certain enterprise will be formalized in the form of inequality:

\[
-F_i'(Q_{sep0}) \cdot Q_{lopt}^2 > -F_i'(Q_{sep0}) \cdot Q_{lopt0}^2, \quad (24)
\]

where \( Q_{sep} \) – the total natural volume of production of all enterprises, which corresponds to the state of local equilibrium, after reducing the cost of production; \( Q_{lopt} \) – equilibrium production volume in the investigated enterprise after reducing the cost of production.

If inequality (24) performed for an enterprise, such an enterprise can achieve an increase in excess profits after lowering the cost of production, even if it has a lower reduction than its competitors. However, the implementation or non-fulfillment of inequality (24) depends on the type of relationship between price and total volume of product offerings, that is, from the form of function \( F_i(Q_{sep}) \). For example, if \( F_i(Q_{sep}) \) is linear, inequality (24) is performed for all enterprises. This is due to the fact that the derivative of the function \( F_i'(Q_{sep}) \) is constant, that is \( -F_i'(Q_{sep}) = -F_i'(Q_{sep}) \), while the natural production volumes after the reduction of the cost price will increase in all enterprises. Assume, for example, that the function \( F_i(Q_{sep}) \) is inversely proportional, so it has the form \( F_i(Q_{sep}) = D / Q_{sep} \), where \( D \) is the parameter of this function. The derivative of this function is \( F_i'(Q_{sep}) = -D / Q_{sep}^2 \). Consequently, if the function \( F_i(Q_{sep}) \) is inversely proportional, then inequality (24) takes on this form:

\[
D \cdot (Q_{lopt} / Q_{sep})^2 > D \cdot (Q_{lopt0} / Q_{sep0})^2. \quad (25)
\]

According to the inequality (25), the excess profit of a certain enterprise will increase after a decrease in the cost of production, if its share in the market of these products increases. Obviously, inequality (25) cannot be performed for all enterprises, since the sum of all market shares is equal to one. Consequently, if the function is inversely proportional and not all
market shares are the same, then reducing the unit cost of production by all enterprises at the same level in at least one enterprise will lead to a decrease in its excess profit.

5. Evaluating the potential of improving the enterprises competitiveness on the basis of energy saving

At present, Ukraine has an acute problem of energy conservation. Due to high energy costs, many types of products are not competitive. Furthermore, among energy companies operating in the same industry, energy costs vary considerably. For an example, consider three enterprises that produce pavement tiles and other concrete products. These enterprises together occupy 80.59% of the market of paving slabs in the Western Ukraine (Table 1). It is evident that Ozon LLC is the undisputed leader in the market of paving slabs. This enterprise occupies the largest share of this market. In addition, it has a higher price of products (due to its higher quality) and lower cost. At the same time, Ozon Ltd. has a specific capital intensity of production that is higher than that of its competitors. Note that the analyzed paving slabs market is in a state close to a state of local equilibrium. This is confirmed by the ratio of specific excess profits of each enterprise to the natural production volume is approximately the same for all enterprises. Our study showed that one reason for the high production cost, which made by Ozon Ltd. competitors, is a high level of energy. Our calculations have shown that the modernization of equipment and other energy saving measures will allow competitors to reduce the cost per unit of their products by 5,000 UAH / 1 thous. units. However, the implementation of these measures will require the additional investment, which will result in an increase in the specific capital intensity of the products by 23,000 UAH / 1 thous. units.

Table 1: Indicators of competitiveness of some enterprises in Western Ukraine for 2016

<table>
<thead>
<tr>
<th>Names of indicators, units of measurement</th>
<th>Ozon Ltd.</th>
<th>Magik Ltd.</th>
<th>Politep Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The natural volume of sales of paving slabs, thous. m²</td>
<td>384,2</td>
<td>155,4</td>
<td>52,7</td>
</tr>
<tr>
<td>2. The company's share in the market of paving slabs, %</td>
<td>52,27</td>
<td>21,14</td>
<td>7,17</td>
</tr>
<tr>
<td>3. Average price of 1 thous. m² tiles, thous. UAH</td>
<td>216,7</td>
<td>208,4</td>
<td>203,1</td>
</tr>
<tr>
<td>4. Average cost of 1 thous. m² tiles, thous. UAH</td>
<td>168,4</td>
<td>173,5</td>
<td>169,6</td>
</tr>
<tr>
<td>5. The average specific capacity is 1 thous. m² tile, thous. UAH</td>
<td>195,6</td>
<td>153,5</td>
<td>162,4</td>
</tr>
<tr>
<td>6. Profit from sales, thous. UAH:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- in terms of 1 thous. m²</td>
<td>48,3</td>
<td>34,9</td>
<td>33,5</td>
</tr>
<tr>
<td>- for the entire volume of sales</td>
<td>18556,86</td>
<td>5423,46</td>
<td>1765,45</td>
</tr>
<tr>
<td>7. Rate of return on investment</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>8. Excess profit from sales, thous. UAH:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- in terms of 1 thous. m²</td>
<td>9,18</td>
<td>4,2</td>
<td>1,02</td>
</tr>
<tr>
<td>- for the entire volume of sales</td>
<td>3526,96</td>
<td>652,68</td>
<td>53,75</td>
</tr>
<tr>
<td>9. The ratio of the market share of paving slabs of a certain enterprise to the same indicator at Ozon Ltd.</td>
<td>1,00</td>
<td>0,404</td>
<td>0,137</td>
</tr>
<tr>
<td>10. The ratio of excess profits to the total volume of products of a certain enterprise to the same indicator at Ozon Ltd.</td>
<td>1,00</td>
<td>0,185</td>
<td>0,015</td>
</tr>
<tr>
<td>11. The ratio of the specific excess profits to the natural output</td>
<td>0,0239</td>
<td>0,0270</td>
<td>0,0194</td>
</tr>
</tbody>
</table>

Source: the authors calculations according to the accounting of enterprises.

The implementation of energy saving measures at the Magik Ltd. and Politep Ltd. has resulted in the growth of their excess profits and the increase in the volumes of production and sales of their products. The expected changes in the sales volumes of these enterprises

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(Table 2) were determined in proportion to the expected changes in the value of the specific excess profit (which corresponds to the condition of the local market equilibrium).

Table 2: Expected impact of energy saving measures on the enterprises competitiveness

<table>
<thead>
<tr>
<th>Names of indicators, units of measurement</th>
<th>Ozon Ltd.</th>
<th>Magik Ltd.</th>
<th>Politep Ltd.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The average price of 1 thou. m² of tile, thous. UAH</td>
<td>216,7</td>
<td>208,4</td>
<td>203,1</td>
</tr>
<tr>
<td>2. Average cost of 1 thou. m² tile, thous. UAH</td>
<td>168,4</td>
<td>168,5</td>
<td>164,6</td>
</tr>
<tr>
<td>3. The average specific capacity is 1 thou. m² tile, thous. UAH</td>
<td>195,6</td>
<td>176,5</td>
<td>185,4</td>
</tr>
<tr>
<td>4. Rate of return on investment</td>
<td>0,2</td>
<td>0,2</td>
<td>0,2</td>
</tr>
<tr>
<td>5. Excess profit from sales, thous. UAH:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- in terms of 1 thou. m²</td>
<td>9,18</td>
<td>4,6</td>
<td>1,42</td>
</tr>
<tr>
<td>- for the entire volume of sales</td>
<td>3526,96</td>
<td>782,92</td>
<td>104,18</td>
</tr>
<tr>
<td>6. Natural volume production and sale of paving slabs thous. m²</td>
<td>384,2</td>
<td>170,2</td>
<td>73,4</td>
</tr>
<tr>
<td>7. The share of enterprises in the market paving slabs, %</td>
<td>49,86</td>
<td>22,09</td>
<td>9,52</td>
</tr>
<tr>
<td>8. The ratio of the market share of paving slabs of a certain enterprise to the same indicator at Ozon Ltd.</td>
<td>1,000</td>
<td>0,443</td>
<td>0,191</td>
</tr>
<tr>
<td>9. The ratio of excess profits to the total volume of products of a certain enterprise to the same indicator at Ozon Ltd.</td>
<td>1,000</td>
<td>0,222</td>
<td>0,030</td>
</tr>
</tbody>
</table>

Source: the authors.

Based on Table 2, the unit price was taken at the basic level. It did not significantly affect the results as expected growth in sales of Magik Ltd. and Politep Ltd. is relatively small. However, implementation of energy efficiency measures will significantly affect the competitiveness of these enterprises. In particular, their share of the market relatively to the industry leader will increase and their profits will increase.

6. Conclusion

The assessment of the enterprise competitiveness potential is a prerequisite for determining the reserves of increasing its competitive advantages. Evaluation of the specified potential should be in two stages. At the first stage, the existing level of enterprises competitiveness is measured. At the second stage, changes in competitiveness indicators in the future are projected. In this case, indicators of potential assessment form a hierarchy that contains three levels: the indicators of internal and external environment of the competing enterprises; indicators of sales opportunities of competing companies and indicators and indicators for comparing of sales opportunities of competing enterprises. Further research on the assessment of the competitiveness potential of enterprises requires the construction of formalized models of rotation of industry leaders as a result of technological changes.

References


COMPARISON OF EMPLOYEE MOTIVATION LEVELS IN SELECTED EUROPEAN COUNTRIES

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Abstract
To gain a competitive advantage, organizations focus on their employees because human resource can be considered as driving force of the company. In recent years, employee motivation has become a significant component for the institution because satisfied and positively motivated employee can influence success of the company. In this context, the main aim of the article is to compare the level of employee motivation in selected European countries. The research took place in 2017. The sampling unit consisted of 1,130 respondents from Austria, Germany, Portugal, and United Kingdom. The level of employee motivation was determined through the questionnaire focused on the evaluation of 30 motivation factors. Following the research outcomes, atmosphere in the workplace, communication in the workplace, and work environment were three motivation factors placed in the top five positions in all countries surveyed. Surprisingly, base salary was not the most important motivation factor in any of the countries surveyed. Subsequently, the motivation factors were analysed by using ANOVA and Tukey's HSD test. Based on the further results, we can state that statistically significant differences in the importance of selected motivation factors exist in countries analysed.

Key words
employee motivation level, Austria, Germany, Portugal, United Kingdom, ANOVA, Tukey's HSD test

JEL classification
J24, O15

1. Introduction

In today's dynamic times, when the business environment is highly competitive, companies need to create an effective strategy that will them help to succeed. Employees are considered as the source of success that moves other business resources. Moreover, employees create value added in the enterprise.

As achieving high performances in organizations requires motivated employees, in the field of human resource management, the key role of the manager is to motivate employees (Rusu and Avasilcai, 2014). It is a process that mobilizes, drives and supports the individual's efforts toward specific goals. It determines individual intensity, direction, and ongoing efforts to achieve the goal. It helps to understand the behaviour of employees. Then it is possible to predict the results of managerial decision-making and the impact on the fulfilment of individual and organizational goals.

The basic mechanism of motivation is to satisfy the requirements and wishes of each individual. It follows that the behaviour, and act of an individual has its own causes. People orient their energy, action, behaviour towards achieving the goals set by the environment (Weberová et al., 2016). The importance of these goals depends on the perception of each
person and the environment in which he/she works. Vandenabeele (2008) has the same opinion. According to the author cited, motivation can be influenced by the environment and is related to the individuals in this environment. In order to motivate employees for better performance, it is necessary to establish a work environment ensuring the success, recognition, interesting work, and personal growth.

Reward is one of the key drivers of motivation that leads individuals to higher performance (Vetráková and Smerek, 2016). Fringe benefits (such as wages for merit, wages for skills or wages per piece) paid to individuals are used by businesses as well as team incentives or team valuation (paid on team basis). Base salary is often increased. Bonus supplements or stock options are provided by companies, too (Garbers and Konradt, 2014). In addition, other motivators such as job security, career development, or a pension scheme are offered by employers (Perry and Hondeghem, 2008). Moghadam and Kazemi (2016) considered wage and salary, work environment conditions, appreciation, occupational development and occupational position, respectively, as the effective factors on the employees’ motivation. According to Perry et al. (2010), interpersonal relations or recognition are important motivation factors apart from rewards. In some job position, employee performance can be affected by a sense of responsibility. A similar opinion is shared by de Silva and Yamao (2006) according to which a sense of responsibility improves the motivation and creativity of employees. Supervisor's appraisal system and supervisor's impression play a key role in motivation and lead to greater employee engagement (de Silva and Yamao, 2006). It is confirmed by a Monster Meters survey (http://karriere-journal.monster.lu), according to which supervisor’s and colleagues’ approach is the most important motivation factor in France, Germany and Switzerland. This motivation factor was chosen by 26% of employees in each of the countries surveyed. The supervisor’s and colleagues’ approach was considered as an important factor by 23% of respondents from Austria and 22% of respondents from Denmark. The research of Vlacseková and Mura (2017) points to the other motivation factors that lead employees to better performance such as co-workers, compensation, job contents, relations with superiors, relationships with colleagues, helpful co-workers, sense of achievement, personal growth, salary, organised company, recognition by the leader or employees, interesting work, favourable working conditions, possibility of promotion, flexible working time, socially useful work, strategy, benefits, business trips, etc. In this context, the main aim of the article is to define the level of employee motivation in selected European countries.

2. Methodology

The research focused on comparison of employee motivation level in selected European countries was conducted in 2017. Total of 1,130 respondents were involved. The respondents were from Austria (334; 29.56%); Germany (350; 30.97%); Portugal (221; 19.56%) and United Kingdom (225; 19.91%). The other socio-demographic characteristics of the respondents are presented in Table 1. Absolute and relative frequency from the point of view of the countries surveyed are presented in the individual columns. Table rows represent groups of respondents broken down by personal characteristics of respondents.

The level of motivation was determined through questionnaires in the form of a direct addressing of respondents. Online questionnaire was distributed to selected countries of Western Europe in order to ensure a proportional distribution of respondents from the perspective of gender, age, education, seniority and working position. The level of 30
motivation factors (atmosphere in the workplace, base salary, career advancement, communication in the workplace, competences, fair appraisal system, free time, fringe benefits, good work team, individual decision-making, information about performance result, job performance, job security, mental effort, mission of the company, name of the company, opportunity to apply one’s own ability, personal growth, physical effort at work, prestige, recognition, region’s development, relation to the environment, self-actualization, social benefits, stress, supervisor’s approach, work environment, working hours, workload and type of work) were rated by respondents. The degrees of importance according to the Likert scale were used (5 = very important motivation factor, 1 = insignificant motivation factor). Statistics 12.0 software (Dell, Oklahoma City, Oklahoma) was used to process the results. Consequently, we have developed the order of importance of motivation factors in selected Western European countries. The three most important motivation factors influencing employees’ motivation in Austria (AT), Germany (DE), Portugal (PT) and United Kingdom (UK) were selected for a more detailed analysis by ANOVA and Tukey’s HSD test.

Table 1: Characteristics of sampling unit

<table>
<thead>
<tr>
<th>Country</th>
<th>Austria</th>
<th>Germany</th>
<th>Portugal</th>
<th>United Kingdom</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>202</td>
<td>148</td>
<td>81</td>
<td>142</td>
<td>63</td>
</tr>
<tr>
<td>Female</td>
<td>132</td>
<td>202</td>
<td>140</td>
<td>83</td>
<td>37</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 30 years</td>
<td>64</td>
<td>214</td>
<td>113</td>
<td>23</td>
<td>44</td>
</tr>
<tr>
<td>31-40 years</td>
<td>99</td>
<td>79</td>
<td>56</td>
<td>51</td>
<td>68</td>
</tr>
<tr>
<td>41-50 years</td>
<td>93</td>
<td>30</td>
<td>25</td>
<td>23</td>
<td>75</td>
</tr>
<tr>
<td>51 years and more</td>
<td>78</td>
<td>27</td>
<td>1</td>
<td>15</td>
<td>38</td>
</tr>
<tr>
<td>Completed education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>11</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Lower secondary</td>
<td>110</td>
<td>170</td>
<td>133</td>
<td>31</td>
<td>54</td>
</tr>
<tr>
<td>Upper secondary</td>
<td>161</td>
<td>127</td>
<td>107</td>
<td>143</td>
<td>59</td>
</tr>
<tr>
<td>Higher</td>
<td>52</td>
<td>49</td>
<td>14</td>
<td>31</td>
<td>14</td>
</tr>
<tr>
<td>Seniority</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>24</td>
<td>131</td>
<td>11</td>
<td>22</td>
<td>10</td>
</tr>
<tr>
<td>1-3 years</td>
<td>50</td>
<td>84</td>
<td>69</td>
<td>31</td>
<td>56</td>
</tr>
<tr>
<td>4-6 years</td>
<td>46</td>
<td>66</td>
<td>132</td>
<td>60</td>
<td>46</td>
</tr>
<tr>
<td>7-9 years</td>
<td>52</td>
<td>40</td>
<td>9</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>10 years and more</td>
<td>162</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>61</td>
</tr>
<tr>
<td>Work position</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manager</td>
<td>29</td>
<td>42</td>
<td>25</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Blue collar worker</td>
<td>231</td>
<td>293</td>
<td>180</td>
<td>168</td>
<td>75</td>
</tr>
<tr>
<td>White collar worker</td>
<td>74</td>
<td>15</td>
<td>16</td>
<td>7</td>
<td>37</td>
</tr>
</tbody>
</table>

Source: the authors.

3. Results

The order of importance of individual motivation factors in Western Europe (Austria, Germany, Portugal and United Kingdom) was examined on the sample of 1,130 respondents. Total of 10 motivation factors, ordered according to the degree of importance, are presented in Table 2.
Based on the results presented in Table 2, three motivation factors (atmosphere in the workplace, communication in the workplace and work environment) were placed in top five positions in all countries selected. These motivation factors were tested by descriptive statistics. The results are presented in Table 3 which presents the size of the sampling unit in each country, the average values, standard deviation and confidence interval.

Table 2: The order of importance of motivation factors in countries analysed

<table>
<thead>
<tr>
<th>Country</th>
<th>Austria</th>
<th>Germany</th>
<th>Portugal</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Atmosphere in the workplace</td>
<td>4.78</td>
<td>4.52</td>
<td>4.77</td>
<td>4.39</td>
</tr>
<tr>
<td>2. Communication in the workplace</td>
<td>4.65</td>
<td>4.33</td>
<td>4.76</td>
<td>4.27</td>
</tr>
<tr>
<td>3. Name of the company</td>
<td>4.57</td>
<td>4.24</td>
<td>4.75</td>
<td>4.21</td>
</tr>
<tr>
<td>4. Work environment</td>
<td>4.28</td>
<td>4.14</td>
<td>4.74</td>
<td>4.18</td>
</tr>
<tr>
<td>5. Opportunity to apply one’s own ability</td>
<td>4.19</td>
<td>4.08</td>
<td>4.29</td>
<td>4.17</td>
</tr>
<tr>
<td>6. Individual decision-making</td>
<td>4.13</td>
<td>3.67</td>
<td>4.25</td>
<td>4.16</td>
</tr>
<tr>
<td>7. Free time</td>
<td>4.11</td>
<td>3.66</td>
<td>4.24</td>
<td>4.11</td>
</tr>
<tr>
<td>8. Competences</td>
<td>4.04</td>
<td>3.65</td>
<td>4.20</td>
<td>4.07</td>
</tr>
<tr>
<td>9. Job security</td>
<td>3.98</td>
<td>3.64</td>
<td>4.19</td>
<td>4.06</td>
</tr>
<tr>
<td>10. Self-actualization</td>
<td>3.95</td>
<td>3.63</td>
<td>4.16</td>
<td>4.05</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3: Descriptive statistics

<table>
<thead>
<tr>
<th>Country / Indicator</th>
<th>Frequency</th>
<th>Average</th>
<th>Standard deviation</th>
<th>Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-95.00%</td>
</tr>
<tr>
<td>AT</td>
<td>Atmosphere in the workplace</td>
<td>334</td>
<td>4.78</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td>Communication in the workplace</td>
<td>334</td>
<td>4.65</td>
<td>0.79</td>
</tr>
<tr>
<td></td>
<td>Work environment</td>
<td>334</td>
<td>4.28</td>
<td>0.76</td>
</tr>
<tr>
<td>DE</td>
<td>Atmosphere in the workplace</td>
<td>350</td>
<td>4.52</td>
<td>0.62</td>
</tr>
<tr>
<td></td>
<td>Communication in the workplace</td>
<td>350</td>
<td>4.33</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>Work environment</td>
<td>350</td>
<td>4.24</td>
<td>0.73</td>
</tr>
<tr>
<td>PT</td>
<td>Atmosphere in the workplace</td>
<td>221</td>
<td>4.29</td>
<td>0.72</td>
</tr>
<tr>
<td></td>
<td>Communication in the workplace</td>
<td>221</td>
<td>4.77</td>
<td>0.43</td>
</tr>
<tr>
<td></td>
<td>Work environment</td>
<td>221</td>
<td>4.74</td>
<td>0.48</td>
</tr>
<tr>
<td>UK</td>
<td>Atmosphere in the workplace</td>
<td>225</td>
<td>4.27</td>
<td>0.90</td>
</tr>
<tr>
<td></td>
<td>Communication in the workplace</td>
<td>225</td>
<td>4.17</td>
<td>0.99</td>
</tr>
<tr>
<td></td>
<td>Work environment</td>
<td>225</td>
<td>4.21</td>
<td>0.91</td>
</tr>
</tbody>
</table>

Source: the authors.

Subsequently, three motivation factors placed at top positions in all countries surveyed were tested using Pivot tables and Tukey's HSD test.
Following the results of the research presented in Table 4, atmosphere in the workplace is very important motivation factor for up to 84.86% of employees from Germany. Total of 60.48% of employees from Austria consider the factor as very important. Atmosphere in the workplace as motivation factor was very important for 50.22% respondents from United Kingdom, and 44.34% from Portugal.

Table 4: Pivot table for motivation factor – atmosphere in the workplace

<table>
<thead>
<tr>
<th>Country</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute frequency</td>
<td>AT</td>
<td>0</td>
<td>4</td>
<td>22</td>
<td>106</td>
<td>202</td>
</tr>
<tr>
<td>Relative frequency</td>
<td>DE</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>39</td>
<td>297</td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>PT</td>
<td>0</td>
<td>0</td>
<td>34</td>
<td>89</td>
<td>98</td>
</tr>
<tr>
<td>Relative frequency</td>
<td>UK</td>
<td>4</td>
<td>3</td>
<td>35</td>
<td>70</td>
<td>113</td>
</tr>
<tr>
<td>Total</td>
<td>7</td>
<td>11</td>
<td>98</td>
<td>304</td>
<td>710</td>
<td>1130</td>
</tr>
</tbody>
</table>

Source: the authors.

The Tukey's HSD test (Table 5) at a significance level of 5% confirmed that the opinions of respondents from all countries survived on the motivation factor of atmosphere in the workplace are different, apart from Portugal and United Kingdom. Statistically significant differences in respondent's attitudes to motivation factor atmosphere in the workplace are highlighted in bold in Table 5 and graphically presented in Figure 1.

Table 5: Tukey's HSD test for motivation factor – atmosphere in the workplace

<table>
<thead>
<tr>
<th>Country</th>
<th>Differences are statistical significant when p &lt; .05000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>M=4.78</td>
</tr>
<tr>
<td>Austria</td>
<td>0.000</td>
</tr>
<tr>
<td>Germany</td>
<td>0.000</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: the authors.

The results of the second studied motivation factor (communication in the workplace) from the point of view of respondents from countries survived are presented in Table 6. In Portugal, the communication in the workplace was rated by almost 100% of respondents as an important or very important motivation factor. Only one respondent considered this motivation factor as neutral. Communication in the workplace was important, or very important for 85% of German and Austrian respondents. For 80% of employees from United Kingdom this motivation factor was important or very important.

Statistically significant differences in respondents' opinions on motivation factor communication in the workplace are highlighted in Table 7. There were no statistically significant differences between Austria and Portugal and between Germany and United Kingdom. For other relations, statistically significant differences were confirmed (Table 7, Figure 2).
Figure 1: Atmosphere in the workplace

![Graph showing atmosphere in the workplace across different countries]

Source: the authors.

Table 6: Pivot table for motivation factor – communication in the workplace

<table>
<thead>
<tr>
<th>Country</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolute freq</td>
<td>AT</td>
<td>2</td>
<td>3</td>
<td>46</td>
<td>116</td>
<td>167</td>
</tr>
<tr>
<td>Relative freq</td>
<td>0.60%</td>
<td>0.90%</td>
<td>13.77%</td>
<td>34.73%</td>
<td>50.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Absolute freq</td>
<td>DE</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>90</td>
<td>244</td>
</tr>
<tr>
<td>Relative freq</td>
<td>0.00%</td>
<td>0.00%</td>
<td>4.57%</td>
<td>25.71%</td>
<td>69.71%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Absolute freq</td>
<td>PT</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>48</td>
<td>172</td>
</tr>
<tr>
<td>Relative freq</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.45%</td>
<td>21.72%</td>
<td>77.83%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Absolute freq</td>
<td>UK</td>
<td>6</td>
<td>10</td>
<td>29</td>
<td>74</td>
<td>106</td>
</tr>
<tr>
<td>Relative freq</td>
<td>2.67%</td>
<td>4.44%</td>
<td>12.89%</td>
<td>32.89%</td>
<td>47.11%</td>
<td>100.00%</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>13</td>
<td>92</td>
<td>328</td>
<td>689</td>
<td>1130</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 7: Tukey's HSD test for motivation factor – communication in the workplace

Differences are statistical significant when p < .05000

<table>
<thead>
<tr>
<th>Country</th>
<th>Austria M=4.65</th>
<th>Germany M=4.33</th>
<th>Portugal M=4.77</th>
<th>United Kingdom M=4.17</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td></td>
<td></td>
<td>0.279</td>
<td>0.000</td>
</tr>
<tr>
<td>Germany</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>0.279</td>
<td>0.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.000</td>
<td>0.108</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.
Figure 2: Communication in the workplace

Employees from Portugal are influenced by work environment. More than 75% of Portugal respondents considered this factor as very important. In other countries (Austria, Germany, and United Kingdom), less than 50% of respondents identified work environment as very important motivation factor. Even in Austria, only 41.62% of respondents considered this factor as very important.

Table 8: Pivot table for motivation factor – work environment

<table>
<thead>
<tr>
<th>Country</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>AT</td>
<td>0</td>
<td>6</td>
<td>48</td>
<td>141</td>
<td>139</td>
<td>334</td>
</tr>
<tr>
<td>Relative frequency</td>
<td>0.00%</td>
<td>1.80%</td>
<td>14.37%</td>
<td>42.22%</td>
<td>41.62%</td>
<td>100.00%</td>
</tr>
<tr>
<td>DE</td>
<td>0</td>
<td>3</td>
<td>49</td>
<td>144</td>
<td>154</td>
<td>350</td>
</tr>
<tr>
<td>Relative frequency</td>
<td>0.00%</td>
<td>0.86%</td>
<td>14.00%</td>
<td>41.14%</td>
<td>44.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>PT</td>
<td>0</td>
<td>11</td>
<td>41</td>
<td>62</td>
<td>111</td>
<td>225</td>
</tr>
<tr>
<td>Relative frequency</td>
<td>0.00%</td>
<td>4.89%</td>
<td>18.22%</td>
<td>27.56%</td>
<td>49.33%</td>
<td>100.00%</td>
</tr>
<tr>
<td>UK</td>
<td>0</td>
<td>20</td>
<td>142</td>
<td>397</td>
<td>571</td>
<td>1130</td>
</tr>
<tr>
<td>Absolute frequency</td>
<td>0.00%</td>
<td>4.89%</td>
<td>18.22%</td>
<td>27.56%</td>
<td>49.33%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Source: the authors.

Statistically significant differences were confirmed between Austria and Portugal, between Germany and Portugal, between Portugal and United Kingdom (Table 9, Figure 3). No further statistically significant differences were confirmed.
Table 9: Tukey's HSD test for motivation factor – work environment

<table>
<thead>
<tr>
<th>Country</th>
<th>Differences are statistical significant when p &lt; .05000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Austria M=4.28</td>
</tr>
<tr>
<td>Austria</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0.850</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.000</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.751</td>
</tr>
</tbody>
</table>

Source: the authors.

Figure 3: Work environment

Source: the authors.

4. Discussion and conclusion

To achieve the company’s success in the current highly competitive environment, it requires to know the factors affecting the employees’ performance. In this context, employee motivation is considered to be one of the key determinants of employee performance. If employees are motivated, their initiative increases. Consequently, it leads to the effective achievement of business goals (Chiaburu and Carpenter, 2013). Based on the result of further research, due to higher productivity of motivated employees, the achievement of competitive advantage can be affected (Thaler et al., 2017).

Following the results of our research focused on comparison of employee motivation level in selected Western European countries, three motivation factors (atmosphere in the workplace, communication in the workplace, work environment) were placed at the top of the hierarchy. The respondents considered these motivation factors as the most important. Similar results are presented by research of Monster Meters (http://karriere-journal.monster.lu). Results show that good atmosphere in the workplace, job security, good supervisor’s
approach, work-life balance, the respect of colleagues, and supervisors were considered as important motivation factors by Austrian employees.

Creating of a motivation program is demanding and expensive activity for every business in each country. Its effectiveness is affected by a thorough and targeted analysis of employees. At present, it is very important for employers to ensure job security for their employees and to create trustworthy relationships between employees. It can be achieved by effective communication. The contribution of our research can be seen in the fact that statistically significant differences exist between individual motivation factors in spite of the high similarity of the importance of motivation factors in individual countries. Similar results were observed when analysing the V4 countries (Hitka et al., 2017). Based on our findings, we can conclude that specific motivation preferences are kept up by employees despite of the world economy globalization and the high similarity of motivation requirements of European Union employees.

Surprisingly, the outcomes of our research reveal, that the base salary was not considered as the most important motivation factor in any of the countries surveyed. On the other hand, according to Monster Meters (http://karriere-journal.monster.lu), base salary is the most important motivation factor for 39% of Austrian employees. Similarly, based on the research of Hondgesberg (2013) the importance is being placed on money in Germany, Italy, Japan, South Africa, and United Kingdom.

Statistically significant differences were confirmed in the preferences of motivation factors among employees within the individual countries surveyed. When analysing atmosphere in the workplace, according to Tukey's HSD test, there was no statistically significant difference between Portugal and United Kingdom, despite the difference observed when analysing the order of importance. Statistically significant differences were confirmed in comparison to other countries surveyed. Based on the results, we can conclude that atmosphere in the workplace is at a better level in Austria and Germany than in Portugal and United Kingdom. Despite the difference observed when analysing the order of importance, statistically significant differences were not confirmed between Austria and Portugal, between Germany and United Kingdom in communication in the workplace. When analysing work environment, Tukey's HSD test proved that, the opinions of Portuguese respondents were significantly different from other countries’ respondents. Therefore, we can conclude that the work environment is at the worse level in Portugal than in other countries surveyed. The reasons can be found in the geopolitical, cultural, social and economic differences of individual countries.

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References


THE NATIONAL TOURISM INFORMATION SYSTEM AND ITS USAGE IN THE MARKETING COMMUNICATION OF THE COUNTRY AS A TOURISM DESTINATION

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Abstract
The current highly competitive international tourism market requires countries to present themselves as unique destinations. Therefore an important role is played by their marketing communication. The aim of the paper is to examine Slovak national tourism information system, compare it with national tourism information systems of the Czech Republic and Switzerland and identify better possibilities for usage of Slovak national tourism information system in the marketing communication of the country as a tourism destination. The data necessary for the research are obtained from secondary sources. The secondary sources represent literature sources and databases provided by national tourism marketing organizations. We evaluate selected web portals on the basis of defined criteria in terms of their functional and informational properties. We compare selected functionality of the national tourism information systems. Based on the results of the survey, we find out that the Swiss national tourism information system was best rated; the second place won the Czech tourism information system and the Slovak tourism information system placed on the third position, which means there are possibilities for its further improvement, which we are dealing with in our article.

Key words
marketing communication in tourism, national tourism marketing organization, national tourism information system, web portal

JEL classification
L83, R11

1. Introduction

Tourism destination is defined as a territory, which is in the center of interest of a certain group of visitors - visitors as representatives of the tourism demand (Pompurová, 2013, p. 11). The country as a travel destination, respectively the target country is a separate, functionally homogeneous territorial unit which has the tourism potential, respectively is capable of providing the conditions for its development. Visitors define it in some way by their perception and choice of consumed services. Therefore on the tourism market it should act united.

Countries as travel destinations use macro marketing of tourism, which is funded from public sources, represents the public interest and interests of tourism organizations in the area of the country (Gúčík et al., 2011). Its important part is marketing communication.

The task of the marketing communication of the country is to attract, reach and motivate potential foreign visitors to visit the country, but at the same time it significantly influences the participation of the domestic population in tourism. Tourism is strongly dependent on the
marketing communication, especially because of its specifics and the specifics of provided services (McCabe, 2009). Various authors (Li, Robinson and Oriade, 2017; Rojas-Mendez and Hine, 2017) deal with the ways how to communicate in today's highly competitive world.

Countries as destinations are currently using electronic marketing communication (internet or online marketing). Under online marketing we understand any marketing activity which takes place online, using the internet. Every aspect of e-marketing is digital, all of its tools are usable in online form and are based on the traditional (offline) tools. Their big advantage is the ubiquity of computer systems and the availability of the internet has provided unhindered access to consumers of tourism services. Internet has transformed the tourism and hospitality industry and greatly impacted all its sectors. For instance, revenue from online travel bookings stood at $340 billion in 2015 (Ukpabi and Karjaluoto, 2016).

Among the basic ways how to use the internet in the destination marketing communication belong websites, e-mail communication, social media exposure, and mobile marketing. Particularly actual is the problematics of the integration of communication channels, tools, media and messages, especially because of the effort to build a positive image of tourism destinations (Maráková and Šimočková, 2015).

One of the online marketing communication tools of the country is the national tourism information system. This is a specially adjusted webpage of the country which serves to represent and promote the positive image of the country as a destination. National tourism information systems have a positive impact on the sustainability of tourism (Gossling, 2017).

Successful presentation of the country on the internet requires providing of the current and accurate information about the country, effective communication and a reliable relationships building mechanism. Wang and Russo (2007) identified in a study, which dealt with 268 asked convention centers within USA (willing to participate in the survey), functionalities which should be found on the website of the destinations. We ascertain that the results are also applicable at macro level. The survey results showed that for more than 80 % of its participants the following features are important: information about attractions, information about accommodation facilities, information about food and beverage facilities, calendar of events, information about shopping opportunities, links to regional/city/local websites, maps, information about travel agencies, trip/holiday planning, web search, email newsletters, interactive tools (such as apps, videos, pictures, etc.), online products booking, web page personalization according to visitor needs, virtual tours.

The national tourism information system serves as a complex communication tool combining several levels – from management through the promotion, in some cases even to the sale of tourism services. The main representative of country macro marketing is mostly a national tourism marketing organization, which is also responsible for the national information system of tourism. But in addition to the national tourism marketing organization, tourist information centers or sections of the tourism sector operating in the public sector may also participate in its creation (Fernández-Cavia and Castro, 2015). The Slovak Tourism Agency (hereinafter referred to as STA) was the holder of the marketing of Slovakia as the tourism destination till December 31st 2016. After the abandonment of the STA since January 01st 2017, the Ministry of Transport and Construction the Slovak Republic became its legal successor.
2. Research objective and material

The object of the article is tourism information system and the subject of the article research is the marketing communication of the country as a destination. The goal of the article is to examine the national tourism information system of Slovakia, to compare it with the national tourism information systems of selected countries and to identify possibilities of its better usage in marketing communication of the country as a destination.

In the survey we use secondary data which contain statistical information about the visit rate of the Slovak national tourism information system, operated on the website slovakia.travel and information from the website www.similarweb.com, which examines website visit rate and beyond other tools also uses Google Analytics.

The population consists of all national tourism information systems that are used by different countries of the world for their marketing communication. The research sample, which was created by the purposive sampling, consists of the national information systems of Slovakia, Czech Republic (www.czechtourism.com – the reason is because it is one of the main competitors of Slovakia on the international tourism market) and Switzerland (www.myswitzerland.com – the reason is because it is the leader in the tourism sector).

We examine the functional and informational characteristics of the compared national information systems on the basis of subjectively defined criteria. We determine the number of their language mutations, compare their information content, files that are available for downloading. We evaluate the news, information about the events, about the offer of tourism, the availability of the practical information (climate, weather, frequently asked questions, information about the representative of the national information system in the country, etc.), we evaluate the use of multimedia on the web portal (photo galleries, videos, virtual tours, web cameras, etc.), offer of maps, possibility of planning a transport route, direct booking of the tourism products, personalization of the web portal. We deal with the average length of portal visit rate, the number of seen subpages, and the bounce rate (the percentage of users who leave the portal after opening without viewing the subpages). We analyze the development of web portal visit rate over the time. From the theoretical methods of research we use analysis and synthesis, induction and deduction, comparison. By comparing national information systems, we are coming out from a study by Wang and Russ (2007, p. 29) who have identified the important functionalities of the destination websites. From the functionalities we select the ones which were considered in the survey as very important (see part 1 – introduction).

If the reviewed web portal contains the selected functionality, we assign one point to it. If the portal contains only a hypertext link to an external page with a given functionality, or contains partial characteristics of the functionality, we assign 0.5 point to it. If the portal does not contain functionality or even a link to external page with the functionality, we assign to it 0 points.

In the analysis of the content and functionalities of the researched portals, we are arising from the English version of the portals because of the reason of comparability (in any case it is not the official language of the country, but it is also the only global language, to which the most of the official texts and documents in all the surveyed countries are translated and we assume that it is the most similar content of the portals compared to the portals in language mutation of the official language of the surveyed countries).
3. Research results

**Slovakia.** The Slovak national tourism information system has a simple but impressive processing from the visual point of view. The largest content of the information and functionalities is available in the Slovak version of the portal, from the other language mutations (5) the best processed is the English version, while the information in the English version is comparable to the one in Slovak language. The Russian language version is dragged behind the update. Currently, the portal does not have a live chat application, neither the option to contact the web page administrators. The only existing contact is a link to the Ministry of Transport and Construction of the Slovak Republic. When analyzing the visit rate of the portal slovakia.travel, we use the data provided by STA (31.11.2016) and data published on the webpage www.similarweb.com. Table 1 shows the development of the visit rate of the webpage slovakia.travel in the years 2010 – 2016, except the year 2013, when a technical reorganization took place and the data is not available.

Table 1: Visit rate of the webpage slovakia.travel in the years 2010 – 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits</td>
<td>1,791,539</td>
<td>1,899,314</td>
<td>1,922,131</td>
<td>2,261,526</td>
<td>2,523,345</td>
<td>2,747,365</td>
</tr>
</tbody>
</table>

Source: the authors using data of STA from 2016.

The average length of the page visit was 01.18 minute. In average, the visitor looked through 2 subpages. The bounce rate is 68.80 %. Visitors of the web page are mainly from Slovakia (55.48 %), Poland (12.89 %), Hungary (9.83 %), the Czech Republic (5.25 %) and Germany (3.07 %). Up to 74.52 % of visitors of the web page come from search engines, 15.43 % enter the domain directly; 4.60 % by linking from another page; 4.16 % from the social networks; 1.18 % from the displayed advertisement and 0.11 % from the email links. Among the most visited portal subpages in the period from January 1st 2014 to October 26th 2016 belonged those from the category of the events.

**Czech Republic.** The internet portal is currently translated into 10 world languages (English version of the portal is primarily displayed), the Czech version is not available (referred to the September 22nd 2017), because the portal aims to reach out the foreign visitors. It does not contain a live chat application but visitors can use the contact form that is addressed to the operator of the site (national marketing organization Czech Tourism). Table 2 shows the development of the visit rate in the years 2014 - 2016 (data is available directly on the page), the number of pages viewed per visit, and the average length of the visit.

Table 2: Analysis and visit rate development of the webpage www.czechtourism.com in the years 2014 – 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Visit rate</th>
<th>Webpages seen</th>
<th>Average length of the visit (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>3,084,870</td>
<td>2,765,690</td>
<td>3,441,748</td>
</tr>
</tbody>
</table>

Source: the authors using the data from www.czechtourism.com from 2017.
The bounce rate was lower in comparison to the Slovak portal in 2016 (59.10%). Visitors come mainly from Poland, the Czech Republic, Germany, USA, Russia and Italy.

Switzerland. The internet portal is run by the national marketing organization Schweiz Tourismus. The portal is one of the most visited national portals presenting countries as destinations (Inversini et al., 2011). It is translated into 15 languages. The portal visitor can also use a live chat application which is available during business hours and days of the week. If a live chat is turned off, visitors can send a message to the administrator by leaving their own contacts. Table 3 shows the development of the visit rate in the years 2011 to 2016.

Table 3: Visit rate of the webpage www.myswitzerland.com in the years 2011 – 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of visits</td>
<td>24,868,565</td>
<td>25,689,889</td>
<td>25,054,758</td>
<td>26,747,512</td>
<td>27,267,241</td>
<td>22,167,104</td>
</tr>
</tbody>
</table>

Source: adopted from Schweiz Tourismus from 2016.

Visitors of the portal surveyed 3 subpages on average. They spent 2.57 minutes on the site on average. The average page exit rate was 54.64% over the researched period. Visitors of the portal are from Switzerland, Germany, Italy, France, USA and the United Kingdom. Up to 63.81% of the users come from search engines, 20.13% by direct domain name setting, 13.22% by the links from other sites, 1.80% from social networks, 0.60% from the clicks from displayed advertisements and 0.43% from the email links.

Comparison of the national information systems of Slovakia (SVK), Czech Republic (CZE) and Switzerland (SUI). When comparing the national information systems, we are coming out from the study by Wang and Russo (2007, p. 29) who have identified the functionalities of the websites of the destinations. From these functionalities, we have selected those, which according to destination website visitors have reached more than 80% in the assessment of the importance of their placement on the website. We have researched which functionalities contain the national information systems (1 point), respectively contain partially (0.5 point) or do not contain (0 points) (Table 4). Subsequently, we multiplied each awarded point by the percentage value of the importance of functionality and we calculated the points obtained, giving us the overall score of the surveyed portals after the recalculation.

Internet portals could reach a maximum of 13.53 points. The Swiss national tourism information system (www.myswitzerland.com) received the highest number of the points (11.45), which contained the largest number of compared functionalities. The second in rank was the Czech information system www.czechtourism.com, which gained 10.53 points and also contained almost all functionalities (except two of them). On the third place was a Slovak information system with a score of 7.42, which did not contain up to six rated functionalities.

Possibilities of better usage of the Slovak national tourism information system. The graphic form of the portal is impressive especially thanks to eye-catching pictures and videos. However, we have identified several options which can innovate and improve the offered content of the portal (Table 5).
Table 4: Evaluation of the functionalities of the national information systems

<table>
<thead>
<tr>
<th>Functionalities</th>
<th>Importance (In %)</th>
<th>Evaluation in points/Recounted evaluation in</th>
<th>SVK</th>
<th>CZE</th>
<th>SUI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information about attractions</td>
<td>99.6</td>
<td>1 / 1.00</td>
<td>1 / 1.00</td>
<td>1 / 1.00</td>
<td></td>
</tr>
<tr>
<td>Information about accommodation facilities</td>
<td>99.2</td>
<td>0.5 / 0.50</td>
<td>1 / 0.99</td>
<td>1 / 0.99</td>
<td></td>
</tr>
<tr>
<td>Information about food and beverage facilities</td>
<td>93.1</td>
<td>0 / 0.00</td>
<td>1 / 0.93</td>
<td>1 / 0.93</td>
<td></td>
</tr>
<tr>
<td>Calendar of events</td>
<td>98.5</td>
<td>1 / 0.99</td>
<td>1 / 0.99</td>
<td>1 / 0.99</td>
<td></td>
</tr>
<tr>
<td>Information about shopping opportunities</td>
<td>95.0</td>
<td>0 / 0.00</td>
<td>0.5 / 0.48</td>
<td>1 / 0.95</td>
<td></td>
</tr>
<tr>
<td>Links to regional/city/local websites</td>
<td>92.7</td>
<td>0.5 / 0.46</td>
<td>1 / 0.93</td>
<td>1 / 0.93</td>
<td></td>
</tr>
<tr>
<td>Maps</td>
<td>96.9</td>
<td>1 / 0.97</td>
<td>1 / 0.97</td>
<td>1 / 0.97</td>
<td></td>
</tr>
<tr>
<td>Information about travel agencies</td>
<td>90.4</td>
<td>1 / 0.90</td>
<td>0 / 0.00</td>
<td>0.5 / 0.45</td>
<td></td>
</tr>
<tr>
<td>Trip/holiday planning</td>
<td>84.2</td>
<td>0 / 0.00</td>
<td>0.5 / 0.42</td>
<td>0.5 / 042</td>
<td></td>
</tr>
<tr>
<td>Web search</td>
<td>89.6</td>
<td>1 / 0.90</td>
<td>1 / 0.90</td>
<td>1 / 0.90</td>
<td></td>
</tr>
<tr>
<td>Newsletters emails</td>
<td>87.3</td>
<td>1 / 0.87</td>
<td>1 / 0.87</td>
<td>1 / 0.87</td>
<td></td>
</tr>
<tr>
<td>Interactive tools (such as apps, videos, pictures, etc.)</td>
<td>84.2</td>
<td>1 / 0.84</td>
<td>1 / 0.84</td>
<td>1 / 0.84</td>
<td></td>
</tr>
<tr>
<td>Online products booking (accommodation, transportation, etc.)</td>
<td>81.9</td>
<td>0 / 0.00</td>
<td>1 / 0.82</td>
<td>1 / 0.82</td>
<td></td>
</tr>
<tr>
<td>Web page personalization according to visitor needs</td>
<td>81.2</td>
<td>0 / 0.00</td>
<td>0.5 / 0.41</td>
<td>0 / 0.00</td>
<td></td>
</tr>
<tr>
<td>Virtual tours</td>
<td>79.2</td>
<td>0 / 0.00</td>
<td>0 / 0.00</td>
<td>0.5 / 0.40</td>
<td></td>
</tr>
<tr>
<td><strong>Total evaluation in points after recounting</strong></td>
<td><strong>7.42</strong></td>
<td><strong>10.53</strong></td>
<td><strong>11.45</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Table 5: Possibilities for better usage of existing information content and functionalities of the web portal slovakia.travel and new functionalities suggestion

<table>
<thead>
<tr>
<th>Functionalities</th>
<th>Suggestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Language mutations (F) a portal sections (S)</td>
<td>Supplementing and expanding the content of existing language mutations</td>
</tr>
<tr>
<td></td>
<td>Creation of other language mutations (French and Italian)</td>
</tr>
<tr>
<td></td>
<td>Differentiating the information offer according to the selected language</td>
</tr>
<tr>
<td>Hypertext references (F)</td>
<td>Checking and updating existing ones</td>
</tr>
<tr>
<td></td>
<td>The occurrence of the same references in all linguistic mutations</td>
</tr>
<tr>
<td></td>
<td>Link to the same language version (or English version) of the external page as the chosen language slovakia.travel</td>
</tr>
<tr>
<td>Where to go (S)</td>
<td>Add information about current events, accommodation and hospitality facilities, tourism regions</td>
</tr>
<tr>
<td>What to see and do (S)</td>
<td>Add maps to webpages showing sitelinks to subpages of attractions and activities</td>
</tr>
<tr>
<td></td>
<td>Add virtual tour application to the subpage of the sights</td>
</tr>
<tr>
<td>About Slovakia (S)</td>
<td>Completing the linking of the country facts to the subpage Video Language Course for Foreigners to all language versions of the portal</td>
</tr>
<tr>
<td>Events (S)</td>
<td>Extend the range of the events on foreign language versions of the portal</td>
</tr>
<tr>
<td></td>
<td>Calendar of the events and top events - removing duplicates of records and selecting records</td>
</tr>
<tr>
<td></td>
<td>Adding the functionality of buying tickets for events</td>
</tr>
<tr>
<td>Useful information (S)</td>
<td>Transport - correction of the hyperlink to the external page <a href="http://www.cp.atlas.sk">www.cp.atlas.sk</a> from foreign language versions of the portal</td>
</tr>
<tr>
<td></td>
<td>Map - Correction of shortcuts on the portal homepage in foreign language versions of the portal Brochures - Extend brochure offer and simplify access to brochures downloads</td>
</tr>
<tr>
<td></td>
<td>Online guides - Creating language mutations of online guide and simplifying guide viewing</td>
</tr>
<tr>
<td>News (S)</td>
<td>Publishing articles in foreign language versions</td>
</tr>
<tr>
<td></td>
<td>Updating news at least once a week</td>
</tr>
<tr>
<td>Information about actual weather (F)</td>
<td>Creating an app placed on the portal subpage or creating a separate subcategory with current weather information</td>
</tr>
</tbody>
</table>

Source: the authors.
Based on the national web portals comparison we suggest creation and placement of new functionalities on the Slovak web portal (table 6).

Table 6: Suggestion of the new functionalities of the web portal slovakia.travel

<table>
<thead>
<tr>
<th>System of services booking</th>
<th>Creation of a database of accommodation services in the system of booking services</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Making a reservation system available for the accommodation providers</td>
</tr>
<tr>
<td></td>
<td>Expanding and completing the information in the services booking system (for example location, attractions, hospitality facilities, recommendations, etc.)</td>
</tr>
<tr>
<td></td>
<td>Extension of the system on booking tickets for events</td>
</tr>
<tr>
<td></td>
<td>Extension of the system on booking transportation tickets</td>
</tr>
<tr>
<td></td>
<td>Creating a system of complex services booking</td>
</tr>
<tr>
<td>Live chat application</td>
<td>Creating an application allowing you to leave a message</td>
</tr>
<tr>
<td></td>
<td>Graphic processing of live chat application</td>
</tr>
<tr>
<td></td>
<td>Identifying a responsible employee who speaks at least one foreign language</td>
</tr>
<tr>
<td></td>
<td>Setting live chat operation hours</td>
</tr>
<tr>
<td>Subpage with the trip tips</td>
<td>Making recommendations for trips with information about the location, attractions, hospitality and accommodation facilities</td>
</tr>
<tr>
<td></td>
<td>Hyperlinks to webpages of attractions and hospitality and accommodation facilities</td>
</tr>
<tr>
<td></td>
<td>Add functionality of visitor review</td>
</tr>
<tr>
<td></td>
<td>Adding information about the current weather in the trip location</td>
</tr>
<tr>
<td>Application with a possibility of own video creation</td>
<td>Creation of application subpage with the ability to upload your own photos and videos, their organizing, adding description, and selecting a song for the video you’ve created</td>
</tr>
<tr>
<td></td>
<td>Allow downloading video, sending it to e-mail, and sharing on the social networks</td>
</tr>
<tr>
<td>Subpage with visitors reviews and photos</td>
<td>Creating a section with visitors’ posts on the subpages of the tourism regions</td>
</tr>
<tr>
<td></td>
<td>Creating a subpage for publishing and sharing photos, experiences and visitors feedback</td>
</tr>
<tr>
<td></td>
<td>Publishing visitors posts from social networks</td>
</tr>
<tr>
<td>Subpage with the advices for visitors</td>
<td>Completing the content of the subcategory The Best of Slovakia for choosing the best events, attractions and activities, accommodation and hospitality facilities</td>
</tr>
<tr>
<td></td>
<td>Linking to the portal subpage about selected events, attractions and activities, accommodation and hospitality facilities, or creation of new subpages</td>
</tr>
</tbody>
</table>

Source: the authors.

Conclusion

The aim of the article was to examine the national tourism information system of Slovakia, compare it with the national tourism information systems of Czech Republic and Switzerland and identify the possibilities of its better usage in the marketing communication of the country as a destination. We reviewed the content and evaluated the functionalities of the selected portals, which we have compared according to the established criteria based on the creation of an evaluation system based on the study by Wang and Russo (2007, p. 29). The Swiss national tourism information system received the best rating, the second ranked was the Czech national information system and the third was the Slovak national tourism information system. It means there is still room for its improvement. Innovations in the future should be related to the addition of its information content and with new functionalities we are dealing with in this article. Its purpose should be to provide comprehensive information to current and potential foreign and domestic visitors that will motivate them to travel to Slovakia, while allowing them to carefully plan their visit, or use the portal even during travel, and to simplify the usage of the services in the tourism destinations. If Slovakia wants to be a successful
country on a highly competitive tourism market, it is important for it to demonstrate the uniqueness of our country as a destination through its marketing communication.

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References


THE IMPACT OF CSR CONCEPT IMPLEMENTATION ON ORGANIZATIONAL PERFORMANCE

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Abstract
In the context of economic development, social and political changes and the demands of stakeholders on business performance it becomes an urgent requirement for the application of corporate social responsibility. The application of the concept of corporate social responsibility in various areas of services (including the provision of health care) can provide enterprises growing competition in the market. Competitive organizations must investigate and find new tools, methods and technologies that have a positive impact on their development. The paper deals with the implementation of corporate social responsibility as a tool for improving the performance of special small and medium-sized organizations - health care services providers. It presents the results of research aimed at the implementation of the corporate social responsibility concept on business performance. The scientific objective of this paper is to analyse the application of corporate social responsibility and its impact on corporate performance in the sample of Slovak enterprises oriented on health care providers. Expected benefits of the paper is to identify the potential relations between the performance and the application of corporate social responsibility.

Key words
corporate performance (CP), corporate social responsibility (CSR) concept, health care services providers, CSR concept implementation, impact of CSR on CP

JEL classification
I12, M13, M14

1. Introduction
The paper deals with the issue of socially responsible entrepreneurship in the context of performance improvement in healthcare facilities. The aim of the paper is, based on the analysis carried out on the sample of those organizations, to find out whether the implementation of the social responsible entrepreneurship concept affects their financial performance. In our opinion, the sphere of healthcare providers is one of the most striking for the application of individual pillars of socially responsible entrepreneurship.

The issue of socially responsible entrepreneurship becomes a challenge not only for traditional profit-oriented small and medium-sized enterprises but also for healthcare facilities (Kolcúnová, 2012). According to Bussard et al. (2005, p. 34) “small and medium-sized enterprises are in a much more intense, often personal contact with people´s problems”. This is fully true for healthcare facilities that are of a different legal nature (non-profit organizations, limited liability companies, joint-stock companies).
2. Implementation of socially responsible entrepreneurship and its impact on performance of an organization

2.1 Theoretical background

The socially responsible entrepreneurship implementation is a certain form of investment in business development. Socially responsible investment has conditioned the emergence of different models for the evaluation of socially responsible entrepreneurship. As stated by Delmans et al. (2013), an increasing number of research has contributed to the identification of the impact of socially responsible entrepreneurship on financial performance. These authors focused on assessing the impact of particular areas of socially responsible entrepreneurship on financial performance of an organization in terms of the investments made to implement individual pillars of social responsibility. Their research has however shown that it is not possible to clearly demonstrate the return on investment in socially responsible entrepreneurship, since business profitability is influenced by a number of factors independent on socially responsible entrepreneurship. The Lu et al. (2013)´s study says that investments in social responsibility of American semiconductor companies have a positive impact on their performance. But they should pay more attention to the quantification of individual areas of socially responsible entrepreneurship in order to demonstrate its direct impact on the enterprise.

Interesting is an Orlitzky (2013)´s view, who found that false business information on socially responsible entrepreneurship could have a detrimental effect on equity markets for two main reasons. The first is that socially responsible entrepreneurship is not systematically correlated with economic fundamentals of enterprises. Second, some managers are motivated to provide misleading economic information about socially responsible entrepreneurship to market participants. Or, there are also reasons that make it difficult for market participants to interpret information about socially responsible entrepreneurship correctly. This may lead, for example, to the increase of the market valuation of enterprises that are socially responsible, which may not reflect reality. This fact, found by Orlitzky, is mainly due to the personal attitude of managers. As Homburg et el. (2013) found, the actual or only formal application of socially responsible entrepreneurship would be revealed over time.

Siwaporn et al. (2013) examined relations between CSR and the following areas: employees’ awareness of CSR, the competitive business focus, company’s responsibility for meeting social requirements, company’s image, supplier-consumer relations, customer’s loyalty to the product, company’s values. They conducted their research in the field of hotel management. The results of the empirical study of these authors have shown that socially responsible entrepreneurship has a positive impact on company’s image, business network relationship, loyalty to service and company’s value. The CSR communication has a positive relation between socially responsible entrepreneurship and company’s image and supplier-consumer relations in a business network. In their research, they identified influences and relationships between all the above-mentioned variables. Their fundamental result for the needs of our research is the identification of the impact between socially responsible entrepreneurship and company’s image, as also demonstrated by Mishra and Mohanty (2013).

The link between CSR and factors affecting the sustainability and profitability of an enterprise have been evaluated by several authors (e.g., Lu et al., 2013; Aßländer, 2012; Mason, 2014; Chin et al., 2013; Cheng et al., 2014). They were also addressed by Manisara (2013), who examined the implications of the four dimensions of CSR in enterprise
sustainability through (1) an impact assessment of stakeholders on company´s performance, (2) employee satisfaction, (3) company’s reputation, and (4) applied company’s benefits. According to these authors, CSR consists of corporate citizenship, ethical awareness, social cohesion and eco-friendly products that are a part of the corporate strategy for achieving greater profit and enterprise success. Jaďuďová et al. (2015) also examined the relations between performance and stakeholders.

Bieliková (2014), in the context of the CSR impact research on enterprise performance, states that “empirical studies examining the impact of the CSR principles introduction can be broadly divided into two types in terms of time.

The first type uses a methodology that examines the short-term effect in the form of abnormal returns at a time when a company is identified as being socially responsible or irresponsible.

The second type takes into account the long-term financial performance that is measured in particular by profitability or market indicators when examining the relationship between financial and “social” performance. The initial research in the field is focused on the application of the correlation analysis. Subsequently, the authors seek to identify the relationships by the regression analysis using different financial and social performance indicators.

According to the above author, the results of the aforementioned research have shown that measuring the CSR impact on financial performance through the ROA indicator shows a statistically negative effect, but that one through the ROE indicator is statistically significant positive.

2.2 Analysis of the relationship between the CSR concept implementation and organizational performance by means of the questionnaire survey

The outputs of this part of the research represent partial results of the survey carried out in a sample of 159 healthcare organizations independent of the size of an organization. The identified outcomes present the state of the examined issue in health care facilities in Slovakia.

We carried out the empirical research into the implementation of the selected CSR pillars in February to March 2015. The main objective of the empirical research was to analyse the application of CSR and identify its impact on improving performance of these organizations. The questionnaire contained three identification and eight expert questions:
1. Do you have an established CSR concept?
2. If you have the established CSR concept, how many years have you applied it?
3. Which CSR pillar (area) do you apply?
4. Specify which activities you perform within the marked pillar/pillars.
5. Do you apply the CSR concept in accordance with the standard ISO 26000 Guidance on social responsibility?
6. Please, compare your company’s earnings before tax reached in the year prior to the introduction of CSR with current earnings. How many per cent has it decreased or increased?
7. Does the introduction of the CSR concept have a direct impact on company’s performance expressed as pre-tax profits?
8. Supplementary comments and suggestions on the CSR application.
512 organizations were addressed, 159 of them responded. Graph 1 quantifies the number of organizations that really participated in the research in absolute terms according to their size.

Graph 1: Representation of organizations in the sample by numbers

![Graph](image)

Source: the authors.

Graph 2 illustrates the percentage of companies participating in the research by size distribution. The answers to the first question related to the implementation of the CSR concept show that only 4 out of 16 micro-enterprises (25 per cent), 11 out of 174 small organizations (14.86 per cent), 9 out of 46 medium-sized ones (13.04 per cent) and 12 out of 23 large organizations (52.17 per cent) apply the CSR concept. The CSR concept application accounts 22.64 per cent of the total sample of organizations surveyed. The results are shown in Graph 3. The results reflect that the rate of the CSR implementation does not rise with the size of the organization.

Although the difference between small and medium-sized organizations is not so significant, in the case of micro-organizations the percentage of the CSR implementation is higher. It may be attributed to the fact that micro-organizations have also marked the CSR application even if they only applied some of the CSR pillars.

The question of the CSR implementation was complemented by the question „If you have introduced the CSR concept, how many years have you implemented it?”. However, not all respondents answered it. Of the total number of enterprises that responded positively, only 27 reported the relevant time. The responses show that 10 organizations have implemented the CSR concept for more than 5 years, 12 of them have been applying it for more than 3 years and 5 organizations have applied it for less than 3 years.
Graph 2: Percentage representation of organizations in the sample

![Graph showing percentage representation of organizations]

Source: the authors.

Graph 3: CSR implementation in organizations by numbers

![Bar chart showing CSR implementation by organization size]

Source: the authors.

Through the research, we wanted to verify whether organizations implement the CSR concept in all areas of their activity (they are referred to as CSR pillars; they include social, economic, environmental and legislative pillars), or only some of them. Table 1 shows the results of the implementation of the selected CSR pillars by organization size.
Table 1: Use of CSR pillars by organizations (in numbers of organization)

<table>
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<tr>
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<tbody>
<tr>
<td>Social pillar</td>
<td>12</td>
<td>61</td>
<td>42</td>
<td>22</td>
</tr>
<tr>
<td>Economic pillar</td>
<td>5</td>
<td>41</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>Environmental pillar</td>
<td>12</td>
<td>60</td>
<td>44</td>
<td>22</td>
</tr>
<tr>
<td>Legislative pillar</td>
<td>15</td>
<td>71</td>
<td>45</td>
<td>23</td>
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</tbody>
</table>

Source: the authors.

As can be seen in Table 1, there are differences in the level of the implementation of the selected pillars of social responsibility. In Graph 4 we present the results of the application of the CSR particular pillars for the whole sample of organizations applying CSR in absolute terms. Organizations most apply the legislative pillar (96.75 per cent of organizations), then they use the social pillar activities (87 per cent) and activities included in the environmental pillar (86.75 per cent). At least they use the activities included in the economic pillar, which, in our opinion, is naturally related to the focus of these organizations (provision of health services).

In the context of the application of the particular CSR pillars, we also asked the respondents to “Specify which activities you perform within the marked pillar/pillars”. The respondents most frequently stated that the current labour legislation obliges them to apply the principles of the social pillar of CSR, in particular to conclude collective agreements, comply with occupational safety and health regulations, but there were also responses in regard to the transparent recruitment process and one answer also concerned management of career development of staff. As part of the environmental pillar implementation, respondents mainly reported activities related to education and training in the environmental area. However, responses have also emerged that the facility’s activities are related to emergency preparedness as well as environmental management of suppliers in this regard. Respondents also mentioned activities to ensure the protection of their clients’ personal data but also that of their employees, to provide feedback to clients (or patients), and rigorous application of the public procurement.

The concept implementation in accordance with the standard ISO 26000 was determined only by a set of organizations that use it (22.64 per cent of the whole sample). The results show that only 6.29 per cent of organizations implement this concept according to ISO 26000. This can be attributed to the fact that many organizations began implementing of the CSR concept before the introduction of the ISO 26000 standard.

The key responses for our research were the responses to the impact of the CSR implementation on performance of these organizations, expressed in an aggregate profit indicator. We have selected the profit indicator as an aggregate indicator of financial performance because of the effect of many sub-factors affecting the revenues and costs that result in the profit indicator. Another reason for choosing this indicator was the fact that, while profit is a measure readily available in accounting, other relevant indicators would be less readily available for respondents surveyed. This fact could discourage potential respondents from completing the questionnaire, thereby reducing the research sample.

We assumed that the CSR concept implementation did not have a direct impact on performance of a healthcare organization. Most managers (88.68 per cent) said that the CSR introduction did not have a direct impact on organization performance, expressed through an
aggregate pre-tax profit indicator. The opposite opinion was presented by 11.32 per cent of managers (they believe that the CSR concept implementation affects business performance).

Graph 4: Use of CSR pillars by organizations (in numbers of organization)

On the basis of the values of the variables X (the CSR concept implementation over certain years) and Y (the change of pre-tax profit before and after the introduction of the CSR concept), we calculated the correlation coefficients for particular size categories of organizations. The dependence between the length of the CSR implementation period and the increase or decrease of the pre-tax profit was in the group of micro-organizations at the level of 0.11, in the group of small organizations 0.14, in the group of medium-sized organizations 0.01 and for large organizations it was even at -0.06. For the entire sample of organizations that employ socially responsible business or its selected pillars (social, economic, environmental, legislative one), the correlation coefficient was 0.08. Based on this result, we can say that the CSR implementation does not have a direct impact on organization performance since the achieved value of the coefficient is close enough to zero.

Opinions on whether the CSR concept implementation effects organization performance were identified not only through the questionnaire research but also through a personal interview with three managers of the selected healthcare organizations.

2.3 Results of personal interviews with top managers of selected healthcare facilities on the subject

Given that the results of the questionnaire survey confirmed that the CSR concept application only had an indirect impact on organization performance, we found out how the top managers of three selected healthcare facilities in Slovakia had perceived it. In the paper, we refer to them as the A, B, and C managers.
The manager A thinks that this is not the most important factor, because constantly changing conditions in terms of the way in which healthcare is financed, despite the implemented CSR pillars, will not cause the healthcare facility to start to prosper excellently. The impact of CSR on the organization’s performance, in his view, cannot be quantified and measured in practice. It can only be defined and described. The manager B said that “CSR had an impact on performance of a healthcare facility, but it was not measurable, it could only be described”. The manager C said: “Today we consider CSR to be conceptually promising because of the sustainable development of the medical facility, as an effort to have a responsible business management´s relationship to their own future or an expansion of the business in the healthcare business. The CSR impact is measurable and quantifiable from his perspective – a case in point is “Svet zdravia, a.s.” The cheapest, the finest and the fastest, but the patient is only later”.

To the question, whether some of the CSR pillars (economic, social, environmental one) has a direct and quantifiable impact on performance of a healthcare facility and, if so, which one is the most important in this respect, we obtained the following answers. The manager A thinks that “only the economic health of a healthcare facility can be quantified. The social pillar is a very important factor that mainly affects employees´ performance, but it is not measurable from his point of view. A good working team stimulates better performance, proactive management encourages a pleasant workplace atmosphere, motivated employees are willing to work more and able to innovate the work processes”. The manager C thinks that “the most important pillars are economic and social ones, as experience has shown that the work atmosphere factor and team have a significant impact on performance of the facility – team work – leadership, which can influence collective thinking”. Similarly, the manager B said that it was an economic pillar that can be quantified as a factor influencing performance of the facility.

All three managers also addressed the issue of the socially responsible entrepreneurship implementation in their facilities. “At present, we do not plan to implement the CSR elements beyond the common organizational rules and standards. Due to the DRG system introduction, there is no room for the CSR implementation”, the manager C said. The manager A explained the situation in the following way: “Our medical facility is constantly trying to implement the CSR elements, but low awareness and promotion of the CSR issues lead to a reluctant attitude of employees. Changes in the working conditions are difficult to overcome. We also come across reluctance or even rejection of changes until employees understand what CSR actually means”. Any optimistic opinion was not presented by the manager B, who stated that the main problem disabling the CSR implementation in his healthcare facility was the lack of sources of finance and demotivation of employees.

3. Conclusion

Babišová et al. (2014, p. 101) describes the issues studied in a similar way as the managers mentioned above: “We are aware that the CSR concept cannot be accepted without reservation. Many companies are afraid to accept something new. In the society, an opinion should prevail that being responsible is a certain value. Compliance with the CSR principles should not reduce economic success, as many organizations think, but on the contrary, it should be a competitive advantage”. The author adds that, despite the relatively large number of studies, there is no clear result of the nature of the CSR´s link with business performance.
The results of our research have shown that the particular CSR pillars and principles apply to the conditions of selected healthcare organizations, however, not by the implementation of the comprehensive ISO 26000 standard but rather by respecting legislation and internal directives. Based on the questionnaire research as well as personal interviews with managers of selected organizations, we can conclude that there is no direct relationship between business performance and the introduction of the concept of corporate social responsibility. In our further research, we were more deeply focused on the impact of the CSR concept implementation on financial and non-financial performance of the organization. We examined the impact of the CSR concept implementation on financial performance not only through the profit indicator but also by means of several profitability ratios (ROE, ROA, ROCE, ROS, and ROC). We examined the impact on non-financial performance through the number of completed hospital admissions, average percentage of beds occupancy, nosocomial infections, percentage of settled complaints out of all written complaints, average score of patient satisfaction and number of released patients on their own request. It was confirmed that there are closer relationships between the CSR concept implementation and non-financial performance of the organization.

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References


LABOUR MOBILITY IN HOUSEHOLD DECISION-MAKING ON TIME ALLOCATION

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Abstract
Households across the globe daily decide about the time allocation between paid work, unpaid work (childcare, cleaning, shopping, etc.) and leisure time. There is a very close link between satisfaction levels and the distribution of time to various activities. Participation in paid work does not only include time spent at the workplace, but often also time spent commuting. Thus, labour mobility is important in terms of time allocation in households in the context of work-life balance. At the same time, it is one of the key factors affecting labour supply flexibility, which is being put under increasing pressure from labour market needs. The aim of the scientific state is to approximate the theoretical basis of labour mobility and its impact on the allocation of time in households. Article was based on the primary examination and original findings within the project VEGA 1/0621/17 “Decision-making Process of Slovak Households about Allocation of Time for Paid and Unpaid Work and Household Strategies’ Impact on Selected Areas of the Economic Practice”.

Key words
paid work, labour market, travel-to-work, time allocation, work-life balance

JEL classification
J21, J22, R23

1. Introduction
Every person has to face many decisions a day, which can be elementary in nature and are related to routine activities or are more serious and can significantly affect the life of the individual as well as the whole household. One of such fundamental decisions is the choice of time allocation, which is always subjective and results from the personal preferences of the individual or household. Households across the globe daily divide their time between paid work, unpaid work (childcare, cleaning, shopping, etc.) and leisure time. In addition, they spend a lot of time moving, for example, from home to work, to school, to family and friends, for sports and shopping, for holidays, etc. Such mobility requires “wasting” time that could be spent in a different way. Thus, we can say that any mobility in this consideration is associated with the opportunity costs, which should be as low as possible in terms of the rationality of the individual's decision and with the limited amount of time. On the other hand, it is desirable and in many cases necessary for a person to pass a certain distance and allocate some time to move.

The analysis of the patterns of human mobility has received increasing attention in the last decade, given the availability of massive digital traces of human movements and its importance in domains such as urban planning, sustainability, transportation engineering, public health, and economic forecasting (Pappalardo et al., 2016).
In general, we distinguish spatial and occupational mobility on the labour market. While spatial mobility is related to getting employees to work, structural mobility reflects the ability of the workforce to shift jobs between departments, or to adapt to new jobs and qualifications. Even spatial and structural mobility is linked to labor supply flexibility, which should be an incentive for a properly implemented active labour market policy that governments generally apply. It is clear that labour markets in the various economies are about the same problems, but it is also important to realize that individuals and enterprises that are the main subjects of the labor market behave differently, which is understandable with regard to the specifics of each country. Only a deeper understanding of what and how affects the decision-making processes of labour market entities can be brought closer and further contribute to clarifying how the labour market works today.

Many European countries are characterized by high regional disparities in terms of unemployment rates. For instance, the European Commission (Eurostat) reports regional unemployment rates for Germany ranging from 2.7 % to 10.8 % and for France ranging from 7.1 % to 15.6 % in 2012, while the Southern European countries face even higher disparities ranging between 4.1 % and 19.3 % in Italy and 15.6 % and 34.4 % in Spain. In Slovakia unemployment rate ranging from 5.7 % to 16.6 % in 2015 (Datacube).

„Besides differences in real wages and labour productivity across regions, regional disparities in unemployment rates can be explained, in particular, by regional labor market tightness and a mismatch of vacancies and skills on regional level. Although these regional disparities exist, geographical labour mobility in European countries is relatively low compared to the US, Canada and Australia“ (Calindo et al., 2017, p. 136).

In the article we focus on the labour mobility which is more closely understood as a travel-to-work willingness, depending on the length of travel expressed in minutes, respectively in hours and its impact on time allocation of households. It is obvious, that time spent by travel-to-work affects how households organize their day-to-day activities.

Some studies are concerned with measuring commuting behavior by distance. However, it is clear that the same distance can be traveled more slowly or faster depending on the mode of transport, infrastructure, traffic situation, etc. Therefore, we believe that the time-based approach to commuting is more objective.

Such a narrowly defined mobility concerns more or less nearly any economically active individual. Therefore, clarification and, above all, the understanding of individuals' decision-making on mobility (travel-to-work) in different contexts should be helped in the creation of a public policy regulating the labour market, housing development and infrastructure and other areas.

2. Mobility in the context of labour market

Economic theory is able to provide a number of conclusions using the models, by what mechanisms the labour market is in balance. The empirical results reflect the real situation in the field of mobility, with a mutual confrontation of economic models and empirical research. It is clear that the individual labour markets do not work according to the prerequisites of neoclassical economics, they are not "perfect", but they are characterized by a low degree of flexibility as a supply, as well as a demand for labour, which actually leads to inequalities also in the partial labour markets.

Regional differences in the labour market in Slovakia stem from a number of factors such as, for example, location of the territory, hard and soft infrastructure, availability of services,
concentration of institutions and others, which are growing demands on demand, as well as job offers. Labour market flexibility is seen as a key factor not only in the competitiveness of the country but also within its regions. One of the essential components of labour market flexibility is labour mobility (Eamets and Jaakson, 2014).

Many models of labour mobility at national and international level are presented in the literature. Many of them describe international migration versus internal (national) migration or interregional migration in Europe or elsewhere in the world. Methods and techniques used to analyze and investigate labour mobility include (Bălan et al., 2013): the Markov chains method, the Harris-Todaro model with its variants and extensions, gravity model, models for the study of the economic impact of labour mobility in enlarged Europe, models for the study of researches mobility, models for the study of labour mobility through wage flexibility, models to characterize the impact of labour mobility on macroeconomic indicators.

From a theoretical point of view, there is no clear answer to the question of whether labour mobility reduces regional inequalities in the labour market. According to traditional neoclassical models, migration should reduce regional differences. Dominating the impact of labour mobility on labour supply contributes to the convergence of labour market conditions. According to the traditional approach, therefore, there are no significant impacts on labour demand. As stated by Niebuhr et al. (2009), more recent theories suggest that job mobility strengthens the differences in regional employment, respectively unemployment and wages. In the relevant models, the impact of mobility is not limited to job offer, but is based on the impact on labour demand. According to some models of economic geography (Südekum, 2005) migration can, due to external effects, lead to widening of differences in regional labor markets. Workers move to regions with low unemployment and high wages. Thus, labour market conditions in these prosperous regions further improve, while in the regions of origin the situation does not change.

The mobility and its determinants, as well as penetration in relation to the labour market at national or regional level and related implications for economic practice, are in the centre of attention in a number of studies.

Normally, in labour mobility and its determinants research, the basic demographic and economic characteristics of respondents are taken into account, which helps to generalize knowledge and draw more concrete conclusions. Handy et al. (2005) confirm the indirect dependence between the age of respondents and the length of commuting to and from work. Other studies, e.g. Manaugh et al. (2010) do not confirm the uniqueness of causality between age and labour mobility. These conflicting conclusions are attributed, in particular, to the diversity of the historical-cultural dances of the countries under consideration, as well as to the different lifestyles of the people in these countries, which are subject to constant change. Decision making on labour mobility is clearly influenced by subjective (psychological) factors of individuals as confirmed by Fujita and Diener (2005).

Another determinant that significantly influences labour mobility is the level of education of respondents. High flexibility and labour mobility for highly educated respondents, who are often times also financially independent, confirm in their study Kahikara and Sorensen (2004). Frenkel et al. (2013) conclude that localization of the territory and its facilities impact on the decision-making of more educated individuals as a result of mobility on the labour market, more than socio-economic determinants.

Uramová et al. (2016) deal with selected contexts in the sphere of labour mobility especially in the economy of Slovakia. They examine it from the point of view of gender
differences and confirm the fact that higher mobility in terms of time spent by travel-to-work is monitored by men. Frändberg and Vilhelmson (2011), who studied labour mobility in Sweden, also came to the similar conclusions in the case of gender differences. They note the fact that in the 21st century there is a reduction in the time spent by travel-to-work for men, mainly due to infrastructure modernization and the overall change in the use of transport. Research shows that among all groups of respondents, the willingness of men is greatest in overcoming the daily travel-to-work distance, which is also likely to be related to the higher number of hours, spent on paid employment. These findings are comparable to the results of the study of the labour mobility of women who are single (Bäckström and Sandow, 2016).

A common feature of all conducted research studies is the effort to identify determinants that impact on labour mobility and their generalization. It turns out that the decision of individuals and households on the allocation of time is predominantly aimed at achieving a subjectively felt balance between time spent at work and beyond, which is largely conditioned by the attitudes, family circumstances, but also by the economic possibilities of the individual or households.

Despite significant regional differences in employment levels, respectively unemployment, regional labour mobility in Slovakia is relatively low and limits the assignment of vacancies to suitable job applications. Factors that impede mobility include poor transport infrastructure, relatively high travel and accommodation costs, and a poorly developed rental market. The situation is compounded by the unsatisfactory infrastructure and business environment that hinder the inflow of investment and job creation. (Country Report Slovakia, 2016).

3. Mobility in the context of work-life balance

The generally accepted thesis of low labour mobility of the Slovak labour market is supported by the results of the survey conducted by AKO research agency in 2016. It results that “more than two-thirds of the unemployed do not want to move for work. Nearly two-thirds say they are willing to travel to work, but 62.5 % of them are on the way back and forth willing to spend a maximum of one hour. Up to 58.3 % of those who are willing to travel to work say they are willing to spend a maximum of € 50 per month on travel, which means € 1.25 per journey to work. “

Time spent by commuting affects how households organize their day-to-day activities. Travel-to-work is one of the key potential areas of conflict associated with work-life balance. Work-related activity of this nature, as well as linked household responsibilities including the „school run“, impact transport preferences. These activities represent significant areas of „spillover“ between paid work and life (Wheatley, 2012).

According to Wheatley and Wu (2014) work-time is used to describe the time spent in work for an employer (working hours, overtime (paid, unpaid)). Commuting time is a necessary work-related activity, but is distinct from work-time. Household time describes time in other work activity including housework, in (ill/elderly) care (unpaid work in our survey).

Basmajian (2010, p. 77) considers commuting as a “fluid experience equally blended into home life and work-place and points in between”. Patterns in travel-to-work, which evidence suggests are heavily influenced by the household division of labour, have important implications with respect to subjective well-being. Travel affects well-being in a range of ways (de Vost et al., 2013 In Wheatley, 2014): through potential travel, activities during travel, participation in activity (work or leisure),
enabled by travel, and travel for leisure purpose where travel is the activity which itself acts as a source of utility. It is considered that “travel-to-work is often perceived as generating dissatisfaction” (Wheatley, 2014, p. 189).

Long journeys appear to have negative impacts on subjective well-being, especially because of stress and tiredness according to Lyons and Chatterjee (2008), Olsson et al. (2013).

According to Sweet and Kanaroglou (2016, p. 24) identifying how travel and time use outcomes are linked with subjective well-being has important implications if improving quality of life is to be a meaningful planning policy goal. First, it provides guidance on what types of travel outcomes planners should target to improve subjective well-being. Second, it identifies what types of time use and activity participation outcomes can improve subjective well-being. Third, it can provide evidence on whom common existing policy actions and objectives are most likely to benefit.

The difficulty and ambiguity of this issue reflect, for example, Haas and Osland (2004), according to who there is no unambiguous theory that would give a coherent picture of the relationship between time spent by travel-to-work and the subjective feeling of individual satisfaction.

How to harmonize work and personal or family life is the subject of the theory of work-life balance. According to Poulse (2014) “work-life balance is a broad concept, defines in different ways by different researchers using diverse dimensions. The origins of research on work-life balance can be essentially traced back to studies on women having multiple roles”. Work-life balance was initially termed as work family conflict, Kahn et al. (1964) defined as a form of inter role conflict in which the role pressures from work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role being made more difficult by virtue of participation in the family (work) role.

As Byrne (2005) states individuals with work-life balance feel their lives fulfilled both inside and outside of work and experience minimal conflict between work and non-work roles. Those who achieve this balance tend to have higher levels of satisfaction with their jobs and life in general, as well as lower levels of stress and depression.

According to Wikipedia “work–life balance is a concept including the proper prioritization between work (career and ambition) and lifestyle (health, pleasure, leisure, family). The work–leisure dichotomy was invented in the mid-1800s. Paul Krassner, an American journalist, observed that anthropologists define happiness as having as little separation as possible between your work and your play. The expression “work–life balance” was first used in the United Kingdom in the late 1970s to describe the balance between an individual's work and personal life. In the United States, this phrase was first used in 1986”.

According to Poulse (2014) work-life balance is a balancing between three dimensional aspects of life namely organizational, societal and individual’s personal life as depicted in Figure 1.

We agree with the claim, that in the context of work and life, balance does not refer to an equal weighting of the two, but rather an acceptable, stable relationship (Guest, 2002).

One of components to measure work-family or work-life balance is time which relates the amount of time spent at work with the amount of time spent on home and family activities. Time based conflict occurs when time devoted to one role makes it difficult to fulfil the demands in another role (Poulse, 2014).
Figure 1: Work life balance

Source: adapted from Poulose (2014, p. 1).

4. Conclusion

In the paper, we focused on the theoretical definition of labour mobility and its determinants, pointing out its impact on subjective well-being of individuals, resp. households in the context of time allocation.

As Vincent-Geslin and Ravalet (2016) state, generally, some stability can be observed in terms of the daily times allocated to commuting. “Even though the average speed of travel is increasing, the time allocated to transport does appear to be increasing in several European countries: the United Kingdom, Switzerland, Sweeden, the Netherlands and France” (Vincent-Geslin and Ravalet, 2016, p. 240).

In the context of the labour market, we can consider the indicated trend positive. It is evidence of an increase in labour supply flexibility, which has a positive impact on the reduction of unemployment and, according to some approaches, on the mitigation of regional differences. On the other hand, from the point of view of work-life balance, there is a growing time that people have to spend by travel-to-work, which, as we can suppose, will increase the subjective feeling of dissatisfaction. We believe it is necessary to continue to search for links between travel-to-work, time use and subjective well-being and the resulting basis for economic policy makers. In our next work we will deal with the study of labour mobility in Slovakia and its impact on the allocation of time in Slovak households.

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References


DO FISCAL AND LEGAL INCENTIVES AFFECT WILLINGNESS TO AID?

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Abstract

The value to society of charitable giving and philanthropy is recognized and growing in Europe and even more and more important in current troubled times. Many Member States of the European Union promote such giving by providing fiscal incentives. The objective of the paper is to evaluate whether existing fiscal and legal incentives have an impact on the rate of willingness to aid in countries of European Union. This evaluation is based on World giving index, which measures the average percentage of people in each country who donate money, volunteer and help strangers and Transnational Giving Europe network (TGE) which compares national fiscal and legal initiatives in countries of European Union. The outcomes of research answer the issue of willingness to aid that is important for public service pricing policy in public administration reform processes.

Key words
charitable giving, incentives, philanthropy, willingness to aid

JEL classification
D9, H39

1. Introduction

Due to the existence of the free rider problem (Bailey, 1987; Cullis and Jones, 1998; Jackson and Brown, 2003; Musgrave and Musgrave, 1994; Stiglitz, 1997; Špalek, 2011) and properties of public goods, the market is not interested in the production of these goods, it will therefore lead to the realization of public goods on the political market. The reason for implementation in the political market is that the consumer does not show his or her preferences, which means, the willingness to provide the consideration for fulfilling the need (simply said, the willingness to pay for the public goods - Arrow, 1962). At the same time, however, it must be remembered that in the case of a society with hundreds or several million people, the state cannot carry out correct decisions on the political market. The function of individual benefit is unique for each individual, and therefore the uniform provision of a public goods, about which these individuals do not have the option to directly decide, brings different changes to their individual benefit. According to Buchanan (1998) and Wicksell (1964), the ideal model of decision-making on a public goods in the political market would in addition to specific requirements regarding taxation, payments for the goods had to meet the unanimous agreement of all the parties concerned. This decision, as stated by Mikušová Meričková and Stejskal (2014), would solve the problems of the free rider as the main argument of mainstream economic theory for state interventions in the form of financing and provision of public goods represented by neoclassical economic theory and modern neoliberalism.
In practice, however, such collective decision-making that fulfills the conditions of unanimity is unrealistic. We assume that public provision of a public goods does not necessarily mean more efficient provision as it would otherwise be with the case in the private market or in private production. Existence of taxes as a mean of efficiently securing a public goods can cause distortions of the economy and the market to such extent that the resulting state is less effective than in the private production of public goods (Špalek, 2011). At the same time, it is necessary to consider, as Giersch (1998) suggests, an alternative variant of private provision on a voluntary basis, when people are not guided by financial motives but also by social or behavioral motives i.e. adherence to social norms, altruism, warm-glow effect (Andreoni, 1995) and others.

Non-governmental or nonprofit organizations can be considered as an example of private provision of public goods. The voluntary contribution to NGOs (Batina and Ihori, 2005) can be considered as an analogy to voluntary contribution to collective goods (Špalek, 2011). According to Špalek (2011, p. 68), in case of NGOs this contribution may take different forms. In addition to the classical financial contribution, we can include free time investing (voluntary work in a non-governmental organization), support for science and research by a private organization (finance, premises, working conditions) or international aid to resolve crisis situations. Many factors affect the capacity and willingness of people to aid. Dolan et al. (2009), Hladká (2015), Ledyard (1995) define the internal factors (motives) i.e. those that originate from the inside of an individual (altruism, empathy, moral duty, social responsibility as in Cox et al. (2015); Kocher et al. (2011); Marx and Carter (2014); Wiepking and Bekkers, (2012); egoism, opportunity of gain, appreciation, political influence investment, irreplaceability, job opportunities, etc.) and external factors (determinants) which relate to the environment in which the individual is located and decides (tax policy as in Duquette (2016); Chetty et. al. (2009); size of the public sector as in Andreoni and Payne (2011); Lammam and Gabler (2012); media impact, socio-economic status, family background, models and experience of youth, etc. as in Bekkers and Wiepking (2010); Snipes and Oswald (2017); Webb and Sheen (2006).

The value to society of charitable giving and philanthropy is recognized and growing in Europe and even more and more important in current troubled times. Many Member States promote such giving by providing fiscal incentives. The objective of the paper is to evaluate whether existing fiscal and legal incentives have an impact on the rate of willingness to aid in countries of European Union. This evaluation is based on World giving index, which measures the average percentage of people in each country who donate money, volunteer and help stranger and Transnational Giving Europe network (TGE) which compares national fiscal and legal initiatives in countries of European Union.

2. Methodology

The objective of the paper is to evaluate whether existing fiscal and legal incentives have an effect on the rate of willingness to aid in countries of European Union. This evaluation is based on World giving index (WGI), which measures the average percentage of people in each country who donate money, volunteer and help strangers and Transnational Giving Europe network (TGE) which compares national fiscal and legal initiatives in countries of European Union.

The WGI is annual report published by the Charities Aid Foundation (CAF). The WGI is known around the world as the leading comparative measure of generosity across the globe,
by measuring three kinds of generosity (giving money, giving time and helping a stranger) (CAF, 2016). Sociologists see giving money, time or helping voluntarily to others as a marker of cohesiveness in a society. Almost all countries, cultures and religions have their own traditions of giving which are shaped by the history, customs and faith (CAF, 2010). As we have already mentioned there are many factors affecting the capacity and willingness of people to aid. The aim of the WGI is to track how rates of giving change year be year and to stimulate debate about why rates of giving differ between nations and how we can encourage these enjoying decent incomes for the first time to support good causes (CAF, 2016). The WGI report is primarily based upon data from Gallup’s World View World Poll, which is an ongoing research project, carried out in 160 countries that together represent 99 % of the world’s adult population. The typical survey includes at least 1,000 individuals, which is a representative sample of individuals living across the country. Additionally, in some instances, the sample size is between 500 and 1,000 individuals but still feature a representative sample. The sampling frame represents entire civilian, non-institutionalized, aged 15 and older population of the entire country (CFA, 2016). Gallup uses telephone survey and face-to-face interviews. For example, the face-to-face interviews were conducted in Slovakia from the 12th of April to the 8th of May 2011 in Bratislava. The representative sample comprised from 1,012 respondents. Sampling procedures include three steps.

The first step is selecting primary sampling units (PSUs) in countries where Gallup conducted face-to-face surveys. The first stage of sampling is the identification of PSUs, consisting of cluster of household (Gallup, 2017). PSUs are stratified by population size and/or geography. If population information is available in selected country, sample selection is based on probabilities that are proportional to population size, otherwise Gallup uses a regression discontinuity design method (RDD method) or a nationally representative list of phone numbers (Gallup, 2017).

The second step is selecting and contacting household. Gallup uses a random-route procedure to select sampled household. Gallup makes at least three attempts to reach a person in each household at different time of the day, and when possible, on different days. If the interviewer cannot obtain an interview at the initial sampled household, the interviewer uses a simple substitution method (Gallup, 2017).

The third and last step is selecting respondents. In face-to-face and telephone interviews, random respondent selection is achieved by using either the latest birthday or Kish grid method. Gallup also implements quality control procedures to validate the selection of correct samples and the interviewer selects the correct person in each household (Gallup, 2017).

We compared the WGI index with selected fiscal and legal incentives in countries of European Union. Existing fiscal and legal incentives have been identified based on the results of the Transnational Giving Europe network project. This project mapped relevant laws and procedures across the European Union: Does a donor giving to a public-benefit organization in another EU Member State obtain the same tax reliefs as they would if they donated to a local organisation? What do foreign EU based public-benefit foundations need to do to have their public-benefit status recognised by foreign tax authorities? Are the procedures in place adequate and are they clear for users? How close are we to genuine free movement for philanthropy? And what steps must be taken to bring us closer? (TGE, 2015).

In relation to the fulfilment of the objectives, a scientific assumption is formulated in the form of research questions, the authenticity of which is the subject of the application section of the paper: More fiscal and legal incentives increase willingness to aid. We start from the
premise that in countries where is more fiscal and legal incentives the rate of willingness to aid or pay is higher. For example, we identified, based on the TGE dates, 9 incentives in United Kingdom to increase willingness to aid and only 0 incentives in Slovakia to increase willingness to aid.

The basic methods of scientific research are those of classification analysis, comparison and abstraction in the development of theoretical and methodological framework for solving problems; methods of causal analysis and comparison in the application part, and methods of synthesis and partial induction in drawing conclusions of the research.

The primary object of our research are countries of European Union, namely: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxemburg, Malta, The Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, The United Kingdom.

We use the data from World giving index 2016 and TGE network. We translated the obtained data by means of numerical codes and was furthermore statistically processed using the Spearman correlation coefficient (verification of dependence of the world giving index, which includes helping a stranger, donating money and volunteering time, and fiscal and legal incentives).

For evaluation, we use IBM SPSS Statistics 19 statistical software; for testing we consider the significance level of 0.1.

3. Results and discussion

We awarded the country 1 point for each fiscal and legal incentive. We identified and evaluated 11 areas from which countries could get points: tax treatment of individual donors, tax treatment of individual donors without limit, tax treatment of corporate donors, tax treatment of corporate donors without limit, gift and inheritance taxation and tax benefits for PBOs, tax treatment of PBOs, tax incentives for donors in cross-border cases – (Non)discrimination for donors according to the wording of the law, gift and inheritance tax in cross-border cases - (Non)discrimination of foreign-based PBOs as regards gift and inheritance tax, tax treatment of the PBO in cross-border cases - (Non)discrimination of foreign-based PBOs as regards income taxation? Can individual/corporate donors giving to comparable EU/EEA-based PBOs get the same tax benefits as they would for giving to a domestic PBO according to the wording of the law? Where gift/inheritance tax exists and there are exemptions for donations to domestic PBOs, are the same benefits available for donations to a comparable EU/EEA based? Where corporate income tax exemptions exist for domestic PBOs, are the same benefits available for comparable EU/EEA based foreign based PBO according to the wording of the law?
Figure 1: Number of fiscal and legal incentives in countries of the European Union.

Source: the authors using the data of Transnational Giving Europe Network (2015).

Countries with the highest number of fiscal and legal incentives include Bulgaria, Italy, the United Kingdom, Belgium and the Czech Republic. In the overall ranking of the World giving index (Figure 2), however, these countries, except The United Kingdom (8th place), were placed on the lower corners (Belgium - 48th place, Italy - 82th place, Czech Republic - 121st, 129th place). Interestingly, for example, although we did not identify any fiscal and legal incentives in Slovakia in the overall ranking of the World giving index, it was placed in the same place as Lithuania (124th place) with 4 tax incentives (tax treatment of corporate donors, gift and inheritance taxation and tax benefits for PBOs, (non-discrimination) of foreign-based PBOs regarding income taxation, the same corporate income tax exemptions exist for domestic PBOs and for comparable EU / EEA foreign), leaving behind countries such as Croatia (127), Bulgaria 129th place) Hungary (134th place), Greece (137th place).

Figure 2: World giving index score (%) 2016.

Source: adopted from Charities Aid Foundation (2016).

As we have already mentioned, we have compared the World giving index with fiscal and legal incentives in countries of the European Union. We have therefore set out a research question that we have tried to verify in the following section.
Hypothesis no. 1: We assume that there is a relationship between the number of fiscal and legal incentives and willingness to aid.

When testing dependence, we used Spearman’s correlation coefficient. We can conclude that at the significance level of 0.1, where the (p-value 0.101). The hypothesis was not confirmed. There is a slight direct dependence between the number of fiscal and legal incentives and willingness to help ($r_s = 0.316$). In the next section, we have therefore focused on whether individual fiscal stimuli have some influence on willingness to voluntarily help.

Hypothesis no. 2: We assume that there is a mutual relationship between the individual fiscal stimuli and the willingness to help voluntarily.

This assumption has been confirmed in 5 cases out of 11 where, in case of countries that discriminate against foreign organizations (Non-) discrimination for donors, according to the wording of the law, the willingness to voluntarily help increases (p-value 0.011; $r_s = 0.475$). The other cases, in other words, factors affecting the willingness to voluntarily help are tax treatment of corporate donors without limit, where the lesser the limitation is, the higher willingness to help (p-value 0.087, $r_s = -0.329$). In case that countries have the same tax benefits, gift / inheritance tax benefit and corporate income tax benefits for both domestic and foreign, individual/corporate donors, the willingness to voluntarily help increases (p-value 0.000, 0.023, 0.076, $r_s = 0.641, 0.427, 0.341$).

4. Conclusion

As we mentioned at the beginning, there are a number of factors (internal and external) that affect the willingness of individuals to voluntarily help. The objective of the paper was to assess whether existing fiscal and legal incentives have an impact on the rate of willingness to aid in countries of the European Union. We have drawn from the example of the US, where empirical results generally supported the conclusion that taxpayers, when deciding whether or not to contribute, do not take into account existing tax incentives. In other words, taxpayers increase donations as the after-tax cost of giving decreases, and they reduce donations as the post-tax cost of giving increases (Carnie, 2017, p. 113). Our evaluation was based on World giving index, which measures the average percentage of people in each country who donate money, volunteer and help strangers and Transnational Giving Europe network (TGE), which compares national fiscal and legal initiatives in countries of European Union such as tax treatment of domestic and foreign individual and corporate donors, tax treatment of individual and corporate donors without limit, gift and inheritance taxation and tax benefits for domestic and foreign public-benefit organizations, tax treatment for PBOs, (non-)discrimination for donors according to the wording of the law, (non)discrimination of foreign-based PBOs as regards gift and inheritance tax, (non)discrimination of foreign-based PBOs as regards income taxation?

The subject of our survey was the European Union Member States, and we found that each of these countries has a specific legislative environment with different fiscal and legal incentives for individual, corporate, domestic and foreign donors.

In this report, we set the hypothesis which we tried to verify: We assumed that there is a relationship between the number of fiscal and legal incentives and willingness to aid. Although the results of our research did not confirm the hypothesis (p. Value 0.101), we found that there is some degree of correlation between some of the identified fiscal and legal indicators and willingness to voluntarily help (not limiting the amount of voluntary contributions, the same conditions for foreign and domestic individual and corporate donors).
It is therefore essential for governments of individual countries to ensure that the civil society organizations are regulated in a fair, consistent and open way, make it easy for people to give and offer incentives for giving where possible, promote the civil society as an independent voice in public life and respect the right of non-profit organizations to speak on important issues (CAF, 2017). The role of non-governmental organizations in the position of recipients of voluntary contributions and assistance to individuals should be to ensure transparency, ensure good governance and be honest about the impact on public trust in civil society organizations and to meaningfully engage local communities in decision-making so that civil society becomes locally owned and recognized and build on traditional forms of giving to create organizations and a culture of giving which works for the strengths of the local context (CAF, 2017).

References


ANALYSING CITIZENS’ OPINIONS ON TAX EVASION

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Abstract

The negative effects of tax evasion and the shadow economy and the process of internationalization of the world’s economies leads to these issues being discussed at both the national and international levels. Tax evasion also, of course, affects citizens. The objective of the paper is to use citizens’ opinions on tax evasion and the shadow economy in Slovakia to help understand the causes of tax evasion, the determinants of their views and their perceptions of the most effective means to combat tax evasion. The contribution also compares the views of citizens of the Slovak Republic obtained in a primary survey with the views of citizens of the Slovak Republic published by the European Commission.

Key words

shadow economy, public opinion, tax evasion, public goods

JEL classification

H26

1. Introduction

The citizens’ opinion is an important factor in solving many situations occurring in everyday life. In recent years we can see it not only in country management, but also in situations coming to the surface and they concern for instance tax evasion. The reason why we have decided to deal with research of citizens’ opinions is to understand the causes of tax evasion occurrence, how people act and what are the most effective tools to fight against tax evasion. The investigation is based on the primary research (questionnaire) supplemented with the Eurobarometer data.

The need to study tax evasion and its perception by the citizens is confirmed by numerous studies and papers, for example, by Hudson and Orviská (2003) who studied civic responsibility and the role of an individual in tax evasion and shadow economy, Freedman, Loomer and Vella (2009) who studied many taxpayers and their aversion to tax evasion, Kirchler et al. (2003) who, on a sample of tax officers, students of economics, business lawyers and small business owners who were looking for the boundary between legal and illegal tax evasion, as well as many others such as Feige (2007), Thomas (1999) etc.

2. Theoretical background

Tax evasion, by its nature, negatively affects all fields of social and economic life by deforming the economic environment (some subjects obtain an unfair competitive advantage compared with others), tempting the subjects with good tax discipline to evade taxes, and reducing the state budget revenue. Tax revenue secures the fulfilment of the state roles in the
field of defense, health protection of people, social security, education, science and research, and in more fields. Thus, tax evasion harms the financial interests of the EU and individual countries from the reason of reducing the base for its own resources in the EU and national budgets. In this way, escalating tax evasion reduces the credibility and trust of the state on an international scale.

According to Hudson and Orviská (2003, p. 91), tax evasion is “a potential loss of government revenue, caused by lack of funds in the public sector and unfair burdening of tax payers”. In accordance with Hollá and Zanický (2008, p. 5), tax evasion is “the result of the economic behavior of tax subjects oriented on reducing and mineralization of obligations against the state”. Schneider (2000) describes tax evasion as a significant part of the shadow economy and defines it as “those economic activities and retirements derived of them, circumventing the government regulations, taxation or measurement, or they evade otherwise”, Finally, Zoanna (2011, p. 200) defines it as “unlawful and intentional non-payment or avoidance of the tax due”.

The emergence of tax evasion is associated with the issue of national economic development. Tax evasion is more typical for poor countries with a transforming economy. Austria, despite its economic development, also combat extensive tax criminality. The authors Torgler et al. (2010) argue that “compliance or failure to comply with tax rules is based not only on the sanction system, but also on regulation and total attitudes to this question”.

In the definition of tax evasion, a specialized literature differs on the causes. According to Martinez (1995), this terminological difference is caused by various insights into the legality of activities that lead to reducing the tax liability. Among other causes may be different legislation of individual countries, traditions, different social perceptions of a given issue and other reasons (Burák, 2002).

The mentioned overview of theoretical approaches for the definition of tax evasion has provided us with several points of view on this topic. Regarding the objective of our paper we incline to those definitions that define tax evasion as intentional action of tax subjects, which use illegal ways to reduce their tax liability. The unintentional action of the subject that leads to the taxation in an incorrect amount is considered as a mistake in accordance with the Slovak legislation, which may be removed using remedies (additional tax declaration). At the same time, we consider the existence of a psychological effect as an undeniable fact connected with tax evasion.

According to the definition of the European Commission report mentioned by Bednárik et al. (2003), as well as from the definitions by the authors such as Smith (1994), Feige (2007), Medveď et al. (2009), Schneider and Buehn (2016), arises the conclusion that tax evasion belongs to the activities of the shadow economy also named as hidden, unofficial, uncaptured, black economy. The shadow economy is a part of existing economy that is excluded from official statistics, even though it has an indirect impact on the real economy with its reported statistical indicators” (Orviská, 2005, p. 7). Several authors, such as Thomas (1999), Buehn et al. (2009), Pickhard and Prinz (2012), Schneider and Buehn (2016), in general define the shadow economy as activities, which are not recorded in official statistics. Due to the mutual relation between the shadow economy and tax evasion, which are the main subject of interest of this paper, we tend to the definition of tax evasion that looks at this issue just from the point of view of taxing income. Tanzi (1999), Feige (2007) and Samuelson and Nordhaus
(2013) define the shadow economy as legal activities that should be reported to the tax authority, thus taxed, although they are not, and illegal activities as well.

2.1. Measurement methods of tax evasion

Potentially, each activity executed under the shadow economy, is the subject of tax evasion. Due to this reason, several authors approach the task of estimating tax evasion as one of measuring the size of the shadow economy. We can state that various estimations of the shadow economy, and thus also those of tax evasion, point out significant differences in estimations for the same country. These facts lead us to the belief that the size of tax evasion is a measure insufficiently analysed so far with a high sensitivity to the subjectivity and the adopted approach. For example, as mentioned by the author Vilhelm (2013), any effort to capture the size of the shadow economy is only an approximation, which cannot be considered as a 100% true value. Based on this, it may be stated that currently there is not an objective method to measure the shadow economy, which would provide unquestionably reliable estimations.

There are many methods that can be used to measure tax evasion and in principle they may be divided into two groups: direct methods and indirect methods (Bednárik et al., 2003). For the needs of our paper, in a direct way we will only use the estimations of tax evasion which include volunteer questionnaires and tax audit. Schneider and Enste (2000) consider obtaining detailed information about the shadow economy structure as an advantage of these methods, but on the other hand, they are also aware that results are significantly influenced by how the questions are formulated. In the direct method of estimating tax evasion are distinguished the following:

• Methods of selection analysing (questionnaire form) - are questions given by an economic subject and structured to capture the analysed problem comprehensively. Decision-making is based just on a correct formulation of questions that allows identification the participation of respondents in tax evasion and so determine its size. The causes of inaccuracy may be a change or complete concealment of certain facts by respondents (Schneider, 2002). These methods are widespread around the world.

• Methods of tax evasion monitoring - determination of tax evasion amount is executed using random controls from the side of tax authorities, which leads to detecting the differences between incomes declared for the needs of taxation and the amount of incomes found during the control, so called tax gap (Toder, 2007). The determinant of success of a given model is the effectiveness of the executed controls and its capability to detect fraudulent acts. It is necessary to point out that the estimations of tax evasion obtained by this method are not complete, because tax authorities do not have access to unregistered subjects for taxation purposes (Zídková, 2012). According to Schneider and Enste (2000), this method is the most widespread in the countries such as the USA, United Kingdom, Sweden, as indicated by the works of several authors.

As the main advantage of these methods of tax evasion estimation is considered to be the possibility to relatively determine the detailed structure of tax evasion, its form, as well as to identify the social-economic characteristics of tax evaders and their motivation. A common disadvantage of both methods may be considered their incapability to estimate the size of tax evasion in a longer time horizon and the limited possibility to generalize the results. It is also necessary to point out that these methods may lead to an underestimation of the size of tax evasion for the reasons already mentioned.
3. Methodology

The objective of the paper is, based on citizens’ opinions on tax evasion and the shadow economy in Slovakia, to understand the causes of tax evasion, the determinants of its extent and a perception of the most effective ways to combat tax evasion. A further contribution also compares citizens’ opinions in the Slovak Republic to those obtained in a primary survey published by the European Commission.

The core of our study was a group of 200 randomly chosen respondents, citizens of the Slovak Republic. The analysed sample consisted of 113 women (56.5%) and 87 men (43.5%), with the biggest representation of the Žilina Region (29%) followed by the Banská Bystrica Region (19%), the Košice Region and the Bratislava Region (12%) and the Trenčín Region (11%). Other regions had the percentage under 10%, the Nitra Region 8%, the Prešov Region 6% and the Trnava Region 5%. Regarding the age structure of respondents, the biggest representation was in the age category from 26 to 35 years, which had 39% representation followed by the age category from 18 to 25 years with the percentage of 27% and the age category from 36 to 45 years with the percentage of 20%. The remaining respondents made up the age category from 46 to 55 years with 10.5% and from 56 to 65 years with 3.5%. The age category over 66 years did not have any representation in the sample. We collected the data in April and May 2017, assuming that the different periods of time would not affect the results.

A secondary source of used data in our study was the survey of the European Commission, carried out in April 09 – 18, 2016, in which we focused on combating against tax fraud. The survey analysed the citizens’ opinions how they perceive the actual state of tax fraud solutions in the EU, and also whether the EU should pay more or less attention on this field. Eurobarometer analyses and evaluates the opinions of 27,969 respondents from all countries of the EU, with less than 4% of the respondents from Slovakia. Data were analysed by the comparison of the results from Slovakia and the average of the European Union.

4. Results and discussion

Arising from the objective of our study, in the work we evaluated the selected questions of the survey, which have been adequately completed with the results of the survey by the European Commission. Even before finding out the attitudes of respondents on tax evasion itself, and also the causes of their emergence and measures to prevent them, we were interested in our respondents’ knowledge. Up to 77% of respondents said that they met with examples of the shadow economy. 6% of respondents did not know to answer this question and 17% of respondents said that they had not met with the shadow economy yet. Right at the start of our analysis, it was clear that tax evasion and the shadow economy are a relevant subject for most of citizens.

The first questions of our survey point out the perception of involvement of tax subjects in the shadow economy at the local (place of residence) and national levels.

From the respondents’ attitude it is clear that the perceived size of the shadow economy is perceived to be higher in the country as a whole than in the individual’s locality. Up to 149 respondents think that not more than 10% of tax subjects are involved in the shadow economy in their locality. On the other hand, 81 respondents said that from 21% to 40% of tax subjects may be involved in the shadow economy within the Slovak Republic. Almost a third of respondents even think that tax subjects within the country are even more involved in
the shadow economy and they estimate their involvement in the range from 41 % to 60 %. This might be the case if the bulk of tax evasion is in one or two locations.

Table 1: Perception of Slovak tax subjects’ involvement in the shadow economy

<table>
<thead>
<tr>
<th>How many % of subjects are involved in the shadow economy in your location?</th>
<th>How many % of subjects are involved in the shadow economy in the country?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number</strong></td>
<td><strong>Share</strong></td>
</tr>
<tr>
<td>0 % - 10 %</td>
<td>149</td>
</tr>
<tr>
<td>11 % - 20 %</td>
<td>35</td>
</tr>
<tr>
<td>21 % - 40 %</td>
<td>16</td>
</tr>
<tr>
<td>41 % - 60 %</td>
<td>0</td>
</tr>
<tr>
<td>61 % - 80 %</td>
<td>0</td>
</tr>
<tr>
<td>81 % and more</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>200</td>
</tr>
</tbody>
</table>

Source: the authors.

In the following questions the respondents responded as to where they see the main cause of tax evasion emergence. From the chart, 25.5 % of respondents consider a high tax loading as the main cause, and 20 % of respondents consider distrust of tax subjects in the state as the main cause. 11 % of respondents think that tax evasion is due to insufficient tax control and 9 % of respondents say that tax evasion emergence is caused by frequently changing and unclear tax laws. In addressing this question, the respondents could also express their own opinion besides the offered options. This option was used by eight respondents, and as the main cause of tax evasion they indicated insufficient and low-quality social and health care, corruption and a poorly functioning legal system.

Figure 1: Causes of tax evasion emergence resulting from the questionnaire

In the last question, the respondents responded as to how they perceive the effectiveness of individual tax evasion measures. Their attitudes are summarized in the following table.
Table 2: Effectiveness of tax evasion measures

<table>
<thead>
<tr>
<th>Measure</th>
<th>Very effective</th>
<th>Effective</th>
<th>Do not know</th>
<th>Less effective</th>
<th>Ineffective</th>
</tr>
</thead>
<tbody>
<tr>
<td>More frequent tax controls and audits</td>
<td>18.5 %</td>
<td>29.5 %</td>
<td>17.5 %</td>
<td>20.0 %</td>
<td>14.5 %</td>
</tr>
<tr>
<td>High financial penalties</td>
<td>21.0 %</td>
<td>22.0 %</td>
<td>10.0 %</td>
<td>24.5 %</td>
<td>22.5 %</td>
</tr>
<tr>
<td>High punishments</td>
<td>36.0 %</td>
<td>25.5 %</td>
<td>13.5 %</td>
<td>9.5 %</td>
<td>15.5 %</td>
</tr>
<tr>
<td>Reduction of tax loading</td>
<td>37.5 %</td>
<td>24.5 %</td>
<td>10.0 %</td>
<td>16.5 %</td>
<td>11.5 %</td>
</tr>
<tr>
<td>Name disclosure and social condemnation</td>
<td>15.5 %</td>
<td>9.5 %</td>
<td>16.0 %</td>
<td>20.0 %</td>
<td>39.0 %</td>
</tr>
<tr>
<td>Improvement of social and health care</td>
<td>21.0 %</td>
<td>34.0 %</td>
<td>17.5 %</td>
<td>15.5 %</td>
<td>12.0 %</td>
</tr>
<tr>
<td>Improvement of providing the public goods and services</td>
<td>24.0 %</td>
<td>34.5 %</td>
<td>10.5 %</td>
<td>20.0 %</td>
<td>11.0 %</td>
</tr>
<tr>
<td>Bureaucracy limitation</td>
<td>16.0 %</td>
<td>21.0 %</td>
<td>15.5 %</td>
<td>29.5 %</td>
<td>18.0 %</td>
</tr>
</tbody>
</table>

Source: the authors.

The most effective tax evasion measures are considered to be the reduction of tax loading and higher punishments. Improvements in providing the public goods and services, and social and health care are also considered as effective. Just based on these measures, we can assume a mutual relation between the willingness to pay taxes and the quality of public, health and social services, which are mostly financed by tax revenue. In our opinion, the perceived low quality of these services may also be a cause of a reluctance to pay taxes. Tax subjects perceive it as unnecessarily wasted money and eventually may commit tax evasion. In the category of effective measures, the respondents also categorized more frequent tax controls and audits. The respondents indicated bureaucracy limitations and high financial penalties as less effective measures. As ineffective measures, the respondents considered name disclosure and social condemnation.

On the other hand, compared with the primary survey, there are secondary data, the results of the survey by the European Commission analysing citizens’ opinions on the activities of the European Union, including also the combat against tax fraud. The questionnaire analyses two basic questions, is the European Union currently making sufficient effort to combat tax fraud (EU Action Perception: Tax Fraud) or if the citizens want the European Union to intervene less or more in this area (EU Action Expectation: Tax Fraud). We will look at the results of the survey from two points of view, from the point of view of a comparison of Slovakian respondents’ answers and the average of the European Union.

Figures 2 and 3 show the percentage of answers to the individual questions in Slovakia and in the EU. When looking at the results and comparison, we can see that the percentage numbers do not largely differ. In the question whether the current setting of the EU tax fraud measures is sufficient, we can see that the respondents in Slovakia or also across the EU were 66 %, and 67 % respectively agreed that the current setting is insufficient. The biggest difference in this question was recorded in the option whether the EU measures are adequate and whether the citizens of Slovakia are more satisfied (25 %) with individual measures than the EU average (22 %). The second question is directly linked to the first one, where we learn that most of the respondents expect an increase in the number of tax fraud measures (81 % and 82 % respectively). This number also demonstrates the current state of perception of tax
fraud, tax evasion and the shadow economy itself by citizens as a negative aspect of society development not only in Slovakia, but also across the European Union.

Figure 2: The percentage of answers to the question "Would you say that current EU action is excessive, adequate/about right or insufficient?"

![Bar chart](chart1.png)

Source: the authors based on research results of the European Union (Eurobarometer 04/2016).

Figure 3: The percentage of answers to the question "Would you like the EU to intervene less than at present or more than a present?"

![Bar chart](chart2.png)

Source: the authors based on research results of the European Union (Eurobarometer 04/2016).

5. Conclusion

Measurement of tax evasion by direct methods as stated also by, for example, the authors Vilhelm (2013), Schneider and Enste (2000), may provide detailed information about the shadow economy and tax evasion, but they do not provide information on individual motivation.

Based on the primary survey made in Slovakia and secondary data obtained from Eurobarometer, the objective of our paper was to analyse the level of tax evasion on the basis of citizens’ opinions. From the primary survey we found out that most (77%) of respondents
were familiar with the shadow economy and its manifestations. The perceived size of the shadow economy is higher in the country as a whole than in the neighbourhood of the tax subject which may be delusion, or may indicate that tax evasion is focused in a few locations within the country. As the main causes of tax evasion emergence are considered, the bad financial situation of tax subjects, high tax loading and distrust of the state are seen as important factors. They see the solution in higher punishments, reduction of tax loading, improvements in public goods and services, and social and health care.

The secondary data allowed the comparison of respondents’ opinions at the level of Slovakia and the European Union. We found out that the differences are minimal, the biggest differences were found in the question of the current state of tax fraud solutions by the European Union, where the respondents from Slovakia considered the measures as more adequate than the citizens of all the European Union, and in the future they expect a bigger engagement of the EU in combatting against tax fraud.

In conclusion we state that the issue of tax evasion, tax fraud and the shadow economy itself is no longer just a matter of interest of national and transnational governments, but it is also in of interest to the citizens of the entire European Union. These statements are also confirmed by the results of the primary research where we saw that citizens have sufficient overview in this issue, and they perceive that they know which measures would be good to strengthen. Secondary data verified our findings from the point of view of the impact of the criteria on answers to selected questions.

Acknowledgements

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EVALUATION OF THE MUNICIPAL PROPERTY AND ITS REPRODUCTION CAPACITY IN THE CONDITIONS OF LOCAL SELF-GOVERNMENT OF SLOVAKIA

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Abstract

One of the endogenous factors of the development of each municipality is also municipality property. Ownership of the property enables to perform original and transferred competencies of the municipality, to realize the business activities of the municipality, to influence the socio-economic development of the municipality, and so thus ensuring a certain quality of life for the inhabitants of the municipality and to secure incomes to the municipality budget, including the acquisition of foreign resources for further development of the municipality. From an economic point of view, ownership of the property is the basis for the economic independence of the municipality and determines its autonomy. Currently the comprehensive system and set of indicators in Slovakia that could objectively measure, compare and evaluate the efficiency of municipal property does not exist. In the paper we evaluate municipal property and its reproduction capacity on the basis of selected indicators. The results of these indicators could be used in the process of strategic decision about using of municipal property.

Key words

property of the municipality, evaluation, capital budget

JEL classification

H82, H83, H27

1. Introduction

Understanding the principle of ownership from a historical point of view and also from the point of view of the theoretical development of economic thinking, gives opportunities to explain and understand the current economic processes, including real existing ownership relationships. The ownership rights of municipalities resumed after 1989 as part of the process of transformation of ownership relations, which had tradition in the past, but were destroyed by the law on the regional arrangement in 1949.

The role, which represents the property in the development process of the municipalities is very specific compared with the role of property, which represents the private sector. And therefore, its influence on the economic development of the municipality and the self-government is very different. Specifics of municipal property result from the following:
• collective ownership of property - it is represent the ownership of property of permanent inhabitants in the municipality and associated collective decision making on the management and using of municipal property by the municipal council,
• multipurpose using of the same property (market and non-market),
• created benefits (products, services) are used by the inhabitants of the municipality as well as private entrepreneurs and the public sector (associations, organizations, clubs),
• the obligation to manage property that is not owned by the municipality,
• the transfer of property from the state administration to the self-government without adequate transfer of funds connected with its reproduction and using,
• incomplete legislative readiness for material and economic decision-making of the using of municipal property.

The specific status of the municipal property is confirmed also Švantnerová and Kožiak (2005), who say that municipal property is the factor which to determinate not only own financial sources of municipality, but also to determinate the economic activities on the municipality and their structure. The importance of the existence of municipal property also confirm Guo et al. (2014), who say that investing into the public goods positively influences economic growth, poverty eradication and the promotion of community sustainability. These specificities influence and in many ways also complicated the decision-making process of the using of municipal property and the process of its managing.

2. Brief literature overview

Depending, how the municipality manages with the property, it ensure economic, social and cultural development and also creating the conditions for satisfaction of the needs of the inhabitants. Therefore, the Municipal council should draw up a municipal development strategy with the relation to municipal property. According to the author, the municipal property is in the permanent process and brings following effects: income satisfying the needs of the inhabitants of the municipality, creating a suitable environment for entrepreneurial activities on the territory of the municipality. It is also confirmed by Borodach and Dobrynin (2017) who say, that it is necessary to ensure the development and institutionalization not only of the level of professional qualification and requirements for public officials, but also of professional standards of conducting certain operations of public property management.

According to Papcunová and Balážová (2006), total incomes from entrepreneurship and ownership of property make up a small share of the total income of municipalities. For instance in the Slovak Republic incomes from municipal property accounted for less than 4% of total municipal incomes in 2004. The level of financial incomes from municipal property is particularly marked when expressed by a per capita. In 1999, the municipal property in Slovak Republic generated a per capita 3.20 €, while in 2004 it was 16.62 €. From these analyzes, as mention by the authors, it clearly follows that the decisive part of the municipal property municipalities uses for assure of the competencies, which are predominantly non-market or partially market. According to analysis of Plíny (2000), incomes from real estate is higher on land, because land does not require any additional deposits. Many agricultural lands, due to the expansion of construction zones, especially near the major cities, can be gradually converted to building plots, of which price may be 10 to 100 multiple higher than the price of agricultural and forest lands. According to the author, the incomes from the buildings represent in most municipalities mainly incomes from the rental of housing stock.
Due to the current state of regulated rent, incomes are not enough to cover the expenses and the management of these properties are very often loss-making (but this situation is only temporary, because the rent will be gradually released). From a given comparison of each types of property incomes, the most reliable incomes are from financial property, when the funds are deposited into banks or invested, for example, into government bonds.

Measuring the efficiency of the using of municipal property is very difficult because the most of municipal property creates public benefits in the form of public goods or public services - services for the inhabitants.

Currently the comprehensive system and set of indicators in Slovakia that could objectively measure, compare and evaluate the efficiency of municipal property does not exist. However, in domestic and foreign literature, we can find some methods that to try to evaluate the structure and efficiency of municipal property. One method of evaluating the efficiency of municipal property is also benchmarking. Benchmarking by Sedláková, (2007) is one of the methods of measuring and evaluating price and performance. It focuses on increasing of the efficiency and quality of public services. It is based on the principle of peer comparison in order to achieve better performances in its own organization. It represents a method of improving learning from others. Benchmarking is therefore also to be seen as a long-term, constantly recurring process. Wright and Nemec (2003) have defined benchmarking as a modern method for formulating and selecting strategies. The basis of this method is the identification of "best practice", the best ways to achieve the objectives, promotes the growth of quality based on learning from others. Benchmarking is a continuous process of finding appropriate examples of successful strategies that are selected by other managers, which to identify options as well as reference for monitoring and evaluating achieved results. Besides benchmarking, the literature also lists other evaluation methods of property, such as financial analysis, resp. using of various methods of modeling (mathematical, statistical, graphic, etc.) in condition of self - government. In practice are used the absolute and the proportional indicators for evaluation of using of municipal property. In the article we evaluate the municipal property by the proportional indicators.

3. Methodology

The value of the municipal property is measured at the acquisition cost of the property when it is created, acquired, transferred, which this value is or is to be reduced annually by depreciation related to use of municipal property. The value of the municipal property is kept in the following financial reports: statement on the implementation of incomes and expenditures of budgetary organizations and municipalities, balance sheet and profit and loss statement - (if municipalities have a business activities). The municipalities kept the value of the property at acquisition prices up to 2003 because they didn’t have the obligation to depreciate the property. For this reason the municipalities recorded municipal property with unreal value. Since 1 January 2003, municipalities are required to depreciate their property on the basis of Act No. 431/2002 Coll. on accounting and in compliance with Act No. 595/2003 Coll. on income tax, so in the next years the value of the municipal property will come real.

The value of municipal property in the Slovak Republic, which is processed from the balance sheet, is registered and processed by Datacentrum, a separate budget organization. This organization is created by the Ministry of Finance of the Slovak Republic, and presents as an information center. In the paper we evaluate municipal property and its reproduction capacity on the basis of selected indicators for a period 2000-2016.
1. The net income effect of municipal property reflects the impact of property for created incomes

\[ \text{NIE}_{\text{MP}} = \frac{\text{total incomes from the municipal property}}{\text{total value of the municipal property}} \]  

(1)

Note: Total incomes from the municipal property = incomes from business with the municipal property + incomes from municipal property ownership

2. The gross income effect of the municipal property reflects the created of own incomes from the total municipal property.

\[ \text{GIE}_{\text{MP}} = \frac{\text{total own incomes}}{\text{total value of the municipal property}} \]  

(2)

Note: Total own incomes = tax incomes of the municipalities + non – tax incomes of the municipalities

3. The reproduction capacity of the municipality, expresses the ability of the municipality to provide resources for the reproduction of the municipal property.

\[ \text{RC} = \frac{\text{total capital incomes}}{\text{total value of the municipal property}} \]  

(3)

Note: Total capital incomes = capital incomes of municipalities + capital grants and transfers of municipalities

4. The reproduction power of the municipality expresses the level of reproduction of the municipal property at a certain time.

\[ \text{RP} = \frac{\text{total capital expenditures}}{\text{total value of the municipal property}} \]  

(4)

Note: Total capital expenditures = procurement of capital assets + capital transfer

4. Results

The value of real estate, like other market goods, is reflected in a marketplace by its price. However, due to attributes of fixity and durability, a high sensitivity to spatial externalities, and a high cost relative to incomes, residential property is one of the most complex commodities in the world (Li and Monkonnen, 2014). Within the development of the total value of the municipal property for the period 2000 - 2016 it is possible to follow the increasing trend (Figure 1). The total value of municipal property in 2016 compared to 2000 increased by 10,098 mil. € (which represents an increasing more than twice). A more pronounced increasing of the value of municipal property is recorded in 2003 and 2005, which is related to the process of decentralization of competences that took place in this time in the Slovak Republic. As part of the decentralization of competences, municipalities got some competences (e.g. registry office, education, social services) and for these competences municipalities got also the property. This is also confirmed by Tej (2002), who mention that the extensive decentralization of competences within the public administration has bring the challenge for the self - government to provide a wide portfolio of different public goods and services to meet the demands for greater efficiency, professionalism and quality of services for inhabitants.

Another change, which affected the total value of the municipal property, was the introduction of depreciation of municipal property. On the one hand, the depreciation has
contributed to the revaluation of the municipal property value, on the other hand depreciation represents only an administrative function. Anthony and Pitt (2006) say that even where a property is depreciated in the public sector on the basis of the revalued amount it still cannot guarantee that the asset can be replaced for that sum. Escalating building costs, or general inflation may mean that an organization lacks sufficient cash to procure a replacement even after pursuing conscientious revaluation and depreciation practices. Other development can be watched in the development of total incomes of the municipalities (Figure 1). The total incomes from property are create from incomes from business with the municipal property and incomes from municipal property ownership. From 2000 to 2013, total incomes from property grew yearly. The change occurred in 2014, when the municipal total incomes from property in comparison with the previous year decreased by 1 mil. €. From 2015 until 2016, the total incomes from property rising again each year. In 2016, compared with 2000, total incomes from property increased by 145 mil. €.

Figure 1: Development of the total value of municipal property and development of the total incomes from municipal property in 2000-2016

Source: the authors based on data from Datacentrum, Ministry of Finance of the Slovak Republic.

In Hong Kong, the property management industry is regulated by a series of laws and ordinances and to some extent the basic provision of services is standardized (Li and Monkonneen, 2014). In the conditions of Slovakia, the using of municipal property is defined in the Act No. 138/1991 Coll. about municipal property. Municipalities can manage their property separately or through the administrator of the property of the municipality, which is its budgetary organization or contributory organization established according by a special regulation. Incomes coming from the ownership of municipal property are part of the municipality's own incomes. Most of the municipal property incomes consist of rental incomes. These incomes are used by the municipalities for the general operation of the municipality and the related regular maintenance of the municipal property. The net income effect reflects the impact of municipal property on incomes. During the analysis period, this indicator was volatile. During the period 2000-2005, incomes from municipal property and also total value of municipal property increased, which also reflected an increase in net income effect. The slight increasing of the total value of municipal property and incomes from
municipal property caused the annual value of the net income effect to be between 9.4 and 9.8 ths. € in the period 2009 - 2016. We also see similar developments in the indicators the gross income effect. The gross income effect of the municipal property reflects the created of own incomes from the total municipal property. In the analyzed period, municipalities created in the range 111.2 ths. € - 158 ths. € of own incomes on 1 mill. € of municipal property (Figure 2). The development of both indicators – the net income effect of municipal property and the gross income effect of the municipal property shows that the reproductive power of property in municipalities is very low.

Figure 2: Development of net income effect and development of gross income effect in 2000 – 2016

Source: the authors based on data from Datacentrum, Ministry of Finance of the Slovak Republic.

Property rationalization is the key element of a municipal property management process, supporting the acquisition of new property or the divestiture of non-strategic properties. Property rationalization is applicable when the property under consideration is significant in terms of associated costs, historical or heritage value and its impact on the community or on the operations of the municipality as a whole (Jolicœur and Barrett, 2004). The next two indicators express the level of renewal of the property (Figure 3). The municipality's reproductive power expresses the level of reproduction of the municipal property during a certain period, that is, how much capital expenditures were issued by the municipalities for the expansion of the municipal property. Reproductive capacity expresses the ability of the municipality to secure incomes from the use of property.
Both indicators during the analyzed period were volatile. The analysis showed that municipalities issue by per year 34.9 - 75.6 ths. € capital incomes on 1 mill. € value of municipal property (Figure 3). It follows that the reproductive power of the municipalities is very low. If we compare the results of the reproductive power of the municipality with the reproductive capacity of the municipality, we can see that the municipalities actually issue more capital expenditures for the modernization of property, than they receive them in the form of capital incomes. However, it has to be note that municipalities receive capital incomes mainly from the sale of property. However, municipalities sell property only if it becomes unhelpful for the municipality. Andrejovská (2010) assert, that the income from the sale of the municipal property must be used exclusively for development, investment programs, which will generate any additional revenue to replace the loss of property sold. In practice, this means that the municipalities are trying to ensure its development not only from capital incomes but also from their current income. Therefore, the municipalities also use external financial resources - both recoverable and non-recoverable. In the current period, it is primarily about non-recoverable funds from the structural funds. Municipalities perceive this option as a suitable alternative to the modernization of municipal property, respectively for the further development. It also confirm Gregaňová et al. (2015); Országhová (2015); Dvořák (2002); Fiša and Kučera (2015) who say that financial management and decision making lies as well in the selection of optimal possibility from several alternatives of fund-raising in order to ensure predominantly the economic activities.

5. Conclusion

The analysis of selected indicators has shown that for the period 2000 - 2016 there was an increase in the value of municipal property, to a great extent contributed to this situation the decentralization of competences as well as the modernization of municipal property, mainly from EU sources. The fact, that municipalities have received additional property in the
context of the decentralization of competences, especially the long-term tangible property, which, in many cases, require extensive reconstruction, is causing an increase in the municipal capital expenditures. Incomes, which generate the municipalities from the use of property does not fully cover the capital needs of municipalities to modernize its property. This is also confirmed by the results of the analysis, which pointed to the fact, that the municipalities actually issue more capital expenditures for the modernization of property, than they receive them in the form of capital incomes. So in practice the municipalities for this purpose must seek other non-repayable or recoverable financial resources, respectively for bigger financial investments, they accumulate financial resources over several years. This development was also confirmed by the analysis of indicators - the reproduction power of the municipality and the reproduction capacity of the municipality which is very low in Slovakia. This development was also confirmed by the analysis of indicators - the reproductive power of municipalities and the reproductive capacity of municipalities which is very low in Slovakia. It is also related to the biggest property problem of local self-government, which is based on poor quality of the local transport infrastructure.

Despite the growth of the total value of the municipal property and the total incomes from the municipal property in 2000-2016, the investment debt of Slovak municipalities in this area is not decreasing.

The evaluation of using of municipal property in local self-government is very complicated. This is due to the fact that municipalities are not primarily supposed to bring profits, but they must bring the services, which contribute improving quality of the life of inhabitants. In the process of deciding how to use effectively municipal property, it very important to determine the particular purpose of each type of municipal property, because at the process of decision making is will be identify the benefits that the municipal property will bring in the future. In our opinion, these are fundamental questions in the process of property management and strategic decision-making on municipal property.

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A SURVEY OF DEVELOPMENT TOURIST PREFERENCES
IN THE MORAVIAN-SILESIAN REGION

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Abstract

Current trends in tourism in the Czech Republic are under the strong influence of customer demand for innovation, extent and quality of supply and this stimulates the development of new specific products and forms of tourism. The article deals with the study of trends in tourism in the Moravian-Silesian Region in order to determine the basic parameters of trends in demand for catering and accommodation services and travel agencies. A survey aimed at gaining information on the attitude of customers to the problem under investigation took place in the summer and autumn of 2017 as part of the Institutional Support project called “Trends of Tourism in the Moravian-Silesian Region”. The method of written questioning, method of analysis and synthesis was used. The evaluation of the tourist potential of the area under inquiry is expressed by means of the Defert's tourist function of the attractiveness of the area. Comparison of the identified preferences of potential customers of the pilot survey and the established tourism trends from the Tourism Management Strategy in the Moravian-Silesian Region was carried out. The contribution of the article is to determine the preferences of visitors of tourism services in the selected area.

Key words
development, tourism, trends in tourism, destination tourist attractivity

JEL classification
Z32, R11

1. Introduction

Current trends of tourism in the Czech Republic are under the strong influence of the increase in customers’ requirements for range and quality, and it encourages the development of new specific forms of tourism.

The increase in tourist attractiveness of the territory is one of the current tasks of tourism development in the Moravian-Silesian Region, which is defined in the strategic documents and is based on the strategic goals of the State Concept of Tourism Development in the Czech Republic by 2020. The tourist attractiveness of the area determines the tourist attendance and is one of the main indicators of tourism development in the given area (Zelenka and Pásková, 2012).

The article focuses on exploring development trends in tourism as part of a survey of the institutional project "Tourism Trends in the Moravian-Silesian Region", exploring the preferences and needs of potential tourists for catering and accommodation facilities and travel agencies. The territory of the Moravian-Silesian Region and its tourist significance is characterized by a Defert's function, which determines the attractiveness of the area and
works upon the tourist attendance, using statistical data on the capacities of accommodation facilities in the region.

The results of the survey will take as a basis for further research within the institutional project “Trends of Tourism in the Moravian-Silesian Region”. The outcome of the project will outline the possible development trends in tourism, which will take entrepreneurs in the region as a recommendation for the direction of product development, with emphasis on new identified trends on demand side.

2. Theoretical background and methodology

Tourism is a global phenomenon of the present. It is one of the important indicators of raising the standard of living of the population; it is an opportunity for the development of small and medium-sized enterprises, too (Mertlová, 2015). With its scope and progressive growth, it generates a high volume of production and job opportunities. It cannot be considered a purely economic sector, it is still rather an aggregate multiplication factor combining such industries that provide demand driven by visitors, or induce it (Vetráková et al., 2015). Tourism is one of the most important areas of the economy for many European countries (Goeldner et. al., 2009). In the world, it is ranked among the five sectors, with the largest share of exports of goods and services, and it represents the largest source of foreign exchange revenue for two-fifths of the countries. From the point of view of the turnover of international trade, tourism comes in third, after the trade in oil and chemicals. Palatková (2013) indicates that demand for tourism has started to change very significantly in the Czech Republic. It is influenced by many factors (individual, cultural, economic, motivation to participate, service requirements, etc.). The client's ability to formulate his/her needs and requirements is a significant indicator of the development of demand for tourism. In order to meet the needs of tourists, transport and material technical conditions, territory facilities for accommodation, catering, sports, entertainment and other facilities are of great importance.

World megatrends deepen the polarization of tourists' preferences as they relate to the mutual conditioning of globalization and localization, information and communication technologies; these influence the choice of destination and product distribution and put an emphasis on comfort, facilitation and acceleration of travel and the development of transport technologies. More and more tourism will take place in non-traditional places due to globalization. A destination with the development of a thematic product market with 1 or a combination of 3 elements will become fashionable, such as fun, experience and cognition, and target locations will focus more on image as a prerequisite for their diversification and expansion of opportunities (Gúčik, 2010). According to Ryglová et al. (2011) regions are developing new development strategies, with a narrower focus on tourism products.

Classification of tourism trends evolves from the point of view of individual authors, institutions or organizations. Trends in tourism are the subject of examination of many authors, for instance, Darcy and Buhalis (2011) refer to a trend of a universal design suitable for all categories of visitors in the tourism industry to ensure a safer environment and easier access to services. Conclusions of Conrad and Buck (2011), Gúčik (2010), Goeldner and Ritchie (2014) point to the increasing importance of promoting the development of ecological tourism and ethics, Ryglová et al. (2011) deal with the slow extinction of traditional high street travel agencies due to the new technological improvements as well as the higher participation of franchising companies, Kotíková (2013) mentions the importance of events and event marketing for tourism promotion. Gúčik (2010) reports on the World Tourism
Organization's megatrends that will affect international tourism by 2020. It will be considerably promoted by health, environmental, cultural, thematic and adventurous tourism. Among the ten basic trends affecting tourism in the near future the following can be ranked: demographic changes, health and education care, changes in leisure time preferences, travel experiences, lifestyle changes, development of information technologies and transport, interest in sustainable development, security and safety. CzechTourism ranks the change of the choice of accommodation among the trends - the importance of alternative accommodation is growing, such as Airbnb and discount portals is growing, which indirectly affect the traveler's habits of Czech tourists. The main communication tool are Internet portals (such as Kudy z nudy v Čechách), the increasing trend in Europe is the extension of the summer and the spending of the holiday even outside the high season. According to Palatková (2013), tourism of young people with their emotionally significant mobile photos from active experiences and adventure trips is developing considerably, along with solo female travel referred to as "solo travel" in search for enriching experiences; in addition, food tourism, responsible tourism and ecotourism are on the rise and in business tourism, "Bleisure" is promoted.

3. Determination of the examined area and measurement of its tourist attractiveness

Tourist attendance in the destination is directly related to its tourist attractiveness. A quantitative indicator expressing the intensity of tourist activity in the given area (Zelenka and Pásková, 2012) is the Tourist Load Index, the so-called Defert’s function T (f), which is a territorial expression of the quantitative aspect of tourism intensity, or a rate of psychologically and socio-culturally acceptable potential tourist traffic. It is constructed as a ratio of the number of visitors and residents, respectively as a ratio of two populations, the one that is visiting and the visited one. The Moravian-Silesian Region, which is defined by the districts of Bruntál, Frýdek-Místek, Karviná, Nový Jičín, Opava and Ostrava-Město, was chosen to measure the tourist attractiveness. It occupies a 6.9% area of the whole Czech Republic and with a number of 1,215,000 it is the third most populous region in the Czech Republic. Since the 19th century, it has been one of the most important industrial regions in Central Europe, focusing on its economic activities - the sectoral structure today brings a lot of problems related to regional restructuring, social problems, unemployment and depopulation. In addition to cultural and sporting activities, it offers recreational opportunities, sightseeing and therapeutic stays, and has good conditions for hiking and cycling, cross-country skiing and downhill skiing. Traditional cultural centers of the region are Ostrava, Opava and Český Těšín. The region's specific conditions are for industrial tourism, water sports and spa industry.

The possibilities of tourism development are predetermined and at the same time limited by the capacity possibilities of accommodation in collective accommodation facilities, which the Moravian-Silesian Region has more than one third less on the national average. The basic indicators of tourism in the Moravian-Silesian Region in 2017 show favorable results, the number of guests and the number of overnight stays in collective accommodation facilities is increasing year-on-year - the average number of overnight stays (2.9) places the Moravian-Silesian Region on the 5th place in the Czech Republic. Most foreign guests are traditionally coming from Slovakia, Poland and Germany (their number is rising year on year), followed by Austria and Italy.
The territory of the Moravian-Silesian Region and its tourist significance is characterized by a Defert's function, which determines the attractiveness of the area and works upon the tourist attendance. The intensity of tourist attendance in the Moravian-Silesian Region, resulting from the intensity of overnight stays in collective accommodation facilities, both domestic and foreign guests, is almost two-thirds below the national level. The relation of tourist traffic to the total area of the region points to the low level of the area's surface load on tourism, with potentially low environmental impacts. The indices of the tourist function $T(f)$ of individual districts, based on the number of permanent beds and the number of inhabitants, characterizing the tourist load of the area and its tourist attractiveness are presented in Table 1.

Table 1: Index of Tourist Function $T(f)$ on Silesian Moravian Region

<table>
<thead>
<tr>
<th>Districts of the Silesian Moravian Region</th>
<th>Number of accommodation facilities*</th>
<th>Number of beds*</th>
<th>Number of residents*</th>
<th>$T(f)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karviná</td>
<td>39</td>
<td>2,200</td>
<td>25,518</td>
<td>0.867</td>
</tr>
<tr>
<td>Bruntál</td>
<td>137</td>
<td>6,409</td>
<td>93,718</td>
<td>6.838</td>
</tr>
<tr>
<td>Opava</td>
<td>62</td>
<td>3,149</td>
<td>176,742</td>
<td>1.781</td>
</tr>
<tr>
<td>Frýdek - Místek</td>
<td>181</td>
<td>9,032</td>
<td>213,260</td>
<td>4.235</td>
</tr>
<tr>
<td>Nový Jičín</td>
<td>90</td>
<td>4,081</td>
<td>151,762</td>
<td>2.689</td>
</tr>
<tr>
<td>Ostrava - City</td>
<td>67</td>
<td>5,052</td>
<td>324,311</td>
<td>1.557</td>
</tr>
<tr>
<td>Silesian Moravian Region (total)</td>
<td>576</td>
<td>29,923</td>
<td>1,213,311</td>
<td>2.468</td>
</tr>
</tbody>
</table>

Note: *As of 31-12-2015.
Source: the authors using data of the Czech Statistical Office.

The tourist function of the Moravian-Silesian Region is insignificant, according to Defert's function, even though its growth is recorded year-on-year. The districts of Karvina, Opava, Nový Jičín and Ostrava-Město do not record almost any tourist activity, only 2 districts - Bruntál and Frýdek-Místek belong to the $T(f)$ interval with hardly noticeable tourist activity. According to the Index of Tourist Function $T(f)$ it is possible to state that the most visited region of the Moravian-Silesian Region is Bruntál and Frýdek-Místek, for their cultural and historical wealth, good conditions for spa development, water sports and mountain proximity. It is followed by the district of Nový Jičín, Opava and Ostrava-Město. The Index of Tourist Index $T(f)$ of the district of Karviná is the lowest in comparison with the other districts of the Moravian-Silesian Region, and it is also associated with the depopulation, which is the most significant in the region (the index of the number of residents 2014/2015 is 98.6%). The Tourist Load Index of the districts of the Moravian-Silesian Region changes over time compared to 2014 and it increased in 2015 except for Ostrava-Město, on the other hand, in 2017 there is also an increase due to increased tourist traffic of cultural and sporting events such as Ostrava Golden Spike, or Colors of Ostrava.

4. The project “Trends of tourism in the Moravian Silesian Region”

To define development trends, it is vital to analyze the attitude, perception and purchasing behavior of customers - participants in tourism. In the framework of the institutional support project “Trends of Tourism in the Moravian-Silesian Region”, we carried out a survey on a sample of 340 respondents – potential visitors from 18 to 76 year, from the region and
surrounding regions and countries, which was conducted and it focused on obtaining information on customers’ attitude towards the use of services of travel agencies, accommodation and catering services in the summer of 2017. The method of written questioning, and survey techniques were used. The aim was to determine the basic parameters of trends in the demand for catering and accommodation services and services of travel agencies based on the perceptions and requirements of customers - tourists.

As far as restaurant facilities are concerned, we inquired about the use of news in the restaurant offer, which is of average importance for about 38% of respondents and unimportant for 18% or it does not affect them. 68% of respondents frequently or sometimes try out the offer, and about 15% of them prefer the offer that they have checked out before. From a special offer, customers mostly opted for the days on which foreign cuisines (56%), venison feasts (41%) and wine tasting (35%) were offered. Another preference was for pig slaughters feasts, trendy mixed drinks and tea and coffee tastings (32%). For 29% of respondents, Raw Food is an attractive menu along with home-made seasonal beverages available. Approximately 27% of respondents will check out new recipes according to modern trends.

Further, the survey of trends in accommodation followed. As for supplementary services, customers would appreciate modern wellness services most (about 50%), secondly, a more frequent modernization of the offer and facilities of supplementary services (47%) and the increased care of webpages (44%); they put an emphasis on modern communication with clients (35%), a modern fitness center. 41% of respondents would welcome the introduction of loyalty cards and benefits for permanent customers. Then recommendations for the reconstruction of the entire facility (38%) often came up, and 26% consider cooperation important with other businesses in the creation and innovation of the restaurant.

The last area to be examined were the services of travel agencies. Approximately 62% of surveyed respondents use the Internet for the selection and purchase of services of travel agencies, about one fifth of respondents use the offer of discount portals. Concerning transport a major preference was for one’s own transport (41%) to aviation (32%). Respondents mostly focused on active and adventurous trips, those younger oriented on looking for extreme experiences, exploring unique locations, and a preference for gastronomic tourism was very frequent.

In order to evaluate customers’ preferences, criteria were established based on the description of trends according to the Strategy of Tourism Management in the Moravian-Silesian Region 2015 and a comparison was then made (Table 2). The stated trends (Hruška, 2015) are influenced by the current situation in the region where there is a significant issue of the state of the environment, air quality, transport accessibility, service levels, quality of restaurants, marking of tourist routes and tourist information. While considering more important forms of tourism in the region, we can find couchsurfing, industrial tourism, event tourism, gastronomic or adventure tourism (often identified with sport tourism). Traditional tourism, urban, cognitive and creative tourism, rural, nature-oriented, or wellness and spa tourism are considered to be dominant. Personal recommendations and the Internet appear to be a major communication channel. There is an increase in the use of mobile applications, brand management and on-line sales of individual products and services, along with the growth in the number of direct reservations. At the same time, there is an increase in the number of tourists in older age and young people (from 16 to 35), individualization of travel, shortening of "main" holidays and a greater number of short-term holidays. Additionally,
there is a growing demand for off-season activities, increasing service requirements, growing interest in active holidays, relaxation, product packages. Moreover, seasonal tourist traffic at tourist attractions is noticeable.

Table 2: The comparison of trends according to the pilot survey and trends according to the Strategy of Tourism of the Moravian-Silesian Region 2015

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet, on line reservations, on line sale – decrease in importance of tourism, mobile applications, Brand management.</td>
<td>Wide use of the Internet.</td>
</tr>
<tr>
<td>Decision making is affected by online reviews, websites, WOM and personal recommendations (greater weight than promo actions).</td>
<td>Popularity of discount portals.</td>
</tr>
<tr>
<td>Growth in the number of tourists in higher (senior) age and young people (from 16 to 35 years). Seasonal tourist traffic of the region (the highest number of visits in the summer season).</td>
<td>Based on the continuous monitoring of the region’s tourist traffic of the region. Foreign tourist traffic of the MSR: Slovakia 30 % Polish 29 % Germany 18 % USA, Russia, South Korea, China, Italy, Austria, United Kingdom 2 – 5 %.</td>
</tr>
<tr>
<td>Individualization of tourism.</td>
<td>Not yet confirmed.</td>
</tr>
<tr>
<td>Growing interest in active holidays, wellness and fitness, relaxation and spa products.</td>
<td>Active holiday, sport tourism (visits to sporting events and sporting activities).</td>
</tr>
<tr>
<td>Higher number of short-term holidays, often in the off-season. Providing product packages.</td>
<td>Interest in extreme experiences and adventure trips. Discovering unique places in this country and abroad.</td>
</tr>
<tr>
<td>Growth of tourists’ demand for services (quality/price ratio).</td>
<td>Quality/price ratio – high significance for all respondents.</td>
</tr>
<tr>
<td>Growth: cognitive, urban, industrial, gastronomic, sport and event tourism, couchsurfing, geocaching.</td>
<td>Growth of interest in all forms of gastronomic tourism.</td>
</tr>
<tr>
<td>Dominant: traditional tourism such as urban, cognitive and creative tourism, rural, nature-oriented, wellness and spa tourism.</td>
<td>Identification of dominant forms of tourism in the MSR will be the result of the project.</td>
</tr>
</tbody>
</table>

Source: the authors.

Automotive transport plays a dominant role. Couchsurfing, Internet use, industrial tourism, event tourism, gastronomic tourism and adventure tourism have been identified as new forms of tourism in the region that were part of the criteria of the questionnaire survey.

The survey can draw conclusions for selected providers of accommodation, catering and travel agencies. It was confirmed that the perception of a destination depends on a geographical distance, cultural proximity, business cooperation, and depends primarily on what the potential visitors know about the destination. Based on a cross analysis of product
preferences and types of tourism preferences by gender (Figure 1) it was found that women prefer most cognitive tourism, discovering unique places and active and adventurous trips.

Like men, they are looking for new experiences. Men are less interested in the "Europe back-and-forth travel style" and cognitive tourism; there is significantly less interest in the healthier lifestyle than women show. The decision to visit the restaurant repetitively for both men and women significantly is affected by good previous experience, cleanliness and order. Women expect from restaurant staff more professional manner whereas men appreciate the speed of service. For a recurrent visit to the accommodation facility, for men the key is the speed and a professional manner of staff, along with the perfect knowledge of the offer and the ability to help and advice. For women an empathic approach, cleanliness and order and the good language skills of the contact staff are essential.

Figure 1: Tourist product preferences by gender

Source: the authors.

Once the results of the extensive survey among business entities of the Moravian-Silesian Region will be presented beginning next year, to analyze and then compare them with the European and world trends in terms of the impact they will have on tourism organizations. The result will be the prediction and formulation of development trends, with an emphasis on newly identified trends that will serve entrepreneurs in the region as a recommendation for the direction of new product development.
5. Conclusion

The survey will help to draw conclusions for the creation of the offer and its direction for accommodation, catering and travel agencies. They will help entrepreneurs in the region to formulate their attitudes to the development of demand. It is very important to analyze the attitudes, perceptions and buying behavior of tourists. The survey revealed new features of consumer purchasing behavior and new perceptions that entrepreneurs will have to respect in creating tourism services and products. Based on the data analysis of secondary sources (statistics, Strategy of Tourism Management in the Moravian-Silesian Region 2015, published information from other surveys), a number of new trends in tourism can be specified. Some of the observed trends correspond to the development trends presented in the theoretical part. The survey conducted shows that it is necessary to proceed from the layout of the region, its attractions, accessibility and demographic composition of the population (age, economic activity, education, place of residence), which differ from the other parts of the Czech Republic after the restructuring of industry in the region. The region and its districts have sufficient accommodation capacities available. The number of visitors to collective accommodation facilities increases and the length of the stay is slightly higher than that of the country. The arrivals of visitors significantly enhance, especially from near abroad, which affects the active promotional campaign. The prestige of the area is growing, which is thus better promoted, the interest of tourists is increasing and so the tourist traffic of the area is rising. Regional marketing is an increasingly recognized tool for supporting regional development. It creates a synergic effect for regions disadvantaged by their remoteness or restructuring. The tourist traffic of the region would be encouraged by an increased care for tourist attractions, the increase in the number of attractive tourist events and focus on important tourist segments and specific services for them. The care of cultural heritage has its importance, too. Significant support could be obtaining subsidies for organizing cultural and social events and creating partnerships (Botlík et al., 2015). Increasing tourist traffic may play a more significant role in mitigating regional disparities by creating jobs, increasing the rate of entrepreneurship, increasing interest and supporting local municipalities, which would indirectly affect the economy of the territory.

Acknowledgement

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References


Abstract
The paper analyses the offer of volunteer tourism of the organization AISEC Slovakia and the satisfaction of its participants. It is derived from the internal data of the organization as well as the evaluation of satisfaction with the voluntary programs using the ratio-pure recommendation methodology and analysis of on-line references of visitors from web site of volunteer tourism organizations. The offers of volunteer tourism organization vary however most often it is focused on activities with children. In the 2010 – 2016 period, young people participated in volunteer programmes of 68 countries, with the most visited countries were Russia, Turkey and India. Despite the growing trend of volunteer tourism, the number of participants is decreasing. The number reached by methodology of Net Promoters Score (almost 70%) shows the above average success of the organization in the market. The references of visitors in volunteer tourism are also positive. Improvements could be had by better promotion of the organization but also volunteer tourism in general.

Key words
volunteering, volunteer tourism, organization of volunteer tourism

JEL classification
L83, O15, M54

1. Introduction

New dynamically developing trends in the global environment include volunteer tourism as an alternative in ecological, socially responsible and authentic form of travelling. Weaver (2001, p. 1, In Holmes and Smith, 2009, p. 12) defines volunteer tourism as the travelling of people in their free time and for a variety of reasons stay at a destination for the purpose of assistance or mitigation of a material shortage of certain social groups, the restoration of a particular environment or the research of selected aspects of society and the environment. The need to travel for the purpose of exploration, distraction, entertainment, cultural and sporting activities is thus associated with the desire to perform selected activities for the benefit of others for free. Some features of volunteer tourism have appeared in Slovakia since the Second World War (voluntary aid in agriculture and industry) and even after the 1989 revolution, there were several organizations implicitly focused on volunteer tourism. In domestic literature the issue of volunteer tourism has not been properly discussed. Even the
younger generation, for whom the volunteer tourism is primarily offered, the perceived concept is relatively new and little known.

In literature, the definite and compliant term of organizations linked to volunteer tourism and its activities does not exist. While Lamoureux (2011) calls them volunteer managerial organizations, large group of authors (e.g. Coghlan, 2009; Wearing and McGehee, 2013; Taplin, Dredge and Sherrer, 2014) which we lean towards, call them an organization of volunteer tourism. In the market, there are agents that play the role of producers and intermediaries. The producers of volunteer market represented by the receiving organizations which create and deliver volunteer projects focus on improving the social, environmental or cultural conditions of a chosen community or territory (destination), with their seat in the place of volunteer tourism activities, where they join several partnerships (Raymond, 2011). The intermediaries are the sending agent and the various organizations coordinate the volunteer projects. They usually have their seat in developed or developing country, where they gain the potential volunteers and often cooperate with various receiving organizations. These organizations of volunteer tourism coexist, influence and supplement each other.

In terms of volunteer tourism, we distinguish organizations focused exclusively or predominantly on volunteer tourism, and organizations that are primarily engaged in other activities (TRAM, 2008 In Taplin, Dredge and Sherrer, 2014). In the literature available, is emphasized the differentiation of volunteer tourism organizations in terms of the sector of the society they are part of. While a large group of authors (e.g. Raymond and Hall, 2008; Tomazos and Butler, 2009; Tomazos and Cooper, 2012; Coghlan and Noakes, 2012) distinguishes volunteer tourism organizations belonging to the profit making sector and non-profit making i.e. the third sector, some authors (ATLAS / TRAM, 2008 In Taplin, Dredge, and Sherrer, 2014; Sin, 2010) refer the volunteer tourism to the public sector. Due to the nature of volunteer activities, volunteer tourism primarily concerns non-profit making organizations.

Projects offered by volunteer tourism organizations can be categorized in terms of focus, duration, time spent on volunteer activities and other criteria. The breakdown of the focus of the project, which is dominated by the available literature, differentiates environmental projects aimed at protecting the environment and animals and development projects aimed at humanitarian aid, local community development, education, working with children as well as administrative work (Benson, 2011).

2. The objectives of the survey

The main objective of the paper is to analyse the offerings of a volunteer tourism organization and find the level of satisfaction of participants in their programs. We focused mainly on one of the most significant non-profit volunteer organizations based in Slovakia – AIESEC Slovakia. We obtained the information from the analysis of the internal data of AIESEC, the assessment of the satisfaction with volunteer programs using the methodology of Net Promoters Score. This method measures the loyalty of volunteers, which also enables feedback for the organizations. The survey is divided into three categories, (1) category of those who recommend the experience and organization, are excited about the volunteer program, they may share its goodwill (so called promoters), (2) passive satisfied participants (who are satisfied but also not prepared to share the program and organization to other people), (3) critics (unsatisfied participants of the programs, who are expected to denigrate the goodwill of the organization). The final score is counted as the difference between the number
of promoters and critics of the total number of respondents in the survey. We add the analysis of the on-line references of volunteer tourism participants to the assessment of satisfaction.

3. The results of the survey

AIESEC is an organization managed by students, which is based in 126 countries of the world. It influences positively the learning, working experience and development of young people which they achieve through international experience.

Currently, it has appx. 70,000 members who work in 2,400 universities in different countries (https://aiesec.sk, on June, 7, 2017). The ambition of the organization is to develop the managerial skills of young people, motivate them to run their businesses responsibly. They mainly learn this during their volunteer internships or projects abroad. The internships are organized in cooperation with foreign partner organizations. The organization connects the employers and organizations with the global net of young people. It provides the platform which enables them to grow, gain experience, and teach them not to give up in the case of failure. Together with creating the values and their positive impact on society, young people can learn which activities they prefer, build their own values and can change their future life.

AIESEC has existed in Slovakia since 1966. At present, it has 7 branches in 6 cities. Apart from the international internships and membership programs, the AIESEC Slovakia organizes several projects and events every year. The largest events are the conference Youth to Business, Youth Speak, Educate Slovakia, Me Myself & I or Trend Talks.

AIESEC organizes volunteer internship for students abroad, which enables them to leave their own comfort zone and use new challenges. They can get to know new cultures, ways of life and work abroad. Since 2016 the volunteer internships are focused on the Sustainable Development Goals, that was set by United Nations Organization.

The competition lasts from 6 to 8 weeks (depending on particular country and conditions of the partners) and complies with the global standards. Every volunteer must have secured minimal conditions and personal growth during the internship (a), logistics during the whole process of planning, organizing of the internship and its assessment (b), work process (c) as well as the basic conditions (d) (table 1).

Table 1: Areas and content of the global standards for securing the volunteer internships of the AIESEC organization abroad

<table>
<thead>
<tr>
<th>(A) Development</th>
<th>(B) Logistics</th>
<th>(C) Work</th>
<th>(D) Basic needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting the goals of the volunteer internship</td>
<td>Help with visa and work permission</td>
<td>Clear work description</td>
<td>Providing the information on insurance, accommodation, living costs in the host country</td>
</tr>
<tr>
<td>Preparation seminar in the home country</td>
<td>Picking up the trainee by a competent person upon the arrival</td>
<td>Guaranteed length of internship</td>
<td></td>
</tr>
<tr>
<td>Setting the expectations of the trainee</td>
<td>Supporting when leaving from internship</td>
<td>Agreed exact work time</td>
<td></td>
</tr>
<tr>
<td>Preparation seminar in host country</td>
<td>Seminar after the internship</td>
<td>Support during the first day at work</td>
<td></td>
</tr>
<tr>
<td>Meeting with organization serving the internship for self-improvement</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: adapted using the information provided by AIESEC from 2017.
The requirements for the potential volunteer are basic knowledge of English language, age 18 to 30, excitement and motivation for personal growth and development of society, but also 200 EUR fee. The advantage of joining the volunteer project is except having a good feeling and practical experience, communication in English language, improvement of presentation skills, problem solving abilities, getting out of comfort zone and personal growth. As the disadvantages we consider the high costs, since every volunteer pays all travel costs, accommodation costs, food and administration costs (costs for the visa, documents, travel insurance, or vaccination).

From 2010 to 2016, young people took part in volunteer internships in 68 countries around the world. The most visited countries include those that have been visited by at least 10 volunteers in the past years. They were Russia, Turkey, India, Indonesia, Sri Lanka, China, Brazil, Romania, Ukraine, Mexico, Poland, Italy, Egypt, Mauritius, Bulgaria, Lithuania, Morocco, Portugal and Serbia (Table 2).

Table 2: The number of volunteers in the following countries from 2010 to 2016

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>16</td>
<td>10</td>
<td>11</td>
<td>14</td>
<td>6</td>
<td>3</td>
<td>4</td>
<td>64</td>
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<tr>
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<td>15</td>
<td>13</td>
<td>12</td>
<td>5</td>
<td>14</td>
<td>1</td>
<td>0</td>
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<tr>
<td>India</td>
<td>11</td>
<td>10</td>
<td>12</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>Indonesia</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>11</td>
<td>12</td>
<td>3</td>
<td>2</td>
<td>37</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>9</td>
<td>2</td>
<td>9</td>
<td>6</td>
<td>30</td>
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<td>China</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>1</td>
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<td>Brazil</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>1</td>
<td>9</td>
<td>9</td>
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<td>Romania</td>
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<td>6</td>
<td>4</td>
<td>5</td>
<td>6</td>
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<td>23</td>
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<td>3</td>
<td>4</td>
<td>7</td>
<td>2</td>
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<td>0</td>
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<td>3</td>
<td>9</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>20</td>
</tr>
<tr>
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<td>3</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>2</td>
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<td>0</td>
<td>19</td>
</tr>
<tr>
<td>Egypt</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>16</td>
</tr>
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<td>Mauritius</td>
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<td>Bulgaria</td>
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<td>2</td>
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<td>Lithuania</td>
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<td>2</td>
<td>5</td>
<td>2</td>
<td>1</td>
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<td>11</td>
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<tr>
<td>Morocco</td>
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<td>1</td>
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</tr>
<tr>
<td>Portugal</td>
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<td>0</td>
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<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Serbia</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
</tbody>
</table>

Source: the authors using the information provided by AIESEC from 2017.

Less visited destinations during 2010-2016 were Argentina (4), Armenia (1), Azerbaijan (2), Belarus (1), Bosnia - Herzegovina (1), Botswana (1) 1), Cairo (2), Monte Negro (1), Ecuador (1), Estonia (2), Philippines (2), Finland (4), Ghana (1), Greece (3), Georgia (1), Guatemala (1), Croatia (3), Cambodia (1), Kazakhstan (4), Kenya (5), Colombia (8), Korea (3), Costarica (5), Kyrgyzstan (2), Lebanon (2), Latvia (2), Macedonia (1), Hungary (5), Malaysia (4), Moldova (5), Germany (1), Nepal (1), Nigeria Oman (1), Norway (7), New Zealand (1), Oman (1), Pakistan (2), Peru (3), Côte d'Ivoire (2), Slovenia (1), Spain (1), Taiwan (8), Togo (2), Tunisia (6), Uganda (2), Venezuela (1) and Vietnam (5).

We note that the volunteer's offering is rich in number (68) as well as the variety of countries where volunteers travelled. However, the number of volunteers who travelled abroad via AIESEC Slovakia decreased markedly in 2016 compared to 2010, which is in the contradiction with the evolving trend of volunteer tourism. We believe that the reason was, in
particular, the increased security risks that have affected the visitors to Turkey, Russia and other countries. AIESEC identifies the satisfaction with volunteer programs with methodology of pure recommendation ratio. In 2016, the organization achieved a final score of 69.23% (the total number of participants in the survey was 39 trainees – it is clear from the number of participants that the trainees attended the volunteer program not only in 2016 but also in previous years). If the result exceeds 50%, we can talk about the organization's success on the market. A survey conducted by the same method was also attended by other AIESEC countries that organize volunteer programs. As in the Figure 1, AIESEC Slovakia was the best among the countries surveyed in the survey of satisfaction in 2016. We state that it creates expectations for potential volunteers that are outweighed by own experience.

Figure 1: Results of Volunteer Program Satisfaction Survey AIESEC in 2016

![Figure 1: Results of Volunteer Program Satisfaction Survey AIESEC in 2016](image)

Source: adapted using the information from Internal information of the organization AIESEC from 2017.

The work of volunteers in the visited countries is mainly mental, but the condition of its implementation is not the achieved education in that particular field. Important is only the interest of the volunteer for a particular area and corresponding activities.

On the basis of all surveyed volunteers (41) published on the website of organization, who participated in the past period (as of August 23, 2017), we summarize their work in chosen country in the Table 3.

We note that the offer of volunteer tourism organization is also varied in terms of project focus. The vast majority are development projects aimed at local community development, education and work with children. Their integral part is intercultural communication or understanding the cultural differences.

The participants of volunteer internship indicated most often the following benefits: responsibility, self-confidence, openness to new values, value orientation, gratitude for life in Slovakia, ability to work in an international team, acceptance of cultural differences of the work system in different countries, adventure, friendship for life, personal development, patience, improvement of communication in English language or in other foreign languages, improving coaching skills, lots of new contacts, tolerance, overcoming stress during performance in public, being able to decide independently, be modest, have a prepared alternative plan for unforeseen situations, spontaneity, ability to compromise, not to give up, to listen actively, tolerance towards other religions, new knowledge, experience, courage,
openness, communication skills, ability to orientate in a foreign environment, the ability to persevere for own goals.

Table 3: Work of trainees in chosen countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Work</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indonesia</td>
<td>Analysis of the activities in chosen Indonesian companies, presenting the results of their business for a hundred other students, helping with assessment, modification and strategy – making, process setting in small businesses; culture sharing project, learning local Indonesian culture, bringing information about Slovakia and its culture, working in private language school, presentation of Slovak culture in English language to children of the age 5 to 15.</td>
</tr>
<tr>
<td>Romania</td>
<td>Helping students of secondary grammar schools to succeed in their study at University. Work includes soft skills development in English language, taught topics: proactivity, leadership, values, self-presentation, emotional intelligence, career orientation, decision making; volunteer activities in non-profit making organizations, marketing activities included.</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>Teaching English language to children of the age 14 to 18 in international camp; interactive learning of English language in kindergartens.</td>
</tr>
<tr>
<td>Mexico</td>
<td>Teaching English conversations, clients were sole traders or employees; teaching children at elementary school about healthy lifestyle – original goal was teaching in English, but due to the low level of English with pupils, the teaching was in Spanish language; teaching in private elementary schools with the aim: 1 introduce Slovakia, 2. Develop topic think green, 3. Business thinking, 4 Innovative thinking (games, model situations, finding solutions).</td>
</tr>
<tr>
<td>Moldavia</td>
<td>Communication with children in summer camp in English language with the aim to break language barriers and fear of personal communication in foreign language.</td>
</tr>
<tr>
<td>Bosnia-Herzegovina</td>
<td>English language course in non-governmental organizations for employees.</td>
</tr>
<tr>
<td>Morocco</td>
<td>Participation on marketing project with travelling in the country, photographing, writing reviews and blogs on internet.</td>
</tr>
<tr>
<td>Ghana</td>
<td>Educating citizens of Ghana with the concern mainly health care, hygiene, visiting local community from country, lectures for pupils on topics HIV/AIDS, hygiene.</td>
</tr>
<tr>
<td>Lithuania</td>
<td>Lectures about Slovak culture at local secondary grammar schools, organizing the workshops for students; working with children at camps with the objective to improve the language skills using the presentations on Slovakia, creating entertainment and activities for children.</td>
</tr>
<tr>
<td>Russia</td>
<td>Animation activities in summer camps; teaching English at schools.</td>
</tr>
<tr>
<td>China</td>
<td>Learning, understanding and supporting the community of economic refugees and their families, organizing events for families, children’s visits in the local centre, entertainment activities, cooking simple meals together with children, teaching basic Chinese signs, communication and work with seniors in retirement homes.</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>Supporting the development of local tourism in the capital city of Colombo – visiting the local restaurants, their photographing, discussions with managers about their offers, assessment of the atmosphere, creating recommendations, which occur on the existing website for tourists.</td>
</tr>
<tr>
<td>Nigeria</td>
<td>Organizing activities within the Global forum for peace, justice and human rights, activities focused on children’s rights, organizing activities for children from orphan homes and the effort to engage the public to be more interested in these issues; activities focused on building peace at schools.</td>
</tr>
<tr>
<td>Poland</td>
<td>Teaching English through presentations about home country at elementary schools.</td>
</tr>
<tr>
<td>Turkey</td>
<td>Teaching English to disabled children (different forms of disability, physical, mental) in the rehabilitation centre – basic English, animation and physical activities for children.</td>
</tr>
<tr>
<td>Malaysia</td>
<td>During the weekdays teaching English language at schools – with the objective to get over the fear of communication; during weekends animation activities in the centre for mentally disabled, workshops for families of refugees on the topic hygiene.</td>
</tr>
<tr>
<td>Ukraine</td>
<td>Teaching children at schools, of age 16 to 17, topics like teamwork, presentation skills, leadership.</td>
</tr>
<tr>
<td>Kenya</td>
<td>Teaching assistant activities at schools and animation activities in centres, which were built by couples from the USA for abandoned children.</td>
</tr>
<tr>
<td>China</td>
<td>Working on cultural project at secondary grammar school, with the objective to present different cultures, helping students to set the goals and motivate in their future lives.</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Culturally oriented internship, creative activities for children, with the goal to present Slovakia and cook Slovak traditional meals.</td>
</tr>
</tbody>
</table>

Source: experiences of volunteer program participants collected by from Internal information of the organization AIESEC from 2017.
We note that individuals who participated in voluntary departure tourism were satisfied with AIESEC Slovakia's offer, despite considerable fees (participating fees, tickets, accommodation etc.).

4. Conclusion

The objective of the paper was to introduce the offer of volunteer tourism of the chosen organization and find out the satisfaction of volunteers who participated in the projects abroad. We focused on the most significant international volunteer organization that is operating in Slovakia – AIESEC Slovakia.

In the market, the volunteer tourism has the role of intermediary which belongs to the third sector, focuses mainly on foreign volunteer tourism and offers development projects, with the objective to develop local community, education and work with children.

In the years 2010 to 2016 the organization offered 600 volunteer foreign trips mainly to developing countries. Due to terrorist attacks in the world in the past years.

From 2010 to 2016, the organization mediated nearly 600 volunteer foreign tours to predominantly developing countries. As a result of terrorist attacks in the world, however, the number of participants has fallen in the last two years. However, the score gained by the Clean Recommendation methodology (almost 70%) shows above average satisfaction of participants in volunteer tourism and the success of the organization. It may be enhanced by more intense promotion of the organization outside its venues, for example by organizing lectures on volunteer tourism and its benefits for both the individual and society.

Acknowledgements

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References


EVENT ORGANIZERS IN SLOVAKIA IN THE ROLE OF VOLUNTEER TOURISM ORGANIZATIONS

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Abstract

This paper focuses on a combination of two trends in current society, which are also transferred into the alternative forms of tourism, namely organized events and voluntary activity. The aim of the paper is to explore in what extent event organisers in Slovakia engage volunteers in the preparation and realization of events and evaluate the level of professional work with volunteers with emphasis on voluntourists. Data from the questionnaire survey are evaluated. Out of 653 addressed event organisers, 118 were involved in the survey. 70% of them involved volunteers. Volunteers are particularly important in events organisation mostly in non-profit sector. Half of the addressed event organisers cooperate only with volunteers – local residents, while the second half uses volunteer’s help – visitors in tourism, taking over on themselves selected tasks of receiving volunteer tourism organization. The current situation has resulted from missing information about the management of volunteers but it could be improved by e-manual for event organisers.

Key words
volunteering, organised events, event organisers, volunteers

JEL classification
L83, O15, M54, Z32

Introduction

Changes in the way of spending free time and economical as well as environmental changes create conditions in which tourism evolves, grows and diversifies with a goal to satisfy various visitor requirements. One of the fast emerging alternative concepts is volunteer tourism.

Except for travelling to less developed countries for the purpose to involve in development projects that are most covered by foreign literature, volunteer tourism includes volunteer work at festivals and other organised events as well. Such a perception is in literature often connected with the term "event volunteering" and represents a key connection of volunteering work and organised events, which not only supports success of an event but also increases tourism in a selected destination.

1. Theoretical outcomes of the research issue

Despite the fact that a lot of authors consider volunteer tourism as an important trend of today, volunteer tourism is one of the least explored alternative forms of tourism (Stoddart and Rogerson, 2004 In Wearing and McGehee, 2013). According to Wearing (2001), the reason is that volunteer tourism has been the subject of selective pragmatism rather than a specific definition or method for a long period of time. However, in the last years the growing
interest in volunteer tourism and the effort not only to delineate volunteer tourism, but to distinguish it from other forms of volunteering and forms of tourism has been observed. According to available literature (Wearing, 2001; Clemmons, 2009; Chen and Chen, 2011; Tomazos and Butler, 2012) volunteer tourism can be characterised as an integrated organised combination of volunteer service at a tourist destination and specific tourism activities, which are performed in free time, out of place of residence, in home country or abroad and that is beneficial not only to voluntourists, but also to local communities and the environment.

The combination of volunteering and tourism in practice has various forms. One of them is event volunteering.

Motives to volunteering in events are analogous with generalised motives of volunteer tourism. The motivation for a volunteer to attend an event is the opportunity to meet new people and make new friends, to gain new skills and perspectives of life, to get free tickets and access to an event, to get promotional materials or even clothing with the event’s logo for free, to help the community or the opportunity to meet celebrities participating in an event (Downward and Ralston, 2006; Heldt and Klerby, 2014; Smith et al., 2014).

The number of mostly young people, who want to acquire new skills and experience through volunteering, is growing. Simultaneously, the number of event organisers, who benefit from cooperation with volunteers or are even dependent on volunteers, is also growing. Apart from the fact that volunteers help organisers optimize the personal costs of an event (Strigas and Jackson, 2013), the organising team is enriched with their enthusiasm and skills that in general contribute to the satisfaction of visitors (Ralston et al., 2005). Therefore, many event organisers consider volunteers as the key part of the successful event. By engaging volunteers, they take on the selected tasks of receiving volunteer tourism organisation.

Growing trend of event volunteering has impact on the work of researchers who carry out number of projects in this field, e.g. Gallarza et al. (2013), Lee et al. (2014), Hallmann (2015), Kristiansen et al. (2015), Lee et al. (2016), Ahn (2017).

2. The aim and the research data

The aim of the paper is to explore in what extent event organisers in Slovakia engage volunteers in the preparation and realization of events and evaluate the level of professional work with volunteers with emphasis on voluntourists.

Based on information from internet portals where potential visitors can get information about events in Slovakia (www.allfestivals.com, www.nafestival.sk, www.dikymoc.sk, www.folklorfest.sk, www.ludovakultura.sk), websites of local and regional tourism organisations and other selected institutions (www.culture.gov.sk, www.nocka.sk, www.matica.sk, www.sport.iedu.sk) an event organisers database was created. This information gathering for the database was complicated by the fact that none of the websites contained a comprehensive list of events or their organisers (it was necessary to remove any duplicates), and that most available portals contained a brief information about the event (most often as a leaflet or short note) without any information about the organiser (it was necessary to do additional searches for individual event websites or social sites). Therefore, we conclude there is a need to coordinate the list of organised events in Slovakia.

The primary data were obtained through a questionnaire survey. 653 event organisers from database were addressed by an e-mail in June 2017. Questionnaire has been returned in
18.10% cases (which makes 118 filled-in questionnaires). This was possibly due to the way these questionnaires were distributed and the lack of time of the event organisers.

Gained data were processed by selected mathematical-statistical methods in statistical programme SPSS Statistics. Statistical tests have been evaluated using the 95% probably level.

Nearly two-thirds (65.30%) of respondents were from the public sector, a fifth (19.50%) were from non-profit sector and only 15.30% were from the private sector. Given the absence of background information, it was not possible to determine whether the results of this research are representative or significantly affected by the rate of a willingness of the event organisers to respond to questions.

One quarter (24.60%) of respondents reported event organising as their main activity, 59.30% as an equal share of the organisation’s activities and only 16.10% as an activity which they are devoting marginally.

While 66.90% of respondents regularly organise (at least once a year) several thematically diverse events, 19.50% concentrate on organising numerous homogeneous events. Ten (10.20%) organise only one event on a regular basis and 3.40% of respondents organise events only occasionally. This is especially about organisations, which reported organising events as a marginal activity.

A large number of these events were cultural events (75.50%), which corroborate the results, from the study of the aggregate demand of Slovak inhabitant after organized events (Pompurová, 2014).

Table 1: Average number of event’s visitors

<table>
<thead>
<tr>
<th>Number of visitors</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Valid Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 500</td>
<td>52</td>
<td>44.1%</td>
<td>44.1%</td>
<td>44.1%</td>
</tr>
<tr>
<td>to 1 thous.</td>
<td>23</td>
<td>19.5%</td>
<td>19.5%</td>
<td>63.6%</td>
</tr>
<tr>
<td>to 5 thous.</td>
<td>26</td>
<td>22.0%</td>
<td>22.0%</td>
<td>85.6%</td>
</tr>
<tr>
<td>to 10 thous.</td>
<td>6</td>
<td>5.1%</td>
<td>5.1%</td>
<td>90.7%</td>
</tr>
<tr>
<td>to 15 thous.</td>
<td>3</td>
<td>2.5%</td>
<td>2.5%</td>
<td>93.2%</td>
</tr>
<tr>
<td>to 20 thous.</td>
<td>3</td>
<td>2.5%</td>
<td>2.5%</td>
<td>95.8%</td>
</tr>
<tr>
<td>to 25 thous.</td>
<td>1</td>
<td>0.8%</td>
<td>0.8%</td>
<td>96.6%</td>
</tr>
<tr>
<td>More than 25 thous.</td>
<td>4</td>
<td>3.4%</td>
<td>3.4%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

According to estimate of event organisers, the events are attended by local residents as well as visitors from other regions. Most (90.70%) of the organisations that participated in the research organise small events with less than 10 thousand participants (Table 1), which is typical for events organised in Slovakia.

3. The survey results

The first part of the survey was focused on the extent of cooperation between the event organisers and volunteers. Seven out of ten respondents involved volunteers in to the event’s preparation and realization (32.20% regularly and 37.30% occasionally). Only a third (30.50%) of respondents has not cooperated with volunteers by now, particularly because of lack of information and experience from management of volunteers. However, more than
a half of them were interested in cooperation with volunteers, if there was an event organiser’s manual providing an outline guide to managing volunteers. The rest of respondents cannot imagine the involvement of volunteers in organizing events, because of complicated procedures and regulations in the public sector.

Subsequently, 82 questionnaires were evaluated, e.g. response of the organisers who involved volunteers in organising the events.

Due to a size of events, an average number of volunteers involved in organising the event (Table 2) are reasonable. Most (87.80 %) of organisations cooperate with a maximum of 20 volunteers.

Table 2: Average number of volunteers involved in organizing the events

<table>
<thead>
<tr>
<th>Number of visitor</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Valid Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 5</td>
<td>32</td>
<td>27.1</td>
<td>39.0</td>
<td>39.0</td>
</tr>
<tr>
<td>6 to 10</td>
<td>22</td>
<td>18.6</td>
<td>26.8</td>
<td>65.9</td>
</tr>
<tr>
<td>11 to 20</td>
<td>18</td>
<td>15.3</td>
<td>22.0</td>
<td>87.8</td>
</tr>
<tr>
<td>21 to 50</td>
<td>7</td>
<td>5.9</td>
<td>8.5</td>
<td>96.3</td>
</tr>
<tr>
<td>51 to 100</td>
<td>3</td>
<td>2.5</td>
<td>3.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>69.5</td>
<td></td>
<td>100.0</td>
</tr>
</tbody>
</table>

Missing System: 36
Total: 118

Source: the authors.

The value of Spearman’s coefficient (Table 3) indicates that by increasing the scale of events increase the number of volunteers involved in the preparation and realization phase of events.

Table 3: The results of the relationship between average number of involved volunteers and average number of visitors of the event

<table>
<thead>
<tr>
<th>Average number of event’s visitors</th>
<th>Average number of involved volunteers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td>Average number of event’s visitors</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.244*</td>
</tr>
<tr>
<td>N</td>
<td>82</td>
</tr>
<tr>
<td>Average number of engage volunteers</td>
<td>0.027</td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>1.000</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>0.244*</td>
</tr>
<tr>
<td>N</td>
<td>82</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
Source: the authors.

Nevertheless, most (51.20 %) of events are independent of volunteer help (Table 4).
Table 4: Rate of dependence of event of volunteers work

<table>
<thead>
<tr>
<th>Rate of dependence on volunteers</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Valid Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely dependent on volunteers</td>
<td>12</td>
<td>10.2</td>
<td>14.6</td>
<td>14.6</td>
</tr>
<tr>
<td>Partially dependent on volunteers</td>
<td>28</td>
<td>23.7</td>
<td>34.1</td>
<td>48.8</td>
</tr>
<tr>
<td>Independent of voluntering</td>
<td>42</td>
<td>35.6</td>
<td>51.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>69.5</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>36</td>
<td>30.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

Although a majority of events could be organised without the participation of volunteers, according to the three-quarters addressed organisations, volunteers are playing an important role in making the events possible (Table 5).

Table 5: The importance of volunteers in events

<table>
<thead>
<tr>
<th>Status of volunteers</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Most important</td>
<td>17</td>
<td>14.4</td>
<td>20.7</td>
<td>20.7</td>
</tr>
<tr>
<td>Important</td>
<td>46</td>
<td>39.0</td>
<td>56.1</td>
<td>76.8</td>
</tr>
<tr>
<td>Unimportant</td>
<td>19</td>
<td>16.1</td>
<td>23.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>82</td>
<td>69.5</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>36</td>
<td>30.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

On the other hand, there is a significant difference between the perceptions of importance the volunteers’ participation in event depending on the economic sector of the organization preparing the event (Table 6).

Table 6: Results of analysis of variance (ANOVA)

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4,999</td>
<td>2</td>
<td>2.499</td>
<td>6.379</td>
</tr>
<tr>
<td>Within Groups</td>
<td>30,952</td>
<td>79</td>
<td>.392</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35,951</td>
<td>81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

While volunteers are of huge value to non-profit organisations, relatively less important are to public sector organisations (Table 7). It could be caused by a fixed budget, which is set aside by the organisations (the absence of the need to reduce personnel costs of organising the event). Because the effective involvement of volunteers in the organisation of the event requires a planned and organised process, the second part of the survey was focused on the level of professionalization of the work with volunteers. For most (79.30 %) events the selected member of the organising team is responsible for the management of volunteers. Only a fifth of the organizations create the position of volunteer manager or coordinator.
Volunteer manager may be a paid employee (13.40 %), an outsourcer with created job conditions and clearly defined labour content (1.20 %) or a volunteer (6.10 %), e.g., an individual, who is not paid for his work.

Table 7: The status of volunteers depending on the economic sector to which the organisation preparing the event belongs

<table>
<thead>
<tr>
<th>Status of volunteers</th>
<th>Private sector</th>
<th>Sector of economy</th>
<th>Non-profit sector</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Public sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Most important</td>
<td>18.18</td>
<td>12.00</td>
<td>42.86</td>
<td>17</td>
</tr>
<tr>
<td>Important</td>
<td>63.64</td>
<td>56.00</td>
<td>52.38</td>
<td>46</td>
</tr>
<tr>
<td>Unimportant</td>
<td>18.18</td>
<td>32.00</td>
<td>4.76</td>
<td>19</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>50</td>
<td>21</td>
<td>82</td>
</tr>
</tbody>
</table>

Source: the authors.

According to the ANOVA results there is no significant difference in the way of coordination of volunteers and the scale of the event (Sig. < 0.05).

The existence of volunteer coordinator is the key element in event management. A volunteer coordinator is the quality guarantor of volunteer management. An example of good practice is the biggest Slovak music festival Pohoda (which is ranked by European Festival Awards each year as the best medium-sized European festival), where the volunteer coordinator has their own coordination team.

Every volunteer should be acquainted with his work, which he will be doing at the event. According to Brozmanova Gregorova et. al (2014, p. 9) is important to clearly define and set up of needs, requirements, and obligations of volunteers. Volunteers should have specified activities or schedule of duties and way of their communication. However, only 62.2% of the addressed organizations specify the workload of the volunteers (12.2% in written form and 50% orally). There is a significant difference in the concretization of volunteer tasks in dependency from the way of their coordination (Table 8). The workload is a matter of course in the case of creating a paid position of a volunteer manager.

Table 8: Result of analysis of volunteers’ workload on the way of event coordination (ANOVA)

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>4.394</td>
<td>3</td>
<td>1.465</td>
<td>3.658</td>
<td>.016</td>
</tr>
<tr>
<td>Within Groups</td>
<td>31.228</td>
<td>78</td>
<td>.400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>35.622</td>
<td>81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

For the tourism development in target destination is determinative whether volunteers participating in the event are local residents or can be described as voluntourists. While half of addressed event organizers cooperate with local residents, the other half also work with voluntourists. The dependency on the size of the event was not statistically (ANOVA) demonstrated (Sig. <0.05).

Subsequently, the approximate proportion of voluntourists on a total number of volunteers was examined. Most respondents reported that participation of voluntourists was minor (Table 9).
At the same time, the absolute majority of voluntourists are domestic voluntourists (97.50 %). Foreign voluntourists usually take part in international and world events (e.g., World Championship in Ice Hockey).

There are different ways how to reach potential volunteers. Many of them are in accordance with current trends in marketing communications (Marčeková and Malachovský, 2015). Now the recruiting process consists of finding potential candidates, by using personal contacts (37.80 %), social media networking (20.70 %), and web page of organisation or event (12.20 %) as the preferred method of contact. In the case of big events with high demand on volunteers work, such as the Pohoda festival, is necessary to build up web page for volunteers or addressing potential volunteers by posters and lectures on high schools and universities.

Table 9: Share of voluntourists on total number of volunteers

<table>
<thead>
<tr>
<th>Share of voluntourists</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Valid Percentage</th>
<th>Cumulative Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>to 20 %</td>
<td>32</td>
<td>27.1</td>
<td>78.0</td>
<td>78.0</td>
</tr>
<tr>
<td>to 40 %</td>
<td>3</td>
<td>2.5</td>
<td>7.3</td>
<td>85.4</td>
</tr>
<tr>
<td>to 60 %</td>
<td>5</td>
<td>4.2</td>
<td>12.2</td>
<td>97.6</td>
</tr>
<tr>
<td>to 100 %</td>
<td>1</td>
<td>.8</td>
<td>2.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>34.7</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>77</td>
<td>65.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>118</td>
<td>100.0</td>
<td></td>
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Source: the authors.

One aspect of the quality of volunteer management is repeating involvement of volunteers in the organisation of the event. The survey shows that while 29.30 % voluntourists attended the event only once, more than two-thirds (70.70 %) voluntourists participated in the events repeatedly. It is suggested that volunteering at the event is important to them and motivates them to take part in the event again. The statistical connection between repeated volunteer work and the scale or type of event has not been statically proven (Sig. <0.05).

An important part of volunteer management is to evaluate and appreciate volunteer work. Although volunteering is an unpaid activity, the organisation should not take volunteers as a matter of course and should have the other opportunities for developing further cooperation. Many addressed organisations provided to voluntourists meals (68.30 %), accommodation (19.50 %) or reimburse their travel expenses (2.60 %). Looking at the research of Brozmanová Gregorová et al. (2014), the reimbursement of part of expenses is welcome for volunteers. As a sign of appreciation for the volunteer work addressed organisations offered to volunteers clothing with the event’s logo (34.10 %), free tickets to the event for friends or family members (34.10 %) or promotional materials from event partners (24.40 %). These benefits were provided by 90.2 % of respondent.

4. Summary

Events have become a significant part of destination tourists’ offer, which are used to 'boost' visitor numbers, make a destination more attractive and bring additional incomes. Volunteers are individuals who in their free time willingly provide their experience and skills for event’s organisers without financial compensation in organisers benefit or in public benefit.
Despite growing interest in organized events due to population migration, cultural dislocation, stressful urban environment (Gets, 2012) and the rising trend of volunteering, the focus on event volunteering is only marginal in current domestic literature. Therefore, the aim of the paper was to explore in what extend event organisers in Slovakia engage volunteers in the preparation and realization of events and evaluate the level of professionalization work with volunteers with emphasis on voluntourists. The research was based on data from questionnaire survey.

Out of 653 addressed organisers, only 118 were involved in the survey. 70 % of them cooperated with volunteers. With the size of the event, the number of volunteers involved in the event's preparation and realization phase is growing. Volunteers are particularly important in events organisation mostly in non-profit sector.

A certain feature of work professionalization with volunteers on events is coordination of them. At most events, the selected member of the organising team is responsible for the management of volunteers. The position of volunteer manager or volunteer coordinator declared only 20.00 % of addressed organisers. Arguable is the determination that only 60.00 % of events organizers define duties of volunteers, and most of them only verbally. It is required to have set activities and time realization for the volunteers.

Half of addressed event organisers cooperate only with volunteers – local residents, while the second half uses volunteer's help – visitors in tourism, taking over on themselves selected tasks of receiving volunteer tourism organization. In case of attractive events with greater than regional significance, the engagement of voluntourists could be more distinctly. The current situation has resulted from missing information about the management of volunteers but it could be improved by e-manual for event organisers providing an outline guide to managing volunteers.

In the present organisers engaged in survey address potential volunteers or visitors, particularly via personal contacts and through social networks. In the future they could implement the motivational lectures at selected high schools and universities, cooperate with selected non-profit organizations uniting volunteers (e.g. INEX Slovakia) or offer volunteering at events as a part of team building.

The volunteers' satisfaction can be seen in their repeated involvement in the organization of the event. The positive is finding out that 70.00 % of respondents declared mostly recurring cooperation with the same volunteers. It could be related with benefits which organizers provide to voluntourists. According to the authors Heldt and Klerby (2014), benefits like the possibility to get tickets on event, promotional materials, or clothing with event’s logo motivating individuals to take part in events as volunteers. An important impulse for potential volunteers could be also the possibility to meet celebrities who participate in the event or the creation of common group on social network that would strengthen the motive to meet new people and make friends.

Whereas in the domestic and foreign literature there is no comprehensive study of volunteering at organized events, the results of the survey are considered as original. They are perceived as the precondition of further and deeper study of event volunteering in tourism and creation of general recommendations for event organisers.

**Acknowledgements**

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References


THEORETICAL ASPECTS OF HOUSEHOLD ECONOMY
WITH FOCUS ON V4 COUNTRIES

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Abstract
The households form an important part of any economy in the world and economics was originally a study of the household. However, the mainstream economics considers household as only consumption units supplying their labour in the labour market. This view is rather restrictive. The article deals with certain theoretical and methodological aspects of the household economy not investigated by mainstream economics, with the focus on V4 countries, namely Czech Republic, Hungary, Poland and Slovakia. The theoretical aspects considered in article include the unpaid work in household economy, household production process, the measuring and modelling the household economy and household economic behaviour. In the areas of unpaid work as well as in measuring and modelling the household economy one can find contributions devoted to selected V4 countries. However, in the field of household economic behaviour proposed by New Home Economics, the research progress in V4 countries is considered to be slow.

Key words
household economy, household production, household satellite account, household economic behaviour

JEL classification
D13, D11

1. Introduction

Economics was originally a study of the household. Household economics is therefore not a new developed area. However, the concept of household and non-market economics and household production was pioneered or popularized only recently by the seminal contributions of several eminent economists, including Gary Becker, Duncan Ironmonger and Kelvin Lancaster, just to mentioned some of them. It is important to note that these economists were working in western economies, namely USA and Australia. The modern theoretical concept of household economy was developed along mainstream economics dealing with functioning of mixed economy in capitalist system.

After the Second World War, many countries of Central and Eastern Europe began to form a centrally planned economy based on Marx economic theory which had also influenced attitude of researchers to household economics. After brake-up of centrally planned economy those countries began to transform into market, or more precisely into mixed economies. During the transformation process for understandable reasons much attention had been paid to the marketized part of the economy, e.g. the private enterprises, banks and the role of monetary policy in the economy. From the international perspective a lot of effort was
devoted to investigation the integration processes toward European single market and later toward European monetary union.

Transformation processes had also strongly influenced both the concept of teaching economic theory and academic research in economics. In many universities of former centrally planned economies the ideas of mainstream economic theory had appeared in curricula of core economics courses. Despite the fact that households are considered to be an irreplaceable part of the economy, the mainstream economics explained in macroeconomics textbooks puts households in certain place and look at households from special point of view very clearly and aptly described by Ironmonger (2001, p. 5): “Economic textbooks focus on households as consumers and fail to discuss households as producers using their own labour and capital. Households are presented to the modern student of economics at school or university as places of consumption.” Behind the demand side of the economy, economics theory focuses on consumer behaviour, concerning the choice of households on the quantities of the commodities they decide do buy given the limitations of their money incomes and the prices of commodities. “With few exceptions, economic textbooks fail to discuss the allocation of time available to various processes of household production. They also fail to mention that household expenditures often are not purchases of goods ready to be consumed but are capital equipment, unfinished goods, raw materials and energy to be used as inputs to a production process” Ironmonger (2001, p. 5).

And so important questions concerning the economy of household in Central and Eastern Europe arise. Is current research in Central and Eastern Europe focused only on marketized part of the economy? Do the researchers in these countries examine the unpaid housework as a crucial element of household economy? And what about the decision-making processes of household? Is it investigated the way that suggests New Home Economics? In the article we try to seek answers to questions like this. Due to geographical, political as well as cultural neighbourhood attention is paid to the current V4 countries, namely Czech Republic, Hungary, Poland and Slovakia.

Since ideas of mainstream economics prevail in modern economic textbook as was mentioned above, firstly we consider it necessary to point out some theoretical aspects of household economy and shortly explain the formation of modern household economics in 20th century. Household economics analyses all decisions made by households at both the micro-economic and macro-economic level. In the article only some theoretical as well as methodological aspects are considered.

The article is organized as follows: Apart from Introduction, Section 2 describes the important contributors in formation of modern theory of household economics together with the explanation of crucial variables, Section 3 is devoted to unpaid work as an irreplaceable input in household economic production and measurement and valuation of household economy, Section 4 describes the main features of the household economic behaviour presented in New Home Economics followed by conclusion.

2. History of formation of economics of household in the twentieth century

Despite origins of economics is linked to the household, the marginal revolution in the late 19th century moved the focus of economics to market transactions and pushed part of household economics into a black box (Grossbard, 2015). The only parts of household economy that continued to be studied by mainstream economists include consumption and labour supply, two areas closely tied to the monetary economy. The production process of
household economy was not the subject of interest and was therefore not investigated. One of the earliest writers about the process of household production was Charlotte Perkins Gilman. In her book Women and Economics (1898) questioned the traditional gender division of labour. She proposed moving more household production to the market. Her argument was that the economic independence and specialization of women is essential to the improvement of marriage, motherhood, domestic industry, and racial improvement. Later, in 1909 The American Home Economics Association was established as a result of the “home economics movement” which was a women’s movement in which women had continued to ask for home economics to be recognized as an academic discipline since the end of the 19th century (Hara, 2016). The pedigree of household economics can be traced to the early work by Kyrk (1923) an Reid (1934), which had analysed unpaid domestic labour as production behind the demand curve with a background of the development of the study of national accounts in the 1920s and 1930s. The theoretical contribution of household economics is the discovery of unpaid work. In her classic book A Theory of Consumption, Kyrk (1923) defines the object of household economics as the consuming process that “lies behind the individual’s market choices”. Margaret Reid with her the most famous book Economics of Household Production (1934) played a significant role in the development of household economics as a discipline. Reid is regarded as the first author to specify “the third person criterion” to distinguish between productive (work) and non-productive (consumption) activities.

In the 1960s a major theoretical development in the area of household economics took place, known as the “new household economics” (NHE). Among the first NHE publications were Mincer (1962) on women’s labour supply and Becker (1965) on the allocation of time. In this theory, the household is regarded as a productive sector with household activities modelled as a series of industries. Arguably, the most important contribution of Becker’s theory is that he introduces the time of a consumer as a scarce resource in the decision-making process. New household economics indeed highlights the importance of the household as the relevant decision-making unit, with significant implications for the analysis of labour supply (Hara, 2016).

Household, household production and household economy

Economic theories of the household try to capture the complex structures of households and their behaviour. Household is recognized as a group of more than one individual (although a single individual can also constitute a household) who share the same budget and activities necessary for the survival of the household. Sociology distinguishes between family and the household, however in economics household and family are sometimes used interchangeably that is why household economics overlaps with family economics. The household economy describes the collective economic activities of households (Ironmonger, 2001).

Crucial point of view of household economics is that the households are considered to be not only consumption units but also production units with their own production function existing besides their utility function. Household production plays a key role in many household decision-making models, such as New Home Economics models of consumption (Becker, 1965) and labour supply (Mincer 1962).

In the early formation of household economics, household production was defined as: “the unpaid activities carried on by and for the members of the family” (Reid, 1934, p. 6). The concept of production is now much broader and includes also capital as a factor of production.
Ironmonger (2001, p. 3) defines household production as the „production of goods and services by the members of a household, for their own consumption, using their own capital and their own unpaid labour“. It is important to emphasize, that household production include only results of unpaid activities of household members (Reid, 1934). In case, that household sells its products or services whether to businesses or to the other households, it is already appear in the marketized part of the economy and hence is not included in household production. Because household production is the process of making goods and services available for use, in some cases the market and the household are in direct competition, producing identical or similar goods and services.

The unpaid work in household economy

The theoretical contribution of household economics is the discovery of unpaid work. The term “work” has numerous interpretations and meanings depending on the context. In a general sense, work has been defined as “any conscious, purposeful activity which with satisfaction serves the material and spiritual needs of the individual and community” (Anderson, 1961, quoted in UN, 2005, p. 181). Determining what activities should be classified as being unpaid work is difficult and disputable. A widely accepted principle for determining the scope of total unpaid work is the “third person/party” or “market replacement” criterion introduced by Reid (1934): “Household production consists of those unpaid activities which are carried on, by and for the members, which activities might be replaced by market goods or paid services, if circumstances such as income, market conditions and personal inclinations permit the service being delegated to someone outside the household group.” However, as Ironmonger (2001) point out, this criterion has certain limitation and thus when applied, some productive activities are excluded. He suggests the expanded market alternative criterion: “An activity shall be deemed productive if it is of such a character that it might be obtained by hiring a worker or by renting capital equipment from the market.” In this paper we follow the definition of Hirway (2015, p. 2): „Unpaid work is essentially that work which does not receive direct remuneration“. In literature sometimes terms unpaid work, unpaid household services, or domestic chores are used interchangeably.

There is a variety of methods and procedures to measure the volume of unpaid work. In most cases, the source of information about the amount and structure of unpaid work is statistical Time Use Survey (TUS) carried in many countries. One can find very useful and comprehensive information at the web page of The Centre for Time Use Research, http://timeuse-2009.nsms.ox.ac.uk/information/studies, which is multidisciplinary research group based in the University of Oxford's Department of Sociology.

From this web page is obvious that TUS is held in many countries, including USA, Australia, France, Germany, Netherlands and Spain. In V4 countries, TUS was held in Poland (1965; 1968-1969; 1975-1976; 1978; 1984; 1996: 2003; 2013), in Hungary (1963; 1965; 1976-1977; 1986-1987; 1992; 1993; 1996; 1999-2000; 2009-2010) and in former Czechoslovakia (1965; 1979-1980; 1990). In Slovakia, in 2005 the implementation of the pilot project was prepared using the Time Use Survey (TUS) methodology provided by Eurostat. The pilot project was implemented in 2006 and it included only 200 private households in the survey. The project ended in November 2006 and further surveys were cancelled. Apart from TUS data about volume of unpaid work, some data could be find in the others studies e.g. The Second and The Third European Quality of Life Survey.

Since the unpaid work is crucial element in household economy, researchers all around the world are devoting lots of time to investigating it. The areas of examination include division
of unpaid work between household members and intra-household specialization in housework, outsourcing domestic chores, monetary valuation of unpaid work, just to mentioned some of them. The latter area will be explained in more details in the next section. Researches focusing on investigation of unpaid work in V4 countries include among others Huňady et al. (2014); Zachorowska-Mazurkiewicz and Mroczek (2015); Boye (2009); Treas, Tai (2016); Fuwa (2004); Sullivan (2016); and Neményi and Takács (2016). They are mostly focused on investigation the division of unpaid work in household.

Measuring and modelling the household economy

Once the household was recognised as a major centre of production, not just consumption, the measurement of the household economy emerged as a focal point for many researchers (Ironmonger, 2001). However, the overall output of households’ productive activities is not transacted in the market, and therefore carries no monetary value. Most of it is not recorded in national accounts. As a result, the size of household production has been largely unknown (Eurostat, 2003). In spite of the long tradition of studies on the measurement of household economy, no worldwide consensus has been reached about the methodology.

In literature one can find several methods. One is based on monetary valuation only one input used in household economy, unpaid work. The valuation of unpaid work is a subject of debate in the literature. Generally, two basic approaches to measuring unpaid work in monetary terms are identified: the “direct” or “output” method; and the “indirect” or “input” method. The output method is based on idea that the time used to providing the unpaid work is converted into outputs (for example, number of meals produced, number of clothes washed, rooms cleaned, etc.), and the value is computed using the relevant market prices. Input methods are based on the idea of valuing output of the unpaid work in terms of the costs of inputs. This is regarded sometimes as a weakness. It was also pointed out that one can therefore say that it is a pure labour theory of value. In the literature there are two broad approaches to the application of the input method: the market replacement cost approach – what it would cost households in wages to hire others to do the household and caring work for them and the opportunity cost approach – performs the valuation in terms of wages foregone (lost profit) as a result of opting not to offer services in the market. The latter method is based on assumption that the time spent on unpaid work reduces the time spent on paid work.

Numerous attempts to value unpaid household labour in monetary terms in countries all around the world were done. From the V4 group of countries the monetary valuation of unpaid work was calculated for Poland (Francavilla et al., 2011) and for Slovakia (Považanová et al., 2015). In spite of the fact that quite a lot of research work was done in this area, the results are rarely comparable due to various methods of calculation. The researchers use various definition of unpaid labour, include various activities which are valuated and consider different approaches to evaluate it.

Second point of view onto measurement of household economy is based in the idea, that not only unpaid domestic services should be valuated but also the other factors of production. In this case measurement of household economy in certain country is associated with the system of national accounts. The importance of household production has been a frequent theme in the international national accounts literature since the establishment of national accounts. The economists that worked on the accounts have acknowledged the importance of including household production. But the decision was made that the proposal of Pigou (1932) who discouraged the measurement of household production and felt that national income should include only market goods and services that could “be brought directly or indirectly
into relation with the measuring-rod of money” will be accepted. As a result, the majority of household activities fall within the general production boundary, which means that they are considered to be a productive activity but fall outside the SNA production boundary. For that reason, production accounts are not compiled for household activities that produce domestic or personal services for own final consumption within the same household, except for services produced by employing paid domestic staff. Household production, i.e. unpaid services produced for own consumption, is significant part of production in a certain country which is excluded from the production boundary of national accounts.

The 1993 revision of the SNA opened a door for the integration of household production in the national accounts framework. It introduced the concept of satellite accounts, which allow for the use of complementary or alternative concepts when needed to bring additional dimensions to the conceptual framework of national accounts (Eurostat, 2003). In 2003 Eurostat (2003) proposed methodology of Household Satellite Accounts based on the framework of national accounts. In this methodology, the total value of service output is targeted rather than only the value of the labour input used in the work. When the whole production account including capital consumption and intermediate consumption is calculated, it is possible to compare structures of market and non-market activities, the value of non-market household services to corresponding market services, and finally, it is possible to add the household non-market accounts to official national accounts. For household production satellite accounts (the national accounts of the household economy) the variables are defined in analogous ways to the same variables used in the national accounts of market economy.

Household satellite accounts typically include monetary estimates of households’ own production, excluding leisure time. These proposals focus on the so-called input approach, which values household production by the sum of its inputs (labour input, intermediate consumption, capital costs). The output approach, on the other hand, imputes the value of similar market production and is thus analogous to the valuation of own-account production in the core national accounts. The output-based valuation requires information on the physical quantities of household output to be valued at equivalent market prices, e.g. number and kinds of meals prepared, number of children taken care of, kilograms of laundry washed. In most countries these data on output quantities are not directly observable. One way how to derive output is to measure it indirectly from episodes recorded in time use diaries.

The household satellite account has been constructed for many countries. The list of countries, to name a few, include UK, Finland, Spain, USA. In the V4 countries, household satellite account was constructed only for Hungary (Szép, 2003).

3. Household economic behavior

Neoclassical economics presented in microeconomics textbooks treats households as if they were individuals. The theory of consumer behaviour treats the consumer (household) as a black box, albeit black box with well-behaved preferences (i.e. complete, reflexive, transitive, monotonic, continuous, convex) and focuses exclusively on labour supply and the demand for market goods. This approach has some advantages. However, an analytical approach that does not take into account the multiplicity of decision makers in the household cannot be entirely satisfactory (Donni and Chiappori, 2011) on one hand, on the other hand to consider households as consumers only is rather restrictive.
So that is why researchers have developed more realistic models of household economic behaviour, which examine household decision process in more details. Becker (1965) in his Theory of the allocation of time which laid down the analytical foundations for the study of household production and the allocation of time within the household, considers households both producing units and utility maximizers. The household production model postulates that household “combine time and market goods to produce more basic commodities that directly enter their utility functions” (Becker, 1965, p. 495). The subject of utility is not the good but the activity, which in turn is produced by combining goods and time. Typical household faces both the time and budget constraints. There are two types of models of household behaviour: the unitary and nonunitary models.

Unitary framework usually used in economic analysis is that one, in which households maximize a single household utility function. Samuelson (1956) claimed that a household will act like individual if the household members choose to maximize a “social welfare function”. But if applying this approach, strong and very restrictive assumption should be adopted. In the unitary Becker (1974)'s model, the first model of family or household collective choice, known also as altruistic model, married couples maximize a family utility function, which is utility of an altruistic „head of the household”. One utility function of household could also be some aggregation of the individual utility functions of all family members.

And so, the unitary model implies that husbands and wives “pool” their income: that is, a couple expenditure pattern depends on their total income, but not on the fractions of this total controlled by the wife and by the husband. However, as it can further be pointed out, empirical evidence shows that couples expenditure patterns depend not only on their total income but also on the fractions controlled by each spouse. Even Samuelson (1956) identified another problem with unitary models. The “Dr. Jekyll and Mrs. Jekyll” problem, as Samuelson called it, arises because individuals within families have preferences, and aggregating individual preferences into family preferences is a social choice problem subject to the difficulties. Many researchers dealing with household behaviour similarly as Samuelson claim that one cannot model the decisions of a many person household as though the household had a set of stable and transitive preferences as is described by unitary models. Therefore, a number of alternative models, commonly referred as nonunitary models have been suggested. Nonunitary models suppose explicitly that household consists of a number of different, usually two, members with preferences that are different form each other. Basically, they are divided into two groups: cooperative (or collective models) and noncooperative (or strategic) models (Donni and Chiappppori, 2011). Both of them could be bargaining models. However, in cooperative models the allocations are supposed to be Pareto efficient, while in non-cooperative not.

The seminal contributions in the cooperative bargaining literature are done by McElroy and Horney (1981) and Manser and Brown (1980). These models were introduced as an alternative to Becker altruistic model. A typical bargaining model of marriage begins with married couple and assumes that each spouse has a utility function that depends on his or her own consumption. In noncooperative models of the family, which are based on game theory and more specifically on Cournot-Nash equilibria, each family member maximizes his or her well-being (which may depend upon the consumption or utility of others) taking the behaviour of others as given. Non-cooperative models have been developed by Ulph (1988) and Bjorn and Vuong (1985) (both quoted in (Donni and Chiappppori, 2011).
Applications of unitary and nonunitary models include all decisions possibly made by households, such as labour supply, consumption, savings, time uses other than paid work, household financial arrangements, migration, marriage and divorce, fertility, demand for education, intergenerational transfers, and home-leaving by adult children (Grossbard, 2015). Labour supply models are among the oldest to have appealed to the cooperative approach. The first contributions of the cooperative theory of labour supply include among others and Apps and Rees (1988). However, at present there is no agreement on which model is appropriate and, indeed, it may be that different models are relevant in different contexts.

Comprehensive survey of literature dealing with the nonunitary models of household literature up to 2006 could be found in (Donni and Chiapppori, 2011). In their list of empirical applications of non-unitary models, no country of V4 is mentioned. We could not find any study covering any V4 country dealing with the either unitary or nonunitary models. One reason for the slow progress in this area is lack of appropriate data.

4. Conclusion

Economics was originally a study of the household. Household economics is therefore not a new developed area. However, the concept of household and non-market economics and household production was pioneered or popularized only recently. The mainstream economics considers household as only consumption units supplying their labour in the labour market. This view is rather restrictive. As Margaret Reid (1934, p. 3) said: “The more we have concentrated on money values the more we have overlooked that part of our economic system which is not organized on a profit basis.”

The article was devoted to selected theoretical and methodological aspects of household economy not covered by mainstream economics, namely the household production, unpaid household work, household satellite account and unitary as well as non-unitary models of household behaviour in order to capture the research done in these areas in V4 countries.

In the areas of unpaid work as well as in measuring and modelling the household economy one can find contributions devoted to selected V4 countries. However, in the field of household economic behaviour proposed by New Home Economics, the research progress in V4 countries is considered to be slow. One reason for the slow progress in this area is lack of appropriate data.

References


COMPETENCIES OF TOURISM GRADUATES

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Abstract
High-quality theoretical preparation together with fully-fledged practical training are considered to be the key to effective professional education and for development of the competencies. The submitted paper investigates the current situation of competency development amongst tourism graduates with Bachelor’s degree at a selected university in Slovakia. Based on the data collected from 48 students at the beginning as well as from 48 undergraduates at the end of the third year of their studies, the most important competencies within the current Bachelor’s degree study programme in tourism have been identified. The survey compared the students’ readiness for the competencies before and after their compulsory traineeship.

Key words
practice, competencies, tourism, undergraduate

JEL classification
A22, I21, I23, J23

1. Introduction

The term competency is of multidimensional significance which covers a wide range of different types of competencies. Competencies are also considered as an inseparable part of the educational policy of the EU. The reason lies in the aim to achieve a comparable level of education in a regional, national as well as a European context, and better employability of the graduates in the domestic as well as the European labour market. According to Delamare and Winterton (2005) competencies can be regarded as a holistic concept consisting of the combination of knowledge (cognitive competency), skills (functional competency) as well as attitudes and values (social competency), which are necessary for a concrete profession.

Empirical approaches the most often classify competencies from the point of view of one’s employability and future professional development in the knowledge-based society. The basic criterion, which is adopted by the majority of the international institutions specialised in education (UNESCO), employment and human resource development (OECD, EU), is the transferability of the competencies to other employers (Balcar et al, 2014). With regard to this criterion competencies can be divided into general and specific. The issue of general competencies has been the focus of educational institutions, various international organisations, such as the OECD or UNESCO, as well as of national (Vančo, 2016) or international research projects, (e.g. the document on tuning education structures in Europe as of 2010) for some time. The most often they are referred to as “cross-cutting”, “transversal”, „generic“ (e.g. the document on tuning education structures in Europe as of 2010) or „key“ competencies (e.g. OECD). As opposed to general competencies, which in terms of employability increase employees’ productivity with regard to all the potential employers,
specific competencies increase employee productivity only for a particular employer or for a narrow circle of employers (for example knowledge of hotel reservation systems) (Balcar et al., 2014). It means that general competencies can be applied in various areas of a labour market (Malec and Kiráľová, 2018) and increase one’s employability and labour market flexibility. On the other hand, specific competencies reduce the risk of getting laid off by a particular employer, Epstein and Hundert (2002) also refer to them as standards of professional competence.

In terms of developing the general and specific competencies of undergraduates in tourism, the primary task is to define them in the curricula of the study programmes. There exist a lot of theories and methodologies focusing on definition the learning outcomes in purpose to identify competencies and define them in curricula, as i.e.: (1) KSC (knowledge/skills/competency) methodology, (2) Biggs theory (SOLO taxonomy), (3) revised Bloom theory and (4) Tuning methodology (Verešová and Čerešník, 2013). Dublin descriptors officially defined standards for knowledge, skills and competencies of students awarded Bachelor’s, Master’s and Doctoral degrees. Mentioned approaches are the most used in formulating the degree profile of graduates. Definition of knowledge, skills and competencies is the most important for description of what graduates will be able to do when entering the labour market (González and Wagenaar, 2003, In Munar and Monțaño, 2009).

The priority of the current tertiary education is the interconnection of education with the labour market. The idea was also supported by the national project “Higher education as the engines of developing knowledge-based society“. Many hospitality and tourism programs worldwide have undertaken curricular revisions and development, in order to prepare such graduates who are suitable for the global society (Hyun and Miyong, 2017).

The analysis of the competency development is based on the conclusions of the European project called Tuning Educational Structures in Europe, which deals with the issue of developing competencies in the tertiary education in European countries. In terms of the binary system of general and specific competencies, the project investigates a selection of “soft skills” and “hard skills”, which are crucial for all the managerial professions in tourism at low as well as middle-level management (e.g. holiday resort manager, reception team leader, tourist information centre manager, tour operator office manager, public sector tourism officer, etc.), and are essential in order to acquire complete professional qualification in tertiary education Bachelor’s and Master’s degree tourism study programmes. While general (generic, cross-cutting) competencies, i.e. “soft skills” (according to Balcar et al., 2014, p.13), are common for all the study programmes (observation skill, teamwork, managerial skills, problem-solving, creativity, communication skills, the communication of information), specific competencies, i.e. “hard skills” are thematically connected to the scope of a particular study programme (specific for a given study programme).

How to develop the competencies in the tertiary education in the tourism study programme is the topic for several foreign authors (Gunn, 1998; Hjalager, 2003; Munar and Monțaño, 2009; Wang and Tsai, 2014; Akatieva et al., 2015; and others). The competency model of graduates on Bachelor and Master level has been adopted. This model tries to be a tool to design a curricula and the profile of graduates that can help to fill up the gaps among tertiary education’s requirements and tourism practice. The competency model contains chosen set of general and specific professional competencies, which are important for graduates of particular study programme and level of universities studies. Wang and Tsai (2014) in their
model, apply a binary competency model, too. These competencies with regard to the future employment are identified as personal and work competencies (Figure 1).

Figure 1: Competency model of tourism graduates with regard to the future employment

```
Competencies of tourism graduates

- Personal competencies
- Work competencies (typical for tourism professions)

- Basic abilities
- The abilities to plan and to develop a career

- Basic competencies
  - Work attitude
  - Personal assumes

- Functional competencies
  - Competency of leading people
  - Professional competency
  - Management skills
  - Technical skills
```


Competencies will be selected based on the competency models of undergraduate students in tourism study programmes developed by Akatieva et al. (2015) and Wang and Tsai (2014), as well as on the description of higher education Bachelor’s and Master’s degree tourism study programmes; in addition, the official descriptors of the National Qualifications Framework and European Qualifications Framework For Lifelong Learning will also be taken into consideration.

2. Research Methodology

The paper’s aim is to find out to what extent the accredited 8.01.01 Tourism study programme develops students’ competencies (general as well as specific) with regard to the need of their future profession. Moreover we try to evaluate the differences between the student’s self estimation before the traineeship and after they participated on it. As competencies are developmental (Epstein and Hundert, 2002), the goal is also to identify what competencies were the most developing, thanks to the traineeship.

The current situation of competency development amongst tourism graduates with Bachelor’s degree was explored at the selected Department at University in Slovakia. As the
main research approach for this study was chosen the quantitative method. The data were collected through a two-phase questionnaire survey amongst the students of the 8.01.01 Tourism Bachelor’s degree study programme, both before and after having completed their three month compulsory traineeship. Questionnaires have been adopted as the data collection instrument. First data collection was held from January – March 2017, before their traineeship. Second data collection was held in June after they finish their traineeship.

Total of 96 questioners were collected during the process. All of the students were in their Bachelor’s study year, thus 48 filled the questionnaire before the traineeship and 48 after they finish the traineeship. The main aim was to find out, how the students perceive the competencies before and after the traineeship they took. The data were analysed using MS Excel and mostly descriptive statistics were employed. The 83.4% of the participants were females and 16.6% of them were males. The trend, in which mostly females are studying Tourism programme, was approved (according to Gúčik and Pančíková, 2016).

3. Analysis of the Tourism Graduates’ Professional Competencies

According to the KSC methodology, Tuning methodology and Dublin’s descriptors, we created a set of 28 chosen competencies that are typical for all managerial professions in tourism and thus on the basic and middle stage of management (i.e. holiday – resort manager, reception desk manager, travel agency manager).

By setting of 28 competencies, we take into consideration the competencies model of the tourism graduates (Akatieva et al., 2015; Wang and Tsai, 2014), and also the description of the study programme 8.01.01 Tourism for the first university degree. Also the official descriptors of the National and European Qualifications Framework were accepted.

For the purpose of this research, we will consider these competencies as for universal (general, transversal):

1. Problem solving (ability to identify, analyse and solve the problem).
2. Self–control (ability to spend the time effectively, to cope up with stress).
3. Teamwork (the ability to work in team).
4. People management (ability to motivate, coordinate the activities, lead a group of people).
5. Written and spoken communication in Slovak language and in one world language (business correspondence, ability to write the reports).
6. Conceptual and analytical thinking (ability to identify new opportunities, bring along new ideas and solution).
7. Information processing (information management, ability to work with information technologies – to search, analyse and to process the data from different sources).
8. Ability to learn and to actualize the knowledge.
9. Ability to putting theory in practice (ability to apply the knowledge into practice).
10. Willingness to succeed.

We identified specific competencies in tourism that are typical for the field of tourism and are only partly portable to the other study fields:

11. Revenue and yield management (ability to calculate the prices in relation to the budget, prognoses of the offer and demand in relation to the unit production cost).
12. Tourism product creation and its market positioning (ability to realize market research, to design the product).
(14) HR management (ability to plan the employers´ needs).
(15) Administrative management (ability to work with different documents, invoices, orders, cash-desk).
(16) Customer relationship management (ability to solve the complaints).
(17) Quality control (ability to judge and secure the principles of the quality management).
(18) Stock management (ability to direct the stock flow in the tourism facilities).
(19) Planning (ability to set up the tasks´ priorities).
(20) Security (to know the precautionary measures in terms of health protection and security of the customers and employers).
(21) Eco-awareness (ability to apply principles of eco and corporate social responsibility in business of tourism).
(22) Customer service skills (ability to serve the customers in the different types of tourism establishments).
(23) Serving skills.
(24) Essentials of table-setting and social etiquette.
(25) Knowledge of food preparation and beverages.
(26) Food and beverage preparation skills.

There were two sets of questions. In the first set, we asked the students´ opinion on the levels of importance of the particular competencies for their future profession, on the scale from 1 to 5 (1 = minimum importance, unnecessarily; 2 = account small, 3 = at a medium importance, 4 = important, 5 = very important).

In the second set of questions, we asked them to self-evaluate their achieved level of competencies in terms of their readiness for the future profession in the field of tourism. on the scale from 1 to 5 (1 = I am absolutely poorly prepared. 2 = I am minimum prepared. 3 = I am partly prepared. 4 = I am enough prepared. 5 = I am fully prepared).

Students consider as the highest importance for future profession (Graph 1. green line) spoken communication in Slovak language (4.44), the willingness to succeed (4.38) and putting theory into practice (4.25). As the least importance they consider knowledge of food preparation and beverages (3.38), food and beverage preparation skills (3.42) and essentials of table-setting and social etiquette (3.52). The competencies that are considered to be the greatest importance belong to the general competencies (soft skills). Specific competencies are considered to be less important.

Moreover, students have been asked to self-esteem their perception of the particular competencies before they take the traineeship (Graph 1. blue line). In all examples, students have self esteemed their readiness for the particular competency lower than at the importance degree. The orange line (Graph 1) illustrates the students´ self-estimation after they took the traineeship. The biggest difference between their perception before and after traineeship was in written communication in Slovak language (from 3.19 to 4.04), spoken communication in Slovak language (from 3.10 to 4.08), the willingness to succeed (from 3.25 to 4.40) and in product creation (from 2.88 to 3.46). It means that students feel in these competencies more prepared after they take the traineeship.

By their self-estimation of the general competencies. they felt partly prepared in the written communication in Slovak language before they take the traineeship (3.10). which has changed dramatically after the traineeship (4.08). The competency connected with willingness to succeed has also changed because of the traineeship (from 3.25 to 4.40).
Figure 1: Comparison of the competencies among students

<table>
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<th>Competency</th>
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<td>Problem solving</td>
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<td>3.83</td>
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<td>Written comm. in Slovak language</td>
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<td>Written comm. in world language</td>
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<td>Spoken comm. in Slovak language</td>
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<td>Putting Theory into Practice</td>
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<td>The willingness to succeed</td>
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<td>Customer Service Skills</td>
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<td>Knowledge of food preparation and beverages</td>
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<td>Food and beverage preparation skills</td>
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Source: the authors.
In their self-estimation in the specific competencies, the biggest change has occurred in the case of product creation and quality control (change of 0.58).

Small variations between what do they consider to be the most important and their self-estimation (either before or after the traineeship) has pointed to such a field, that should be strengthen by improving the development of the professional competencies of the students in the Bachelor’s degree in the study programme tourism.

4. Conclusion

Competencies of tourism graduates for their future employability consist of general and specific competencies, that are mutually complete and interlink each other and together they create the profile of tourism graduate.

Based on the data collected from 48 students at the beginning as well as from 48 undergraduates at the end of the third year of their studies, we examined those competencies that are at the highest importance according to the student’s opinion. We examined their self-estimation of the chosen competencies before they take the compulsory 12-weeks traineeship and after they take the traineeship.

According to the research, students mostly consider general competencies as for the highest importance for their future profession. This finding corresponds with the statements according to Munar and Montaño (2009), in which they declared the general competencies as the most important for labour market. Our findings moreover correspond with similar survey taken in the Taiwan hotels, directed to the tourism graduates and their future tourism employment (Wang and Tsai, 2014) as well as with the research taken by Slovak Centre of Scientific and Technical Information (Vančo et al., 2016).

According to that research, there is no concept of (general) competencies development at Slovak universities. The findings pointed out that for successful development of general competencies at the tertiary education, the lessons or other “classic” forms of education are not enough. Some active and experiential learning techniques (traineeship, projects, start-up tasks, case studies, field trips, industry internships) are being used more often and show improvements of students’ engagement.

Competencies connected with the product creation (2.88), product sales (3.04) and revenue and yield management (2.88), have students self-esteemed as the lowest prepared. The students from Taiwan identified the same competencies, in which they felt poorly prepared.

According to the student’s opinion, the competencies that are considered to be the greatest importance belong to the general competencies (soft skills). Specific competencies are considered to be less important for them. By their self-estimation of the general competencies, they felt partly prepared in the written communication in Slovak language before they take the traineeship (3.10), which has changed dramatically after the traineeship (4.08).

The competency connected with willingness to succeed has also changed because of the traineeship (from 3.25 to 4.40). In their self-estimation in the specific competencies, the biggest change has occurred in the case of product creation and quality control (change of 0.58). In our research, students after traineeship have improved not only specific, but mostly transversal competencies (communication, etc.)

What we consider as the most important for the students competencies development, is the need for traineeship. In 26 out of 29 competencies, students declared their better preparation for their future profession after they took the traineeship. Those competencies that they
suggested to be less prepared, need to be improved and included in the optimization of the teaching methods and plans.

Also Vančo et al. (2016) stress the importance to run a research about obtained competencies of graduates in their working experience. The results of such researches might be implemented into the curricula and into the formulation of learning outcomes.

References


THE MARKET ORIENTATION AWARENESS
OF BUSINESSES IN SLOVAKIA

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Abstract

The market orientation represents established concept those implementation leads to achieving competitive advantage and improved performance. The marketing literature has emphasized the importance of market orientation also for managing business performance. In our paper we examine the awareness of market orientation of businesses in Slovakia. The aim of this research is to investigate the awareness of market orientation among Slovak businesses, their attitude to this concept and perception of the basis of this concept. We examine the different perception of marketing in businesses. In this research were used statistical tests. These results represent findings of complex research focused on investigating the relationship between market orientation and business performance.

Key words
market orientation, awareness, business performance, Slovak business, perception of market orientation

JEL classification
M31, M39

1. Introduction

In the context of highly competitive global markets, challenging customer needs, increasing dynamics of business environment, growing quality of products and the other circumstances managers try to identify and apply the most suitable and effective theories whose enforcement will lead to superior performance. All the efforts of business to be better than competitors should be integrated and transformed into the marketing strategy. Market orientation is a concept that has appeared as a significant predictor of business performance and has presumed to ensure competitive advantage. The aim of this research is to investigate the awareness of market orientation among Slovak businesses, their attitude to this concept and perception of the basis of this concept.

1.1 Marketing competencies and capabilities

Understanding of the importance of marketing is crucial for all kinds of businesses in order to achieve competitive advantage on the market. Operational marketing activities as selling and promoting products, or advertising appears to be the essence of the marketing. In a fact, these acts do not truly represent the market-oriented behavior (Lin et al., 2015). Several authors (Lin et al., 2015; Murray et al., 2011) investigate the market orientation in connection to the marketing capabilities. Capabilities could be understood as the complex of
competencies in the terms of knowledge and skills. Businesses develop the market-orientated behaviour through the marketing competencies and routines. As state Lin et al. (2015), marketing competencies are the main composition of market orientation. Formation of market orientation concept indicates that marketing is the matter of entire organization, not only one department. Consequently, Fang et al. (2014), speak about external market capabilities that enable businesses to discover, monitor, and benefit from the changes in the target market. Thus, market-oriented businesses dispose with both, the internal marketing competencies and the external market capabilities. According to these facts, the matter of market orientation is much broader as it may seem on the first sight. Relatively simple explanation of market orientation provide researchers as McCarthy and Perreault (1990) who state that market orientation is the demonstration of implementation of marketing concept. Marketing concept represents revolutionary concept in comparison to the previous marketing management concepts due to its focus on the market and customer needs. Ďaňo et al. (2004, p. 24) examined that “marketing concept means that the business is fully focused on meeting the needs and requirements of customers and based on that also on achieving a reasonable profit.”

1.2 Concept of market orientation

Two basic approaches towards understanding the market orientation were developed. Narver and Slater (1990, p. 21) determined market orientation as “organizational culture that most effectively and efficiently creates the necessary behaviours for the creation of superior value for buyers and, thus, continuous superior performance for the business” and thus supported cultural approach in relation to basic characteristics of an organization. Cultural approach understands the market orientation as complex of three elements, which are customer orientation, competitor orientation, and inter-functional coordination in cooperation with long-term profit focus (Narver and Slater, 1990, p. 23). On the contrary, Kohli and Jaworski (1990, p. 6) approached the definition of market orientation from the behavioral point of view as an “organization-wide generation of market intelligence, pertaining to current and future customer needs, dissemination of the intelligence across departments, and organization-wide responsiveness to it”. It means that behavioural approach to market orientation is represented by gathering information about customers, competitors, and market, distributing the information across all departments of business and ability of business to respond to this information (Kohli and Jaworski, 1990).

Mavondo and Farrell (2000) note that both cultural and behavioural approach share the idea that customer is a cornerstone of market orientation and agree that stakeholders try to shape consumer needs and expectations. Rojas-Méndez and Rod (2012) state that both conceptualizations correspond in notion, that the degree to which a business indicates the market orientation influences the effectiveness of marketing concept implementation and the degree to which business performance is affected. We incline to the opinion of Grbac and First (2011) who state that although there coexist two different points of view on market orientation, cultural and behavioural one, many researchers have examined the link between market orientation and business performance. It is obvious that conceptualizations, Kohli and Jaworski’s behavioural approach and Narver and Slater’s cultural approach, are characterized by different components and offer to researchers various ways how to examine market orientation.
1.3 Customer-led and market-oriented business

More important is to explain what it means to be market-oriented. Despite the development of this question within decades there is still unclear understanding of basis of market-oriented business. Also, Slater and Narver (1998) in their research notes wrote about inconsistency of market orientation elaboration in different fields. The essence of being market-oriented is well documented in marketing literature, however in management literature still continue debates about what does it mean to be market-oriented. They propose that this problem has occurred because scholars talking about two separate management philosophies. They differ between the first, being “customer-led”, short-term philosophy in which businesses respond to customers expressed wants and the second, being “market-oriented”, long-term philosophy of commitment to understanding customers expressed and latent needs, and to producing superior customer value through the developing innovative solutions. Customer-led businesses focus on their served markets and on developing products and services that satisfy expressed desires of customers. Customer-led philosophy is characterized by several shortcomings, which are that philosophy is reactive and short-term and leads to adaptive learning. Managers focusing on needs of current customers constrain ability of business to innovate. Concentration on customer satisfaction’s measure overcome other strategic performance indicators such as new product success or organizational learning, what could lead to discourage risk taking in product and process development and thus only to incremental improvements in current products activities. On the surface, it seems that being market-oriented and customer-led is the same. Market-oriented businesses are committed to understand not only their customers, but also the capabilities and plans of their competitors. In order to understand both customers and competitors, market-oriented businesses systematically acquire and evaluate market information. Market-oriented businesses use the same traditional techniques of market research as customer-led businesses, but they combine these with the other to discover customers’ latent needs and to drive generative learning. These businesses search for unserved markets representing potential customers, which are together with new products catalysts for organizational renewal in the market-oriented business.

Slater and Narver (1999) following the debates about answering the question “What does it mean to be market-oriented?” explain Lewitt (1980)’s multi-level product concept. The core benefit for customer represents the generic product. Next level is expected product which customer consider as a sum of minimum acceptable benefits. The augmented product comprises benefits that satisfy customers’ latent needs, in other words, benefits that they may never have considered. To explain the connection between Lewitt’s concept and market-oriented business is important to focus on the difference between expected product and the augmented product. The expected product is a product strategy of customer-led business. It conforms to buyers’ expressed needs what typically results in price competition. The reason of this is that satisfying customers only at this level of benefits causes that what a buyer articulate to one seller, the buyer will articulate to competitive sellers. Therefore, all sellers offer the same set of benefits for different prices. The purpose of augmented product is to reveal need that is not being addressed and to provide benefits beyond expected ones and give reason to customers to pay premium price. Of course, market-oriented business satisfies the expressed needs of customers like customer-led business. Moreover, market-oriented business also try to discover customers’ latent needs and offer them augmented product with superior benefits what differentiates this seller from competition by providing a competition.
advantage. Indeed, only long-term and market-driven strategy can help to understand the market and customers. Truly understanding the essentials of the market leads to increase of customer value, and finally, affects the business performance (Leventhal, 2005).

2. Material and methods

In our research we would like to find out how Slovak businesses perceive the market orientation and what they think it means to be market-oriented. The aim of this research is to investigate the awareness of market orientation among Slovak businesses, their attitude to this concept and perception of the basis of this concept. The method of data gathering was questioning. We addressed businesses through the physical and also electronic questionnaire. We conducted the research on research sample of 60 businesses operating in various business fields. The identification data of businesses are described in following text. In our research sample, there were 30 manufacturing businesses (50.00 %), 4 wholesalers (7.00 %), 3 retailers (5.00 %) and 23 servicing businesses (38.00 %). By the criterion of number of employees, we targeted 50.00 % of businesses from 10 to 49 employees (i.e. 30), 27.00 % of businesses from 50 to 249 employees (i.e. 16) and 23.00 % of businesses with more than 250 employees (i.e. 14). In the terms of ownership, there were 64 % of businesses which are owned by Slovak owners (i.e. 38), 17 % of businesses owned by mostly Slovak owners (i.e. 10), 8 % of businesses owned by mostly foreigners (i.e. 5), 8 % of businesses owned by only foreigners (i.e. 5) and 3 % of businesses owned by Slovak owners and foreign owners in the same way (i.e. 2). Regarding the organization of marketing in business, there were 23 businesses which do not have marketing position in their organization structure (38 %), 20 businesses which have marketing position, e.g. marketing manager, marketing specialist and so on (33 %), 4 businesses which have marketing department directly subordinate to top management (7 %) and 4 businesses with marketing department which do not directly subordinate to top management (22 %). In our research, we also would like to identify the previous position of CEO or top manager before the starting the career at the top position in current business. The most CEOs or top managers (i.e. 15) origin from manufacturing department (25 %), 14 CEOs or top managers origin from sales department (23.33 %), 8 from marketing department (13.33 %), 8 from finance or accounting department (13.33 %), 3 from logistics department (5 %), and 3 from human resources (5 %). 9 respondents marked the option “another”. They marked this option because they did not know the previous position of the CEO or top manager of the business, or the owner did not work on any position before.

In our research, we wanted to find out the view on current state of market orientation in Slovak businesses and the position of marketing in Slovak businesses. Thus, we have formulated following research questions:

RQ1: What is the awareness of market orientation among Slovak businesses?
RQ2: How do the Slovak businesses perceive marketing?
RQ3: To what extent background of CEO or top manager influence the role of marketing in business?

We also set the following hypotheses:
H1: More than 50 % of businesses understand market orientation as marketing concept implementation.
H2: More than 50 % of businesses perceive marketing as strategy or culture.
We used several statistical tests in the program SPSS 19.0 for answering research questions and verification the hypotheses. We used Friedman test, Wilcoxon signed rank test, Spearman correlation coefficient, and binomial test.

3. Results and discussion

In our research, we obtained completely fulfilled questionnaires from 60 respondents. The results of research are described in following text. We will use these results to answer the research questions and to verify hypotheses. In the first research question RQ1 we asked: what is the awareness of market orientation among Slovak businesses? To answer research question RQ1 we formulated the question focused on characteristics which express market-oriented business the most. Respondents could select up to 5 options. According to the type of the question, we used Multiple Response test in order to find out the frequency of individual options. The answers are shown in figure 1. The majority (61.67 %) of respondents (i.e. 37) considers corporate culture based on fulfilling customer needs and customer in the centre of attention as the most eloquent characteristics of market-oriented business. 55.00 % of respondents (i.e. 33) thinks that market-oriented behaviour consists in satisfying the customers’ needs. The half of respondents (i.e. 30) considers the cooperation of all departments with the aim to satisfy customers’ requirements as characteristic feature of market-oriented business. Monitoring the market changes and monitoring the steps of competitors, which represents further elements of market orientation, were selected by more than 40.00 % respondents. Emphasis on implementation of marketing activities is considered as the element of market orientation by 25.00 % of respondents (i.e. 15). However, this perception of market orientation does not correspond with theoretical explanation of market orientation. Indeed, such perception of market orientation is shallow. Surprisingly, only 8.33 % of respondents (i.e. 5) recognize market-oriented behaviour as implementation of CRM (Customer Relationship Management). Currently, implementation of CRM is a demonstration of giving customer to centre of attention.

Figure 1: The most eloquent characteristics of market-oriented business

Source: the authors.
We also used Friedman test and Wilcoxon signed ranks test for statistical verification. According to the Wilcoxon signed ranks test, there is not statistically significant difference in the characteristics. To answer research question RQ₁ we also formulated the next question, while respondents had to select one statement from totally five statements characterizing the individual marketing management concepts. The results of this question are shown in table 1. The 38.33 % of respondents (i.e. 23) thinks that fourth statement “in our business unit, we focus mainly on satisfying customers’ needs and through this achieve profit” expresses market orientation the most. Actually, this statement is a definition of marketing concept. According to the literature, market orientation is the implementation of marketing concept (McCarthy and Perreault, 1990). Thus, we assess this result positively. The second most common response was that market orientation is characterized by the statement “in our business unit, we focus on satisfying the customers’ needs and needs of the other stakeholders (suppliers, public, environment...)” what is the definition of societal-marketing concept. The definition of product concept was marked by 10 respondents, production concept by 8 respondents and selling concept by 7 respondents. Finally, we can conclude that the majority of respondents 58.33 % (i.e. 35) connect the market orientation with marketing-based concepts.

Table 1: Marketing management concepts expressing market orientation the most

<table>
<thead>
<tr>
<th>Characteristics of marketing management concepts</th>
<th>Number of respondents</th>
<th>Percentage of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production concept: In our business unit, we focus mainly on increasing business performance, decreasing production costs and achieving more intense distribution.</td>
<td>8</td>
<td>13.33</td>
</tr>
<tr>
<td>Product concept: In our business unit, we focus mainly on production of quality products and their gradually improvement and innovation.</td>
<td>10</td>
<td>16.67</td>
</tr>
<tr>
<td>Selling concept: In our business unit, we consider that increasing the sale of already manufactured products is able to achieve by implementation of various sales promotion techniques.</td>
<td>7</td>
<td>11.67</td>
</tr>
<tr>
<td>Marketing concept: In our business unit, we focus mainly on satisfying customers’ needs and through this achieve profit.</td>
<td>23</td>
<td>38.33</td>
</tr>
<tr>
<td>Societal-marketing concept: In our business unit, we focus on satisfying the customers’ needs and needs of the other stakeholders (suppliers, public, environment...).</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: the authors.

The second research question RQ₂ is: how do the Slovak businesses perceive marketing? We formulated the question focused on examining the level of perceiving the marketing in business. 43.00 % of respondents (i.e. 26) perceive marketing as implementation of marketing activities focused on marketing tactics, pricing, distribution, marketing communication and improving the product. 42.00 % of respondents (i.e. 25) perceive marketing as a culture where all employees are aware of key position of customer. 15.00 % of respondents (i.e. 9) distinguish marketing as a strategy with the clearly defined target market and marketing strategy. To sum up, 58.00 % of respondents consider marketing more than only operational activities including 4Ps what we assess as positive result.
The third research question RQ$_3$ was defined as: to what extent background of CEO or top manager influence the position of marketing in business? For verification of this research question we used nonparametric correlations. Especially, we used Spearman correlation coefficient. According to this test, there is correlation between the background of CEO or top manager and the position of marketing in business. As results from table 2, there is negative middle strong correlation between examined variables. It means that if CEO or top manager originates from the other department than marketing or sales, the role of marketing in business is weaker.

Table 2: Nonparametric correlations

<table>
<thead>
<tr>
<th></th>
<th>q5</th>
<th>q6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spearman's rho</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correlation Coefficient</td>
<td>1.000</td>
<td>-.311$^*$</td>
</tr>
<tr>
<td>Sig. (2-tailed)</td>
<td>.016</td>
<td>.016</td>
</tr>
<tr>
<td>N</td>
<td>60</td>
<td>60</td>
</tr>
</tbody>
</table>

Source: the authors.

We also set the two hypotheses. Firstly, we tested hypothesis H$_1$: more than 50 % of businesses understand market orientation as marketing concept implementation. Despite the 58 % (i.e. 35) of business understand market orientation as similar to marketing concept or societal-marketing concept, we cannot confirm hypothesis H$_1$. We used binomial test for verification of hypothesis H$_1$. According to the results of this test, we cannot generalize the results. Thus, we do not confirm hypothesis H$_1$. Similarly, we tested hypothesis H$_2$: More than 50 % of businesses perceive marketing as strategy or culture. Binomial test' results showed, that we cannot confirm the hypothesis H$_2$. Although 57 % (i.e. 34) of businesses perceive marketing as culture or strategy, we cannot generalize this result. Thus, we do not confirm hypothesis H$_2$.

4. Conclusion

In this paper we examined how Slovak businesses perceive the market orientation and what they think it means to be market-oriented. The aim of this research was to investigate the awareness of market orientation among Slovak businesses, their attitude to this concept and perception of the basis of this concept. We realized quantitative research on the sample of Slovak businesses and investigated their opinions about market orientation concept and its meaning from their point of view. In research question RQ$_1$ we asked what is the awareness of Slovak businesses on market orientation? According to the research results, we can conclude that respondents perceive market-oriented business as a business with the highest priority of fulfilling the customers’ needs, which consequently monitor market changes and steps of competitors. Indeed, these three elements – customers, competitors, and market changes, express the essence of market orientation in scientific literature. However, only quarter of respondents assigned importance to dissemination of market orientation and reaction to it.
We also questioned the respondents to assign one of the marketing management concept to market orientation. On the one hand, majority of respondents (58.33%, i.e. 35) expressed their opinion that market orientation is closest to the marketing or societal-marketing concept, what we assess positive. On the other hand, it is disturbing that even 25 respondents connected the market orientation with production, product, or selling concept. As results from the marketing literature, these concepts are in visible contrast to the marketing or societal-marketing concepts. Kotler and Armstrong (2012, p. 10) state that the selling concept takes an inside-out perspective. “It starts with the factory, focuses on the business’s existing products, and calls for heavy selling and promotion to obtain profitable sales. It focuses primarily on customer conquest—getting short-term sales with little concern about who buys or why.” Contrary, the marketing concept takes an outside-in perspective, while it starts with a well-defined market, focuses on customer needs, and integrates all the marketing activities that affect customers. As a result, business achieves profits by creating lasting relationships with the right customers based on customer value and satisfaction. Social marketing and societal-marketing concept is the youngest of marketing management concepts. This concept goes over the barriers of marketing concept and tries to satisfy the needs and desires of the customer with respect to maintaining and enhancing the well-being of society. This question could be the subject for future research in order to deeply investigate the motives of businesses.

Next, we answered the third research question RQ3. We found out that there is correlation between the background of CEO or top manager and the position of marketing in business. The correlation has negative middle strong intensity. In other words, if CEO or top manager originates from the other department than marketing or sales, the role of marketing in business is stronger. It could mean, that these CEOs or top managers (from marketing or sales department) add higher importance to marketing activities, marketing planning, and marketing strategy.

Finally, we tested two hypotheses. However, we do confirm neither hypothesis H1 nor hypothesis H2. Although, the majority of respondents understand market orientation as marketing concept implementation and perceive marketing as strategy or culture, we cannot generalize these results. This fact might be caused by insufficient research sample size. In future research, we suggested to extend the research sample.

Acknowledgements

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References


IMPACT OF MACRO INDICATORS ON PAYG PENSION SCHEME FISCAL STABILITY

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Abstract

Pension system in the Slovak Republic is mainly based on a pay-as-you-go (PAYG) scheme, where pensions of the eligible retired population are paid by the employed population of that period. The PAYG pension scheme is dependent on labor market development, demography, life expectancy and external shocks so modern pension systems implement built-in stabilizers in the form of automatic balancing mechanisms in order to take into account exogenous parameters tied to the macroeconomy. These mechanisms have the ability to avoid political risks and to stabilize income and expenditure in the short-term and long-term without a need of shock interventions, which are politically unstable. The aim of this paper is to test the influence of key macroeconomic indicators and rising life expectancy on the Slovak PAYG scheme fiscal balance in order to understand the incentives of politicians to intervene into the policy parameters settings.

Key words

PAYG pension scheme, fiscal stability, macroeconomic indicators, modelling

JEL classification

H55, J11, I18

1. Introduction

The financial stability of the pension system built predominantly on a pay-as-you-go (PAYG) scheme is being challenged in many countries. While the system was set up at the time of economic growth, policymakers are facing both economic slowdown and aging of the population. To correct for further long-term imbalances, policymakers can only take unpopular measures such as delaying retirement age, increasing contribution on current working population or decreasing pensions. PAYG scheme in Slovak Republic is a state-organized pension system of inter-generation redistribution of resources in form of pension for eligible retired population. This system is fully dependent on economic performance of the country, labor market development and demography. The main feature of this system is that it has defined measure of inter-generation solidarity, defined current rate of contribution and defined incomes in future.

The problem is further accentuated in a small open economy where the future is much harder to predict. As a result, it is rather difficult for the policy makers to first forecast the future and the magnitude of the challenges and then to decide which policy is currently the best for implementation. Pension system is thus exposed to a political risk, which is related to decision made by politicians (Diamond, 1994). The politicians are tied to traditional political cycle and its public finance planning horizon (4 years), which is certainly less than planning horizon of the PAYG system. There is an incentive mismatch between short to medium term
popularity and re-election and taking necessary decisions to affect the long-term sustainability of the system. Besides, there are multiple theoretical political reasons explaining why it is difficult to influence policies and put in place reforms such as the fear or public opinion, the "free rider theory" (Alesina and Drazen, 1991; Velasco, 2000) or the lobbyist activity (Tornell, 1998).

The theory of political economy and pension economy mentions, that PAYG systems require frequent regulatory interventions, which are caused by fluctuations in demography. Relying on “responsible” discretionary interventions of politicians in pension legislation aimed on the solution of changes in pension system creates need of taking into account the reality of existence of the political risk, which affects the contributor’s side and the pensioner’s side (Diamond, 1994).

The most negative form of the political risk is so-called “populism in pension system” (Šebo and Virdzek, 2012). Populism in pension system can be defined as a fiscal illusion in competition between politicians, in which the politicians offer support and advantages to the voters without the voters realizing that they will pay greater taxes and contributions, which will lead to slowing down the economic growth. Populism leads to increase in pension expenditures, that is generated by unfounded increase in minimal pensions. Populism also leads to increase in expenditures without funds covering them up, e.g. granting a disability pension without strict examination and granting other benefits (e.g. Christmas bonus for retirees). After the election, the populist politicians probably get their temporal reward, but the costs of the changes in pension system become structural.

The populism in pension system increases when the country has weak democratic structure. When the pension system is based on funded schemes, the populism hardly affects the system, because the financing of pensions is planned and there is obligation to create a balance sheet on yearly basis according to principles of accrual accounting taking into account also the future expenditures in form of reserves. It is then possible to determine necessary corrections based on the balance sheet, which are applied when needed. The corrections have much smaller impact compared to the reforms in pension system guided through the legislation process (Vidal-Meliá et al., 2009). However, it should be noted that pension populism tends to be tied to the macroeconomic indicators. Even if there is an independent authority on the fiscal stability (so called fiscal institution), politicians tend to react on any positive guidance on pension system stability in a way that immediately reduces the positive outcome of previous changes.

Holzmann (2007) states, that there is another big problem in public and private pension systems and it is their inability to develop a reliable institutional structure for contributors and pensioners in sense of promise, that the payments will be modified accordingly. The majority of European PAYG systems has serious problems with credibility and Slovak PAYG system is not an exception. Holzmann (2007) also states, that frequent parametric reforms (changes in retirement age, contributions, pensions, and other parameters) reduces the credibility of the pension system. This problem is related to risk of political stability and credibility, which gives the pension system bad name and gives the contributors reason not to contribute or to migrate to other system of pension insurance, if they have that option.

In conclusion to the idea of instability of reforms in PAYG systems, Galasso (2006) recommends in his publication to implement a transparent mechanism of risk diversification through the clearly defined rules and management based on transparent accrual accounting.
This implementation increases the costs caused by inter-generation differences and decreases the political risk related to PAYG system.

2. Objective, methodology and data

Our aim is to use the model to (I) forecast expenditure and revenue of the PAYG pension scheme in Slovakia; (II) test the impact of key macroeconomic indicators that influence the fiscal stability of PAYG scheme in a long-run; and (III) prescribe policy recommendations regarding the financial stability of the long-run pension system. As there are key demographic drivers that are often seen as exogenic, other macroeconomic indicators do play a crucial role in the policy responses.

When considering the revenue side of the system, labor market indicators are considered. On one side, the labor productivity drives the wages and thus generating increased level of PAYG scheme revenues. The second dominant macroeconomic factor is the employment rate.

PAYG scheme expenditure side is driven mostly by the inflation and life-expectancy. As most of the countries do have an adjustment mechanism for paid old-age benefits tied to the inflation and (partly) to the wage increase, inflation drives the expenditures above expected level for the longer period. The same could be assigned to the demographic factor explained by extended life-expectancy.

Politicians are tempted to make policy adjustments in line with the economic cycles and thus adjust the policy parameters based on the confirmed expectations on macroeconomic indicators. The purpose of this paper is to provide a modeling of Slovak PAYG pension scheme, using a stochastic process that recognizes key macroeconomic factors, and to make decisions under high volatility and uncertainties about future development.

We build our model based on the initial deterministic model of Šebo and Virdzek (2012). However, we enhance their approach by introducing age structure of the population and predict the portion of the working population being enrolled in a 1bis funded scheme with changing contribution rate ($c_{II;i}$). Further on, we enhance the model by applying stochastic modelling of macroeconomic parameters for the simulated period from 2017 up to 2050 in order to understand the reaction of PAYG system fiscal stability over the longer period. Our approach has been motivated also by an approach used by Melicherčík and Ungvarský (2004). In addition, we introduce the changes made in the expected statutory retirement age tied to the life expectancy and thus we factor in the automatic stabilizer introduced into Slovak legislation in 2012 and effective since 2017.

Projections about the population are based on the European Commission database (European Commission, 2015a; 2015b) and Eurostat data. Total population $P$ at year $i$ is defined as the sum of the total population being aged from 0 to 100 years at year $i$, thus:

$$P_i = \sum_{a=0}^{100} P_{a,i}$$  \hspace{1cm} (1)

Projections for the yearly age cohorts are taken from the VDC data (2015). To determine the number of working population ($P_{15,R}$) contributing into the PAYG scheme as well as retired population taking benefits from the PAYG scheme, we must determine the structure of the population. We assume people to be aged less than 15 years to not work ($P_{0-15}$) and people aged more than the statutory retirement age ($R$) determined by the life expectancy to be retired ($P_{R-100}$). The size of the retired population is determined by the old-age dependency ratio ($d_i$).
taken from the European Commission database (European Commission, 2015a; 2015b) and Eurostat data, thus:

\[ P_{R:100} = P_{15:R} \cdot d_i \]  \hspace{1cm} (2)

We determine the number of people who contribute to finance the pension system with the employment rate \((E_i)\) as a stochastic indicator.

In order to test the financial stability of the PAYG scheme, we model revenue as well as the expenditure side using Šebo and Virdzek (2012) model, where the revenue side on a cash basis can be expressed as follows:

\[ RC_i = w_f_i \cdot 12w_i \cdot c_{I;I} + (w_f_i - s a_i) \cdot 12w_i \cdot c_{II;I} \]  \hspace{1cm} (3)

where \( RC_i \) = revenues of the PAYG scheme on a cash (annual) basis, \( w_f_i \) = number of economically active population, which is influenced by the stochastic development of the employment rate \((E_i)\) and where \( w_f_i = P_{15:R} \cdot E_i \), \( w_i \) = average monthly gross wage, which is driven by the increase in the labour productivity \((P_{L;I})\), \( s a_i \) = number of economically active population participating in the 1bis funded pension scheme, \( c_{I;I} \) = contribution rate for social insurance contributions paid for the PAYG scheme, \( c_{II;I} \) = contribution rate for the 1bis pillar funded scheme.

It should be noted, that total social insurance contributions paid for the PAYG scheme is set at 18% of the gross wage. If the person participates in the 1bis pillar pension scheme than the social insurance contributions for the PAYG scheme are reduced to 12% and 6% is paid for the 1bis pillar funded scheme.

For the labour productivity growth, we assume the full absorption of the GDP growth into the labour productivity and thus assume the growth of wages equal to the growth of GDP. We understand the potential weakness of this approach, however this simplification could be stable for a small open economy (Kaganovich and Meier, 2012; Stauvermann and Kumar, 2015).

Our objective is to see the long-term impact of macroeconomic indicators on the overlapping generations, thus we need to present the view that takes into account the turnover duration of one age cohort within the PAYG scheme on both sides (revenue as well as expenditure side). To achieve this accrual view on PAYG scheme revenues \((R_A)\), we need to present the turnover duration \((T_D)\) indicator that helps us to follow age cohort within the model. \( T_D \) is calculated as the difference between the life-expectancy \((e_x)\) and the average age of the working population at particular year \(i\). Revenues of the PAYG scheme from the accrual point of view can be calculated as follows:

\[ R_A = \sum_{i=0}^{TD} \left[ w_f_i \cdot 12w_i \cdot c_{I;I} + (w_f_i - s a_i) \cdot 12w_i \cdot c_{II;I} \right] \]  \hspace{1cm} (4)

For the expenditure side of the PAYG scheme, the same cash (annual) as well as accrual approach is used. In order to calculate annual expenditures \((CC)\) for the pension benefits paid from the PAYG scheme, the formula is as follows:

\[ CC_i = P_{t-100} \cdot 12p_i \cdot I_i - s_i \cdot 12p_i \cdot \frac{c_{II;I}}{c_{I;I} + c_{II;I}} \]  \hspace{1cm} (5)

where \( p_i \) = average monthly pension benefit paid from the PAYG scheme to the retired population, \( I_i \) = inflation (used for the indexation of the paid benefits) – stochastic parameter, \( s_i \) = number of retired persons receiving the nominal annuity from the 1bis pillar funded scheme.
We assume that pension benefits from the 1bis pillar funded scheme is of the same value, however it is not paid from the PAYG scheme budget and thus helps to improve the fiscal balance of the PAYG scheme.

Accrual approach for calculating PAYG scheme expenditures uses the turnover duration \( (TD) \) for particular year in order to see the paid benefits for the same age cohort until life expectancy of that cohort. The formula for calculating accrual expenditures \( (CA) \) is as follows:

\[
CA = \sum_{i=1}^{TD} r \cdot 12p_i - s \cdot 12p_i \cdot \frac{c_{it,j}}{c_{it,j} + cr_{it,j}}
\]

Our intention is not to forecast the expected development of key macroeconomic indicators (employment rate, labor productivity, inflation), but rather to see what impact the macroeconomic scenarios might have on the PAYG fiscal stability (balance). We start with the initial settings presented in the paper of Šebo and Virdzek (2012) and simulate various development of selected macroeconomic indicators over the period of 43 years (from 2017 till 2060). Initial labor productivity growth was set at 3% p.a. and inflation at 2% p.a. Employment rate was initially set at 68.5%, 1bis pillar funded scheme participation rate has been set at 46% and life expectancy at year 2060 was set at 81 years and we assume gradual increase of life expectancy toward this value between years 2017 and 2060. We do not expect shocks in the life expectancy. Let us also assume that the GDP growth is driven solely by the labor productivity growth.

3. Results and discussion

Under the “NPC” (no-policy-change) scenario, expected values of macroeconomic parameters have been used from the European Commission publication on ageing (European Commission, 2015b). Expected fiscal stability of the PAYG scheme under the NPC scenario is presented below. All figures are normalized to the price level from the year 2015.

Figure 1: PAYG Scheme Fiscal Balance under the NPC scenario

Source: the authors using initial assumption of Šebo and Virdzek (2012).

We observe that the PAYG scheme would generate annual deficits increasing from estimated 500 mil. eur in 2015 up to 6.7 bil. eur in 2060 on the cash basis (in 2015 prices). However, the accrual principle is more important as it takes into account future revenues
flowing into and expected benefits paid from the system. In 2040, the expected PAYG system fiscal balance on an accrual basis is expected to reach estimated amount of 150 bil. eur (in 2015 prices). However, the accrual balance starts improving after 2040 as the 1bis pillar funded scheme takes the more important role in financing the pension benefits for a larger part of the population and the population structure after the year 2040 plus turnover duration (40 years) is expected to be “younger”.

In order to understand the impact of key macroeconomic indicators (labor productivity, inflation, employment rate) as well as life expectancy, we used stochastic approach and used the normal distribution of analyzed parameters over time. Distribution parameters were estimated using the European Commission data (European Commission, 2015a; 2015b) and the data from the Report on the Long-Term Sustainability of Public Finances (Council for Budget Responsibility, 2017). For the labor productivity growth rates, we have estimated normal distribution with mean set at 2.67% and standard deviation of 1.02%. For the employment rate, we tested the impact on the PAYG system fiscal balance using the normal distribution with mean of 76% and standard deviation of 4.15%.

The results are presented in Figure 2 as a combined impact of all indicators accompanied with respective descriptive statistics.

Figure 2: Cumulative impact of macroeconomic indicators on the PAYG scheme fiscal balance to GDP (accrual basis) and descriptive statistics

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Percentile</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum</td>
<td>-2098.86%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Maximum</td>
<td>325.23%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Mean</td>
<td>-281.03%</td>
<td>5.0%</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>328.44%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Variance</td>
<td>10.78720162</td>
<td>20.0%</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.209213574</td>
<td>25.0%</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>5.02479392</td>
<td>50.0%</td>
</tr>
<tr>
<td>Median</td>
<td>-213.47%</td>
<td>75.0%</td>
</tr>
<tr>
<td>Mode</td>
<td>-143.03%</td>
<td>80.0%</td>
</tr>
<tr>
<td>Left X</td>
<td>-932.14%</td>
<td>90.0%</td>
</tr>
<tr>
<td>Left P</td>
<td>5%</td>
<td>95.0%</td>
</tr>
<tr>
<td>Right X</td>
<td>125.97%</td>
<td>97.5%</td>
</tr>
<tr>
<td>Right P</td>
<td>95%</td>
<td>99.0%</td>
</tr>
<tr>
<td>No. of simulations</td>
<td>10000</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors using Palisade @RISK.
For the inflation, we used normal distribution with mean of 2.5% with standard deviation of 1.05%. Finally, for the life expectancy, we expected gradual increase over time to reach the mean value of 88.7 years with standard deviation of 1.5 years at the year 2050. We ran 10 000 simulations using the Palisade @RISK simulator and present our outcomes (PAYG system fiscal balance / GDP) using accrual principle at the year 2050.

We could logically and intuitively expect that adverse macroeconomic scenarios of low labor productivity growth, high inflation and weak labor market (low employment rate) accompanied with rising life expectancy could lead to a poor performance of PAYG scheme. However, this combined impact requires more inside into the impact of macroeconomic indicators in order to understand the vulnerability of Slovak PAYG scheme. Understanding the weak areas could help to formulate meaningful policies helping to reverse the negative trend of the PAYG scheme. Preliminary inside into the impact of researched macroeconomic indicators and life expectancy is presented on Figure 3 below.

Figure 3: Effects of macroeconomic indicators and life expectancy on PAYG Scheme Fiscal Balance to GDP

Source: the authors using Palisade @RISK.

Weak labor productivity growth as well as negative impact of rising inflation above the labor productivity are intuitive. In our model, these two indicators have significant effect on the changes in the PAYG scheme fiscal balance. However, it is rather surprising that employment rate as well as rising life expectancy have only limited effect on the PAYG scheme fiscal balance. This is in sharp contrast to many studies oriented on Slovak PAYG scheme. One explanation could be found in the implementation of rising statutory retirement age since 2017, which has been attached to the rising life expectancy. Thus, the negative effect of rising life expectancy has been retained. Explanation of rather limited effect of employment rate is more complicated. Possible explanation could be seen in the construction of the model that simulates the way how the pension benefit is tied to the number of years of working career. If the employment rate is low, then the working career is shorter and therefore the agents can expect lower pension benefits.
Further on, we have tested also the correlation of particular macroeconomic indicators and the model output – PAYG Scheme Fiscal Balance to GDP. The results of the correlations are presented below.

Figure 4: Correlation of PAYG System Fiscal Balance with Labor Productivity growth

![Correlation of PAYG System Fiscal Balance with Labor Productivity growth](image1)

Source: the authors using Palisade @RISK.

Figure 5: Correlation of PAYG System Fiscal Balance with Inflation

![Correlation of PAYG System Fiscal Balance with Inflation](image2)

Source: the authors using Palisade @RISK.
Based on the simulation results, we can preliminarily confirm the dominant influence of labor productivity on overall PAYG System Fiscal Balance. The higher the labor productivity growth the higher the fiscal stability of Slovak PAYG system. However, the negative impact of inflation can be observed as the inflation drives the paid benefits higher on an exponential basis. Rather limited impact of employment rate seems little surprising as the increase of this indicator is often proclaimed as a key labor market target.

4. Conclusion

Our analysis and simulation results suggest extreme sensitivity of Slovak PAYG system on macroeconomic indicators. However, the labor productivity growth plays a key role in determining the future fiscal stability of PAYG scheme. Hence, the public policy should be predominantly oriented on driving the labor productivity growth and limiting the impact of inflation on rising pension benefits. Only limited attention can be given to the employment rate as it does not have the strong effect on the PAYG scheme fiscal balance.
In order to better understand the risks associated with analyzed macroeconomic indicators, further development of the structural model is needed, where the interconnection of macroeconomic indicators could be tracked better.

References


CONTEMPORARY ISSUES IN MANAGEMENT OF INTELLECTUAL CAPITAL IN SLOVAK COMPANIES OPERATING WITHIN A CHOSEN INDUSTRY

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Abstract

From the point of view of corporate practice at all its levels, for the needs of effective management it is necessary to know the composition and relationships between the components of intellectual capital. In economic theory, however, there are several definitions of the intellectual capital of an enterprise and its individual components. The paper thus contains the theoretical basis for exploring intellectual capital, the definition of this concept and the characteristics of its components. It presents the results of the primary research focusing on the use of the elements of strategic management of intellectual capital in the surveyed enterprises, identifies the internal and external factors of the individual components development of intellectual capital. Based on an analysis of intellectual capital management current state in selected industry sectors, the paper highlights the issues that need to be addressed and suggests a model for a strategic approach to managing intellectual capital.

Key words

intellectual capital, components of intellectual capital, intellectual capital management, human capital

JEL classification

Y20, M59

1. Introduction

The importance of the formation, accumulation, and development of intellectual capital in an enterprise is at present a key challenge and, at the same time, the most important success factor in many sectors of the economy. Intellectual capital management is not a new management discipline. Since the 1950s, managers of different focus have developed many management models and approaches to strategic management of intellectual capital in an effort to find a competitive advantage. Although individuals and enterprises have some idea of the meaning of this term, its content and structure, we believe it is not always clear, coherent and unified, and there is often misinterpretation and confusion between human capital and other assets of the enterprise. In theory, we are dealing with the concept of intellectual capital whose core lies in knowing that the tangible assets of an organization held in accounting (land, buildings, machines, finances, etc.) are less valuable than intangible assets. The discovery of intangible assets is dated far into the past, but its awareness and attribution of importance to intangible assets is an increasingly topical issue of the present. In the research, we investigated whether the values of intellectual capital are monitored in enterprises, assessed the contribution of individual components to the objectives, and whether
or not enterprises follow some indicators in relation to the components of intellectual capital. The aim of the paper is to evaluate the use of elements of strategic management of intellectual capital in the surveyed enterprises, to identify the internal and external factors of the development of individual components of intellectual capital based on the analysis of the present state of intellectual capital management in the selected industry sector and to propose a model of strategic approach to the management of intellectual capital development.

2. Intellectual capital

In economic theory, there are several definitions of the intellectual capital of an enterprise and its individual components. “Since human capital is considered as a system, its composition and structure is of major scientific interest” (Rizun, 2016, p. 295). The problem lies in terminological disunity – whether in approaches to defining or dividing the intellectual capital of an enterprise. Guthrie et al. (2004) state that the source of an enterprise's economic value no longer depends on the production of material goods but on the creation and manipulation with intellectual capital. Bonfou (2003, p. 396) states that "the current development of strategic management literature highlights an increase in the importance of intangible factors for the competitiveness of an enterprise." Harmonious alignment of individual subsystems is therefore a key prerequisite for successful operation of each organization (Lesáková et al., 2008). Analogically, the holistic approach to intellectual capital management is considered to be a prerequisite for the functioning of enterprises in the knowledge economy. According to Toffler (1990), among the major changes in the area in which new values are emerging, is the fact that new value creation is based on the exchange of data, information and knowledge that is the source of wealth, emphasizing the importance of creating conditions for information flows in enterprises as part of intellectual capital.

Brooking (1996, p. 12) refers to intellectual capital as “those intellectual assets that allow the organization to operate”. The author divides the intellectual capital into four components – market assets, assets linked to intellectual property, assets linked to people and assets linked to infrastructure. According to Roos et al. (1998, p. 57), intellectual capital is divided into human and structural capital, and thus they are identified with the formal division of intellectual capital into the basic components of Edvinsson and Malone (1997). However, the difference is found in the content breakdown within the basic components, where Roos et al. internally divide human capital into capabilities, attitudes and intellectual agility, and divide structural capital into relations, organization, and development and recovery. Stähle and Grönroos (see Lönnqvist, 2002) consider intellectual capital in two levels, both as a potential and realized intellectual capital. Intellectual capital represents the potential until it is transformed into added value, resulting in the realized intellectual capital. Bontis (1998) excludes intellectual property from components of intellectual capital. We appeal to the opinion of several authors who incorporate intellectual property into intellectual capital – either as a component of structural capital or as a separate component. Malhotra (2002) states that the notion of intellectual capital is often considered synonymous with the concepts of intangible assets and knowledge assets. However, the OECD (2006) Bismuth and Tojo (2008) see intellectual capital as a subset of the knowledge assets. Lev (2001, p. 5) claims that these terms are very often used in various areas of economic science – "intangible assets in accounting literature, knowledgeable by economists, intellectual capital by managers and intellectual property in legal literature – but all of them are essentially related to the same – intangible rights (claims) on future benefits".
From the point of view of corporate practice at all of its levels, for the needs of effective management is necessary to know the composition and relationships between the components of intellectual capital. There are many approaches to intellectual capital management. Edvinsson (2004) suggests that the "starting point" is to give some thought to three basic questions (Figure 1).

Figure 1: The process of managing intellectual capital


The starting point for intellectual capital management is the identification and categorization of the organization's intellectual capital components and the awareness of their relationships. Similar to the definition of intellectual capital, taxonomy and models of intellectual capital classification differ, and there is no one and only universally valid model of decomposition of intellectual capital. By their nature, however, the known and commonly used approaches are similar.

While studying the available publications and the work of domestic and foreign authors, we encountered the three-part division of the intellectual capital of an enterprise whose authorship is attributed to Canadian author Nick Bontis. It is accepted by well-known professionals and scholars. Those parts are:

- **human capital** – skills, experience, knowledge, competencies, know-how, the intellect of employees that is needed to create values (the owners of this capital are individuals, not the organization),
- **customer (social, relationship, relational, market) capital** – stocks and flows of knowledge resulting from a network of relationships inside and outside the organization, knowledge gained through internal and external interaction (such as customer loyalty, goodwill, customer-supplier relationships, business networks, etc.),
- **structural (organizational) capital** – institutionalized knowledge supporting the creation of value stored in databases owned by the organization – know-how, registered patents, models, computer and administrative systems, technological processes, business processes and corporate culture (Armstrong, 2002).

From the perspective of intellectual capital ownership, the organization is the sole owner of organizational capital and customer capital. Human capital is not its property, it is leased from its employees. Seková (2007), Laskowska and Danska-Borsiak (2016) observe that it is
obvious that intellectual capital is not only a sum of its individual components, but an interactive, dynamically connected sum that creates a synergetic effect.

In our understanding, intellectual capital is considered to be the key asset of an enterprise in today's dynamically developing, knowledge-intensive and informative environment. It is an overarching term for all intellectual resources (e.g. knowledge and information databases), assets (e.g. in the form of processes) and ownership (e.g. patents and trademarks) that is managed, controlled, owned and accessed by the enterprise. According to Dumay (2016, p. 169) intellectual capital is “the sum of everything everyone in a company knows that gives it a competitive edge. Intellectual capital is intellectual material, knowledge, experience, intellectual property, information that can be put to use to create value”. In terms of decomposition to the components, based on the synthesis of the views of several authors and the own assessment of the presented approaches, we have proposed the division of intellectual capital into human capital, structural capital, relational capital, the capital connected to intellectual property. We consider the flows between the other components to be a separate element of a dynamic nature. The first four components are not understood as static elements but as components capable of quantitative as well as qualitative development. The fifth element is of an explicitly dynamic nature which, apart from the transfer of data, information and knowledge, also represents individual interactions between the other components of intellectual capital. This element is equally capable of development, since interactions and transfers between components can gain volume, both in terms of quantity and quality. The development of all components in order to optimize the use of intellectual capital is therefore understood as a way to achieve higher performance and competitive ability of enterprises.

It is possible to define specific forms or manifestations of internal components. Stewart (2003) claims that each organization has intellectual capital in all its manifestations, but with different emphasis on them, depending on history and strategy. Identifying and categorizing the components of intellectual capital in an enterprise is, in our view, a prerequisite for its holistic management and, therefore, the management of its development.

Measuring and reporting intellectual capital is, in the opinion of many authors, the basis for a better understanding and management of irreplaceable assets, of which the intellectual capital of an enterprise is made up. There are several models of intellectual capital management. Kok (2007) mention the most famous Sullivan model, Skandia model, Brookings model, Roose and Roose categorization, St. Onge model, Sveiby model and Wiig model. In literature, the issue of intellectual capital management has been mostly elaborated in connection with the application of a strategic approach. There is an increasing interest in managing and measuring intellectual capital (Aitouche et al., 2015, Faria et al., 2016). Based on the nature and strategic importance of intellectual capital in an enterprise, such approach is logical and, in our opinion, necessary. By properly managing these knowledge assets, an enterprise can increase its market value (Minárová, 2011).

Research and development (R&D) management, human resource management (HRM), total quality management (TQM), just-in-time (JIT), etc. are approaches that seek to manage one of the components of the intellectual capital. In the language of current intellectual capital management, human and procedural capital is managed by R&D, human capital is managed by (HRM), process and structural capital are managed by TQM and JIT. According to Al-Ali (2003), intellectual capital management should be seen as a holistic approach to strategic business management, not just a simple compilation of previous approaches to managing individual components of intellectual capital. By addressing this issue, the author is proposing
a comprehensive CICM approach – Comprehensive Intellectual Capital Management that integrates three key systems – knowledge management, intellectual property/asset management, innovation management, taking into account unique goals, processes, strategies and tools of each of them. Al-Ali designed his own approach for the overall strategic management of an organization's intellectual capital that can be applied throughout the organization, and at each level of intellectual capital development. It is based on linking and looking for a correlation between key management approaches. Understanding the interconnection of the three managerial approaches is, according to Al-Ali (2003, p. 3) "the only way to work with intellectual capital management as a coherent discipline". Given the importance of intellectual capital in an enterprise system, intellectual property management is undoubtedly about decisions and processes of strategic nature.

Both domestic and foreign authors describe the terminological disparity, its measurement and reporting in the context of its management system as problematic areas in the theory of intellectual capital, and the fact that the management of components of intellectual capital and their interaction is lacking in a strategic approach that would greatly contribute to a systematic increasing competitiveness through the efficient use of this key asset of the company. Likewise, “one of the problems of the organization's intellectual capital is the complicity of its account and the estimation of its value, including the uncertainty of goals that occurs at the conduct of these estimates” (Mustafin et al., 2016, p. 121). We believe that, as a result of using a comprehensive strategic approach to managing the development of intellectual capital, taking into account both internal and external factors, the performance and competitiveness of businesses should be enhanced.

3. Aim, material and results of the study

The aim of the study was to evaluate the use of the elements of strategic management of intellectual capital in the surveyed enterprises, to identify the internal and external factors of the development of the individual components of intellectual capital based on the analysis of the present state of intellectual capital management in selected sector enterprises and to propose a model of strategic approach to the management of intellectual capital development.

Primary research was conducted by sociological inquiry through an electronic questionnaire. In the processing of information, we used several methods of investigation, especially analysis, synthesis, scientific abstraction, inductive deductive procedures, comparison, analogy, generalization and the historical-logical method.

An electronic questionnaire created using the Google Forms application was distributed by e-mail to selected business entities. We used the selection from the data of the Register of Economic Subjects of the Slovak Republic. The selection criterion was the main activity of SK NACE category 62.010 - Computer Programming. For the purposes of evaluating the return and representativeness of research, we took into consideration a sample of 748 subjects. We had 88 valid replies; the return on the questionnaire was 11.76%. Although the sample of respondents can be considered representative, based on the enterprise size criterion, we can not see results as generalizable for the entire population because of the low return, but can serve as a valuable source of information for us. The obtained data were processed using relevant mathematical-statistical methods (descriptive statistics, Wilcoxon test, binomial test, Pearson correlation coefficient, etc.).

In the research, we investigated whether the values of intellectual capital are monitored in enterprises, assessing the contribution of individual components to the objectives set, and
whether or not companies are following some indicators in relation to the components of intellectual capital. The value of intellectual capital (intangible assets) is monitored by 35 enterprises, representing 40% of the sample, 32 of them reporting that they assess the contribution of individual components to the objectives of the enterprise, but only two entities assess certain indicators in relation to the components of intellectual capital. Five entities said that while they do not follow the value of intellectual capital in an enterprise, they evaluate the benefits of its components with respect to the set goals. These results and the binomial test \( p = 0.0136 \), significance level 0.05 confirm our assumption.

We tried to identify the most important internal and external factors in the development of intellectual capital in the surveyed enterprises. We focused on issues in which we gradually identified the strengths and weaknesses, opportunities and threats to which respondents attach the greatest importance. On the basis of the frequency of the individual factors in the respondents' answers, we established the order. Within the internal environment, the most significant strength in the development of intellectual capital is considered to support creativity and innovation of employees in over 73% of cases, and up to 76% of respondents agree that negative attitudes and bad working habits of employees are the most important factors with a negative impact on the development of intellectual capital. The fluctuation of key knowledge employees is perceived as the least significant factor on the basis of responses to (only 5.7% of respondents ranked among the 5 most significant weaknesses). However, respondents see the departure of specialized key employees in the form of their "pulling away" from the competition as the greatest threat from the external environment. Respondents have labeled support for creativity and innovativeness of employees as the most important employee development factor, but other factors that have taken the lead in the focus are primarily on the development of structural and relational capital. Factors relating directly to the development of employee competencies (such as enterprise education, talent management, constantly increasing staff and managers' capabilities, etc.) have reached a response rate of less than 40%.

For enterprises in selected industry, the most important opportunity in the external environment is to engage in projects and cooperation at national and international level. Such a form of cooperation implies a number of possibilities for the development of different components of intellectual capital and is a tool of creating a synergic effect through the parallel development of several aspects of intellectual capital at the same time. As a second development opportunity, almost 60% of respondents identified the possibility of cooperation between universities and enterprises, and the third most frequent answer concerns the financing and support of development activities in the area from external sources. As part of the voluntary option of adding internal or external factors, we noticed just one answer, in the context of weaknesses: "a disadvantage of enterprise size – less flexibility and often bureaucratic barriers to information flow". Among the most significant weaknesses was the absence of a strategic approach to managing the development of intellectual capital of the company, which was identified by almost half of the respondents.

At the end of the questionnaire, we were using the 7-degree scale to find out if the respondents considered access to the development of intellectual capital in their business as a strategic one, and also if they considered it targeted and systematic. Using the correlation coefficient, we assessed the nature of the dependence between the size of the enterprise in which the respondent operates and the use of a strategic approach to intellectual capital management. In our case, the value of the correlation coefficient was 0.174, indicating a very
weak positive dependence between enterprise size and the use of a strategic approach to managing intellectual capital in an enterprise. The positive finding of the evaluation of the given issues is that the weighted arithmetic mean of all values from the responses of the strategic orientation approaches to the management of the development of intellectual capital in the investigated enterprises reached 4.47 and none of the respondents considered it operational. With a degree of systematical approach and targeting of approaches, the average of 4.36 points was at the specified 7-degree scale, with up to 40% of responses below 4, and thus closer to the possibility of access to intellectual capital development is random and unsystematic on the left side of the scale.

Based on the analysis of the present state of use of the concept of intellectual capital management with a focus on the process of its development in Slovak IT companies, we formulate proposals and recommendations to improve the identified deficiencies and streamline and optimize current processes and propose a model of strategic approach to the development of intellectual capital.

In spite of the fact that we have conducted research in enterprises with a specific focus, we then formulate suggestions and recommendations for businesses in general. The reason for using such a generalization is the fact that a strategic approach to the development of intellectual capital is not confined to companies of the chosen industry but to all business entities seeking to strengthen their competitive advantage on the market – regardless of their size, focus, property participation or duration of the market.

The following are the basic assumptions under which the model of strategic approach to intellectual capital management can be applied:

- linking intellectual capital development strategy to corporate strategy,
- providing assumptions for its implementation,
- preparing a baseline situational analysis to assess the state of intellectual capital in an enterprise.

These assumptions, as well as the proposed model itself, are considered as a framework that enterprises can implement by adapting this model to their own circumstances.

Based on our findings from secondary and primary sources, we propose a model of a strategic approach to developing the intellectual capital of an enterprise. Graphically, the model elements are shown in Figure 2.

In addition to the underlying assumptions of the strategic approach to managing intellectual capital development and its implementation recommendations mentioned above, it is necessary to take into account the principles and tools that, in our opinion, are important factors in defining the factors of development of the individual components of intellectual capital and their interaction. In order for enterprises to make optimal use of resources and potential, processes must be governed by certain standards, even if they are documented and formally incorporated into the enterprise system. The bigger the enterprise is and the more complex are its activities, the more likely it is that the intellectual capital is not used to the full and the competitive advantage is lost.
4. Conclusion

The concept of intellectual capital is based on the considerations, assumptions and real needs of identifying and managing sources of competitive advantage in the present information society. In this area, rapid changes have taken place over the last three decades, and the attention of businesses has begun to move away from the material components of an enterprise to the intangible – intellectual components of the enterprise. The notion of intellectual capital is not unified in theory, and despite more than 20 years of existence of practices in its management initiated in Scandinavian countries, there is still no unified model of division and management of this valuable asset of companies. Research initiatives and the increasing frequency of application of management approaches in enterprises indicate a positive trend in the use of this concept, yet the problem of intellectual capital in the conditions of the Slovak Republic is not deeply elaborated. Enterprises have not yet fully exploited the potential that a systematic, targeted and holistic approach to managing intellectual capital offers. In the paper, we presented the theoretical background of intellectual capital exploration, the definition of this concept, the characteristics of its components, and
the results of our research on this issue in the field of information technology, which is considered one of the most demanding of intellectual capital use. We pointed out the problems that need to be addressed and presented a model for a strategic approach to the development of intellectual capital, including the basic assumptions, principles and tools whose application in the enterprise should optimize the process of intellectual capital development and hence enhance the competitive advantage.

References


RELATIONSHIP BETWEEN KNOWLEDGE BASED ECONOMY AND CREATIVE ECONOMY

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Abstract
Knowledge is the foundation of the post-industrial era. However, in the literature and business practice, there is a growing widespread interest in other intangible resources, i.e. creativity. The aim of the paper is to identify epistemological gaps between a knowledge-based economy and the creative economy. The specific objective is to contribute to the discussion and promotion of knowledge about the creative economy. In accomplishing the goal, available literature of the subject was used, which was analyzed using methods: content analysis, synthesis, phenomenological and hermeneutic methods. Knowledge and creativity today are recognized as assets of tremendous importance for the growth of organizations, contributing to their competitive advantage and new opportunities for development.

Key words
knowledge economy, creative economy, relation, knowledge

JEL classification
A12, B49, O30

1. Introduction

Traditional factors of production, such as land, work and capital, despite their usage in and value for economy, have lost some of their significance. Their place has been taken by intangible resources, which in fact cooperate with the traditional factors of production, yet they also determine the success of economy. These resources include knowledge and creativity.

Literature indicates the importance of knowledge as a factor of success, organization and individual. The ability to use information about the surrounding reality is the basis of knowledge that people acquire throughout their lives.
Knowledge is the foundation of the post-industrial era. However, in the literature and business practice, there is a growing widespread interest in other intangible resources, i.e. creativity.

The aim of the article is to identify epistemological gaps between a knowledge-based economy and the creative economy. The specific objective is to contribute to the discussion and promotion of knowledge about the creative economy.

In accomplishing the goal, available literature of the subject was used, which was analyzed using methods: content analysis, synthesis, phenomenological and hermeneutic methods.
Knowledge and creativity today are recognized as assets of tremendous importance for the growth of organizations, contributing to their competitive advantage and new opportunities for development.

2. The essence and meaning of knowledge in the organization

The human mind is an unfathomable secret for researchers who want to convey knowledge about it to future generations. With this intention, the composers have an important problem how to define knowledge?

Knowledge, as a human factor, highly functional and adaptable, is to be encountered throughout people’s lives, during work in a field or factory, in the processes of “taming” the nature, building one’s home and making the time more attractive. Philosophers described knowledge as a state of awareness and wisdom which could enable a person to achieve the state of perfection. For example Plato defined knowledge as a justified true belief (Kardas and Wójcik-Augustyniak, 2008, p. 496). Definitions of knowledge have varied scope not only in philosophy.

Koźmiński (In Kaczmarek and Walczak, 2009, p. 13) defined knowledge as an organized set of useful information, designed to enable a well-organized portfolio of assets. Yet the portfolio is arranged in such a way, that in addition to information situated in a specific context it also contains more general values, experiences and rules enabling its interpretation.

On the other hand, Probst et al. (In Kaczmarek and Walczak, 2009, p. 19) define knowledge as the totality of acquired expertise and skills applied by individuals in problem solving. According to them, knowledge is based on information and data, which – unlike skills – are not related to one specific person. Knowledge is understood as a work of individuals and it represents their beliefs regarding cause and effect relations.

Speaking most broadly, knowledge can be defined as the capacity to fully apply and exploit information, in combination with optimal usage of human competences. Knowledge is the resource which most profoundly determines an organization’s competitive advantage. It is an intangible resource, based on competences and individuals (Figure 1).

Figure 1: Classification of organization’s resources

Source: adapted from Wawrzyniak (2003, p. 285).
In an organization there are four levels of intangible assets (Figure 2). The base of the triangle representing intangible assets comprises data. The level above contains information, i.e. data which have been subjected to interpretation. This stage is followed with dissemination of the information, which consequently becomes knowledge. The fourth level, directly above knowledge, comprises intelligence (Mikuła et al., 2002, p. 71).

Figure 2: Triangle representing intangible assets of organization


Knowledge is a source of products, a condition for innovation for many business entities. However, it involves the transformation of information into knowledge, it also facilitates adaptation to the environment.

3. Introduction to knowledge-based economy

According to OECD (1996, p. 7), knowledge-based economy is understood as “economies which are directly based on the production, distribution and use of knowledge and information” The term knowledge-based economy is used interchangeably with such terms as new economy, digital economy and network economy.

Knowledge-based economy is distinguished by six features (Fazlagić, 2009):

- investments in research and development,
- increased importance of export and international links,
- increased employment in sectors intensively applying knowledge. Consequently, a new type of enterprise emerges, i.e. knowledge-based enterprise;
- high proportional share of services in employment rates and in GDP,
- significance of formal and informal links and networks,
- inexhaustibility of knowledge.

Therefore, it can be assumed that knowledge-based economy (KBE) is the sphere or type of economy in which development is driven by science or scientific knowledge more than by other factors.

This economy is related to the creation of knowledge, innovation, reconfiguration of resources for intangible assets.

The knowledge-based economy relies on the resources of knowledge and use of its potential, as a strategic factor of development. Important factors of success in KBE include
quality, information, knowledge and intellectual capital. Of main importance here is knowledge which:

- is a determinant of power,
- represents the state of the reality in the human mind, creativity, work and development of new solutions and processes,
- is the only economic resource, while all the other factors are seen merely as supplementary means of production,
- smoothly combines experience, assessment of values and information,
- is a well-tested key to changes, choice of values and opportunities,
- constitutes a totality of reliable information on the reality and the ability to apply it,
- is a source of competences, intellectual vigour, strength, wealth, competition, effectiveness and efficiency,
- is an important determinant of success achieved by an organization operating in changing environment.

In KBE other important factors of success include skills, experience, assets, passion and awareness of the goal. KBE is a type of economy in which knowledge is treated as a factor giving shape to the structure of production and economic progress at the stage of advanced socio-economic growth (Skrzypek, 2011, p. 274).

Individual and group skills, as well as tacit knowledge represent resources of potential talents and innovation, which may provide an organization with sources of future competitive advantage. These attributes jointly determine the organization’s capacity to properly respond to hazards and opportunities in the market, often impossible to predict. Such qualities are sought for by operators looking for potential investments. They include ideas, experience, creativity, ability to work in a group, flexibility, ability to cope with doubts, learning skills, etc.

4. Creative economy and its subjective structure

The subject of creative economy has been at the focus of discussions in international organizations and communities in recent decades, highlighting itself as a strategy for the economic and social development and growth of both developed and developing countries. Academic community has expanded this debate beyond fundamental reactions in an effort to achieve a greater understanding of the concepts involved, their impacts, and their limits within each country’s historical, political, economic, social and cultural contexts (Guliherme, 2017, p. 1).

People are the most valuable resource of an organization. Their knowledge, experience, skills and commitment are a unique asset. Needless to say, human capital contributes its inherent resource, i.e. knowledge. It is also the carrier of another quality, i.e. creativity which is recognized as the foundation for the development of creative economy.

In the psychology literature on creativity, creativity it is the essential idea in the principle of spreading mental activation generating novel creative ideas by linking elements that are not typically associated in ordinary, narrower trains of thought (Ferinstein, 2017, p. 30).

In his book The Creative Economy, the British business strategist John Howkins predicted that creativity will invigorate the manufacturing, service, retail, and entertainment industries beyond the deficient development of information and software (Kim et al., 2017, p. 2).
In economics creativity is understood as the most important feature of human capital, enabling implementation of innovations and constituting the basis for the innovation process. It can be defined as the ability of individuals working together to develop useful and valuable products, services, ideas, procedures and concepts (Woodman et al., 2004, pp. 293-321).

Looking for signs of creativity we perceive it as a certain quality of performance in daily life and at work, and something that in fact is expected from each student and employee.

Creativity understood as a trait is an inherent quality of all human beings as it enables them to adapt to changes in the environment. It can be considered with reference to an individual who uses the trait in a specific manner. In this context it is possible to adopt one definition, applicable for various uses, saying that creativity is the ability of imaginative thinking, resourcefulness and adaptive flexibility resulting in the capacity to come up with inventive and ingenious solutions breaking through widely accepted patterns (Drozdowski et al., 2010, p. 20). “Creative economy makes use of a new factor of production, an intangible asset of creativity”, distinguished by such features as: permanence (time does not have to lead to depreciation of creativity but it may “raise it to new heights”), rarity (uniqueness), high value, inimitable quality (it is difficult to develop equally creative economy because of its individual path of growth), and non-substitutable quality (it is hard to find economic entities equally creative in the same area of expertise). Creative economy differs from knowledge-based economy in that it does not require accurately prepared system, procedures and infrastructure. Yet, it does require overcoming internal barriers in the human capital, to transform it into creative capital, which is of crucial importance in this type of economy as it constitutes the basis for increase in innovativeness (which “is a temporal consequence and a result of creativity processes, or the use of resourcefulness in practice”), and thereby – a foundation of economic growth. It is not only the creative human capital that positively affects growth, because there is a two-way relationship in this area (Ekonomia kreatywności, 2012, p. 24).

Creative economy can be described in the following way:

- as an evolving concept based on creative assets potentially generating economic growth and development,
- it can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development,
- creative economy embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives,
- it is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy,
- creative economy is a feasible development option calling for innovative multidisciplinary policy responses and inter-ministerial action (Concept and context of the creative economy, 2010, p. 90).

Characteristics of creativity may be articulated in various ways, due to numerous interpretation criteria. Yet, regardless the interpretation, creativity is the key element in creative economy. A specific approach involves consideration of creativity as a measurable social process. From economic point of view, however, the link between creativity and social processes is exemplified in development (Concept and context of the creative economy, 2010, p. 32).

Creative transactions can also include transactions using creative products. This is due to their belonging to the cultural industries, but also to the focusing of intellectual activities on
their intellectual property. These will also be products offered by representatives of the creative class, people undertaking creative activities, creators and other actors.

Creative economy is a set of operations based on various forms of intellectual property and new information and communications technologies (Klasik et al., 2009, p. 57). Its most dynamic growth can be seen in cities and urban agglomerations. The relevant operations are based on sciences, culture and creative capital. The latter comprises representatives of creative professions, members of local communities involved in creative operations, artists and individuals taking advantage of and using information technologies (Figure 3).

Figure 3: Actors of creative economy

As mentioned before, the correspondence between knowledge and intangible assets is also true for creativity. In producing knowledge, in its definitions, one can find references to talents, and creative work, which reflects the link with creativity. Like in the case of knowledge, analysis of creativity may be conducted at a few levels of inventive work.

Very often, creativity research is concerned with the study of what enables people to express themselves creatively or aesthetically or to produce creative ideas and products. For example, definitions of creativity frequently emphasize criteria for creativity, such as “novelty plus value” (Tangaard, 2015, p. 181).

5. Similarities and differences between knowledge-based and creative economy

Korenik (2010) compares creative economy to knowledge-based economy. It should be noted that the creative economy is a complement to the knowledge-based economy. Creative work engages mental capacities and is most frequently operationalized as a service. Just like knowledge-based work, it is typically used in sectors applying advanced technologies. People working in organizations based on creativity or knowledge stand out for their passion and self-motivation. Both knowledge-based economy and creative economy are accompanied by significant resources of knowledge providing basis in sales transactions (Table 1).

Because of the influential strength of creativity, or perhaps due to the specific trends related to this feature, knowledge-based economy in some areas is being replaced by creative economy (Table 2).
Table 1: Differences between knowledge-based economy and creative economy

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<th>Factor</th>
<th>Knowledge-based economy</th>
<th>Creative economy</th>
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</thead>
<tbody>
<tr>
<td>Tools</td>
<td>Knowledge, information</td>
<td>Creativity, imagination</td>
</tr>
<tr>
<td>Nature of the resource</td>
<td>Permanent</td>
<td>Variable, process related</td>
</tr>
<tr>
<td>Capacities</td>
<td>Use of effects produced as a result of new combination or application of existing knowledge</td>
<td>Discovery of new principles</td>
</tr>
<tr>
<td>Type of product</td>
<td>Innovation (no technology leap)</td>
<td>Innovations involving technology leap</td>
</tr>
<tr>
<td>Codification</td>
<td>Codified knowledge (compiled in research publications, documents, patents)</td>
<td>Uncodified “tacit” knowledge (accumulated in human minds or in organizations’ procedures)</td>
</tr>
<tr>
<td>Knowledge</td>
<td>Subject to transformation involving description in a medium; stored and transferred</td>
<td>Cannot be transformed; it is impossible to use a code enabling its change into information</td>
</tr>
<tr>
<td>Systems procedures</td>
<td>Need for accurately prepared system, infrastructure, procedures</td>
<td>No need for accurately prepared system, procedures; no infrastructure enables free flow of creativity</td>
</tr>
<tr>
<td>Pillars of economy</td>
<td>Knowledge, freedom</td>
<td>Knowledge, imagination, freedom</td>
</tr>
<tr>
<td>Limitations</td>
<td>Monopoly, insularity, asymmetry of knowledge</td>
<td>Internal barriers in human capital, change of habits, changes in education system</td>
</tr>
</tbody>
</table>

Source: adopted from Korenik (2010, p. 74).

Table 2: Directions in changes occurring in organizations and in economy due to transition from knowledge-based economy to creative economy

<table>
<thead>
<tr>
<th>Use of the main resource</th>
<th>Knowledge-based economy</th>
<th>Creative economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Origin of resource</td>
<td>human capital / intellectual capital</td>
<td>creative capital</td>
</tr>
<tr>
<td>Type of employee</td>
<td>knowledge worker</td>
<td>creative worker</td>
</tr>
<tr>
<td>Process management</td>
<td>related to learning</td>
<td>related to creating</td>
</tr>
<tr>
<td>Source of changes</td>
<td>information</td>
<td>imagination</td>
</tr>
<tr>
<td>Occurrence</td>
<td>knowledge-based organizations</td>
<td>creativity-based organizations</td>
</tr>
<tr>
<td>Success based on management</td>
<td>of intangible assets – knowledge</td>
<td>of intangible assets – creativity</td>
</tr>
<tr>
<td>Use of advanced technologies</td>
<td>as a necessary condition</td>
<td>not required</td>
</tr>
<tr>
<td>High innovativeness</td>
<td>expression of knowledge</td>
<td>result of creativity</td>
</tr>
<tr>
<td>Climate for growth</td>
<td>production of knowledge</td>
<td>production as a creative act</td>
</tr>
<tr>
<td>Dominating sectors</td>
<td>technology and computer science related sectors</td>
<td>creative sectors</td>
</tr>
</tbody>
</table>

Source: the authors.

Parallels between the concepts of KBE and CE are mainly associated with problem solving processes aimed at development. Relations between knowledge and creativity are visible in the form of innovations, as a concrete effect carrying specific value. Therefore, these factors
affect development and economic growth both at the level of the organization and the state. They are of supplementary nature, most broadly visible in the area of research and development. They are a consequence of globalization which stimulates technological changes, leading to creation of new knowledge. They also affect transformation of the system of economy (Figure 4).

Figure 4: Selected characteristics of economy transformations

<table>
<thead>
<tr>
<th>KBE</th>
<th>CE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reindustrialisation: emergence of new areas of economy</td>
<td>Changes in management styles</td>
</tr>
<tr>
<td>Economic valuations based on intangible resources</td>
<td>“New” groups of employees</td>
</tr>
<tr>
<td>New products</td>
<td>Network links</td>
</tr>
</tbody>
</table>

Source: the authors.

At organizational level the concepts of these economies are strongly integrated with intellectual capital, or more specifically with human capital, which in the case of creative economy transforms into creative capital. Both qualities constituting a foundation of the economies, i.e. knowledge and creativity, are an economic asset. They may be proliferated and they have similar characteristics. They are personalized, individualized and difficult to codify. Creativity accompanies knowledge in the process of its production, just like knowledge may contribute to a creative process. At organizational level, relationships between them may occur in the following areas:

- collaboration between employees,
- dominance of “white collar” workers,
- processes defined in the organization,
- use of available resources,
- research and continued learning,
- organization’s main functional areas,
- changes,
- technology development,
- internal and external relations,
- general public’s preferences related to post-industrial economy.

At present, organizations which, based on their assets and skills, are able to design, develop and deliver products, also have the capacity to satisfy customers’ needs more effectively than their competition, consequently achieving competitive advantage in markets of their choice.

**Conclusion**

Creativity is an inexhaustible resource based mainly on the ideas and cultural characteristics rather than on the physical capital. A major source of creativity is invisible as it includes both everything each person possesses – knowledge, emotions, talent, spontaneity.

The subsequent stage in economy development is linked with the role of intangible resources. These are knowledge and creativity; as a result of their application organizations are forced to change their behaviours, i.e. focus on knowledge and creativity. Creative
economy is understood as the next stage in the evolution of economy system, and more specifically knowledge-based economy.

To achieve the most effective use of intangible resources, which determines success in contemporary economy, three aspects must be taken into account:

- Firstly, it is necessary to recognize the role of the creator and administrator of the intangible resources,
- secondly, it is necessary to create conditions favourable for learning and transfer of knowledge, by building networks of contacts, inside and outside the organization,
- thirdly, it is necessary to build favourable atmosphere, promoting creative work.

The ability to create knowledge, transform it into new products and services determines the market success of enterprises. It is connected with innovations, which are also determinants of creative economy. However, it is important to use both knowledge and creativity.

The authors are also aware of the role of states in stimulating creative behavior. It also requires constant development of human creativity, tolerance for not only economic but also cultural diversity. This is particularly related to the creative messaging role. These issues have not been developed in the article due to the volume of the study. However, they represent interesting research activities for further analytical work.

The problems discussed here indicate important aspects linked with the changes occurring in knowledge-based economy. They do not exhaust the subject matter, but only outline selected, most frequently discussed interpretations related to economy based on knowledge and creativity.

This does not mean that one intangible resource replaces the other, evaluates its position or excludes its application in practice. Knowledge and creativity are correlated to each other, which enables diversification of analyses based either on knowledge or creativity.

References


TAX LICENSES AND BUSINESS ENTITIES

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Abstract

The focus of this paper is on tax licenses in the Slovak business environment. These rules for taxing business entities in our country have been in effect from 2014. In the tax theory, this is no new concept and that is why we also make a comparison with selected European countries that have applied these licenses before. Our aim is to evaluate the effect of introducing the so-called minimum tax on the tax obligations of entrepreneurial entities on the basis of theoretical and legislative analysis and the results of a questionnaire research. Based on the respondents’ opinions, we will summarize and interpret the opinions of business entities on the new rules and search the causes and formulate conclusions.

Key words
income tax, legal entities, tax license, starting and disappearing enterprises

JEL classification
H25, H26, K34

1. Introduction

This paper deals with the introduction of tax license (as a form of corporate income tax) in the Slovak Republic. The focus of our research is on the amount of tax burden for different categories of taxpayers. In a broader perspective, we evaluate all entities enrolled in the Commercial Register of the Slovak Republic, and in a narrow perspective, legal entities – trading companies set up to reach profit. Subjects set up for purposes other than business, such as foundations, civic associations and clubs, are not in our attention because they are not subject to tax license.

The aim of our paper is to assess the influence of the so-called minimum tax on the tax obligations of legal entities. As the main methods we used theoretical-legal analysis and questionnaire research to learn about the opinions of business entities on the newly introduced rules in this area.

It is important to point to the fact that corporate income tax is not (with some exceptions) strictly harmonized within the European Union. The member states are free to create their own rules of direct taxation of profit and therefore it is all the more meaningful to objectively investigate the set rules.

2. Theoretical-legislative background of tax licenses paid by legal persons in the Slovak Republic

amended, and amending certain laws) a new taxation instrument has been introduced for defined legal persons with effect from 1 January 2014. In Section 46b of the Income Tax Act the rates of tax licenses, as well as the legal limits of its reduction, the exemption from its payment, the maturity and the possibility of credit are adjusted.

Tax license is defined as a minimum tax. According to its author Babčák (2012, p.155), the minimum tax is the lowest possible amount of the tax which must be collected from the taxpayer, regardless of the amount of tax base or the group the taxpayer belongs to.

Tax licenses are levied on legal entities (except for exceptions in the Income Tax Act), regardless of their profit or loss, even if they report a negative tax base. It is this piece of legislation that is most often debated and criticized. The purpose of the legislation is, according to the legislator, to eliminate tax evasion. This adjustment does not apply to natural persons - entrepreneurs, which is the second - a major inconsistency and interference with the right to do business. We will consider these facts in connection with the proceedings before the Constitutional Court of the Slovak Republic in another part of this paper, comparing the act with the valid Constitution of the Slovak Republic.

The amount of the tax license depends on the amount of the taxpayer's annual turnover - a legal person, on the fact whether the taxpayer is a value-added tax payer (VAT) on the last day of the taxable period and whether this legal person employs disabled people. The categorization of taxpayers according to these criteria is presented in Table 1.

Table 1: Amount of tax license according to taxpayer category

<table>
<thead>
<tr>
<th>Taxpayer category</th>
<th>Amount of tax license in euro</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. VAT non-payer with turnover up to 500,000 euro</td>
<td>480</td>
</tr>
<tr>
<td>2. VAT payer with turnover up to 500,000 euro</td>
<td>960</td>
</tr>
<tr>
<td>3. VAT not applicable, turnover more than 500,000 euro</td>
<td>2,880</td>
</tr>
</tbody>
</table>

Source: the author based on data from the Financial Administration Office.

The amount of tax license also depends on the taxpayer's annual turnover although the Income Tax Act does not define the annual turnover, but refers to Section 6, 4 of Act no. 479/2009 Coll. on State Administration Bodies in the Field of Taxes and Fees and on amendments to certain acts as amended. The annual turnover of the taxpayer with double-entry system is the sum of the revenues from all the activities performed for the respective tax period. In the case of single-entry bookkeeping, it is the sum of the income from all activities performed for the relevant tax period.

Pursuant to Section 46b, 3 of the Income Tax Act, the amount of tax license is reduced by half in the case of a taxpayer whose average registered number of employees in natural persons with disabilities for the taxable period is at least 20% of the total average registered number of employees in natural persons according to the Decree of the Statistical Office of the Slovak Republic no. 291/2014 Coll.

Of the group of taxpayers who do not have to pay tax licenses are excluded (pursuant to Section 46b, para. 7 of the Income Tax Act):

- newly-established taxpayers who were first obliged to file a tax return for the taxable period in which it was incurred;
- taxpayers running protected workshops or sheltered workplaces;
• National Bank of Slovakia;
• land communities, with an annual turnover not exceeding 10,000 euro (with effect from 1 January 2016);
• taxpayers who have filed an application for cancellation without liquidation (pursuant to Section 68, 6 of Act no. 513/1991 Coll., the Commercial Code as amended);
• taxpayers who have not been established or founded to do business (Section 12, 3 of the Income Tax Act), such as professional chambers, civic associations, political parties, religious associations, municipalities and higher territorial units.

An important part of the tax license legislation is also the maturity of the minimum tax, entitlement to the tax credit, the counting of corporate income tax advances and also the share of the tax paid in reference to the tax license. The maturity of tax license is in accordance with the time limit for filing a tax return under Section 49 of the Income Tax Act. In this case, it is a general maturity within three calendar months after the end of the tax period. The maturity of the tax may be extended by up to six calendar months. If the tax period is less than twelve consecutive calendar months, the tax license is payable in a proportionate amount (Section 46b, 2 of the Income Tax Act). These are cases of when the taxpayer gets into liquidation, or when bankruptcy is declared and when the tax period is changed from a calendar year to an economic year or vice versa (Brnová et al., 2015, pp. 380 – 381).

The entitlement to tax credit is applied before subtraction of tax deductions for up to three consecutive tax periods following the tax period for which the tax license was paid. The Income Tax Act in Section 46b, 8 also regulates the termination of the entitlement to a tax license according to author Bielená (2015).

According to Section 50 of the Income Tax Act (so-called Tax Assignment), within the time limit to file a tax return, a taxpayer who pays a tax license is entitled to declare that a 2% or a 1% share of the tax paid is to be devoted to a designated beneficiary. In the case of 1 % of the tax paid, the sum must be at least 4.80 euro and not more than 28.80 euro. If the case of a 2% share, the maximum amount is 57.60 euro.

Theoretical and legislative analysis of the basic conditions of tax licenses is the first prerequisite to know the actual principles applied in the taxation of legal entities in the Slovak Republic.

2.1 Tax license – Constitutional Court of the Slovak Republic proceedings

With the adoption of Act no. 463/2013 Coll., the legislation of tax licenses has been regulated in the Income Tax Act. A group of 35 deputies of the National Council of the Slovak Republic (hereinafter the proposers) submitted a proposal to open proceedings under Article 35, 1, Article 13, 3 and 4 and Article 55, 2 of the Constitution of the Slovak Republic and in accordance with the provisions of the Charter of Fundamental Rights and Freedoms (Article 4, para. 3 and 4). The proposers (Filo, 2016, p. 90-91) objected unconstitutionality because the legislation was introduced only in the second reading of the draft (tax license was not a subject of the previous commentary procedure). Furthermore, the principle of equality and proportionality in relation to the right to conduct business and the protection of competition was challenged. The proposers also pointed to the inequality between entrepreneurs - legal persons who have to pay the license and entrepreneurs - natural persons who do not have this obligation. By a finding dated November 4, 2015, the Constitutional Court of the Slovak Republic rejected this proposal. The justification contained the following arguments: Tax license does not constitute a measure that is obviously irrational, arbitrary, or
in terms of its scope, confiscatory or disproportionate. The court recognized that the purpose of tax licensing is to reduce the number and amount of tax evasions. The legislation has a number of measures that take into account the position of some tax subjects (for example, newly-established entrepreneurial units). It further pointed to the possibility of license credit during the following three years (as a protective measure for honest entrepreneurs) and also to the amount of the tax license being several times lower than the average sum of tax calculated in tax returns. It also pointed to similar measures that apply in different forms in other countries, such as Austria, France, Belgium, Hungary, the USA and Canada.

The entire finding of the Constitutional Court of the Slovak Republic contains also other justifications. The essential finding for the legislation as well as legal persons is that the provisions of tax-licensing sections in the Income Tax Act do not contravene the Constitution of the Slovak Republic or the Charter of Fundamental Rights and Freedoms.

We consider this constitutional analysis to be an important aspect that concludes tax licenses for our needs to compare the current state of theory and law. These conclusions will serve us to compare the results of secondary and primary research.

2.2 The results of secondary data analysis

We can define different approaches to processing secondary data. The analysis will answer the question: How did tax licenses affect the business environment in the Slovak Republic? In this case, it would be about identifying factors affecting the business environment, including its development analysis. Juríčková (2006, p. 12) speaks of a wider business environment – macro-environment (such as political-legal, economic, socio-cultural, technological, ecological and demographic environment). A narrower business environment includes suppliers, customers and competitors, the so-called micro-environment. The last part of the environment is the internal environment, namely: human resources, marketing, production and development. To meet the goal of this paper, it is most important to capture the impact of tax licenses through indicators that clearly point to the development of corporate tax obligations at the time of the introduction of tax measures. For an objective assessment, we should consider the numbers of starting and disappearing companies (for example, by district, region and business sector), the age structure of companies, their revenues, profits, costs and expenses. Many authors (Sopková et al., 2015; Šatanová and Sedliačiková, 2015) highlight the importance of thorough control and controlling of company’s costs and the modelling of costs as well.

We pay the greatest attention to the results that entrepreneurs themselves reported directly in tax returns. In this case, it is very important to reconcile tax return data and assign them to the respective tax period. When analysing the results, it is necessary to recalculate some of the data obtained for the reporting years. When assessing tax revenues in the state budget, we can commit a lot of inaccuracies because it is a combination of multiple types of payments (annual taxes, tax advances, payment of tax licenses, payment of arrears, fines, default interest, and so on).

From the entire set of secondary data, we synthesize those results that are relevant for determining the relationship of tax license and entrepreneurial entity mainly in the area of changes in their behaviour after the introduction of tax licenses according to Porubský and Šaling (2016). The authors used individual tax returns (221,347 tax returns in 2013 and 223,596 tax returns in 2014). Among interesting findings was a change in the behaviour of entrepreneurial entities in the year of tax license payment (2014), when the loss-making (or
low tax liability) became profit-making companies. There was evaluated the amount in euro written in line 800 of the corporate tax return. The concentrated aggregate of tax liability amounts was around triple the tax liability: 480 euro, 960 euro and just below 2,500 euro. Knowing the current legislation, it is clear that the first two data are related to the values of tax license in 2014 and the last figure is the threshold for payment and/or non-payment of advance corporate income tax.

A positive result was also the reduction of the total number of taxpayers who reported zero (or low) tax liability. Of the total number of tax returns submitted, the share of tax returns with zero or low tax liability was reduced from 62% to 49%. In this way, the behaviour of about 30 thousand legal entities changed. When analysing the data, the tax liability in 2013 was recalculated from the corporate income tax rate of 23% to the rate set in 2014 at 22%.

Similar results were recorded also in the monitored economic result/profit (line 100 of the tax return). In 2012 and 2013, the value of the indicator ranged from - 5 000 to + 5 000 euro. This was a correction of either actual revenues and (or) real spending. They thus paid the tax, or part of the tax license, but it need not have meant better performance results of legal entities.

From the analysis of 2014, it can be calculated that after the tax license is cancelled in January 2018, the budget of the Slovak Republic will lose about 72 million euro. However, this calculation assumes a similar behaviour of legal entities. In case they will again consider zero or negative tax liability, this loss is estimated at a level of 40 million euro by the Budget Security Council.

Tax licenses were first paid by legal entities for the taxable period of 2014. In the calendar year 2015, the possibility to pay the minimum tax was during three months after notification to the local tax office and the last due date was 30 September 2015. According to an overview of the real revenue of the corporate income tax to the state budget, there was collected 12.89% more than was planned (2,310,025,000 euro) in taxes, which was 2,607,803,893.74 euro. A similar trend was observed also in the collection of taxes as of 31 December 2016, when the corporate income tax revenue was 12.69% higher than was planned. The planned amount of the tax was set at 2,828,508,000 euro and the real revenue was 3,187,395,403.11 euro.

This short overview shows how much legal entities paid on tax. However, this does not reflect their views on the established rules. This is the content of the following part.

2.3 Summary of the primary research results

In order to find the views of entrepreneurs on the established minimum tax rules, we chose a questionnaire survey method. The questionnaire was designed to provide information about the respondents and their opinions.

Part A of the questionnaire – Identification details of the respondents – contained three questions referring to respondents’ identification data - contained three questions asking about the number of employees, size of the company, legal form and duration of business activity. - the quantitative aspect of the size of the enterprise, the legal form of business and the length of the business.

Part B – Tax licenses – contained questions about the opinions on tax license. The respondents answered also a question about the amount of tax license they have paid, expressed their relationship to licenses (positive or negative), their opinion if they find the minimum tax liquidating for small and medium-sized enterprises and if this tax has a purifying character for the Slovak business environment.
Part C – Optimization of taxes – contained questions about minimum tax practice. The respondents were invited to suggest improvements of this process, or say if they know another country with the regime of tax license and how it can be used for a more effective collection of this tax in the Slovak Republic.

As a basis for the anonymous questionnaire, we formulated the following hypotheses:

1. More than half of the respondents (over 50%) have a negative opinion on paying tax licenses.
2. More than half (more than 50%) of legal entities agree with the legislator's opinion on the effect of tax licenses that the business environment will be cleaned up and entrepreneurs will cancel non-functioning legal entities.
3. Legal persons – respondents do not know and do not keep track of the conditions of established tax licenses in other countries. They cannot even mention one country where the minimum tax rate is stated by legislation.

In the following part, we will summarize the most important results from the answers to the questions asked. A total of five hundred replies from fifty randomly selected respondents were processed. They were entrepreneurial legal entities, out of which 30% were micro-enterprises, 38% small enterprises, 28% medium enterprises, and 4% were large companies.

Most respondents stated that they run their business as limited companies (57%). The share of joint stock companies was 23%, 12% were cooperatives, 8% were cooperatives and limited partnerships did not participate in the survey. In the first part of the questionnaire, we were also finding the duration of business activity. For over ten years were in business 44% of legal entities, 30% of respondents had been doing business for five to ten years, 24% of enterprises had operated from one to five years, and 2% had been in business for less than one year.

The second part of the questionnaire included questions about tax licenses paid by legal entities in 2015. The minimum tax of 960 euro was paid by 50% of respondents, 30% of entrepreneurs paid 2 880 euro and the rest (20%) of respondents paid 480 euro to the state budget. Looking at these answers in detail, it would be interesting to look for dependence between the length of business and the paid license, or compare the amount of the most frequently paid license to the state budget with the results of our survey. The significance of such a comparison could be that, according to the answer to this question, we would know the amount of tax license that legal entities are willing to pay.

A positive attitude to tax licenses was expressed by 30% of respondents and they consider the introduction of tax licenses to be justified. The opinion that the introduction of tax licenses has no sense was shared by 60% of the respondents. 10% of the respondents had different opinions. In their replies they mentioned that after certain remedial measures, tax licenses could be beneficial. The results confirmed the first hypothesis was a true statement. Even if the respondents who had not answered would admit a positive answer, the percentage distribution of the results would not change the result. In this case, it would be right to investigate further when the tax collection would be effective also for entrepreneurs and what changes should be made. In this context, it is necessary to highlight the need of legal entities' responsibility in this area (Sopková and Raškovská, 2012)

The following two questions are connected with the previous evaluation. Of the total number of respondents, half do not consider tax licenses liquidating or a threat to small and medium-sized enterprises, and up to 70% of respondents do not consider tax licenses a threat to well-functioning enterprises.
Answering the question whether the business environment will be cleared by tax licenses, the respondents answered not. Only 40% of the respondents agree with the question. It means that the second hypothesis is not true. Then, naturally, it is necessary to ask what the entrepreneurs would do with the loss-making or little profitable companies. If we want to find out whether there is a causal link between discarded companies and tax licenses, it is also necessary to examine the reasons for the creation of many new businesses just before and during the minimum tax period.

In the last questions of the questionnaire, we examined whether entrepreneurs perceive the intention of the legislator to raise corporate income tax revenue through tax licenses and whether they know other countries where this tax system is in place. This was primarily about whether entrepreneurs have a general overview and knowledge of tax licenses. Up to 80% of respondents think that the tax will increase the income to the state budget. The entrepreneurs thus confirmed that their tax liability will be lower than the minimum tax rate. 20% of the respondents are those who believe that by adjusting the economic result/profit or otherwise they will avoid paying this tax and will not pay the license to the budget.

The aim of the third hypothesis was to find out whether legal persons know countries where the tax licensing system or a similar form of minimum tax is in place. According to the answers, up to 30% of entrepreneurs know tax systems in other countries. They mostly mentioned countries like neighbouring Austria and Switzerland. In the group of 15 respondents were also those who were able to characterize and compare the rules applied. In Austria, tax license is deducted for the first five years at 500 euro, the next five years 1,000 euro and 10,750 euro after ten years. For joint stock companies, the rates are double. Similar rules as in Austria are also applied in Switzerland. The rates of tax licenses are higher for credit institutions and insurance companies, from 5,452 euro yearly or 1,363 quarterly.

According to the answers, we can state that the third hypothesis was not a true statement.

3. Conclusion

This paper deals with the topic of tax licenses, which are paid in the Slovak Republic from the tax year of 2014 to the tax year 2017. The topic is elaborated on the level of theory and legislation and is supplemented with the opinion of the Constitutional Court of the Slovak Republic, which principally evaluated the justification of the established licenses. The analysis of secondary data focused on those facts that demonstrate that legal entities in Slovakia are able to adapt their profit and loss and the annual tax liability they report in the tax form. The paper brought a summary of the views of respondents on tax licenses and evaluation of hypotheses set. Although the validity of tax licenses is limited, this effort can be described as an "experiment" which did not get only negative reactions from legal entities. The positive side of this taxing process is the effort of the state to tax loss-making enterprises that do not contribute to the public budget for a long time as the purpose of a protected business is not a systematic reporting of a loss. We consider the choice of legal entities as tax license payers’ right. They are the least reliable taxpayers (with high tax arrears) and often with limited liability for their business. We also consider correct that natural persons (such as tradesmen), who are economically more vulnerable, more reliable taxpayers and have unlimited liability were excluded from such flat taxation. The unfavourable effects of tax licenses are mitigated by the possibility of deducting the tax license paid, which we consider to be a right step towards fair taxation. Similarly, non-taxation of sheltered workshops and workplaces is a socially well-suited element to mitigate the impact of tax licenses. Based on
the knowledge of the tax license system in Austria or Switzerland, we believe it would be possible to extend the number of tax license rates that would take greater account of the taxpayer's turnover. The arguments against tax licenses include the application of licenses to companies that have an objective reason to make a loss (for example, they have paid a large investment). Even though the legislator argued that the Financial Administration of the Slovak Republic has not enough capacity to check all tax subjects, the tax results reported by taxpayers for the years of paying tax licenses can bring a lot of information on individual corporate taxation practices and the degree of tax optimization. This information can be a good tool to combat tax evasion. The final proposal for the legislator is to consider changing the name of this tax. The word "license" is rather a kind of administrative fee than a name for the minimum tax. In the case of favourable political and economic conditions, according to the results of the present analysis and using some measures, it would be possible to rethink this taxing instrument, since this form of taxation has been in force in Austria since 1994. This type of taxation for legal entities was cancelled in taxable period of 2018. However, the real effects of this change will be visible in the following three years (not before 31 March, 2019) where the companies will be able to count out their licence from the tax liability.

References

THE DEVELOPMENT OF THE PUBLIC ADMINISTRATION ELECTRONICS

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Abstract

The aim of this paper is to show how the Government of the Slovak Republic fulfils the program statement adopted in 2016 for the period 2016 – 2020. Further, evaluate how it has mastered the program statement of the government from the period 2012 – 2016. It committed itself to modernizing public administration, its economization and informatization. The aim is to build a modern public administration with which citizens will be satisfied, which will perform their tasks effectively, be transparent and minimize the burden on citizens, entrepreneurs and the rest of the public. By fulfilling this vision, it will be possible to declare that public administration governs a client-oriented system (for citizens, entrepreneurs and the rest of the public) in which it provides services faster and more efficiently than ever before. At the beginning, the paper deals with the evaluation of the current state of informatisation in the public administration and self-government of the Slovak Republic. It focuses on the theoretical foundations of eGovernment and the strategic documents from which eGovernment is based in the Slovak Republic. Another part analyzes the current state of informatization of the public administration from the point of view of financing the projects of the Operational Program Informatization of the Company and also evaluates the results of the survey of the satisfaction of Slovak citizens with the electronic services of the public administration. In conclusion, we evaluate the current concrete measures that life is making and how it is going.

Key words
electronization, financing, government, measures, program statement, public administration

JEL classification

K2

1. Introduction

The Program statement of the government for the period of 2012 – 2016 was concerned with the electronization of public administration. Its primary goal was to 'construct e-government in its entirety, e-government meaning a complex and effective digitalisation of administrative, authoritative and regulatory processes, along with the lawmaking within all branches and forms of administration.
The government shall make use of electronisation and the capabilities of information and communication technologies to substantially improve the level of services within public administration. It shall adopt provisions to simplify and hasten the communication of citizens with the bodies of state administration and self-government by increasing the automation of communication by using modern information and communication technologies. It shall hasten the resolving of administrative matters and lower the administrative burden on its citizens and entrepreneurs by creating electronic services, including the creation of a network of integrated service centers (the Government of the Slovak Republic, 2012, p. 35).

The Program statement of the government for the period 2016 – 2020 continues in the area of electronisation of public administration in the chapter informatization.

During the realisation of projects concerning the informatization of society, the government shall establish services focused on the public in the intents of the new National concept on the informatization of public administration in such a way, as to simplify and hasten the communication of citizens with the bodies of state administration and self-government, to minimise the amount of necessary visits at bureaus where these actions are concentrated, with emphasis on the safety of data and transactions, and to increase the trust in the usage of electronic/digital services (the Government of the Slovak Republic, 2016, p. 64). It can be said that the individual program statements are sequential within the area of electronization. In the following chapters, we will discuss how these statements are realized in practice.

2. The e-government act and its latest amendment

In the year 2013, the National Council of the Slovak Republic passed the Act No. 305/2013 Coll. on the electronic means of exercising the authority of public administration bodies, also known as the 'e-Government Act' (hereinafter referred to as 'the Act'), which entered into force on the 1st of November 2013. Its goal was to establish a generic legal framework for the exercise of public authority via electronic means, thereby enabling the realisation of electronic services of public administration bodies in a unified manner. The Act was supposed to aid in the modernization of public administration and make it more dynamic. It brought an entire slew of effective measures, which were supposed to simplify the procedural side of things and make it easier for citizens (Gregušová and Halászová, 2015).

Although the Act was not extensively covered by the mass media, its adoption brought with it a major change in the functioning of public authority bodies. The Act simplified the matters of delivery, making payments towards the public authority bodies and freed its target demographic from arduous administrative obligations, seeing as one its core principles was the intent, that the state should not require the submission of information, which its bodies already have access to (Gregušová et al., 2016).

Despite having been in force for two years at the time, the Act itself prescribed that public authority bodies were not obligated to exercise their authority via electronic means for three years since the Act's entry into force, i.e. until November 2016, if they could not due so due to issues related to technology. What's more, the legislator was not able to synchronise the adoption or amendment of other statutes, which were directly related to the Act or which were directly affected by the Act. Many of the Act's provisions therefore remained in a sort of 'limbo’, so to speak.

The legislator was therefore forced to amend the Act, dust off its original wording and change it in such a way, as to be more compatible with statutes adopted at a later date and for
the needs of its applicability in practice. This was done via the Act No. 273/2015 Coll. from the 23rd of September 2015, published in the Collection of Laws on the 23rd of October 2015. The amendment was focused on three main areas. The first was centred on the regulation of conditions and methods of identification and authentication, which is related to the implementation of the authentication certificate and the Central register of grants of full powers. The second area concerns the making of payments towards public authority bodies, primarily the distribution of information about such payments. The third area focuses on changes in the area of relevant registers.

The Act defined new legal institutes, such as electronic mailboxes, identification and authentification of persons, authorisation, guaranteed conversion, payments made to public authority bodies from statute or based on statute, or referential registers.

The Act also regulated the electronization of institutes, which were up until then present only in the form of written documents – for example the architecture of information systems for the electronic exercise of public authority, the means of electronic communication of public authority bodies with each other, electronic submissions and official documents and electronic delivery.

The legislator, responding to the then-current situation, brought further amendments via the Act No. 374/2016 Coll., which amends the Act No. 305/2013 Coll. on the electronic means of exercising the authority of public administration bodies (the e-Government Act). Passed on the 7th of December 2016, this amendment stated that the obligatory activation of electronic mailboxes to facilitate communication with public authorities for corporations was postponed from the 1st of January 2017 to the 1st of July 2017. Based on the explanatory report to the amending act, there were two areas that the amendment was targeting.

Firstly, made the process of mass activation of all electronic mailboxes for all persons, who were obligated to have an active electronic mailbox, i.e. primarily legal persons. The 10 day rule was implemented. After the administrator of the electronic mailboxes fully activates the mailbox for delivery, the owner of this mailbox has a period of 10 days, during which they can further prepare and organize themselves for receiving electronic messages into their mailbox. Secondly, the temporary provision regarding postponing of activation for all those persons, who had not asked to have their mailboxes activated until the 31st of December 2016.

2.1 Basic terms used within the electronization of public administration

The e-Government Act clearly speaks of the public authority bodies' obligation to execute public authority via electronic methods. This, in turn, means that all public authority bodies must, after the passing of the transitional period, receive electronic submissions sent via predefined electronic means to electronic mailboxes, as well as to create their decisions in an electronic format and deliver them, also via electronic means.

We have stated that this obligation was postponed for legal persons until the 1st of July 2017. The only exception to this obligation are those actions or proceedings, where separate legislation expressly states that public authority bodies exercise them solely in documentary form, where separate legislation requires or allows them to be done orally, or via implied consent, or by producing items which do not have a documentary or electronic form, or those that are based on the exercise of such actions as oral proceedings, survey of the scene, exercise of control or supervisory powers at the scene, searches, inspection of documents, bringing persons before the court and other similar actions, which are exercised outside of
official buildings which are the seat of the public authority body in question (Nováčková et al., 2016).

What is the relationship between the rights of the applicants for services (what they may) and the obligations of the public authority body (what it must) exercise electronically, and which terms influence this relationship? In general, the applicant (a natural or legal person) can always decide whether they submit their documents in an electronic or documentary form, if separate legislation does not state a submission must be made in electronic form. Both of these forms are equivalent in the eyes of the law. Public authority bodies, however, primarily exercise public authority via electronic means, but select the proper form of communication based on the one chosen by the applicant.

Let us review some basic terms which are stated within the Act. As we have mentioned, public authority bodies exercise public authority in matters concerning the rights of natural and legal persons. Exercise of public authority electronically means exercising it via official electronic communication. Electronic communication is defined as the transfer of electronic messages via electronic means between the communicating entities. To ensure that this communication functions properly, there must exist a sender, recipient and the technical devices which allow it. That would be a simple definition of the basic terms which enable this communication. It is important to note the goal of the Act. Based on these facts, the goal of the Act was to make the system of public administration more modern and dynamic. Introduce effective methods which simplify the process itself and make communication with public administration easier for the citizen, without unnecessary bureaucracy.

2.2 Evaluation of electronization in broader contexts

The Report on the EU eGovernment action plan from the year 2016 reveals that online public services are more and more accessible within Europe, with 81% of these services now available online. A deeper analysis concerning the its focus on the user, transparency, cross-border mobility and overall quality of use, however, shows that this growth is not uniform and that certain EU countries are falling behind.

What is the level of digital proficiency of the 33 European countries (28 EU member states, Iceland, Norway, Serbia, Switzerland and Turkey)? A document concerning this is prepared every year since 2012, keeping the same grading methodology and so we can consider a reliable tool for evaluating the current state of electronization in Slovakia and compare it with that of other countries.

With a look at the results, we can state that Slovakia belongs among the countries with the weakest rating when it comes to matters of e-Government. In four of the evaluated parameters (in the period of 2014-2015), we were rated as the worst country on two separate occasions (transparency, key preconditions), once as the third worst rated country (focus on the user), and once as the fourth worst rated country (cross-border mobility).

One of the main indicators of the overall sophistication of eGovernment is the number of fully automated services, or the ratio of electronic services to services provided only in person at various bureaus. Even though only 3 countries have more than 10% of their services fully automated, Slovakia is far below the average at 2%.

We have managed to achieve a fairly high ratio of services, which are provided online, or at least information about them is provided online, though not centrally via the web portal. This ratio is fairly high at the expense of the overall accessibility of online services and signifies, that Slovakia's problem still is that the services provided are spread out across the
many individual web portals of individual public administration bodies, and cannot be accessed through some central hub. The number of services without any form of electronization and without any form of information online is still fairly substantial, however (Peráček et al., 2015).

How does the EU plan on addressing these deficiencies? The European Commission, in compliance with the strategy of a digital single market, revealed its plans on how to aid public authorities get the most out of their technologies on the 19th of April 2016. The eGovernment Action Plan 2016-2020 Accelerating the digital transformation of government modernizes digital public services and proposes 20 measures, which shall be implemented until the end of the year 2017 (European Commission, 2016, p. 3). As an example we can mention the support for transitioning to a completely electronic public procurement and a hastened implementation of eIDAS services including electronic identification and electronic signature.

What do we expect from these measures in practice? By allowing access to this data and services between public authority bodies within and without state borders, their effectiveness should increase and the free movement of citizens and enterprises should be made easier. The life of citizens therefore becomes more digital, which increases expectations related to the performance of public administration (Majerčáková and Mittelman, 2016). Users would want to find out more about the functioning of this service and would expect greater transparency. Through openness towards interested parties and by including them in the decision-making process (OECD, 2014, p. 3). Not only that, but public administration bodies should also attain a more credible and responsible status. Allowing access to data and services of the public sector to third parties is fully compliant with the legal framework for the protection of personal data and privacy, and could further improve its growth and competitiveness (Paškrtová, 2016).

Initiatives within the framework of this action plan should be based on principles, which have strong support from interested parties and are politically accepted by all member states. Administrative and public bodies, enterprises and the users themselves know what they need. The choice of systems and technologies of a distributed or central form should mirror their choices and needs, however, it must also respect the agreed-upon requirements of interoperability.

2.3 Informatization, social inequality and the current state

Informatization of society brings with it many problems connected with increasing the social inequality, in the form of the so-called “digital chasm”. Advanced information-communication technologies (hereinafter as “ICT”) increase the risk of digital exclusion, i.e. a digital exile from society. This means that the ICT lower the administrative burden, but not all citizens have the same access to these electronic services or the necessary skills to access them. There is a real risk that unwanted discrimination of citizens, for whom such a connection to public administration could be an unsolvable problem, could occur. Solving the questions related to the digital integration of all citizens, along with solving the issues of public administration electronization, creates space for the lessening of this chasm, improves social justice and quality of life for the citizens. We can discern how the professional public deals with these issues from the Strategic Document for Digital Growth and Next Generation Access Infrastructure (2014 – 2020), which was passed by the Government of the Slovak republic on the 8th of January 2014. This analysis contains the expected results of the Operational program Informatization of society from the program period of the years 2007 to
2013, through which Slovakia achieved substantial advancements in the implementation of eGovernment.

The results of the Operational program Informatization include the realisation of projects which ensured the provision of electronic services within public administration on a transactional level. The issuing of eID cards began, enabling the authentication and authorization of citizens. By the 31st of December 2015, over 1.3 million eID cards had been issued, with over 70,000 of them with an activate ZEP certificate. By that date, over 2.9 million vehicle registration papers in the form of a card with a chip had also been issued. Three of the fundamental registers had been set up, the Register of Natural Persons, Register of Addresses, Register of Legal Persons and Register of Spatial Information. Next, the modules for the central portal of public administration were implemented, which is a unified access point to the electronic services within public administration, and through which over 900 electronic services were provided by the date of the 31st of December 2015. They are also provided to natural and legal persons with assistance at the integrated service centers. By the 31st of December 2015, over 600 of these integrate service centers were active within the premises of the Slovenská pošta a.s. (Deputy Prime Ministers Office for Investments an informatization of the Slovak Republic, 2014, p. 20).

We can say that information society is growing within Slovakia, however, it is falling behind in several important areas. On one hand, there is public administration, on the other the overall coverage of electronic services for citizens. There has been a substantial increase when it comes to the number of households connected to the internet thanks to mobile networks. The coverage of the entirety of Slovakia remains relatively low, however and the absence of quality electronic services negatively affects rural areas especially. An important advancement happened within the area of public procurement (the electronic marketplace), as well as with improvements to equipment, or, relating to the ICT, the improvement in the skill level of teachers and the contents of their curriculum.

Slovakia is approaching the European average when it comes to the connection of household, but broadband connections make up only 68% of all types of connections. A barrier to the growth and improvement of eGovernment can also be a low accessibility of households to personal computers. Only roughly one half of all Slovak households has access to a personal computer (for at least one member of the household), which puts Slovakia on the 18th place within the EU (the EU average is 60%). In other areas, Slovakia is slightly higher than the EU average: 72% of all users makes use of their PC at home (EU average 63%), 39% at work (EU average 30%) and 12% use them at schools (EU average 8 %). Compared to the EU average (52%), less employees in Slovakia make use of a PC while at work (44%). Slovakia has a higher ratio of enterprises (74%) which have their own internet website than the EU average (Hvozdíková et al., 2011).

These analyses show how we are currently faring in the area of electronization when compared to other EU member states. What is important is how we successfully we will continue with the current trend. How well are the individual areas of the public sector prepared for the new challenges in store for them? Hopefully enough for them to serve the citizen and never endanger their safety of their human rights.
2.4 The impact of informatization on society – education and other sectors serving the citizen

In the previous chapters, we discussed the usage of digitization in the area of public administration for the needs of the citizens. We did not mention sectors, which form and will continue to form the knowledge of the citizenry in these areas, in order to ensure the smallest possible impact of digital exclusion, i.e., The digital exile from society. Let us recall the Program statement of the Slovak Government for the period of 2012-2016 on the digitization of education.

The Government considers as one of the basic pillars of a knowledgeable society and economy to be education, science, research and innovations, informatization and digitization (the Government of the Slovak Republic, 2012, p. 35). The Government of the Slovak Republic, based on this program statement from the 24th of September 2014 approved the ‘Concept of Informatization and Digitization of the Department of education with view of the year 2020’. This document introduced the basic vision of the further development of education, science, research and sports in view of the global trends of digitization and the developmental needs of Slovakia. The primary goal of the Concept was to define the needs and activities in the area of informatization and digitization of the Department of education in the following years in such a way, as to allow the institutions under this department to increase the quality of their work and for the Department to offer them adequate support. Though informatization and digitization, the ministry wishes to adequately react for the needs of practice and the market (The Ministry of Education, Science, Research and Sport of the Slovak Republic, 2014, p. 4). If we look at the Program statement of the government for the years 2016-2020, we can see, even based on the documents passed within the year 2014, that it has a very general form, which only follows the agreed upon Concept.

As cited: The education of the citizens of the Slovak Republic, which should first and foremost be secured by a high-quality system of education, is the basic and necessary prerequisite of long-term existence and prosperity. The development of education is therefore one of the main priorities of the government in the upcoming election term. Society expects that graduates shall not only be ready to enter the employment market and be economically active, but also to meaningfully live their lives, fulfil personal and family goals and co-create a prospering, tolerant country. The majority of European countries, including our neighbouring states in the past decades, has started a global competition in education, because they realized that the level of education determines their economic power in the future. Based on analyses of the OECD, Slovakia has yet to react to this trend, and we are falling down the European rankings in many areas (the Government of the Slovak Republic, 2016, p. 64).

There have been some changes in this area. On the 26th of September 2017, based on the initiative of the European commission, the National coalition for digital skills and jobs of the Slovak republic (hereinafter referred to as the “Digital coalition”) was formed, as a continuation of the Grand Coalition for Digital Jobs initiative from the year 2013.

The Digital coalition is the 16th member of this EU initiative. During its initial meeting, its 21 founding members adopted 90 commitments in the areas of increasing digital competency and creating conditions for a successful digital transformation. Participants of the second meeting of the executive board of the Digital coalition welcomed 16 new members on the 8th of February 2018, who brought with them 43 new commitments, while the coalition’s founding members took on 12 new commitments as well. Altogether, that is 145 commitments spread among 37 members of the Digital coalition. On the 8th of February
2018, from the original 90 commitments of the founding members, 15 had been completed successfully, 50 were in the process of being completed, while work had not even begun on 25 (as funding had not been granted yet, or other requirements had yet to be fulfilled). None of the commitments had been cancelled outright and none were in an unknown state. The members’ commitments are of a varying scope and value. Each member of the Digital coalition contributes by fulfilling the various commitments as circumstances allow.

3. Conclusion

In the context of the discussion, it can be stated that the aim of the legislator was to create a functional model of electronic services of public authorities and public authorities and to link the basic registers of public administration. From the above, it can be stated that the e-Government Act creates a common model interface for interoperability and the use of data from them for the purpose of a unified use of the managed data contained therein. The use of electronic personal mailboxes will, in our opinion, make it possible to reduce the paper agenda and its full and complete conversion to electronic form, which will also mean the abolition of the public administration and, in particular, the acceleration and reduction of processes from the perspective of the business sector.

The law extends the use of the guaranteed electronic signature to all e-Government services as a basic verification tool for electronic communication with public administrations, which it has and will have unquestionable financial benefits for entrepreneurs. The costs of the “paper” agenda, postage, administrative and court fees, or fees associated with the official verification of signatures at a notary or on a matrix in some proceedings, will be reduced. A substantial contribution to the law is also saving the time needed for the administration. Another advantage of the completion of the process of electronization of public administration will be the use of data sharing, thus increasing the comfort of the population and, in particular, the business entities in dealing with the authorities. This is in particular the limitation of unnecessary bureaucracy caused by frequent, repeated and unreasonable transmission of the same data to the various authorities that require them. At the same time, it is expected to reduce the need to submit documents in paper form, which the competent public administration and public authorities will be able to obtain from public registers and public authorities, and possibly other information systems managed by other public authorities (Peráček et al., 2017).

How can we gauge these facts in practice? From an international point of view, Slovakia belong to one of the weakest countries in the area of electronization. So it is stated within the ‘eGovernment Benchmark Report from the year 2014’. Is this benchmark objective? It must be said, yes. We need only point to the passing of relevant legislation into practice. Need only state, that in the year 2013, the National Council of the Slovak Republic adopted act no. 305/2013 Coll. on the electronic means of exercising the authority of public administration bodies. When do the provisions of this act related to the electronic mailboxes, taking into account the act’s amendments, come into force? The mentioned requirement came into force on the 1st of July 2017. This speed, or rather slowness of adoption requires no further commentary.

What can we do to change this state? Put simply, we must start fulfilling the requirements of the action plan, combined with exercising actual, specific liability for unfinished actions and missed deadlines. That is the only way for Slovakia to eventually be included among the digitally advanced countries.
References


THE CONTINGENT VALUATION OF PROVIDED PUBLIC SERVICES
– APPLICATIONS IN LIBRARY SERVICES

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Abstract
The public services issue is more often accentuated in view of the predominantly deficit financing of public budgets. For this reason, the demand for maximum efficiency in public services’ provision is increasingly highlighted. This allows (mainly political representatives) to compare the efficiency rates and to make more responsible decisions about the allocation of public funds. A wide range of approaches can be used in efficiency analyses, including the most commonly used contingent valuation method. It is based on the application of elicitation inquiry questions addressed to the consumer of the services. He, with the help of guidance questions, evaluates the perceived benefit from the public service consumption. The aim of the paper is to present empirical findings related to the application of elicitation scenarios (as part of contingent valuation) to the readers of the Municipal Library in Prague. The results show a varied willingness to pay for a library service, depending on how the poll is being processed. Similarly, it was found that a contingent approach could only be applied to a selected range of library services. A proposal for modifying the evaluating procedure and relevant practical implications are presented in conclusion section.

Key words
public library, efficiency, evaluation, contingent valuation method

JEL classification
H42, H79, D61

1. Introduction

Currently, the efficiency is very often discussed and it is integral part of public sector decision making processes in developed countries. The theory of the public sector states that, unfortunately, the public sector tends to be naturally ineffective. However, this does not mean, that we should not try to find ways how to reduce the "natural rate of inefficiency" as much as possible. There are now many examples that show that such ways can be found and application of some new procedures really makes it much easier to use public funds effectively.

When analyzing the efficiency of public services, many problems need to be solved. One of the biggest follows from the nature of public services - from their intangible appearance. Therefore, it is difficult to apply the common analytic procedures and easily analyze their efficiency. Another problem is connected with the difficult measurability and valuation of outputs. All these issues must be taking into account in the context of the public sector - that is a part of the economy where normal market rules do not apply, common prices and self-regulation mechanisms are missing. The culture and its falling subsector – librarianship – are the part of the public sector. This subsector provides a mixed collective good (often for a fee)
whose provision is financed from public finances (usually from municipal budgets; Kostalová et al., 2017). Therefore, the librarianship subsector belongs to those subsectors, in which we need to look for ways to maximize the efficiency using the modified methods.

In theory and modest practice, there are not whole methodologies, but some well-known partial methods to analyze the efficiency in public sector or public organizations. Due to the public-sector specifics, it is clear that business sector’s methods can not be simply taken over and applied in a different practice. The Czech Republic has so far lacked an effective tool to analyze the efficiency of services provided by public libraries. Above all, there are some foreign studies that have already focused on libraries and show that there are good practices that can define the output of the public library and also evaluate its usefulness to the user – citizen. However, these methods can not be taken over and applied to European, Czech practice. It is due to differences in societies, economic level, but also in the perception of the significance of some public services for the population or communities. For this reason, it is necessary to update existing methods for the Czech and Slovak environments and verify their usability.

And just finding a suitable methodology and defining the procedures for analyzing the efficiency of public library services is the aim of the research project that was launched six years ago by the Czech Ministry of Culture. The solution is being taken by the Municipal Library in Prague (as the largest public library in the Czech Republic and the researcher) and two economics faculties, one from the University of Pardubice, the other from Matej Bel University in Banská Bystrica. The aim of the paper is to present empirical findings related to the application of elicitation scenarios (as part of contingent valuation) to the readers of the Municipal Library in Prague. The results show a varied willingness to pay for a library service, depending on how the poll is being processed. Similarly, it was found that a contingent approach could only be applied to a selected range of library services. A proposal for modifying the evaluating procedure and relevant practical implications are presented in conclusion section.

2. Theoretical background

Efficiency can be defined differently. It can be perceived as an economic category that reflects certain objective conditions of the society development. These conditions are changing at a particular time, and it also changes the content or concept of the efficiency. The globalization and diversity of objective conditions makes efficiency a synergistic and a heterogeneous concept (Kupkovič, 1997). Samuelson and Nordhaus (1992) claim that efficiency describes the situation with no wasting, i. e. the resources of the economy are used in the most effective way to meet the needs and demands of the people. Strecková and Malý (1998) emphasize the efficiency as a result of the relationship between the size of the inputs involved in the realization of the production processes and the size of the outputs that are derived from the realization. Nemec and Wright (1997) also agree with this concept of the efficiency. Analysis of the public sector efficiency should be seen in the above-mentioned definitions. Respectively, it must be supplemented by attributes of public funding, collective decision making or public spending policies.
2.1. Approaches to efficiency assessing

In the course of development of public economics theory, two fundamental views on the efficiency of the public sector - traditional and modern - have been separated. Public sector efficiency can be seen also from a micro- and macroeconomic point of view.

Traditional (original) assessments of the efficiency flows from the institutional point of view. This original concept is based on the definition of public sector, its scope and functions. It uses the relevant indicators of economic and social mission of the public sector. In line with the established practice of international institutions (e.g. OECD, UN, IMF, WB), we can use the following traditional indicators (for example share of government expenditure on GDP). The indicative capacity of these indicators (and many others, see Mikušová-Meričková and Stejskal, 2014) is very low and it cannot answer the question of efficiency of the public sector. The complaints are based on the problem of GDP on regional level determination, on GDP as indicators in the context of the principle of sustainable development, etc. The original approaches to evaluating the efficiency of the public sector lead to a clear conclusion - the public sector tends to be ineffective.

The modern approach to public sector efficiency assessment builds on earlier, original ways of evaluating and aims to take into account the increasing degree of cooperation between the public and private sectors. This cooperation undermines the original assumption of determining the optimal size of the public sector as a prerequisite for higher efficiency of public production. Due to the inability to measure the extent of cooperation between sectors, respectively the production of collective goods and services by the private sector, we need to look at the issue of efficiency as at this moment as an insoluble problem that cannot be solved in a comprehensive way. It can be evaluated only partially with a clear definition of criteria and a defined optimum. This reflects the conclusion that the optimal range of the public sector is relative and its definition is not objectively possible.

The new dimension of the efficiency assessment is based on this theorem and seeks to examine the factors that affect the efficiency of individual activities in relation to the size of the public sector (especially in the volume of public sector expenditure). Therefore, the fundamental change is that the philosophy of public funding is changing from monitoring of the public spending to achievement of objectives (their quality and quantity). The new approach described uses the analysis of the efficiency of public expenditure programs (and their individual projects), both at macroeconomic and microeconomic level. It mostly uses a combination of different approaches and methods, what allows obtaining more objective knowledge about the analyses issue.

Public sector efficiency assessments have also been developed at the macroeconomic level. This is the new methodological approach based on the definition of the relationship between public sector performance and public sector efficiency. Public sector efficiency is a function of both public sector performance and socio-economic indicators (Afonso et al., 2005). For this function, it is necessary to determine which indicators affect the performance of the public sector and whether it can be measured or analyzed. It is clear from the researches of many scholars that the range of such indicators is very wide and it is difficult to objectively determine their exhaustive list (Mikušová-Meričková and Nemec, 2013).

Efficiency assessment at the microeconomic level is based on the application of modern approaches based on the principles of New Public Management, but also on the demand of the management of public organizations, who increasingly need to defend their existence and their requirements for financial allocations from public budgets (Hudson, 2001; Wouters and
Sportel, 2005; Johnston and Pongatichat, 2008). The goal of donors is to maximize efficiency, respectively to get the maximum output for the money they put into the public organization. The performance indicators of public sector organizations cannot be focused on a „one composite indicator“ (Nemec, 2000). Therefore, in the last quarter of the 20th century, the "value-for-money" (VFM) method was developed. However, the key to applying VFM is the ability to define the value of a public service.

2.2. Value of public services determining

At present, there are a number of approaches to determining the value of the various impacts (effects, benefits or non-benefits) resulting from the consumption (or no consumption) of public services. Many of them are based on the availability of market substitute valuation; another large group is based on the consumer's ability to determine its subjective value of consumed services in the so-called hypothetical markets; and finally there are so-called substitute markets where, with the help of appropriate mechanisms, the economic value can be determined too.

From literature we know the methods (a) hedonic valuation, (b) the travel cost method, (c) the disease cost method what are based on revealed preferences. These are indirect methods based on observation of consumer behavior. The second group of methods is direct methods, which seek to find economic value directly by querying particular consumers. These approaches are based on stated preferences that were stated by questioning of consumers behavior on the hypothetical market. Stated preferences methods capture the total value of the public service including its explicitly and implicitly expressed value of benefits and costs (as opposed to revealed preferences methods that capture only explicit values, Aabo, 2005b).

Stated preferences are determined by empirical surveys (usually within the contingent valuation method). In this method, the respondent evaluates the benefits from the consumption of public services acquired on the hypothetical market. The value is derived from the consumer's willingness to pay (WTP, the maximum price he is willing to pay for the service), or accept a certain minimum compensation for his no compensation, WTA). The WTP and WTA concepts are derived from Hicks' approach to measuring of the social wealth through „equivalent variation“ and „compensation variation“ (Mas-Colell et al., 1995).

The contingent valuation method (CVM) is the economic analytical method used to determine the value that a consumer assigns to individual public goods or services (Missingham, 2005). It has been applied since the 1990s in studies on waste for the environment and the influence of so-called environmental goods and services. Later it expanded to other sectors such as transport, health, education, sport and culture (Aabo, 2007).

This method is based on the ability to determine the perceived value of a good by an individual, consumer, citizen or recipient of externality, using the WTA and WTP approaches. In objectivity framework, certain weaknesses of the CVM must be admitted. The method requires detailed empirical investigations and data materials with explanatory power, which is time consuming and costly. The practical examination of WTP (or WTA) should be done with great caution and with regard to misleading or misunderstood questions (the respondent is introduced into the hypothetical market and he answers very demanding and abstract questions).

Within the CVM, it is necessary to draw attention to the dependence of the results (and the explanatory power of this method) on the utilized elicitation scenarios, i. e. on the methods of
questioning the respondents. Methods of elicitation have undergone significant changes over the past 20 years, and the practice has stabilized on three fundamental issues. They are:

- questioning attitudes and behaviors of the consumers in relation to the valued service (it goes to revealing of the hidden factors affecting the respondent's attitudes toward the public service. The typical factors are: importance, frequency or volume of consumption);
- questioning on contingency scenarios. Respondents are entered to the problem by the scenario into a hypothetical market or into hypothetical situations. They value the concrete services according to their preferences. The consumers take into account the conditions that are part of the scenario, or take into account the obstacles they have to eliminate in order to consume the service. The questions may also include the different payment mechanisms (distribution of paid taxes) or distribution of fictitious payments or points;
- questioning of different social and demographic groups of consumers. For each group, it is possible to examine the differences in willingness to pay for public service consumption. It is possible to examine the correlation between the conditions or characteristics of the socio-economic environment and the willingness to pay for the consumption of public service.

Any-questioning is the method of finding a subjective view of the matter. Therefore, it is necessary for the researchers to be very careful when preparing the questionnaire survey in order not to distort the results obtained and thus the result of the efficiency analysis.

3. Analysis of the data

Queries about the willingness to pay for the library service were conducted according to the above procedures by the Sociores (private sociological agency) within the framework of an international research project Methodology of library services’ value measuring. Faculty of Economics at Matej Bel University, Faculty of Economics and Administration at University of Pardubice, and Municipal Library in Prague (MLP) are the co-partners in this project. The project is being implemented from 2012 to the present. And for the most part is financed by the Ministry of Culture of the Czech Republic.

The research was done by the CAWI (computer-assisted web interviewing) method in 2012 and then repeated in 2015. Pilot surveys were conducted to verify the performance capabilities of the results in determining the elicitation scenarios. The survey focused mainly on the Municipal Library in Prague, the largest Czech public library with more than 4 million book loans per year. The target group of respondents was recruited from readers at the MLP. The respondent had to meet the following criteria: age 15+, stated his / her email address in the application form and had to make at least one loan during 2012. Random selection was made from a database of readers who met the specified criteria. 11,397 readers were approached various scenarios (questions), the return on the questionnaire was about 20% (i.e. 2,227 respondents), and the data was cleaned by standard sociological procedures.

When determining the value of library services, both elicitation scenarios and direct questions revealing preferences were used. The examples are:

- If you could not use the MLP services and had to use some other alternative, what would be the costs involved?
- How much would it be if you had to replace the services what you are using in MLP?
- Imagine that MLP will cease to issue new members, but existing readers will be able to sell their library ID cards at the beginning of each year to someone else who will use MLP
services instead. What would be the smallest amount you would have received for your library ID card to transfer it to someone else?

The results of the pilot tests differed and therefore in the next research we employed hypothetical, so-called “financial anchor scenarios” and the so-called “payment instrument”. The pilot-tested elicitation scenarios were defined as assuming that if the library did not get enough money from public budget, it would cease to exist. The question of the WTP was linked to this hypothetical situation, when CZK 1,400 is the real cost of the MLP per year per reader. The question was:

- The library is now funded by the Prague budget. When we count current total year costs among all readers, we have 1 400 CZK per 1 reader. Imagine that the system of library funding would be completely changed, and the library would only be funded by annual membership fees from readers. Would you be willing to pay this amount, i.e. 1,400 CZK per year?

The result of respondents' answers is shown in Table 1.

Table 1: WTP-readers' own money (MLP, 2012)

<table>
<thead>
<tr>
<th>Answers</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would not be willing to pay 1400 CZK/year</td>
<td>63</td>
</tr>
<tr>
<td>I would be willing to pay 1400 CZK/year</td>
<td>19</td>
</tr>
<tr>
<td>I can not answer</td>
<td>14</td>
</tr>
<tr>
<td>Without any answer</td>
<td>4</td>
</tr>
</tbody>
</table>

Source: the author.

More than 63% of all readers are unwilling to pay a fee at the actual annual cost of the MLP library. Less than 20% said they would pay the 1,400 CZK fee. Nearly 19 percent were unable or unwilling to answer the question. From the results, it is clear that the direct question of the WTP type on reimbursement from own money is perceived negatively by the reader.

The other scenarios with various payment instruments helped to greater objectivity of the results, which were appropriately incorporated into questions. We employed the scenario with the “public money” in the question:

- Imagine that you could decide how to deal with 10,000 CZK of your taxes. You could split this amount arbitrarily between non-profit organizations such as schools, theaters, galleries, zoos, charities, etc. If this option is available, would you allocate some of this amount to the public library?

Only those respondents who did not answer the above question with the amount of the annual cost per reader answered this question. The results are surprising – 1,810 respondents answered positively, only 82 negatively (the rate is 22:1). Those who answered positively we asked how much they would be willing to allocate to the public library:

- If so, how many CZK would you allocate to MLP from a total of CZK 10,000?

From the results we see that median allocation is 2,000 CZK, 1. quartile is 1,000 and 3. quartile is 3,000. These results completely negate the previous conclusions. It is clear that the payment instrument and the source of money (public vs. private) significantly affect the willingness of readers to pay for the service.

An overview of all results is given in Table 2.
It can be concluded that the readers are aware of the importance of the library they are visiting, but they are not willing to pay to the costs (compared to the value of CZK 1,400). A significant difference was found between the value of the WTP and the WTA approach as well as the assumptions of a higher willingness to pay for other payment methods.

Due to different results, it can be concluded that elicitation scenarios are not an appropriate form for valuing library services. This procedure can be used as a support procedure.

Another possibility to find out the rational value of the service consumed by readers is to find market substitutes. We employed these questions:

- If you could not use the MLP services and had to use some alternative, how much would you pay?
- How much would it cost you if you had to substitute the services you are using in MLP in some other way?
- When you consider all MLP services you consumed during your last visit, would you say the library saved you money?

The 75% of all readers answered the last question positively. Just 10% said no and 15% no idea. This implies that readers are aware of the importance of library services, whose consumption saves their private money. The next research question also focused on asking How many CZK did the library save you? The average saving value was 742 CZK per visit. The same questions were asked in three other libraries in the Czech Republic (cities of up to 20,000 inhabitants – Kutná Hora, Uherské Hradiště, Tábor). The average value was 745 CZK per visit.

The results show that the use of the "find a market substitute" method is an appropriate method for valuing some library services. In the same way, it can be argued that this procedure is only applicable where there is a real market substitute that is commonly found on the market. Details about the services which can be valued by elicitation scenarios and which by market substitutes can be found in Stejskal et. al. (2013).

4. Conclusions

A general effort to ensure maximum efficiency puts pressure on public service providers to evaluate their performance. This pressure is exacerbated by continuing savings tendentious in the public sector and is also coming from donors - state, regions and municipalities. Often,
this pressure is also linked to the requirement that non-profit organizations providing collective goods behave as commercial entities, providing room for a more comprehensive analysis of their performance (Fónadová et al., 2016). The goal of donors is to maximize efficiency to respectively get the maximum output for the money they put. In the USA, in the period of New Public management (the last quarter of the 20th century), a value-for-money method was developed that integrates these requirements and provides solutions for performance analysis of non-profit sector organizations (Nemec and Wright, 1997). In this context, we need to see the effort to measure performance and efficiency in the public sector even nowadays.

The practice in public sectors of developed countries demonstrates that the value-for-money approach is also feasible in various public-sector organizations, including public libraries. However, it is important to emphasize that for a truly tangible analysis, it is necessary to prepare specific instruments especially for specific branches of the public sector that take into account the specificities and at the same time enable them to evaluate their services to end-users. Only in this way the efficiency could be evaluated as a component of the public sector's performance.

In this paper, the evidence has been provided that Czech libraries are trying to measure and evaluate provided services and measure the efficiency. The paper proves that contingent valuation method is a functional procedure, but it is very difficult to use in practice because of its high sensitivity to subjectivity and consumer perception. Without quality pilot testing, this method cannot be recommended for widespread use.

The methods for efficiency analysis must be seen the important management tools. Thanks to the ability to evaluate the library outputs, it is possible to realize a well-known CBA analysis, it is possible to perform efficiency analyzes of individual services, to change the portfolio of services etc. Analyzes bring a number of important information for the library management decision-making processes (which has been missing, for example, in deciding on new services offering - typically in the area of e-books in the Czech Republic now).

Further research will refine the values of the benefits of individual services and the helps to prepare the methodology what can be widely applied throughout the Czech Republic. The published methodology (Stejskal et al., 2013) is certainly applicable in other countries where public libraries provide similar services.

References


EVALUATION OF PERFORMANCE IN EDUCATION
– VALUE FOR MONEY

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Abstract
Regional education is a key area, the results of which play an important role in the development of each society. The pluralistic role of regional education focused on the inclusion of children into school groups, to prepare students to enter the labour market or continue their studies in the context of tertiary education is a sufficient argument to enable beginning to look for answers and possible solutions to the difficult question of the quality of schools in the overlarge system of regional education. In today's dynamic socio-economic environment, one of the key prerequisites for the proper functioning of education is precisely the aspect of the quality of individual schools, which should be a guiding principle for the decisive force in society in the process of rationalization of the education system in the medium and long term. The purpose of the scientific study is to test the potential uses of Value for Money on the example of secondary education in a selected self-governing region in Slovakia.

Key words
efficiency, economy, effectiveness, education, secondary education

JEL classification
H75, I21, I22

1. Introduction

The current overlarge system of regional education, demographic development and the oft-discussed but still counterproductive normative system of secondary schools have led to the long-delayed but inevitable rationalization of the school network. This significant and strategic process of decision-making as to which schools remain and which eventually leave the network of schools should be mainly implemented with due regard to the aspect of the quality of individual schools.

Applying the principles of New Public Management as principles of the commercial sector to measure the performance of public expenditure at the micro level has been addressed by scientists and researchers, as well as those organizations providing public services. Constant pressure from the public forces them to monitor and improve the provision of public services, and continually enhance their own performance in order to achieve long-term existential security. These facts consequently require a comprehensive measurement of their performance. In our study, we focus on the application of one of the commercial methods of measurement and evaluation of public expenditure in regional education in Slovakia.
Funds spent on education belong to the basic indicators that reflect trends in education policy, while their level presents the importance which individual countries, respectively their governments attach to education policy.

The pressure on the producers of public services to measure their performance comes from the founders, donors, volunteers, employees, clients and especially public authorities providing funds for their operation. The requirement to behave as commercial producers in their operation puts demands on comprehensive performance measurement. With the necessity to maintain a general social necessity, organizations are reliant on performance measurement and seeking opportunities for continuous improvement of their services and operations.

Achieving "Value for Money" (VFM) has become synonymous with the optimal combination of organization costs and quality assurance to meet the needs of clients, while such an offer may not be automatic and the cheapest. VFM is a method to assess whether the organization receives the maximum benefit from the services provided with those resources at its disposal. This is not just about the cost of production services; a combination of quality, cost, resource use, the suitability of the equipment, as well as their topicality must be taken into account. Studies about VFM show that this approach can be used in various areas, whether higher education (Coates, 2009), education systems (Dolton et al., 2014) but also healthcare (Smith, 2009), health spending (Ariste and di Matteo, 2017) or Public-Private Partnership (Zwalf et al., 2017) etc.

The study deals with the evaluation of the quality of secondary schools in the Banská Bystrica region on the basis of their economy, efficiency and effectiveness as one of the indicators of quality assessment, while trying to answer the question which of the selected indicators most and least influence the quality of the grammar schools, what are the causes of the results and suggest ways of eliminating the identified deficiencies in quality. The essence of the research and methodology is based on New Public Management.

2. Research methodology

Our application process "Value-for-Money" originated in the USA and is based on an analysis of three key performance indicators, the so-called "3E" (Nemec and Wright 1997, p. 180): economy - achieving the stated objectives at minimum cost, efficiency - the pursuit of the best possible relationship between inputs and outputs and effectiveness - the degree of success in achieving the objectives set, the merits of the objectives set, i. e. using funds for their intended purpose.

It should be emphasized that different authors interpret the concept of performance, economy, efficiency and effectiveness in different ways. This conceptual mismatch was subsequently transferred to the use of methodology and evaluation methods. Those authors centred on performance management (Hudson, 2001; Ittner and Larcker, 2003 Wouters and Sportel, 2005; Johnston and Pongatichat, 2008, Kuwaiti, 2004; Neely and Austin, 2002; etc.) are focused on creating relevant, integrated, balanced and strategic performance management systems. Over the last three decades a variety of systems have been developed to ensure balanced growth of an organization, but there is still no uniform way to clearly measure the performance of the organization.

The approach "value-for-money" is a broadly conceived methodology able to express wholly the value of not only the organization but also the programme, project or the widest public expenditure programme.
The approach used for overall assessment of "value-for-money" is benchmarking (peer comparison) of the individual areas (economy, efficiency, effectiveness) of the researched providers of public services. A disadvantage of the VFM method is that performance evaluation is possible only between homogeneous services. Mathematical representation of the overall economy, effectiveness and efficiency through features has the following formulas:

\[ H_{ij} = \prod_{z=1}^{n} h_{ij}^z, \quad E_{ij} = \prod_{z=1}^{n} e_{ij}^z \quad \text{and} \quad U_{ij} = \prod_{z=1}^{n} u_{ij}^z \]  

where \( H_{ij} \) - overall performance indicator for organization \( i \) in year \( j \), \( h_{ij}^z \) - partial performance indicator for organization \( i \) in year \( j \), \( E_{ij} \) - overall effectiveness indicator for organization \( i \) in year \( j \), \( e_{ij}^z \) - partial effectiveness indicator for organization \( i \) in year \( j \), \( U_{ij} \) - overall expediency indicator for organization \( i \) in year \( j \), \( u_{ij}^z \) - partial expediency indicator for organization \( i \) in year \( j \).

When testing performance in the area of economy, efficiency and effectiveness standardized values of partial indicators are used. Accepting the multiplier effect of three areas can be expressed as an overall indicator value for money. The subsequent overall value of the indicator \( VFM \) has the formula:

\[ VFM_{ij} = \frac{1}{\log (H_{ij} E_{ij} U_{ij})} \]  

Due to the need for the assessment of a number of criteria, the heterogeneous nature values of the indicators examined and necessity for expression of the integral indicator, we decided to use the standardized variable method. Its advantage is that it respects the relative variability of individual indicators and the results obtained through the application of this method are less sensitive to extreme values of the parameters in the sample.
The essence of the standard variable method is a transformation of various parametric values for comparable shape, i.e. standard variable which is a dimensionless number. Application of this method consists of the initial arithmetical average ($\bar{x}_j$) and standard deviations ($s_{xj}$) for individual indicators and the subsequent transformation of the original values of variables ($x_{ij}$) on a standardized form ($z_{ij}$), while in the event that the indicator has a maximizable character we use the illustrated relationship (Stankovičová and Vojtková, 2007):

$$z_{ij} = \frac{x_{ij} - \bar{x}_j}{s_{xj}}$$  \hspace{1cm} (3)

In the event that the indicator has a maximizable character we use the illustrated correlation:

$$z_{ij} = \frac{\bar{x}_j - x_{ij}}{s_{xj}}$$  \hspace{1cm} (4)

A significant problem that we can meet during implementation of VFM assessment is incomplete and partially unavailable data. The problem can be solved by filling in the gaps of data with the worst value, i.e. if the variable is missing, make up the worst value from a given set of data transmitted for the indicator in a given year. The assigned value was either the minimum or maximum value depending on the nature of the indicator. In order to allow construction of a model evaluating the quality of grammar schools, the aforementioned data adjustment to so-called normalized data was necessary even though it could possibly lead to disparagement of the grammar schools that did not supply the necessary data. The relevant element can be removed only by supplementing the required data. However, the relevant element should at the same time act as an incentive for individual grammar schools. In accordance with the principle of the method of standard variables, those relationships for the maximisation and minimisation of the character of indicators are applied to the so-called standardized data (i.e. the modified data using the worst value).

In an attempt to eliminate subjective determination of weighting, multi-criteria evaluation in the study is supplemented by the analysis of the interrelationships between indicators. For individual partial indicators of economy, efficiency and effectiveness there is defined weighting using correlation relations between individual partial indicators in all three monitored areas, i.e. economy, efficiency and effectiveness. Weighting defined by analysing the structure of the correlation matrix is determined according to the equation (Stankovičová and Vojtková, 2007):

$$v_j = \frac{\left| \sum_{i=1}^{k} r_{ij} \right|}{\sum_{j=1}^{k} \left| \sum_{i=1}^{k} r_{ij} \right|}$$  \hspace{1cm} (5)

for $j = 1, 2, ..., k$, where $r_{ij}$ is the pairwise Pearson correlation coefficient for each individual indicator.

The subsequent characteristic, i.e. integral indicator ($d_{ij}$) we calculate as the weighted arithmetical average standard value according to the equation (Stankovičová and Vojtková, 2007):
where \( i = 1, 2, ..., n \); and \( v_j \) is the weighting of the \( j \)-th indicator.

Achieving a good placement of the evaluated object depends on the good results in all the researched variables, i.e. it is not sufficient to achieve an excellent result in only one or respectively a small number of variables (the higher the value, the better the evaluation) (Stankovičová and Vojtková, 2007).

We effectuated evaluation of the performance of the grammar schools by means of evaluation of three areas, namely economy, efficiency and effectiveness. Each of the three mentioned areas are represented by selected partial indicators, while accepting the character of the relevant area.

In terms of economy, the organization seeks to achieve the set objectives at minimum cost (cost, time, effort). In terms of efficiency, the organization follows the relationship between inputs and outputs, i.e. the efforts of the organization to achieve the best possible relationship between inputs and outputs. Effectiveness for the organization is monitoring the degree of success in achieving its objectives, respectively the extent to which invested inputs and created outputs fulfil the expected goals of the organization (University of Cambridge, Value for Money Committee Annual Report to Council, 2010).

Whereas the fields of economy, efficiency and effectiveness are interrelated, linking all three of the defined areas, the organization should seek to achieve a kind of optimum whereby the overall performance evaluation achieves the best possible success.

3. Quantitative analysis of the performance of regional schools based on the example of grammar schools

The purpose of the scientific study, based on the application of commercial performance evaluation methods for the assessment of regional schools in the Slovak Republic by means of their economy, efficiency and effectiveness, is to prove that the use of aforementioned method is justified. The object of investigation are grammar schools, as part of regional education, in the territory of one of the self-governing regions in Slovakia. The subject of the research is the economy, efficiency and effectiveness and overall performance of these secondary schools in the period 2008-2014.

Indicators for Value-for-Money in the school system were divided into groups according to those fields of activity of the organizations concerned and they are presented in Table 1. Based on this, we evaluated 19 grammar schools.

For all three indicators, we cannot neglect the defined objectives of the organization achieved, meeting the needs of consumers of public services (quality of service) and compliance with financial policies and relevant laws.

As we mentioned, if we want to establish performance indicators of a school system we have to comprehensively inspect the process from the perspective of an organization that has its personnel, material-technical, economic and educational content.

For the personnel area of an organization we can establish indicators such as the length of teaching experience, length of professional experience, length of the head teacher's experience, the average age of the teaching staff, the average number of pupils per teacher, the average number of pupils per class, the number of courses for teachers and so on.
## Table 1: Performance indicators in education

<table>
<thead>
<tr>
<th>Economy</th>
<th>Efficiency</th>
<th>Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>• share of the school’s own funds,</td>
<td>• length of teaching experience,</td>
<td>• ratio of pupil intake to enrolled in secondary schools,</td>
</tr>
<tr>
<td>• share of external funds,</td>
<td>• length of professional experience,</td>
<td>• entrance exam success to universities,</td>
</tr>
<tr>
<td>• number of equity investments in tangible and intangible assets of the</td>
<td>• length of the head teacher's experience,</td>
<td>• number of complaints per teacher,</td>
</tr>
<tr>
<td>school,</td>
<td>• average age of the teaching staff,</td>
<td>• number of provided consultations per teacher,</td>
</tr>
<tr>
<td>• total staff costs,</td>
<td>• average number of pupils per teacher,</td>
<td>• number of specialized classes for gifted children,</td>
</tr>
<tr>
<td>• total cost per pupil,</td>
<td>• average number of pupils per class,</td>
<td>• average results per pupil in school leaving examinations,</td>
</tr>
<tr>
<td>• total cost per class,</td>
<td>• number of courses for teachers,</td>
<td>• attendance,</td>
</tr>
<tr>
<td>• total cost of maintenance of buildings belonging to the school complex</td>
<td>• availability of textbooks,</td>
<td>• number of observed lessons,</td>
</tr>
<tr>
<td></td>
<td>• teaching aids,</td>
<td>• average grade of the school report in the third year of study,</td>
</tr>
<tr>
<td></td>
<td>• information and communication technologies</td>
<td>• number of awards per student,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• graduate unemployment</td>
</tr>
</tbody>
</table>

Source: the authors.

Indicators for the material-technical area of an organization may be presented as availability of textbooks, teaching aids, information and communication technologies, the number of classical classrooms, the number of specialized classrooms, the share of the school’s own funds, the share of external funds, the number of equity investments in tangible and intangible assets of the school and so on.

For the economic area of the organization we can determine the type of indicators of total staff costs, total cost per pupil, total cost per class, total cost of maintenance of buildings belonging to the school complex and so on.

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third year of study, number of awards per student, graduate unemployment and so on can be defined.

Due to the need for assessment of a number of criteria, the heterogeneous nature of the values of the indicators examined and necessary expression of the integral indicator we use the method of multi-criteria evaluation, namely the method of standardized variables whose advantage is that it respects the relative variability of individual indicators and the results obtained by means of this method are less sensitive to extreme indicator values in the relevant sample (Table 2).

In the overall evaluation of economy of each grammar school for the whole monitored period 2008-2014, the best, over the long term, were J. CH. Grammar School, Brezno and the Grammar School, Tornaľa.

Table 2: Economy of grammar schools in the Banská Bystrica region

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A.S. Grammar School, Banská Bystrica</td>
<td>0.586</td>
<td>0.259</td>
<td>0.197</td>
<td>0.077</td>
<td>-0.172</td>
<td>0.028</td>
<td>0.163</td>
</tr>
<tr>
<td>Športové Grammar School, Banská Bystrica</td>
<td>0.145</td>
<td>-0.665</td>
<td>-0.755</td>
<td>-1.114</td>
<td>-1.184</td>
<td>-0.815</td>
<td>-0.731</td>
</tr>
<tr>
<td>A.K. Grammar School, Banská Štiavnica</td>
<td>0.592</td>
<td>0.171</td>
<td>0.235</td>
<td>-0.060</td>
<td>-0.614</td>
<td>0.085</td>
<td>0.068</td>
</tr>
<tr>
<td>J.CH. Grammar School, Brezno</td>
<td>0.963</td>
<td>0.872</td>
<td>1.270</td>
<td>1.078</td>
<td>0.613</td>
<td>0.734</td>
<td><strong>0.922</strong></td>
</tr>
<tr>
<td>Grammar School, Detva</td>
<td>0.441</td>
<td>0.513</td>
<td>0.655</td>
<td>0.289</td>
<td>0.783</td>
<td>-0.197</td>
<td>0.414</td>
</tr>
<tr>
<td>A.S. Grammar School, Krupina</td>
<td>-1.830</td>
<td>0.449</td>
<td>0.576</td>
<td>0.317</td>
<td>0.669</td>
<td>0.496</td>
<td>0.113</td>
</tr>
<tr>
<td>Grammar School, Fiľakovo</td>
<td>-1.830</td>
<td>0.842</td>
<td>0.810</td>
<td>0.831</td>
<td>0.048</td>
<td>-0.367</td>
<td>0.056</td>
</tr>
<tr>
<td>B.S.T. Grammar School, Lučenec</td>
<td>0.297</td>
<td>0.045</td>
<td>-0.223</td>
<td>-0.468</td>
<td>-0.125</td>
<td>-0.595</td>
<td>-0.178</td>
</tr>
<tr>
<td>Grammar School, Poltár</td>
<td>-1.830</td>
<td>-1.885</td>
<td>-1.658</td>
<td>-1.715</td>
<td>-1.690</td>
<td>-1.607</td>
<td><strong>-1.731</strong></td>
</tr>
</tbody>
</table>

The table continues.
Table 3 shows the results of the overall evaluation of the efficiency of selected grammar schools over the period 2008-2014 in view of the trend in terms of efficiency, which is a year-on-year deviation from the reference year 2008/2009. The best grammar schools in overall assessment of efficiency for the whole period 2008-2014 include B. P. T. Grammar School, Lučenec and M.R. Grammar School, Žiar nad Hronom.
Table 3: Efficiency of grammar schools in the Banská Bystrica region

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<tr>
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<tr>
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<td>0.824</td>
<td>0.592</td>
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<td>-1.551</td>
<td>-1.510</td>
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<tr>
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<tr>
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<td>-1.510</td>
<td>-1.437</td>
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<tr>
<td>Maximum</td>
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<td>1.013</td>
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<td>1.176</td>
<td>1.059</td>
<td>1.287</td>
<td>1.100</td>
</tr>
</tbody>
</table>

Source: the authors.

In view of the trend in effectiveness, Table 4 illustrates the results of the overall evaluation of the effectiveness of the selected secondary schools over the period 2008-2014 which represents a year-on-deviation from the reference year 2008/2009. The best grammar schools in the overall evaluation of effectiveness for the whole period 2008-2014 included the Prvé slovenské literárne gymnázium (First Slovak Literary Grammar School), Revúca and the Grammar School, Detva.

Table 4: Effectiveness of grammar schools in the Banská Bystrica region

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<td>A.S. Grammar School,</td>
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</thead>
<tbody>
<tr>
<td>Športové Grammar School, Banská Bystrica A.K.</td>
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<td>-0.253</td>
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<td>-0.423</td>
<td>-0.567</td>
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<td>0.235</td>
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<td>0.431</td>
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<td>-0.098</td>
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<td>-0.069</td>
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<td>0.327</td>
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<td>-0.056</td>
<td>-0.057</td>
<td>-0.058</td>
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<td>-1.466</td>
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<td>-1.404</td>
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<tr>
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<td>0.043</td>
<td>-0.013</td>
<td>-0.157</td>
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</table>

The table continues.
Table 5 shows the results of the overall evaluation of the quality of the selected grammar schools over the period 2008-2014 in view of the trend in quality, which presents a year-on-year deviation from the reference year 2008/2009. The best grammar schools in the overall evaluation of quality for the whole period 2008-2014 included M. R. Grammar School, Žiar nad Hronom and the Grammar School, Detva. Of interest is the fact that one is one of the largest (M. R. Grammar School, Žiar nad Hronom) and one of the smallest (Grammar School, Detva) ratings grammar. Results for the integral indicator of the studied grammar schools are presented in Table 5.

We expressed measurement of the impact of quantitative indicators in the areas of economy, efficiency and effectiveness based on the features of weighting by analysing the structure of the correlation matrix, i.e. the highest correlation in respect of all the indicators.

In the area of economy, the indicator of the overall cost per class has the greatest impact. The least impact on the area of economy is the indicator of the total cost per pupil.

The greatest impact in the area of efficiency is the indicator of the average number of pupils per hobby group. The least impact in the area of efficiency is the indicator showing the average number of pupils per teacher.

In the area of effectiveness, the greatest impact in this area is the indicator showing the average number of pupils per hobby group. The least impact in this area is the indicator showing the average number of pupils per teacher.
Table 5: Integral indicators of performance of grammar schools

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<td>0.036</td>
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<td>0.328</td>
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<td>0.396</td>
<td>0.299</td>
</tr>
<tr>
<td></td>
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<td>0.239</td>
<td>0.346</td>
<td>0.327</td>
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</tr>
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<tbody>
<tr>
<td>M.H. Grammar School, Hnúšťa I.K. Grammar School, Rimavská Sobota Grammar School, Veľký Krtiš E.S. Grammar School, Zvolen Grammar School, Zvolen F.S. Grammar School, Nová Baňa M.R. Grammar School, Žiar nad Hronom</td>
<td>0.033</td>
<td>0.120</td>
<td>-0.071</td>
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<td>0.620</td>
<td>0.313</td>
<td>0.368</td>
<td>0.349</td>
<td>0.273</td>
<td><strong>0.416</strong></td>
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</table>

Minimum: -1.538 -1.577 -1.518 -1.604 -1.339 -1.387 -1.491
Maximum: 0.575 0.620 0.442 0.429 0.513 0.412 0.416

Source: the authors.

Our proposed possibilities for improving the quality of secondary schools are rationalization measures in reduction the number of classes in response to the decline of students. It means we recommend not to maintain the number of classes if the situation requires to reduce a number of classes. Therefore, we recommend to establish a unified system for report creation about educational activity, its results and conditions, thus it can simplify the processing of the report to secondary school management. In case of further evaluation there would be required available data. In similar way it would be also creation of an electronic database at the Banská Bystrica Self-governing Region Office, which would enable to provide the necessary data for creation and economical, efficient and expedient evaluation of public expenditure programs in education of Banská Bystrica Self-governing Region.

**Conclusion**

Following an assessment of the results of the selected grammar schools and their causes in individual areas we can say that the most common cause of poor performance in the economy of each grammar school is just the poor state of the buildings of some of the schools and the
emergency status of various systems in buildings that contribute to energy demands and an increase on the pressure on the material-technical situation of the relevant schools.

In terms of efficiency of individual grammar schools, the most common cause of poor results is the particularly low number of pupils per classes. However, in some regions the grammar school is the only option for secondary school pupils (the case of Tornaľa Grammar School) because the unfavourable social situation in the region does not allow students to travel away from their home town for their education.

The last monitored sphere, i.e. effectiveness of individual grammar schools, the most common cause of poor performance is mainly the low knowledge level of pupils which translates mainly as poor year-end student evaluation and final examination results. Another cause of poor student results is the social situation of families, which often results in socio-pathological phenomena such as vandalism, bullying and truancy.

References


WHO WERE THE JOBSEEKERS TREATED BY THE GRADUATE PRACTICE INTERVENTION?
A CLOSER VIEW ON THE BENEFICIARIES OF THE INTERVENTION

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Abstract

A contribution for Graduate practice is one of the active labour market policy interventions that is in Slovakia provided to young unemployed jobseekers. Its main aim for young jobseekers is to gain a contact within open labour market and with potential employers. First-time work experiences gained by Graduate practice could help its participants to find permanent placement on open labour market. In the paper we focused on beneficiaries of this intervention who were intervened in Slovakia in the previous programming period. We analyse their personal characteristics to find where and to whom the intervention is mostly distributed.

Key words
jobseeker, Graduate practice, intervention

JEL classification
J08, J68

1. Introduction

Interventions are measures of labour market policy that are designed to help long-term unemployed and young unemployed jobseekers to find a placement on the labour market. From a global point of view of a state budget, the interventions are provided to reduce the high unemployment rate and the associated costs that the state spends each month on unemployed jobseekers. As Štefánik (2014) wrote, Slovakia was in the period, which also focuses this article on, the sixth worst performing EU member state in terms of unemployment rate and fourth worst performing EU member country in terms of long term unemployment.

Any measure of labour market policy is a tool for a different target group of unemployed jobseekers. In the literature we find the classification of these measures for measures aimed at: education, direct creation of new jobs and other types of measures (among them measures focused on the integration of young people or measures aimed at the integration of people with disabilities) (Jackman et al., 1990). Currently, the most common use of the Eurostat classification is given in the following table when distinguishing between different types of labour market policy measures in the EU. The first seven types of intervention cover the measures of active labour market policy (ALMP) and the remaining two types of passive labour market policy measures. (Tiruneh et al., 2014)
Table 1: Types of ALMP measures according to Eurostat classification

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<tbody>
<tr>
<td>Active labour market</td>
<td>Services on the labour market</td>
<td>§32 section 12, §43 section 7, §43 section 10, §43 section 11</td>
</tr>
<tr>
<td>policy</td>
<td>Employment</td>
<td>§46, §47, §48, §54</td>
</tr>
<tr>
<td></td>
<td>Alternation in employment and job sharing</td>
<td>Not provided in SR</td>
</tr>
<tr>
<td></td>
<td>Employment incentives</td>
<td>§49a, §50, §51, §53</td>
</tr>
<tr>
<td></td>
<td>Supported employment and rehabilitation</td>
<td>§55, §56, §56a, §57, §57a, §59, §60</td>
</tr>
<tr>
<td></td>
<td>Direct job creation</td>
<td>§52, §52a</td>
</tr>
<tr>
<td>Passive labour market</td>
<td>Unemployment benefits and support</td>
<td>Provided under another Act</td>
</tr>
<tr>
<td>policy</td>
<td>Early retirement</td>
<td>Provided under another Act</td>
</tr>
</tbody>
</table>

Source: adapted from Tiruneh et al. (2014, p. 162).

One of the frequently used tools under the ALMP measures in Slovakia is the Measure to Implement Graduate Practice (hereinafter Graduate Practice). This is an intervention that is aimed at young unemployed jobseekers occur as a result of the financial crisis. It is very important and necessary that a large number of such young jobseekers is reduced by active measures to promote the employability of young people on the open labour market and their sustainability in employment. This intervention is focused on young jobseekers and its main aim is to help them to gain a first contact with open labour market, first work experiences and a contact with potential employer.

The source of funding for ALMP interventions provided to long-term unemployed jobseekers is the state budget of the Slovak Republic, but the resources for this funding are also drawn from the European Union. It is therefore natural that the European Commission insists on rigorous evaluations of these interventions to see whether the support of a group of jobseekers in the form of intervention brings the desired effect. This effect should be to increase the employability of the intervened group of people and their sustainability on the labour market. Evaluation of active labour market instruments are carried out at the invitation of the European Commission particularly in the form of counterfactuals evaluations. Such an evaluation was carried out in Slovakia after the end of the 2007 - 2013 programming period and its purpose was to evaluate two instruments of ALMP in Slovakia: a contribution to Graduate practice and a contribution to self-employment. The authors of this article also took part in carrying out this evaluation. In this paper, therefore, we focus on the characteristics of jobseekers who attended Graduate practice. As we had data on all jobseekers who participated in this intervention during the evaluated period, we were able to analyze in detail the characteristics of jobseekers treated by this intervention. The aim of this analysis is to find out who was the jobseekers that were treated in the intervention, who were the most frequent participants of the intervention or in which areas of Slovakia the intervention was mostly distributed.

In the European Union, counterfactual evaluations are required and supported by the European Commission, as the EU often spends considerable funds on their implementation.
Over the last years, evaluations of various ALMP measures have been carried out in several EU countries. For example, in Hungary, the Budapest Institute for Policy Analysis undertaken several projects to evaluate ALMP measures (Varadi, 2013. Scharle and Varadi, 2015). In Macedonia, several ALMP measures, including contribution for self-employment, were evaluated (Mojsoska-Blazevski and Petreski, 2015). Also, ALMP programs have been evaluated from the point of view of unemployment in the troubled southern part of Spain (Borra et al., 2012). Even in relatively economically stable EU countries, unemployment is a problem that is often addressed through ALMP measures. For example, Gonzalez Carreras, Kirchner Sala and Speckesser (2015) deal with the problem of young unemployed jobseekers in England. The problem of unemployment and its solution is also discussed in Scandinavian countries, in Denmark (Jespersen et al., 2008), Norway (Lorentzen Fafo, 2015) and Sweden (Sianesi, 2001).

2. Graduate practice

Graduate practice is an instrument of active labour market policy in Slovakia. It is provided to young unemployed jobseekers under § 51 of Act No. 5/2004 Coll. The intervention is provided through regional labour offices. The intervention was introduced for the first time in 2004. The aim of introducing this intervention was to create conditions for acquiring professional skills and practical experience that would be valuable to the potential employer and thus ensure a higher employment rate for graduates. By participating in this intervention, a significant barrier to entry the graduates into the open labour market is to be removed: little or no work experiences.

Realized counterfactual evaluation of Graduate practice focused on the period of years 2011-2014, which was part of the program of the Operational Program of Employment and Social Inclusion in the Slovak Republic. Such evaluations are carried out after the end of the programming period, when comprehensive evaluation data are available. In the evaluated years, two reference periods of contribution to the Graduate Practice were taken into account: the first reference period lasted from 1 January 2011 to 30 June 2011 (6 months) and the second reference period was from 1 July 2011 to 30 April 2012 (10 months). This division of the evaluated period to several reference periods had to be made because of changes that occurred in the Act No. 5/2004. These changes concerned the eligibility criteria for obtaining the grant and also the conditions and parameters of the intervention. Each reference period of intervention has subsequently established a two-year impact period, during which the effects of interventions on the participants are examined. These effects should be the employability of young graduates and the sustainability in the job.

2.1 Conditions of the Graduate practice

In the defined two reference periods the Act on Employment Services stated that eligible person for a Graduate practice is a jobseeker who is under the age of 26 years, has adequate education related to the Graduate practice that wishes to participate in and submits an application for Graduate Practice. The main condition to be eligible for application for Graduate practice is that the jobseeker is registered at the Office of Labour, Social Affairs and Family of the SR for at least 3 months and no more than 6 months. Furthermore, according to the Act, Graduate practice cannot be repeated, every eligible jobseeker may participate in this
intervention only once. The amount of support depends on living wage. (Act No. 5/2004 Coll.)

Since mentioned counterfactual evaluation has been performed, conditions for the intervention given by the law changed again, even on the basis of the conclusions obtained from this evaluation. Currently, the law considers as graduate such jobseeker, who have the age under 26 and who has completed education less than two years ago, and has not had a regular paid job since completing it. In 2017, therefore, only jobseekers who meet these two conditions can participate in Graduate practice. Furthermore, there are some more changes in the conditions and parameters of the intervention. The intervened jobseeker is entitled to time off in the range of ten working days. After the completion of the Graduate practice, the employer issues a certificate to the participant. Graduate practice is currently conducted for at least 3 months and up to 6 months, without the possibility of extending and repeating (ÚPSVaR, 2017).

2.2 Data about the beneficiaries of the Graduate practice

Existence of relevant and reliable data was a crucial aspect to carry out evaluation of the intervention. Primarily, we used the data on Graduate Practice, provided by its main implementing body, the Center for Labour, Social Affairs and Family of Slovak republic. Another important source of data was the Social Insurance Company. The origin of the data thus ensures the highest level of validity of the conclusions of the evaluation of this intervention. During the evaluation of Graduate practice were used data about 130 000 unemployed jobseeker who were eligible potential intervention participants for whom comprehensive records were available. In the first reference period, 18 042 jobseekers were supported by Graduate practice, that is on average 3 007 jobseekers per month. In the second reference period in 2011 and at the beginning of 2012, 24 584 beneficiaries were supported, that is 2 458 jobseekers per month.

For each jobseeker the following data was recorded: age at first registration in a database of jobseekers, sex, marital status, permanent residence or temporary residence, level of education focus of education, school type, the code field of study, driving license, any disadvantage on the labour market (Act No. 5/2004 Coll. on Employment services, § 8 Disadvantaged Jobseeker), the job of a candidate according to the Statistical classification of economic activities, the date of entry of the individual into the database of jobseekers and, if applicable, the date of decommissioning from this database, the time of registration in the jobseeker's database, the total time of all registrations in the jobseeker's database, the eventual termination of the jobseeker's registration as a result of the departure abroad.

The counterfactual evaluation was carried out by matching individuals who were treated by Graduate practice with eligible but non-treated individuals. The effect of the intervention is then evaluated by comparing the results of supported and unsupported individuals on the open labour market over the two-year impact period of the intervention. Even before realizing this matching of treated and non-treated individuals, based on their individual characteristics, we analyzed some of the facts about these jobseekers in both reference periods. The results of this analysis are presented in this article.
3. Analysis of treated and non-treated jobseekers of Graduate practice

In the two reference periods defined, the following numbers of jobseekers were included in the evaluation of the Graduate Practice: in the first reference period, treated group consist of 16,230 individuals and a non-treated group of 7,186 individuals. In the second reference period, the 18,092 treated and 19,037 non-treated were included in the evaluation. Next, we describe the groups of supported and unsupported individuals for the different variables that we had available about the jobseekers.

3.1. Region of permanent residence

Of course, jobseekers from all regions of Slovakia are included in the sample. The following table shows the relative share of treated and non-treated individuals in all regions of Slovakia. The highest number of jobseekers came from the Prešov region, in both reference periods. In the first period, participants of the Graduate practice were up to 25% from the Prešov region, in the second period up to almost 26%. The lowest number of jobseekers who participated in this intervention came from the Bratislava region, only 2.6% and 2.7% of treated individuals. Similarly, the control sample of non-treated individuals is the smallest for the Bratislava region.

Table 2: Relative numbers of treated and non-treated participants of Graduate practice by region of permanent residence

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Bratislava</td>
<td>2.20%</td>
<td>8.11%</td>
</tr>
<tr>
<td>Trnava</td>
<td>9.59%</td>
<td>13.12%</td>
</tr>
<tr>
<td>Trenčín</td>
<td>8.84%</td>
<td>14.10%</td>
</tr>
<tr>
<td>Nitra</td>
<td>11.63%</td>
<td>14.24%</td>
</tr>
<tr>
<td>Žilina</td>
<td>14.37%</td>
<td>13.90%</td>
</tr>
<tr>
<td>Banská Bystrica</td>
<td>13.80%</td>
<td>10.35%</td>
</tr>
<tr>
<td>Prešov</td>
<td>21.57%</td>
<td>14.19%</td>
</tr>
<tr>
<td>Košice</td>
<td>18.00%</td>
<td>11.98%</td>
</tr>
</tbody>
</table>

Source: the authors.

The following figure shows the unemployment rate in the regions of Slovakia in both reference periods. The unemployment rate of the whole Slovak Republic is also shown.

The Prešov region was in this period ranked second with an unemployment rate following by Banská Bystrica region. Banská Bystrica region has higher unemployment rate, but Prešov region is more populous, and this is probably the reason why in the reference periods the most jobseekers came from the Prešov region. The lowest number of treated and non-treated jobseekers came from the Bratislava region, which has the lowest level of long-term unemployment rate.
3.2. Gender

Table 3 lists the relative numbers of men and women in our samples. As we can see, the average percentage of unemployed treated men is always more than 36%, while for women it is around 63%. Thus, it can be said that there are always on average two women of the three individuals in the participants group, in both reference periods. In the group of non-participants of the Graduate practice, it is exactly the opposite. Therefore, we can say that women are more interested in Graduate practice than men. This fact was also confirmed by testing of the hypothesis. This test confirmed that among the treated individuals more women are participating in the program of Graduate practice than men and this difference is statistically significant.

Table 3: Relative numbers of treated and non-treated participants of Graduate practice by gender

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Men</td>
<td>37.13%</td>
<td>60.34%</td>
</tr>
<tr>
<td>Women</td>
<td>62.87%</td>
<td>39.66%</td>
</tr>
</tbody>
</table>

Source: the authors.

It is interesting to note that the percentage difference between the number of non-treated and treated men is always about 23%, with more men are in the group of non-treated jobseekers. For women, this difference is the opposite, also at around 23%, but more women are in the group of treated jobseekers in both reference periods.

3.3. Marital status

In the database of jobseekers we distinguish between four values of variable Marital status: single, married, divorced, widower (widow). Most often jobseekers are single. In both
reference periods it is not more than 93% of treated and also non-treated jobseekers. The high share of single individuals in the dataset was expected due to the fact that it is the intervention Graduate practice, which mainly involves jobseekers who have just finished their education and are under the age of 26. Frequency of each marital status for both reference periods in samples of treated and non-treated individuals are shown in the following table.

Table 4: Relative numbers of treated and non-treated participants of Graduate practice by marital status

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Single</td>
<td>93.92%</td>
<td>94.84%</td>
</tr>
<tr>
<td>Married</td>
<td>5.90%</td>
<td>5.04%</td>
</tr>
<tr>
<td>Divorced</td>
<td>0.17%</td>
<td>0.11%</td>
</tr>
<tr>
<td>Widow</td>
<td>0.01%</td>
<td>0.01%</td>
</tr>
</tbody>
</table>

Source: the authors.

In both reference periods there is a higher relative number of non-treated single individuals and vice versa, a lower relative number of married non-treated individuals. These differences, however, are not very large.

3.4. Age

The following table lists the basic numerical characteristics of the age of treated and non-treated jobseekers in both reference periods. The average age of treated jobseekers is about 21 years, while the average age of non-treated individuals is around 23 years. This average age of non-treated jobseekers is higher in both reference periods, but these groups also show a higher rate of variation around the average. For the whole period under the evaluation, the age of the youngest jobseeker is only 16 years for treated applicants, and the youngest among the non-treated jobseekers are 18-year olds.

Table 5: Numerical characteristics of the age of treated and non-treated participants of the Graduate practice

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Mean</td>
<td>21.30</td>
<td>23.13</td>
</tr>
<tr>
<td>Median</td>
<td>21.00</td>
<td>23.00</td>
</tr>
<tr>
<td>Variance</td>
<td>4.01</td>
<td>1.40</td>
</tr>
<tr>
<td>Std. Deviation</td>
<td>2.00</td>
<td>1.18</td>
</tr>
<tr>
<td>Minimum</td>
<td>16.00</td>
<td>18.00</td>
</tr>
<tr>
<td>Maximum</td>
<td>26.00</td>
<td>26.00</td>
</tr>
<tr>
<td>Range</td>
<td>10.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.32</td>
<td>-0.68</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>-1.25</td>
<td>0.66</td>
</tr>
</tbody>
</table>

Source: the authors.
3.5. Level of education

We distinguished 5 levels of education achieved: primary education, secondary education without a school leaving exam (secondary vocational school), secondary education with a school leaving exam (vocational school), upper secondary education (comprehensive school), and university education (college). As shown in the table below, the highest frequency of education level are secondary vocational school, namely more than half of the sample in both periods. The second most frequent level of education is university education for treated jobseekers and, for non-treated jobseekers, vocational education with school leaving exam. Thus, we can conclude that graduates with university education degree have increased interest in this intervention during the period under review, probably due to the economic crisis and rising unemployment rates during these periods.

Table 6: Relative numbers of treated and non-treated participants of Graduate practice by level of education

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Primary school</td>
<td>0.67%</td>
<td>5.68%</td>
</tr>
<tr>
<td>Secondary vocational school</td>
<td>51.05%</td>
<td>61.23%</td>
</tr>
<tr>
<td>Vocational school</td>
<td>13.96%</td>
<td>24.05%</td>
</tr>
<tr>
<td>Comprehensive school</td>
<td>10.13%</td>
<td>6.97%</td>
</tr>
<tr>
<td>College</td>
<td>24.20%</td>
<td>2.07%</td>
</tr>
</tbody>
</table>

Source: the authors.

The biggest difference between the frequencies of the treated and non-treated individuals was for the university level of education for both reference periods, where treated group with this level of education is up to more than 22% (i.e. 17%) over non-treated. In addition to upper secondary education, all other levels of education were more numerous in groups of non-treated jobseekers.

3.6. Driving license

Most graduates in the samples have no driving licence, which could be one of the reasons for their reduced attractiveness on the labour market. Only about every fourth jobseeker has a driving license for cars and motorcycles. However, on average, only about 3% jobseekers are holders of driving licenses for buses and coaches, which is relevant for jobs in the transport sector. Among the treated and non-treated groups differences in the frequencies of driving license categories were found to be at a maximum of 4%, but using the hypothesis test, we found that these differences are not statistically significant. The relative numbers of categories of driving licenses in the samples are shown in the following table.

The frequencies in the table show how many percent of jobseekers in each group have a driving license of that category, with some jobseekers, of course, having for more than one category. The relative frequencies are calculated for the entire group of treated or non-treated ones, i.e. almost 77% in the last row of the table means that 77% of the participants in the first reference period have no driving license and the other 23% have at least one.
Table 7: Relative numbers of treated and non-treated participants of Graduate practice by categories of driving license

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>Cars and motorcycles</td>
<td>30.54%</td>
<td>27.16%</td>
</tr>
<tr>
<td>Smaller trucks</td>
<td>1.86%</td>
<td>2.07%</td>
</tr>
<tr>
<td>Buses</td>
<td>0.72%</td>
<td>0.77%</td>
</tr>
<tr>
<td>Trucks</td>
<td>0.20%</td>
<td>0.18%</td>
</tr>
<tr>
<td>a</td>
<td>76.99%</td>
<td>73.98%</td>
</tr>
</tbody>
</table>

Source: the authors.

3.7. Disadvantages

We distinguish such kinds of disadvantaged jobseekers, as was defined in the Act 5/2004 on Employment services in the evaluated reference periods. The values of this variable (table below) show that in the group of treated jobseekers was only about 22% of recent graduates. Another large category in this variable is the category of long-term unemployed jobseekers. Other types of disadvantage occur very rarely.

Table 8: Relative numbers of treated and non-treated participants of Graduate practice by disadvantages

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Treated</td>
<td>Non-treated</td>
</tr>
<tr>
<td>None</td>
<td>65.01%</td>
<td>92.92%</td>
</tr>
<tr>
<td>Graduate</td>
<td>22.25%</td>
<td>3.34%</td>
</tr>
<tr>
<td>Long-term unemployed</td>
<td>12.64%</td>
<td>3.59%</td>
</tr>
<tr>
<td>Not finished</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Low education</td>
<td>0.00%</td>
<td>0.01%</td>
</tr>
<tr>
<td>Organizational</td>
<td>0.01%</td>
<td>0.11%</td>
</tr>
<tr>
<td>Care</td>
<td>0.04%</td>
<td>0.01%</td>
</tr>
<tr>
<td>Disabled</td>
<td>0.06%</td>
<td>0.01%</td>
</tr>
</tbody>
</table>

Source: the authors.

In both reference periods, treated individuals compared to the non-treated had more frequently reported two types of disadvantage: graduate and long-term unemployed. On the contrary, no disadvantage in many cases had much more non-treated people than treated.

4. Conclusion

Graduate practice is the intervention for young unemployed jobseekers who want to get through it work experience that would be valuable for their future employer, as well as contact with the labour market, which can be useful for them to find permanent employment. As the participation in this intervention is voluntary in Slovakia, we analyzed in the paper its participants. The analysis is based on the data about the jobseekers during the previous programming period, which was the subject of a counterfactual impact evaluation of the
Graduate practice conducted by the Ministry of Labour, Social Affairs and Family of the Slovak Republic at the invitation of the European Commission.

Graduate practice was attended by young people from such regions of Slovakia who were at that time most affected by the high unemployment rate. In these regions the intervention has most sense and placement of jobseekers in these regions of Slovakia on the labour market is highly desirable. Concretely, the highest ratio of participants were from the Prešov region.

Women were significantly more interested in Graduate practice than men. Most often, the participants of the Graduate practice are single, which is obvious due to their low age under 26. Treated individuals had an average 21 years, while non-treated had an average 23 years. Regarding education, all eligible candidates had most commonly secondary education without school leaving exam. For treated persons is the second most common level of education university degree, while for non-treated it is secondary education with school leaving exam. Driving license most often jobseekers do not have. Alternatively, have a license for cars and motorcycles. Both the treated and the non-treated individuals most often had no officially recorded disadvantage. In contrast to the non-treated, the treated jobseekers have more often two types of disadvantage: a recent graduate and a long-term unemployed.

5. Discussion

In this analysis we focused on who were the most frequent beneficiaries of this intervention, what parts of Slovakia are coming from and what are their most frequent personal characteristics. Such a closer look at the participants of the intervention is important for setting the right parameters and the conditions for the intervention. Active labour market policy makers may utilize the results of such an analysis to set up interventions in the future so as to bring the best desired effect on the employability of young jobseekers and the sustainability of the job obtained. Intervention could in future be specifically focused on certain groups of unemployed young people, for whom it has the greatest benefit. Also, the promotion of intervention through local labour offices can build on the results of this analysis and focus on those groups of job seekers who have had the highest interest in the intervention. On the contrary, to raise awareness about intervention in those individuals who have participated is less.

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LEADING THE PROCESS OF CHANGE IN THE ORGANIZATION

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Abstract
Nowadays organizations operate in frequently changing external and internal environments. In turbulent times when organizations need to cope with uncertainty, the change becomes an everyday task for leaders and their followers. It also helps the organization gain or maintains competitiveness. Leading the change occurs as a complex and diverse process that merges various knowledge, skills and expertise from a number of professionals across the organization. The objective of this paper is to focus on the process of leading the change and to define what the leadership activities that foster the change flow are. Such a leadership approach contributes to higher level of relations among the all actors in any organization. The longitude qualitative research was conducted in two years 2014 and 2015 where 82 organizations from different sectors have been examined in total. The critical reflective analysis was used in order to suggest the modified framework of leading process which consists of three dimensions: activate change capability, communicate for results and monitor mechanics and mood.

Key words
change, change continuum, leadership, leading process

JEL classification
M21, O15

1. Introduction

A quote by a Greek philosopher Heraclitus stated that “the only thing that is constant is change” is quite conveniently describing current business environment. Preferences and expectations of customers are evolving at a very rapid pace and managers are required to respond promptly. Every current description of the markets, including those of both global businesses and small and medium enterprises, is carrying the tag of dynamically changing. With the speed of information sharing, what is a trend this year will be next year either innovated or outdated.

Growing globalization implies various challenges that businesses need to face daily. Kotter (1996)’s perspective on globalization is defying the globalized economy as it is creating both; more hazards and more opportunities for everyone, forcing firms to make dramatic improvements not only to compete and prosper but also to merely survive. It is important to be able to recognize the changes and to be willing and flexible enough to accept them. Changes also bring along possibilities which can be exploited and turned into advantages – if business is prepared to do so.

The significance of organizational change is self-evident in times when a large percentage of projects have failed to deliver the desired outcomes and the business environment has become more and more adapted to continuous change and unpredictability. As the business
environment becomes more complex and is changing continuously, organizations need to be more flexible and alert. Organizations can expect to face the need for even more changes in the future, at an ever-increasing pace.

These assumptions provided the fundamental base to objective of this paper. It relates to discussion what process of leading the change is needed in order to formulate change and its successful implementation. It also emphasizes the role of leadership and it adds that leadership is about change and change requires an adjustment in people’s behavior (Beerel, 2009).

Despite this broadly accepted ‘truth’ about change, organizations today encounter significant difficulties in both the timely recognition for the need for change and successfully leading and managing the change process, when it is introduced. The severity of these dilemmas becomes intensified, as the pace of change in the external environment accelerates and as organizations are affected by developments in the outside environment (like the current economic recession). Internal problems also required the introduction of change, which is painful to their own people and challenging to design and implement effectively (Raguž et al., 2016).

This emerging reality shows that leading and changing organizations appears to be more difficult and more important. Given the rapidly changing environment in which organizations operate, there is little doubt that the leadership’s ability to guide and manage change successfully needs to be a core competence for organizations. Change permeates every aspect of organizational life, making long-term stability an artifact of the past. That’s why, for most organizations, the ability to change is among the few remaining long-term competitive advantages.

Leading people’s performance in an unstable external as well as in an ever-changing internal environment, where the diversity of team and variety of performed tasks occur frequently, has strengthened the complexity dimension of the leadership approach. To be change focused, organizations need to have leaders who can develop change-capable people. Based on the results of the longitudinal research the model of leading the change has been proposed and discussed in the next sections.

2. Leading the process of change

When thinking about leading the change as one of the main expectations of what leaders should deliver to the organization, the focus was given to understand what type of changes the organizations are mainly implemented and what leadership role is expected. In the context of dynamic changes, the leadership should be viewed as a process. Carol et al. (2015)’s work explains that leadership is a process that happens both within individuals and between individuals and both of these processes are important to the work of leadership. One of the reasons why the concept of leadership as a process is favored to others in the organization is because such process can be documented and adapted to any environment which in the context of dynamic changes is appreciated. Therefore, the leadership can be defined as a complex system which consists of the various components and it also reflects the relationships between those components (Uhl-Bien and Arena, 2016).

The leading process is a part of the various dynamic systems which are characterized by the complexity, interactions and influencing the flow of relations. The interactions between leader and individuals are fundamental prerequisites for leading the change successfully in any organization.
2.1 The concept of change

The change issue has its roots in the work of Lewin (1951) which is best known for his “force field analysis”, a method which described the change as a planned process. He saw a change as a multistage process in a social field of moving from the present level to a desired one. He analysed the dynamics in change processes by identifying the drivers for, and resistance to, change. He proposed change processes through successive phases of ‘unfreezing’, ‘change’, and ‘refreezing’ referring to the psychological determinants of change rather than external factors that trigger change within organizations.

Later the process of leading change was described by Kotter (1996) which outlines how the organizations can adapt changes and thus increase their chances to implement those changes successfully.

The summary and comparison of the two main change models The Eight Stages of Change by Kotter and the fundamental Lewin’s Force – Field Model is described in Fig. 1.

Figure 1: Synthesis of Kotter’s and Lewin’s models of change

<table>
<thead>
<tr>
<th>1. Establishing a sense of urgency</th>
<th>Stage 1 - Unfreezing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Creating the guiding coalition</td>
<td>Stage 2 - Change</td>
</tr>
<tr>
<td>3. Developing a vision and strategy</td>
<td></td>
</tr>
<tr>
<td>4. Communicating the vision for buy-in</td>
<td></td>
</tr>
<tr>
<td>5. Empowering broad-based action</td>
<td></td>
</tr>
<tr>
<td>6. Consolidating gains and producing more change</td>
<td></td>
</tr>
<tr>
<td>7. Generating short-term wins</td>
<td></td>
</tr>
<tr>
<td>8. Incorporating changes into the culture</td>
<td>Stage 3 – Refreeze</td>
</tr>
</tbody>
</table>

Source: adapted from Hickman (2016, p. 562).

Kotter (1996)’s Eight Steps for Leading the Change provides suggestions how to communicate the change progress effectively and what are the expected benefits of such a process. The process of leading a change may be converted into the project structure since every change minor or major is a project event for the organization. He focuses on the detailed description of the leading process towards the change and the role of leader within it.

Even though the Lewin’s model is very simple and straightforward, and many models of organizational change got inspired by it, it has some limitations. As it has been already discussed the change becomes continuous in organization. The approach which implements more dynamics and change continuum has been presented by Moorhead and Griffin (2012) as ‘The Continuous change process model of organization change’. This model incorporates the forces of change, a problem – solving process, a change agent, and transition management. The new role of the change agent is suggested within this model. It is a person responsible for managing a change effort, and he or she may also recognize and define the problem or the need for the change. However, leader is expected to take a role of this change agent, but he is
facing a number of challenges which are increasingly occurred in environmental context and are relevant to leaders (Waldman and Bowen, 2016).

A global research in change management is conducted by PROSCI (2014, pp. 23-38) regularly, including 822 organizations worldwide were the best practices were observed and which results have been published recently in its benchmarking report. Participants in the study identified the most common mistakes by managers and supervisors in times of change. The top five mistakes in managing the change process were identified by participants, as follows:

1. Lack of visible support and involvement; assuming employees would automatically embrace and engage in the change without encouragement and assuming that project team was responsible for communication and engagement surrounding the change.
2. Failing to understand or listen to employees concern; forum for employee questions, concerns and feedback were not instituted.
3. Insufficient communication to impacted employees – communications were unclear regarding change details, context, drivers, impacts, business cases, and benefits.
4. Resisting the change by managers – via publically expressing negative messages about change, indicate to employees that the change was not important or would not last and deliberating withholding information.
5. Poor and inconsistent leadership, lack of coaching, feedback and supporting of employees throughout the change process.

The change can take different forms in organizations. As it is defined in work of Eriksson et al. (2011) there are two basic perspectives of change: the first perspectives views change as continuous improvement efforts and second perspective describes change as radical, system – wide efforts.

Based on work of Armstrong (2005) seven different types of change are identified, such as: incremental, transformational, strategic, organizational, systems and processes, cultural, and behavioral. The specification of all implemented changes is elaborated, as follows:

- incremental – gradual change which happens in small steps, steady and progressive adaptation to new processes, systems or procedures (e.g. new distribution, marketing activities, re-design of the place, location, implementation of legislation changes, web presentation etc.).
- transformational – ensures that organization can develop and implement major change programs to strategically respond to new demands, may involve radical changes to the structure, culture and processes of the organization (e.g. merger & acquisition),
- strategic – concerned with broad, long-term and organization-wide issues, moving to a future state based on the strategic vision and scope (e.g. strategic partnership, expansion into new markets, product diversification, franchising, licensing),
- organizational – changing the way organization is functioning and/or how it is structured (e.g. changes organizational structure, new positions, development and training of staff, job rotation),
- systems and processes – impacts working arrangements and practices (e.g. ICT implementation, new technology has been introduced, quality processes, logistics, product and processes improvement),
- cultural – change in an existing corporate culture, usually involves developing a more appropriate set of values that influences behavior and ensuring that employees live the
values (e.g. setting up new values, fostering the responsibility and decision-making process, working environment),

- behavioral – encouraging employees to be more effective by shaping and or modifying the way in which they carry out their work (e.g. changes in managerial and employees attitude towards work).

Goethals et al. (2014) describe radical changes as those which rapidly unfold and alter the basic assumptions, business practices, culture and organizational structure. High level of identity crisis, disorder, and ambiguity are associated with radical change.

Kraft et al. (2016) pointed out that leadership role during the organizational change is to identify the sense making feature and give it to employees. It is provided during all four stages such as exploration, preparation, implementation and evaluation.

Although addressing leader’s activity in the process of change is key for the organizational success, current theoretical sources remains vague about how leaders guide the employees’ involvement over the change process. Therefore, this paper highlights the leading process and provides a framework on how leadership can influence the successful implementation of changes in organization.

2.2 The research methodology and the main findings

Leading the organizations for any improvements and changes requires the deeper analysis of the both process and relational content of the leadership. This kind of analysis produces findings, concepts and hypotheses that are not possible to windrow by statistical methods. These two dimensions are crucial for any leadership action to lead the process of change and to influence the higher performance of people in an organization. The overall research aim was to identify the key features of leadership approaches that foster the process of change and contribute to higher level of relations among the all actors in any organization. In order to fulfill this aim and to provide recommendations on how to lead the process of changes in organizations, the qualitative research based on case study method was designed and conducted.

The focus of our research was aiming to identify what is the change flow and how the process of leading the change is performed. This part of the research was conducted via 82 case studies in the period of 2014 – 2015. The critical reflective analysis (CRA) was used in order to investigate what types of change were implemented and how they were led across the all processes within the organizational system. The findings from the analysis contributed to identify the multiple and complex features of all those changes. The types of implemented changes in researched organizations are referred to the typology provided by Armstrong (2005) as they have been already described (pp. 4-5) and they are presented in table 1 on page 7.

In order to accomplish the aim as well as to address the formulated assumptions four research questions have been structured, as follows:

1. What are the external and internal challenges that make impact on leaders’ work?
2. What types of changes were implemented?
3. How is the process of change led?

The assessment and evaluation process by using CRA is based on matrix structure with these main attributes: evaluated parameters/criteria, weighting (or priority influence) scale, assessment/value of individual reflective parameters and final assessment values/results.
The evaluated parameters or criteria

The system and evaluated processes are influenced by a number of parameters, variables and criteria. The impact of some of them is negligible therefore the aim is to identify those which influence the processes and system significantly. In our research these parameters have been formulated in two different forms. First one referred to change typology in order to examine what change has been implemented in the organization in two years 2014 and 2015. Second evaluated criteria have been formulated in order to examine the core leaders’ actions within the studied target segment.

Weighting or priority impact

Selected parameters which are significant for the evaluated processes have different priority or level of influence. In order to distinguished form the most influential up to the least priority, the weighting scale from 1 to 10 is suggested. The range is set up within three main levels, as follows:

- significant impact (weighting from 10 to 8) – parameters strongly influence the process, they represent the key performing criteria, greatest expected results or has the highest priority in organization,
- standard impact: weighting from 4 to 7 – parameters have standard, regular influence on the examined processes. They constantly exist in organization and their relevance depends on the certain conditions, circumstances or current situation in specific period,
- additional impact: weighting from 1 to 3 – parameters have only substitutional influence on evaluated process. They usually appear as additional parameters to those fundamental ones or in certain crisis situations.

The most important tool in CRA is the feedback which enhances the qualitative improvements of all processes within the organizational system. The feedback is conducting during the final stage of the CRA which is called reconstructing. The core actions, changes and new ways to improve processes are envisioned. The both assessment and evaluation analysis provide the knowledgeable analysis and feedback that help to decision – making process which parameters to change or improve.

The different sectors were approached as well as the size of the enterprises. In the year 2014 there were 21 SMEs and 20 big organizations with more than 500 employees. The sectors were included, as follows: industry (23), hospitality sector (5), financial (3), trade/shop (3), ICT (1), public sector (4) and other (2).

In the year 2015 the number of SMEs which implemented any changes has increased up to 29 organizations. The number of big companies decreased up to 12. The following sectors were covered: industry (12), services included hospitality sector (11), financial (1), trading (7), ICT (4), public sector (5). The variations within sectors correspond to increased number of SMEs since hospitality, ICT and trading are the most frequent sectors among these size organizations.

In all our case studies we described in more details what specific change was implement based on the empirical evidence together with its weight/importance for an organization as well as the impact or improvement which has been obtained. These two data are presented in an average number for each type of change among all studied cases. The typology and number of implemented changes, average weight and improvement in two observed years are presented as the partial research results in the table 1. The different types of changes’ implementation together with the leadership approach were aimed to observe in conducted research. It is clear from the table that there are some interrelations on the existence of two
fundamentally different types of change effort. In business practice, there is often the case when small, incremental change is just the begging of the revolutionary and transformational change in the near future.

Table 1: Typology and reflection on the change implementation process

<table>
<thead>
<tr>
<th>Type of change</th>
<th>2014</th>
<th></th>
<th></th>
<th>2015</th>
<th></th>
<th></th>
<th>Change (in numbers)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number of changes</td>
<td>Average weight</td>
<td>Average improvement (in points)</td>
<td>Number of changes</td>
<td>Average weight</td>
<td>Average improvement (in points)</td>
<td></td>
</tr>
<tr>
<td>Incremental</td>
<td>12</td>
<td>7.8</td>
<td>14.6</td>
<td>3</td>
<td>7.3</td>
<td>22.5</td>
<td>-9</td>
</tr>
<tr>
<td>Transformational</td>
<td>3</td>
<td>9.5</td>
<td>12.0</td>
<td>5</td>
<td>8.5</td>
<td>9.5</td>
<td>+2</td>
</tr>
<tr>
<td>Strategic</td>
<td>13</td>
<td>7.9</td>
<td>19.5</td>
<td>12</td>
<td>8.0</td>
<td>11.4</td>
<td>-1</td>
</tr>
<tr>
<td>Organizational</td>
<td>14</td>
<td>8.0</td>
<td>19.0</td>
<td>29</td>
<td>7.8</td>
<td>11.1</td>
<td>+15</td>
</tr>
<tr>
<td>System &amp; processes</td>
<td>17</td>
<td>8.4</td>
<td>25.6</td>
<td>30</td>
<td>7.7</td>
<td>18.2</td>
<td>+13</td>
</tr>
<tr>
<td>Cultural</td>
<td>2</td>
<td>6.0</td>
<td>19.0</td>
<td>3</td>
<td>8.25</td>
<td>12.0</td>
<td>+1</td>
</tr>
<tr>
<td>Behavioural</td>
<td>2</td>
<td>6.5</td>
<td>27.5</td>
<td>5</td>
<td>7.6</td>
<td>26.4</td>
<td>+3</td>
</tr>
<tr>
<td>Total number</td>
<td>63</td>
<td></td>
<td></td>
<td>87</td>
<td></td>
<td></td>
<td>+24</td>
</tr>
</tbody>
</table>

Source: the author.

The total number of implemented changes between two observed periods has increased by 38%. Since the number of observed organizations in year 2015 was 41, it seemed that 2 changes have been implemented on average in every organization. The highest increase was in organizational type of changes by 107% and followed by system and processes type of changes by 76%. It can be explained by the close relationship and joint influence between these two types of changes. The system & process change simultaneously enhance the change in organizational design which could reflect the multi - complex character of any change in the organization. That can also explain the decrease in the number of incremental changes by 75%. The reason for this we can see in the growing importance for more complexity and more system approach towards change. Another explanation to lower number of incremental changes is related to the origin of these changes. For example, change in location, or implementation of the new legislation is not considered as the change for some organizations rather than obvious reaction to the external environment.

On the other hand, the average improvements were obtained mainly by incremental changes 22.5 points and by behavioural changes 26.4 points. However, the total number of behavioural changes in each observed period was the smallest one together with cultural and transformational changes. The negative results of expected improvements have been also identified. In year 2014 the negative values appeared among organizational and transformational changes and in the year 2015 among organizational and cultural changes.

Apart the incremental changes, any other implemented types of changes have not gain the increased improvements in 2015 compared to 2014. The lowest increased results were found in strategic and organizational changes followed by system & process and cultural changes.

If we reflect these results with the importance of these changes for the organization that was assigned by the leaders themselves, transformational changes had the highest importance in the both observed years, followed by system & process changes in 2014 and cultural ones in 2015.
Based on CRA results which reflected the process and results of change implementation, we can withdraw the some key findings and conclusions:

- change is a fundamental necessity to succeed and to establish the base for continues improvements.
- the growing trend is to implement more complex and system changes which are inter-related as it creates the “change continuum” paradigm.
- successful implementation of more complex and systematic changes depends on the appropriate leading process.

The implementation of change is composed by both attributes as a process that is developed as step-by-step actions and relations that appear between leader and individuals. The synthesis on research findings has brought our attention to examine what are the key attributes of the leading process of changes. Based on research findings the modified process of leading the change has been developed. It consists of three main dimensions, as follows:

1. **Activate capability** focuses on the main practices that points out the external realities and activate change capability inside of an organization:
   - expands the awareness of business realities to help people see the need for change and motivates the focused effort
   - spotlight strengths and successes to generate confidence and momentum, and diffuses pessimism
   - embrace experimentation to foster an environment that allows for high levels of involvement and learning
   - encourage meaningful involvement to build a sense of ownership, make better decisions, and bring better results.

2. **Communicate for results** emphasis is on the creation of the dynamic dialogue that promotes actions and results:
   - provide information to others need about change at the right time and in a form that works for them. Employees want the right information, and this unit shows how to capture their hearts as well as their minds when communicating
   - encourage constructive feedback to know what people really think and feel about change. Straightforward dialogue is central to change results, therefore it is essential to know first-hand how provided information is understood and interpreted.

3. **Monitor mechanics and mood** - establishing the commitment to making change happen and to make the transition process successfully.
   - making progress clear to all by creating a system of regular short progress updates and reality checks that encourage open, candid discussion about progress
   - coordinating resources that support the change effort: how to stay in touch with changing resource needs and find creative ways to meet them
   - revisit systems, practices, and policies to identify any that hinder progress and take action to adjust or replace them.
   - responding to resistance by applying various managerial techniques (coaching, critical thinking, feedback, mentoring, etc.) to create conditions that reduce resistance and encourage commitment to change.

To be change – capable, the organization needs leaders who can develop the change – focus, capable people who can lead the process from the realization of the need for change, activate the new ideas and transform them into new and innovative ways. The success of
3. Conclusion

The topic of leadership is frequently discussed among academics as well as practitioners. The study of this topic suffers from too many definitions, not too few. Among all the ideas and theories about leadership, three aspects stand out – people, influence and vision. As the business environment becomes more complex and is changing continuously, the question “what leadership is the most suitable in the uncertainty times?” is asked frequently in the organizational environment. In this sense, exercising leadership represents the ability to be able to adapt to the new realities of change and to able to foresight new possibilities and strategies.

In order to reflect on these trends and also requirements of business environment we have conducted the qualitative research between 2014 – 2015 in 82 organizations with the main aim to identify the leading process which would reflect the need for change and to define what leadership approach can be implemented to make the organization successful with change implementation.

On the basis of the critical reflection analysis (CRA) of the research results we have suggested a modified leading process which consists of three dimensions: activate change capability among the people, communicate for results and monitor mechanics and mood.

Furthermore, it outlines how leadership can develop the change – capable organization as well as what leadership approach can be implemented. The research results enhanced the importance of variety of changes and their continuum. The study enhances our understanding of leading process starting from the realization of the need for change, activate the new ideas and transform them into new and innovative ways. The success of every change initiate depends on individuals willing to adopt new behaviour and new proposed vision.

References


THE TERRITORY RECREATION ENSURING MANAGEMENT SYSTEM DESIGN

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Abstract

The purpose of the research consists in the territory recreation ensuring management system design on the basis of the multi-level approach using to taking managerial decisions in the field of regional recreation as well as the regional recreation mechanism creation with its efficiency criterion determination. The research has confirmed that the recreation ensuring state at the regional level essentially depends on taking managerial decisions at both the regional and the state management level. On the grounds of comparison of the region system flexibility coefficient factual and normative values, the authors propose the regional recreation management system flexibility index determination. The practical significance of the research consists in proposing the methodological and applied instruments for the compromise managerial decisions elaboration aiming at the recreation ensuring of region, which will afford more ground for the local population development, in particular, in the form of additional jobs, the local budget income increase and will also meet the needs of the recreants for modern and high-quality recreation services. The performed research has made it possible to confirm the obtained results: the regional recreation mechanism creation is to contain the aspects of the regional and state management with the focus of the efforts on the regional recreation potential optimal use. The complex of actions directed to the alternative decisions search problems' solution, the acceptance, introduction, and monitoring of coordination of the local population, recreants, regional and state organizations actions will ensure the high-quality recreation achievement at the regional level.

Key words

the system of management, recreation facilities, region, system approach, the flexibility of the system, recreation potential

JEL classification

L83, Z32

1. Introduction

The role of recreation ensuring for the regeneration and renewal of people’s vitality, spent on the creation of new products and services, grows together with the social production development and its intensification. To ensure the renewal of people’s vitality it is necessary to reveal the interrelation between people’s new needs and the available, and potential recreation possibilities of a certain territory as well as their rational use organization. In other
words, the regeneration of the vital and productive abilities of people depends on recreational properties of the territory. It is necessary to ensure the conditions for the efficient operation of recreation self-regulating mechanisms, whose functioning requires the unification of the efforts of all the participants of the service system – carriers, accommodation enterprises, leisure organizations, relevant state institutions and regional departments in a unified recreation space ensuring reliable and high-quality renewal for people. So, the territory recreation ensuring management system design becomes a necessary factor of providing the harmony of human vital activity and human capital development on the whole.

Interpreting the definition of the notion “system” (Ashby, 2009, p. 38; Beer et al., 2006, p. 18; Bosenko, 2001, p. 79; Uiomov et al., 2000, p. 123), as a general scientific category, it is possible to ground that the regional recreation ensuring management system is a component totality characterized by a certain order of the regional recreation complex management elements interrelation. All this must most efficiently implement the main purpose of the analyzed system functioning – the regulation of processes in all the subsystems, the set of which, in their turn, presents a complicated but integral object that can be interpreted as a region with available recreation possibilities.

The recreation-tourist activity impact on the regional development is caused by the fact that this type of activity increases the income of the all levels budgets, becomes a catalyst of the social-economic development as it influences other branches of economy due to the new jobs creation, the population life quality improvement, the elimination of disproportion in the regional development of country and every person moral and physical development.

On the one hand, the regional recreation development is related to the territory possibilities of human renewal; on the other hand, efficient functioning of the recreation field ensures the support and renewal of the natural, historical and cultural resources of region. However, uncontrolled rapid increase of the recreation load in a certain region with the aim of income multiplication may have a negative result in the form of damaging the environment. Thus, under these conditions, it is easy to see the regional recreation ensuring management system depends on the managerial decisions taken at the regional level. Besides, the efficient functioning of the recreation management system is an effective instrument of the renewal of human physical and moral forces, i.e. it is a part of population social security, so it also requires the use of state management factors.

2. Analysis of recent research and papers

The research of foreign scientists indicates the necessity of concepts analysis of fairness and stability in the recreation field (Khalilzadeh and Wang, 2017). Sanderson et al. (2017) in their research pay attention to the youth recreational relaxation model development with the aim of their stimuli to study and development revival of knowledge economy on the whole. A collective of authors from the USA and Austria (Mattsson et al., 2018) focuses on the quantitative assessment of the economic value of the recreation activity, the search for the ways of the expansion of the managerial decisions to the increase of financing the recreation field of certain regions to obtain essential economic profit and even to keep corresponding social communities.

Scientists and the representatives of various fields of knowledge are rather actively studying the actualization of the problems of the state regulation of the tourist-recreation activity in the region, the expansion of the enterprise fields of activity via the revival of the tourist possibilities of the region and the determination of its recreation potential. In
particular, Lyubitseva (2003) emphasizes the role of the neoliberal or protectionist state touristic policy laying the stress on the necessity of the permanent reformation of the institution-organization subsystem of the tourism and recreation industry. Kamushkov (2010) indicates the exhaustiveness of the possibilities of self-regulation of the recreation system and the necessity for taking state measures directed to the restrain of the spontaneous development of the tourist-recreation field.

The authors’ investigation is directed to the search of the possibilities of the development of the foreign economic activity of enterprises and the improvement of their competitiveness by the creation of an innovative cluster in the form of a “knowledge network” (Sushchenko and Trunina, 2016, pp. 191-198). Artemenko (2015) emphasizes the principal role of the state regulation of the recreation services market in Ukraine.

It should be mentioned that scientists have different points of view as to the criterion of the efficiency of the functioning of the system of the recreation facilities regional policy. It is proposed to use the following as the efficiency indices: the level of social satisfaction, of the participation in the projects of labor force regeneration, of the social security and the protection of citizens’ rights, of the economic, ecological and social safety (Naumenko, 2006, p. 5); the level of the conditions of the development of the region population: health, work, education, culture and other conditions (Zanfirov, 2006, p. 6); the level of the development of the relations among the regions of the country, the public structures influence on the generation of regional links, the intensity of inter-regional exchange (Zhykh and Melnyk, 2009, p. 118); the indicators of the structure of economic resources, the economic niche and its capacity, the field of economic operation, economic activity; the amount of investments; the rate of development; the strategic economic potential (Kozlovskyi, 2011, p. 9); the regions interconnectedness index based on the level of regional interchange (Deich, 2007, p. 11) of the recreation information.

On the grounds of the above said, it is important to work out the territory recreation ensuring management system on the basis of the multi-level approach using to taking managerial decisions in the field of regional recreation as well as the regional recreation mechanism creation with its efficiency criterion determination.

3. Methodology

The methodology of the research is based on the logical-heuristic methods – for the revelation of the interrelation level between relaxation as a human activity, the recreation facilities and their management system; on the economic-mathematical analysis – for the determination of the relation between the regulated (the regional management system) and the regulating (the state management system) contours of the territory recreation management system; on modeling – for the interrelation model creation between the territory recreation state management system and the regional recreation management system, which is based on the inter-system data communication properties.

4. Material of the research

It is possible to reveal the key character of the interrelation between the recreation ensuring state management system and its derivative – the regional management system via the correlation of the indicated purposes expressed in the recreation efficiency and productivity indices (Figure 1). So, the state management system refers to the regional recreation system as
a regulating contour to a regulated contour. A rather high level of the manageability of the contour of the regional recreation ensuring management system is to be at the output of the state recreation management system. I.e. due to the regulating impact on the part of state management subject, the recreation ensuring management system at the regional level is to pass from the initial state to the assigned one during a limited period of time. In this case one can affirm that the state recreation management system is durable (The European Charter of local self-government), operates efficiently and realizes the purpose of regional socio-economic development and the territory population social security system as the recreation ensuring is a significant part of the whole complex of the region social ensuring. If it is found out that the manageability level of the regional recreation ensuring management system contour is low, the low efficiency and weak durability of the relations of the regional recreation support on the part of the state are to be noted.

It should be mentioned that the substantiation of “the recreation ensuring management system durability” as a factor of negative impact on the regional economy exists in the scientific thought. This impact may restrain and brake natural processes of its internal self-development and the positive transformations of particular structural elements (Kubatko, 2009, p. 14).

The regional recreation ensuring management system efficiency index can be used to determine the degree of manageability and coordination of the recreation infrastructure objects available in the region when positive results in the economic growth and the region population social welfare are attained.

The level of manageability of regional recreation ensuring management system is the index of efficiency and, at the same time, the index of its functioning productivity. It is related to the fact that for the regulated regional recreation ensuring management system to operate productively means to accept regulating impulses from the high-level state management system in proper time, completely and with absolutely correct interpretation of the information flows. That is why, from the organizational point of view, the system manageability general index, which is the initial one for the state recreation ensuring management system, serves as the input parameter for the regional one.

The territory recreation ensuring management system efficiency can be determined by a many-dimensional regulated contour. According to the management theory, the interrelation between the regulated (the regional system) and the regulating (the state management system) contours of the territory recreation ensuring management system can be expressed mathematically in the following form (1):

\[
\begin{align*}
\{RS(t) &= A \times RS(t_o) + B \times SG(t) \\
RD(t) &= C \times RS(t) \}
\end{align*}
\]

where \(RS(t)\) - the vector of the indices of the condition of the system of the management of the regional recreation facilities from 1 to \(n\) \(\{RS(t) = RS(1)(t); RS(2)(t), ..., RS(n)(t)\}\), that will be obtained due to the impact of the state management system during a certain period of time at the time moment \(t\); \(RS(t_o)\) - the vector of the indices of the initial condition of the system of the management of the regional recreation facilities from 1 to \(n\) \(\{RS(t_o) = RS(1)(t_o); RS(2)(t_o), ..., RS(n)(t_o)\}\); \(SG(t)\) - the vector of possible managerial decisions generated at the output of the state system of the management of the recreation facilities from 1 to \(r\) \(\{SG(t) = SG(1)(t); SG(2)(t), ..., SG(r)(t)\}\); \(RD(t)\) - the vector of the indices of the efficiency of functioning the system of the management of the regional recreation facilities in the territory.
1 to 3, \( \{RD(t) = RD_1(t); RD_2(t); RD_3(t)\} \); A, B, C - the matrixes of the constant coefficients with the dimensions, respectively \((n; n), (r; n), (n; 3)\).

Figure 1: The interdependence of the recreation ensuring management systems

Source: the authors.

In equation (1) three resultant parameters are chosen for the vector of the indices of the regional recreation ensuring management system functioning efficiency because, according to the principles of regional sustainable development, every territory is assessed and analyzed from the point of view of three aspects: the economic, ecological and social ones.

To provide the feedback from the recreation ensuring management system at the regional level during operating of managerial impact on the part of state the corresponding regional management system is to be flexible. With this purpose in view it is necessary to optimize the parameters of model (1) according to the special criterion of the manageability of linear complex stationary systems (Kubatko, 2009).
To determine the flexibility criterion of the regional recreation ensuring management system, an additional matrix of flexibility is introduced:

$$\varphi_y = [B \times AB \times A^2B \ldots A^{n-1}B]. \quad (2)$$

So, the proposed matrix consists of constant coefficients of the indices of the recreation ensuring management system state at time moment $t$ and at the indices of the managerial decisions generated by a high-level system – the state management. The matrix of the recreation ensuring management system flexibility $\varphi_y$, contains separate coefficients $B$, the products of coefficient matrices $AB, A^2B, A^{n-1}$ and has the dimensionality of $(n; n)$. Thus, interpreting the mentioned provisions, it can be stated that the regional recreation ensuring management system is flexible and manageable on the part of state recreation ensuring management system only in the case when the system manageability coefficient expressed in the form of the range exceeding the mentioned flexibility matrix, $\varphi_y$, equals the dimensionality $n$ of the corresponding space of the values of the regional recreation ensuring management system states parameters $(3)$. On the grounds of regional system flexibility coefficient factual value comparison, $K_{SM_f}$, and its absolute or normative value, that, in its turn, is established taking into account the unforeseen external disturbances in relation to the regulated and regulating management systems, $K_{SM_n}$, it is possible to determine the regional recreation ensuring management system flexibility index $I_{SM}$, $(4)$.

$$K_{SM} = \text{rank} (\varphi_y) = n \quad (3)$$

$$I_{SM} = K_{SM_f} / K_{SM_n} \quad (4)$$

The use of the regional recreation ensuring management system flexibility criterion (the regulated contour) as a connecting link with the high-level system – the state management (the regulating contour), as well as the introduction of the regional recreation ensuring management system flexibility index will make it possible: to assess the regional recreation ensuring management system sensitivity to the established managerial impacts; to group territories according to the level of their social-economic systems flexibility of aiming at improvement of taken measures productivity concerning the recreation facilities for citizens. The achievement of such condition in the country that is characterized by a certain type of measures correlation of the regional recreation ensuring management system development at the certain level of its flexibility index has its advantages and disadvantages. They are to be taken into account during the state recreation policy creation, the territory social-economic growth regulation mechanisms and the territories recreation potential revival.

A certain drawback of the proposed approach to the realization of regional recreation ensuring management system on the basis of the criterion and the index of flexibility determination consists in that models $(1) - (4)$ can be used only in the case when the regional recreation ensuring management system is stationary and has a tendency to development according to the linearity laws. In other words, the regional recreation ensuring management system is to be unchangeable as to its structure and design, the micro-structure and micro-design of its separate elements are to be constant. The aggregate values of the resultant indices of the regional recreation ensuring management system development are to change depending on the factor of time with the same increase or decrease. Obviously, under ideal conditions the regional recreation ensuring
management system is, on the contrary, characterized by its internal area dynamism; all the signs of chaotic condition, wear of the recreation equipment and breakage of the recreation infrastructure objects are inherent in its structural elements, and the territory recreation development is distinguished with its acceleration and hindering at different time periods.

The integral index of the whole regional recreation ensuring management system functioning efficiency is formed at its output with a certain level of flexibility under the state management impact. If, during a certain period, the regional recreation ensuring management system performed the required changes, it can be stated that it operated flexibly during this time. And vice versa.

At the same time, the regional recreation ensuring management system flexibility serves as the measure of the state recreation ensuring management system functioning productivity in the territory. The information flow created due to the regional recreation ensuring management system transition from one condition to another is the basic (input) one for the state management system. On the grounds of the quantitative and qualitative characteristics of such information flow further managerial decisions are formed in regional recreation ensuring management system.

Thus, the state and regional recreation ensuring management systems are interconnected by an information space, i.e. it can be stated that the state management system of directly influences the region management system as a key factor of its functioning regulation efficiency.

The regulating contour of the state recreation ensuring management system contains corresponding structural elements, direct and reverse links between them, internal information flows, general management system design and the instruments for their structure regulation.

The structural elements are represented by the separate state government bodies of different hierarchy levels. Their functions include the regional recreation sector management and they can influence the final output managerial decisions of the whole state recreation ensuring management system.

The direct and reverse connections between the elements represent the hierarchical links between the government bodies, the degree of subordination, and also various functional connections between them. Due to the identification and estimation of the structural elements hierarchical links it is possible to determine the force and significance of, e.g. the expert assessment of a certain managerial decision concerning, in particular, the quality of recreation services, made by the specialists from different administrations and departments. It is especially important when the decisions concerning the regional recreation management are conflict a priori and do not meet certain criteria. It will enable managing the regional recreation on the principles of reflexivity and still more improve the regional recreation ensuring management system flexibility due to the output managerial measures optimization.

Due to the monitoring and analysis of the functional structural links between the state recreation ensuring management system elements it is possible to assess the degree of the managerial decisions contradiction, because the more different structures and government bodies are interconnected by taking certain managerial decisions the more aspects of these decisions are to be taken into consideration and the higher their contradiction potential level is. In its turn, it can influence the final taking or rejecting a certain direction of the recreation development and the choice of regional recreation management instruments.

Unlike the components of the state recreation ensuring management system regulating contour, the design of this system reflects the structural elements configurations complex and links among them. Separation of the recreation ensuring management system is caused by the
recreation activity modern conditions, in which all the components interaction synergy effect assessment becomes important. That is why the recreation ensuring management system design characterizes the efficiency of interaction and co-existence of separate structural elements in the decisions making system in the field of recreation management. There often occur situations, when the introduction of a certain instrument of state management into the console of the regional management results in the efficiency decrease of the action of general console of all the management system elements. As a result, the state management system is characterized by the multiplicative decrease of the efficiency and productivity, and, consequently, by the regional recreation ensuring management system flexibility decrease and hindering its development rate.

The state recreation ensuring management system internal environment elements directly influence the same elements of regional one, which commonly form the region recreation potential (Figure 2). The region recreation potential development consists of the recreation capital formed by the regional recreation complexes, the physical capital formed by the available resources of the natural and man-caused origin, the institutional capital formed due to the corresponding recreation facilities existing in the region.

The institutional capital of the regional recreation ensuring can be determined as a totality of rules, norms, schemes and mechanisms of the recreation resources distribution among the recreation complexes and economic entities of regional economy when the use of recreation resources results in obtaining surplus gross value by the regional economy.

Thus, the regional recreation ensuring management system regulations, which can be interpreted as a practical factor of creation of new mechanisms of interaction of regional economic entities operating in the field of recreation results in the increase of the regional and state institutional capital.

Unlike recreation capital, institutional capital has a number of special characteristics. First, institutional capital cannot be owned by any particular economic entity because it is a collective acquisition of the society, the region or the state. Second, institutional capital must be used during the welfare-creating processes by all the economic entities, which causes the presence of its stable share in the cost of the products and services.

Third, institutional capital cannot be registered and included into the list of non-negotiable assets of particular enterprises due to the impossibility of the existence of legal platforms of the process of its owning and the method for the calculation of its factual cost at present. Fourth, institutional capital is characterized by the inter-regional, inter-state and global diffusion as a gradual cost-free penetration within the frames of international cooperation and integration.

The recreation ensuring management system regulated contour contains in its internal area, along with the regulating contour components above mentioned, the following elements: recreation complexes, recreation resources and recreation infrastructure (Fig. 2). Such configuration assists to the analysis of the region from the point of view of its actual and forecasted recreation potential and allows determining the key aspects as to the subject, object and the matter of recreation activity aiming at obtaining the social-economic effect in the form of a region recreation development complex.

How the regional recreation community is able to accept the regulating impulse on the part of state management system, to interpret it and to integrate into its own environment to form the required regional recreation demand depends on the particular characteristics of recreation complexes, e.g. the personnel education level, the provided services innovation level, the marketing activity complex, availability of its assets.
In our opinion, the characteristics of the “recreation complexes” component of the regional recreation ensuring management system determine the boundary of the region recreation development during a certain time period independently of the system components properties. The recreation capital is personified in this element, which, in its turn, contains the revival of regional intellectual capital for the new recreation services creation and introduction. The recreation capital accumulation can encourage the knowledge economy particular fields development in various spheres of its manifestation and introduction.

The category of recreation resources, as a component of the regulated recreation ensuring management system internal environment, is a necessary and determinant condition for its development. The recreation resources are the region economic resources component. Under the conditions of the regional sustainable development paradigm the natural resources are to be gradually excluded from the totality of the economic resources of region and must be substituted by science-intensive resources-substitutes (Asan and Emeksiz, 2018), which will make it possible to preserve the natural regional capacity and recreation potential. That is why the intellectual labor product and result of the use of intellectual capital will soon be the most common source of obtaining recreation resources.
The regional recreation ensuring management system reflects the result of the available recreation resources regulated redistribution process of among the recreation complexes and other economic entities of region. The output result of the whole region recreation field functioning depends on this redistribution efficiency. The regional recreation ensuring management is the system-creating factor influencing the configuration of the links among all the region recreation field subjects and the recreation services use character.

On the basis of the property relations it is possible to analyze the present and to forecast the future tendency of regional recreation complexes to generate possible conflict situations and antagonistic behavior. Unlike “recreation complexes” and “recreation resources” components, only the “recreation structure” component represents the regional recreation ensuring management system element that is subject to the state regulation system direct influence that determines the rules and special features of its generation and use. Thus, it is possible to forecast the further result of a particular managerial decision on the part of state power bodies by means of adding positive and negative effects of a certain configuration of the recreation infrastructure in the regional recreation system.

The regional recreation ensuring management system functioning efficiency depends not only on its own components, on the components of the high-level system – the state management, but also on the constructive direct and reverse links supporting the recreation ensuring management of two systems design on the whole (Figure2).

The direct and reverse links between the regional recreation ensuring management system and the state one reflect the degree of intensity, integration and compatibility of the structural elements of one system with the other. These links consist of the information channels and network interlacement of the knots of recreation field management at the state and regional level. This is a specific neutral area between two systems that holds them together in a determined design and influences the final indices of efficiency and productivity – the level of the system flexibility and manageability. It is the direct and reverse links that provide an essential impact on the additional effect occurring only in the case of the regulated and regulating contours synergy. The regional development strategic realization level purposes in the region recreation field depends on their reliability, intensity and efficiency.

Thus, basing on the determination of the “system efficiency” notion given in paper (Lopatnikov, 2003, p. 641), a generalizing conclusion can be made. Measure of the managerial decisions efficiency at the output of the state recreation ensuring management system regulating contour is determined by the changes in the productivity and efficiency indices at the output of the regional recreation ensuring management system regulated contour.

To ensure the information impulses coordination of the regional recreation ensuring management system and the state one, an inter-system information connection is to be created. The process of system designing the movement trajectories and coincidence points will be its core. Such designing implies the creation of the instruments for the correct information transfer between the systems and “understanding” of the obtained impulse by each of the systems with minimal data loss and monitoring of attaining the purposes and tasks of both systems process.

In the general form the interrelation between the state recreation ensuring management system and the region recreation ensuring management system that is linear and circular, takes place on the basis of the above mentioned properties of the inter-system information connection of the two systems, and is expressed in the following way:
\[
\begin{align*}
\sum_{j=1}^{r} SG_j &= f \left( \sum_{m=1}^{v} SGS_m \right), \\
\sum_{z=1}^{p} RSI_z &= f \left( \sum_{x=1}^{r} SG_j \right), \\
\sum_{i=1}^{n} RS_i &= f \left( \sum_{z=1}^{p} RSI_z \right), \\
RD_1 + RD_2 + RD_3 &= f \left( \sum_{i=1}^{n} RS_i \right), \\
\sum_{m=1}^{v} SGS_m &= f \left( RD_1 + RD_2 + RD_3 \right).
\end{align*}
\]  

(5)

where \( \sum_{j=1}^{r} SG_j \) - the totality of managerial impacts from 1 to \( r \), that the territory recreation facilities state management system can carry out with the existing parameters of its internal elements; \( \sum_{m=1}^{v} SGS_m \) - the totality of the indices of the condition of the territory recreation facilities state management system from 1 to \( v \), characterizing its internal elements; \( \sum_{z=1}^{p} RSI_z \) - the totality of managerial impulses from 1 to \( p \), that are factually generated by the territory recreation facilities state management system in relation to the regional system of management; \( \sum_{i=1}^{n} RS_i \) - the totality of the indices of the condition of the regional system from 1 to \( n \) that characterize its internal elements; \( RD_1 + RD_2 + RD_3 \) - the integral indices of the efficiency of functioning the economic, ecological, social subsystems of the region.

5. Conclusion

Thus, the interrelation between the state and regional recreation ensuring management systems design process is one of the most important aspects of the first system functioning. The degree (or level) of the regional recreation ensuring management system flexibility can be chosen as the criterion for the mentioned process efficiency and productivity assessment. In its turn, this criterion directly influences the regional economic, social and ecological subsystems development level.

Such an approach will make it possible to provide timely monitoring of the regional recreation development stages and its management systems possible transformations. The realization of proposed system approach to the regional recreation management enables taking into account the special features of the regional recreation field development: flexibility, vulnerability, compatibility, conflictness, intensity, the ability to generate, interpret and accept the information impulse.

Consequently, the set of the alternatives for the efficient realization of the functions and powers of the regional recreation management considerably expands the number of the criteria for the substantiation of a certain variant of the regional recreation infrastructure and facilities formation on the whole increases, the strategic and tactic goals setting procedure and region development tasks is detailed.

References


CULTURAL VALUES OF LABOUR FORCE IN FORMER CENTRALLY PLANNED COUNTRIES AS AN INPUT FOR MANAGERIAL PRACTICES

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Abstract
Forty years of centrally planned economy influenced significantly economic, political and social environment in Slovakia. During 28 years of freedom, many of them were overcome. However, according to the literature, the impact on the mindset of people is persisting. The most important are: paternalistic mentality, lack of environmental and social awareness and deeply rooted distrust in entrepreneurship. The goal of the paper is to examine if the differences in attitudes of the labour force in traditional market economies and former centrally planned economies are provable by the data from European Social Survey. The idea behind is to answer the question if there is a need to make managerial practices more local, as they have a tendency to unification.

Key words
human resources management, work-related attitudes, trust in firms

JEL classification
M 12, M 14

1. Introduction

Nowadays, human resources management is widely applied conception used within the system of corporate management. However, as Preuss et al. (2009, pp. 956-957) point out, it is not only a human resources management department, what companies in the globalized world have in common. They draw attention to the fact that it is possible to observe certain convergence concerning HRM practices. They attribute this fact to three types of isomorphic pressures: normative, mimetic and coercive processes. The normative pressures are the result of the necessity to maintain legitimacy within wider society as it is crucial for a firm to gain or preserve a social "license to operate". The mimetic pressures refer to the tendency of companies to mimic successful players on the market. The coercive pressures arise because of the existence of regulatory institutions, which has the power to establish rules for other organizations and impose sanctions for non-compliance. The authors conclude, that under such a pressure, management techniques of dominant society become archetypal for the others and they tend to adopt them.

Certain trending in human resources management practices can be observed in the series of studies done annually by Deloitte from 2015 called Deloitte Global Human Capital Trends. The latest study was compiled using survey on which more than 10400 HR professional from 140 countries were participating. The study mainly stresses the necessity to react on rapidly changing technological level referred as the Fourth Industrial Revolution. To attract and retain
high-quality employees, the participating firms stress the necessity to "shape employee experience" i.e. to deal with various aspects of employment to which its employees are exposed. The focus is put on meaningful work (sense of contribution to better society), personal growth, the culture of engagement, employee empowerment through participative management, flexible workplace (in terms of organizational structure as well as work organization) and leadership development (Deloitte, 2017).

Barriers to adopting such isomorphic managerial practices are obvious. Among others, historically developed institutions shaping attitudes and values of people stands out. It is reasonable to assume, that certain aspects of employee experience (let’s say development opportunities) can be valued more in one culture and less in another. In this context, a comparative research focuses mainly on differences between continental Europe and Anglo-American managerial tradition (e.g. Vuontisjarvi, 2006; Guillen et al., 2002; Chen and Bouvain, 2009; Roulet and Touboul, 2014; Matten and Moon, 2008). The differences between managerial systems of traditional market systems and former centrally planned economies are far less covered.

The paper aims to address potential differences in attitudes and values connected to mentioned trends in the human resources management. It seeks an answer to a question if there are significant differences between general attitudes and values of people living in traditional market economies and post-socialist economies which would prevent firms from applying global trends in former centrally planned countries or made them more difficult to apply.

2. Literature review

Although highly underdeveloped, there are a few papers which deal with comparative research concerning work-related attitudes of people living in former centrally planned economies and traditional market economies.

Alas (2003, p. 45) comes out from significance impact of job satisfaction on commitment of an employee. She assumes that experience of different economic regimes based on different value hierarchy can lead to divergent factors which contribute to job satisfaction. Based on the comparison of questionnaire research from 15 traditional capitalist countries and post-socialist countries, she concludes that satisfying lower order needs (like physiological needs and safety needs) is important factor of job satisfaction in the post-socialist countries, while in traditional capitalist country meeting higher order needs (like cooperation and self-actualization) is more important. She explains this phenomenon by the fact that former centrally planned countries have not reached sufficient level of welfare, which is the basis for employee self-reliance. Therefore, job security is highly valued in these countries. Another issue is that the socialist regimes stress the importance of providing a job for everyone at the expense of efficiency. From this point of view condition on unregulated job market can be seen as unstable by people and it is fear that influence their attitudes.

Similar results were achieved by the comparative research of Finland and Estonia (Alas and Edwards, 2005). In Estonia, important determinants of job satisfaction were income and promotion opportunities, while in Finland, it was interesting work which decided. The authors conclude that in former post-socialist countries it is mainly extrinsic motivation, what is valued by employees, while in traditional market economies intrinsic motivation is more important.
Padelford and White (2010, p. 110) point out that while the formal institutions of the market economy are well-established in former centrally planned economies since 1989, certain informal institution necessary for its functioning are still underdeveloped. They stress mainly inclination towards individualist and egocentric attitudes in the sphere of business culture and business ethics, cynicism for the market, view of profit-making as immoral, informal economy, non-monetary forms of help bordering on shadow or black economy. The authors see this phenomenon as undermining trust and therefore the whole system of market economy.

Alesina and Fuchs-Schündeln (2007) ask a question if political regimes influence individual policy preferences. They carried on the research comparing attitudes of citizens of former West and East Germany. They found empirical evidence that citizens from former East Germany tend to prefer a more paternalistic approach of institutions (government, firm…). They also observed that these people are less likely to attribute success and wealth to individual abilities and effort and believe that it mainly matters of luck. The researchers see this as the result of the egalitarian ideology of communist regime and reason for paternalistic policy preference.

Based on the research result summarized, it is possible to conclude that human resources managers have to be careful when applying some of the “trendy” managerial practices in the former centrally planned economies. An aim to increase employees’ commitment by offering opportunities for self-actualization and self-development or organizing activities with positive impact on the environment or society, can be limited by the fact that employees value material rewards more. Preference of employer paternalism can act as a barrier to establish participative management system. Low level of trust in the economy can lead to the state, that activities of HR department would be seen as meaningless statements.

3. Material and methods

To analyze differences in attitudes and values of people living in the former centrally planned economies and traditional market economies we used data from European social survey. This survey is carried out bi-annually in most of the European countries. It combines standard thematic modules with rotating modules. The former part includes the module dealing with human values. This module is particularly informative for our research question. The research design is based on Schwartz model of value orientation. The model distinguish set of 10 values which are organized into 4 value orientations (Figure 1).

The circular organization of the model is not arbitrary. The values of which are placed close one to another have a similar motivational base. The values placed opposite one to another are contradictory in terms of motivation. Next to the circle, there are 4 value orientations to which given values contribute.

The inclination to a certain value is measured based on the level of identification with two or three portraits of person, who profess certain value on 6-degree scale (e.g. benevolence is represented by portrait: "it's very important to him to help the people around him. He wants to care for other people"). The final inclination to a certain value is gained as an average level of agreement attributed to given portraits. The values are centered to the average score that a respondent attribute to all the portraits as individuals tend to use the scale in a different manner (somebody prefers using extreme values, somebody values closer to the middle). To analyze the differences between traditional market economies and former centrally planned
economies we used data from the 6th round of European social survey taken in 2012, which is the latest survey in which Slovakia took part. The following countries took part on the survey:

- former centrally planed – Czech Republic, East Germany, Estonia, Hungary, Poland, Slovenia, Slovakia, Ukraine,
- traditional market – Austria, Belgium, Wesr Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Switzerland, Ireland, Iceland, Luxembourg, Netherlands, Norway, Portugal, Sweden.

A short characteristic of used values is summarized in the table 1.

Figure 1: Schwartz's model of human values

The notion of trust in the economy is analyzed using the 2nd round of European social survey in 2004 which includes rotating module dealing with the issue of economic morality. We analyze three questions focused on the level of trust toward firms:

- If you want to make money, you can't always act honestly.
- Businesses only interested in profit, not improve service/quality.
- Nowadays large firms work together in order to keep prices high.

The respondents express their agreement on the 5-degree scale. Using simple average, we form "trust index" which increases with the increased level of trust.

The structure of the analyzed sample is described in table 2. To form the index, we used weights provided by authors of the survey.
Table 1: Characteristics of values

<table>
<thead>
<tr>
<th>Value</th>
<th>Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>Social status and prestige, control or dominance over people and resources. (social power, authority, wealth, preserving my public image)</td>
</tr>
<tr>
<td>Achievement</td>
<td>Personal success through demonstrating competence according to social standards. (successful, capable, ambitious, influential)</td>
</tr>
<tr>
<td>Hedonism</td>
<td>Pleasure and sensuous gratification for oneself. (pleasure, enjoying life, self-indulgence)</td>
</tr>
<tr>
<td>Stimulation</td>
<td>Excitement, novelty, and challenge in life. (daring, a varied life, an exciting life)</td>
</tr>
<tr>
<td>Self-direction</td>
<td>Independent thought and action-choosing, creating, exploring. (creativity, freedom, independent, curious, choosing own goals)</td>
</tr>
<tr>
<td>Universalism</td>
<td>Understanding, appreciation, tolerance and protection for the welfare of all people and for nature. (broadminded, wisdom, social justice, equality, a world at peace, a world of beauty, unity with nature, protecting the environment)</td>
</tr>
<tr>
<td>Benevolence</td>
<td>Preservation and enhancement of the welfare of people with whom one is in frequent personal contact. (helpful, honest, forgiving, loyal, responsible)</td>
</tr>
<tr>
<td>Tradition</td>
<td>Respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide the self. (humble, accepting my portion in life, devout, respect for tradition, moderate)</td>
</tr>
<tr>
<td>Conformity</td>
<td>Restraint of actions, inclinations, and impulses likely to upset or harm others and violate social expectations or norms. (politeness, obedient, self-discipline, honoring parents and elders)</td>
</tr>
<tr>
<td>Security</td>
<td>Safety, harmony and stability of society, of relationships, and of self. (family security, national security, social order, clean, reciprocation of favors)</td>
</tr>
</tbody>
</table>

Source: Schwartz (1992)

Table 2: Structure of analyzed sample

<table>
<thead>
<tr>
<th></th>
<th>Post-soc market ESS 2004</th>
<th>Traditional market ESS 2004</th>
<th>Post-soc market ESS 2012</th>
<th>Traditional market ESS 2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>6324</td>
<td>14645</td>
<td>5613</td>
<td>11490</td>
</tr>
<tr>
<td>Women</td>
<td>7747</td>
<td>16885</td>
<td>7334</td>
<td>12838</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>46,50</td>
<td>47,05</td>
<td>48,08</td>
<td>48,86</td>
</tr>
<tr>
<td>Years of education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>11,81</td>
<td>11,68</td>
<td>12,81</td>
<td>12,54</td>
</tr>
</tbody>
</table>

Source: European social survey (ESS) – round 2 in 2004 and round 6 in 2012.
4. Results

Figure 2 shows averages for the relative importance of individual values in the former centrally planned economies and traditional market economies. Using Mann-Whitney U-test we have validated that differences are statistically significant at 95% significance level. The data form the European social survey showed similar reality as observed in researches summarized in the literature review part. We can see that people from countries with communist past put more focus on securing and protecting own needs (self – enhancement dimension) than the welfare of the wider society (self – transcendence dimension). They also in average prefer security and conformity to self-direction.

Figure 2: Importance of individual values by economies

Source: the author.

We have also analyzed the influence of experiencing communism on general trust in business. We used linear regression to identify if living in a post-socialist country has impact on trust index described in the previous chapter. We include also gender, net income of household and education to explanatory variables to control for their effects. When we include all the observation into the regression (Table 3 – model 1), we found no statistically significant difference between post-socialist and traditional market economies in the level of trust. If we split the observation into people who reached 18 until 1989 and the others and run the regression again, we observe that in the former group of people, the experience of socialist regime makes a difference (Table 3 – model 2). Living in a traditional market economy increases an average trust in firms by 0.33 (traditional market economies are coded as 1). People who do not experienced communism as adults show no influence (Table 3 – model 3).
Table 3: Impact of experiencing communist regime on level of trust in firms

<table>
<thead>
<tr>
<th></th>
<th>Model 1 - All observation</th>
<th>Model 2 - Adults before 1989</th>
<th>Model 3 - Adults after 1989</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.900 .000</td>
<td>1.923 .000</td>
<td>.034 .000</td>
</tr>
<tr>
<td>Traditional market or post-soc</td>
<td>.018 .110</td>
<td>.033 .037</td>
<td>.017 .738</td>
</tr>
<tr>
<td>Gender</td>
<td>.115 .000</td>
<td>.105 .000</td>
<td>.013 .000</td>
</tr>
<tr>
<td>Household's total net income, all sources</td>
<td>.039 .000</td>
<td>.039 .000</td>
<td>.003 .000</td>
</tr>
<tr>
<td>Years of full-time education completed</td>
<td>.021 .000</td>
<td>.020 .000</td>
<td>.002 .000</td>
</tr>
</tbody>
</table>

Source: the author.

5. Conclusion

The paper aims to address potential differences in attitudes and values connected to trends in the human resources management. It seeks an answer to a question if there are significant differences between general attitudes and values of people living in traditional market economies and post-socialist economies which would prevent firms from applying global trends in former centrally planned countries or made them more difficult to apply.

Using European social survey data, we showed that it is possible to observe differences in what people find important in the former centrally planned economies and traditional market economies. We come to the same conclusion as previous researches that people in post-socialist countries find securing material need more important than contributing to the general welfare and they tent to trust firms less. This knowledge can serve as an input for creating corporate remuneration programs as well as activities concerning corporate volunteering, “green activities”, etc. Of course, we are not trying to say that monetary reward is enough, however, that it needs more communication to "sell" such benefits to employees.

Our approach is limited by the fact that the analyzed groups of countries are not homogenous. In the European context, the difference between South and North could be as important as the difference between East and West. Further research would be necessary to cover this issue as well as issue of development of these value in time.

Acknowledgements

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References


THE MODEL ALGORITHM
FOR THE PROCUREMENT PROCESS OPTIMIZATION:
A CASE STUDY

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Abstract
This paper focuses on a current topic of production management and operations research which serves as a tool for small and medium enterprises to cope with pressure put on them by continuously changing market conditions and global economy itself. Firstly, the paper presents a model algorithm developed in order to achieve a complex optimization of resource procurement process. Created model algorithm stresses the importance of cost minimization, which is also its main objective. This model algorithm is applied on a real-life process in practice of selected medium-sized production enterprise. The process is broken down into its activities. Each stage of model algorithm is defined as a linear programming task. Furthermore, this proposed model algorithm is solved with the use of data from selected enterprise, which provides an optimizing solution for various problems within enterprise’s supply chain. Each activity is analysed applying sensitivity analysis in order to discover the importance of influencing factors and their priorities. A case study provides an example of how a simple modelling approach and process approach can be applied in practice to achieve valuable solutions, which may benefit not only selected enterprise, but also serve as an example for other enterprises to guide their optimizing efforts using similar approaches.

Key words
procurement process, linear programming, model algorithm, cost minimization, sensitivity analysis

JEL classification
C44, C61, D24

1. Introduction

The process management was developed in the last decades as a result of many new challenges faced by companies worldwide. However, its adoption by companies has not been a smooth process, especially since its conclusion should include the sustainability of all supply chain activities at various degrees of success. Still many companies justify their reluctance to apply such new practices by innovations in other areas. Moreover, they remain surprised to discover that their competitors have been getting to markets faster and are spending less money to do it. Nowadays, it is the role of process management to ensure the cost minimization, production disruptions avoidance and profitability of company. The task is vast and complicated, however not impossible.

In supply chain, the final product is obtained as a result of series of transformation activities that serve as an integrated unit in its corresponding process. The extent of supply chain stretches from the ultimate supplier of sources and raw material to the ultimate customer. In production enterprises the crucial phase is the task or series of tasks that provide
resources for actual manufacturing within the same process. Their quality and timely delivery is the prerequisite of successful production. Various authors provide evidence that process management can successfully manage the optimization of this critical area from identifying problems to implementation of newly developed strategies to tackle insufficient performance issues (Das, 2011; Gong, 2008; Raghupathy and Amirthagadeswaran, 2014; Dzuke and Naude. 2017; Peidro et al. 2010; Wang et al., 2009). Vastly and rapidly growing development of new technology makes it common for companies to explore a high number of process optimizing methods. In process management, modelling is the main method of defining the parameters of particular processes and furthermore, it provides baseline for optimization (Závadský and Hiadlovský, 2014; Dedić et al., 2017).

Application of linear programming in optimization is not a new concept. On the contrary, these methods were among the first to be used to mathematically describe company’s activities and to provide solutions to various tasks targeting the problematic areas. Nowadays, many authors favor more modern approaches to optimization (Kassa, 2017; Alasas et al., 2017; Salgado et al., 2015; Chen et al., 2017). However, linear programming still has its merits. Its current existence is justified by the fact that linear programming can still overcome the majority of problems provided by practice of production companies without the necessity to resort to application of other, and often more complicated methods. The objective of this paper is not to defend the continuation of utilization of linear programming in practice, however, it is to successfully apply these methods in order to optimize selected process. Consequently, the main aim of this research is to present a case study of model algorithm application on procurement process optimization whose main goal is to achieve cost minimization. The main contributions of this study can be summarized as follows:

- Introducing a novel approach to integrating resource procurement, goods transformation, resources restrictions, market conditions, time restrictions and quality requirements into a multi-stage model algorithm designed specifically for optimization needs of selected process in production enterprise;
- Integrating linear programming measures into optimization of procurement process with emphasis on cost and time minimizations throughout the model algorithm;
- Application of proposed model algorithm providing real-life data and verification with valuable results which can help enterprise involved in this study to improve its operations within selected process.

2. Methodology

Gained knowledge and previously created general mathematical model (Veselovská, 2013; Veselovská, 2014) were applied to create a model algorithm of procurement process in conditions of a particular manufacturing enterprise. This model algorithm consists of three components. Firstly, the graphic diagram shows activities within this process, which allow us to evaluate in detail process as whole and subsequently analyse it properly. In order to explore the process we must break it down into individual activities. Thus, we developed a graphical model that serves as the basis for creating a mathematical model, based on which we can create an optimizing linear programming task for each activity separately.

To obtain real data from practice we chose a manufacturing enterprise which serves as an example on which we can demonstrate application of the proposed model algorithm. The objective was to design algorithm of procurement process as close to real conditions in this enterprise as possible. As a selected example of manufacturing enterprise we have chosen the
company XY, Ltd. This is a company which carries out its business activities in the north-eastern region of Slovak republic. Company has an average total of 110 permanent employees. It manufactures three types of products, therefore, there are three separate production processes taking place in the enterprise simultaneously, which share the premises of the production plant and some sources. For the needs of completion of our goal, we chose the process of manufacturing rubber components as our sample process of procurement of resources, which was modelled and optimized.

3. Creation of linear programming model algorithm in terms of selected enterprise

A linear programming model was previously created (Veselovská, 2013, Veselovská, 2014). This general linear programming model was based on works of various authors (Das, 2011; Gong, 2008; Kabak and Ulengin, 2011; Peidro et al. 2010) who focused on modelling supply chains and/or production processes. This proposed model served as a baseline for creating model algorithm specifically designed for needs of selected process. The first stage of process optimization is to analyse it in detail.

Procurement process of rubber components is initiated by an order from customer. Whole manufacturing process takes place in one single production plant and is the responsibility of production manager in collaboration with the quality manager who supervises operations mainly to ensure that every final product meets the technical parameters defined by the customer.

Final product of this production process is the rubber component. During its production only one kind of raw material is consumed. It is a rubber with specific properties purchased by the company from two previously approved suppliers. Based on the analysis, a process model in software QPR Process Guide was created (Figure 1). The whole procurement process can be divided into 3 activities. The previous process is order assessment. Company’s management makes decisions regarding the acceptance of customer’s order. The following process is production itself.

Figure 1: Diagram of procurement process

![Diagram of procurement process](image)

Source: adapted from the enterprise’s corporate documentation.

Graphical representation of the procurement process and the data obtained from company serve as a basis for creating a model algorithm using linear programming to optimize the process in comprehensive costs minimization. After implementation of real figures from the company’s practice the mathematical characterizations of the activities translate to linear programming problems.
Following the approval of the customer’s order it is necessary to provide required amounts of resources for production process which represents the fourth activity in whole process, but first activity in procurement process (1):

\[
\begin{align*}
\min c &= (l \times t_{k4} \times CR_i) + \sum_{r}^{R} (CR_r \times BR_r) \\
BR_r &\leq K_r, \forall r \\
K_r &= Z_r + E_r, \forall r \\
q_r &\geq \gamma_r \times w_i \times G_r, \forall r \\
q_r - BR_r &\leq Z_r, \forall r \\
l \times (MKT_i + MOT_i) &\geq l \times t_{k4} \\
\end{align*}
\]

(1)

The main goal is cost minimization. In the case of this activity, costs include labour costs and procurement costs. When determining the amount of material to be purchased \((BR_r)\) purchasing managers must take into account the availability of necessary resources \((K_r)\), which consists of existing stock in enterprise \((Z_r)\) and amount of raw materials available on the market \((E_r)\), i.e. the greatest amount of materials enterprise can order from a supplier during that time period. At this stage of the production process is also necessary to take into account the production plan which is characterized by the condition that the weight of one product \((w_i)\) is multiplied by the number of planned products produced \((G_r)\) and must be at least as high as the total amount of material required for their production \((q_r)\), including calculated reserves \((\gamma_r)\). It is important to order enough raw materials with respect to two important factors. First of all, the proportion of improperly designed or defective products (i.e. rejects) has to be considered, but the enterprise must also take into account compliance with the minimum reserve stocks of material, which must be at all times available in storage.

The subsequent decision node \(R2\) is linked to this activity, during which corresponding manager must review whether it is necessary to create order of raw materials and resource based on the current state of company’s stock:

\[
\begin{align*}
\text{if } q_r &> Z_r \forall r \\
&\text{yes: } BR_r > 0 \rightarrow \text{the need to create material orders} \\
&\text{no: } BR_r = 0 \rightarrow \text{no need to create material orders} \\
\end{align*}
\]

(2)

If the necessary quantity of one material or resource \((q_r)\) is greater than its current inventory \((Z_r)\), it is essential to have the missing amount \((BR_r)\) ordered from one of the approved suppliers. Otherwise it is not needed to order material and process steps number 5 and number 6 can be omitted.

The next activity in the process is based on the fact that an order for material was submitted. Following the delivery of this material, its content must undergo official inspection. Given the fact that the costs of buying raw materials had already been considered in 1st activity, while minimizing the costs of performing this activity, only labour costs are considered. These costs include the salaries of necessary employees who perform inspection of delivered material. Therefore important variable is not only the number of employees involved in activity \((l)\), but also the duration of inspection \((t_{k5})\). Therefore it is necessary for process optimization to determine the intended duration of activity before its actual implementation. This is a decision node \(R3\), which is based on the interval breakdown of supplied amount of material \((BR_i)\) in order to establish appropriate time \((t_{k5})\). Then it is possible to proceed to optimization of this activity (3):

\[
\begin{align*}
\min c &= (l \times t_i \times CR_i) \\
\end{align*}
\]
The main condition that must be met for this activity is not to exceed the maximum working hours of employees involved \((MKT)\) including overtime \((MOT)\).

Subsequently, after inspecting delivery it is required to transfer material from delivery vehicle to the enterprise’s warehouse. Again, it is necessary to primarily take into account the time as a factor, i.e. the planned duration of the activity \((t_{k6})\). In this case, the time interval is determined by the breakdown of amount of delivered material \((BR_r)\) in the decision node R4.

Then process can proceed to the actual unloading and storage of materials (4):

\[
min c = (l \times t_{k6} \times CR_t) + \sum_r \left( ZC_r \times \frac{(Z_{rt} + Z_{r,t-1})}{MZK_{rt}} \times t_{Zr} \right) + \sum_r (BR_r \times UC_r) \\
\frac{l \times (MKT_i + MOT_i)}{t_{k6}} \geq \frac{l \times t_{k6}}{t_{Zr}} \\
\sum_r (Z_{rt} + BR_r) \leq MZK_{rt} \tag{4}
\]

The costs of this activity consist of three components. These are again mainly labour costs \((CR)\) which include salaries of all employees who perform this given action. Furthermore, in this activity there are reflected actual costs of storage \((ZC)\), which are calculated based on the percentage of use of storage and, last but not least, there are also costs of transporting materials \((UC)\) from delivery vehicle to the warehouse included, which is carried out within the company. This concludes the procurement process. After this activity is performed the production itself can take place.

4. Application and verification of model algorithm for process optimization

The proposed model algorithm is verified by applying it directly on the production process. We use real data provide by company XY Ltd. Following the implementation of data into the activities in mathematical models and decision nodes, these models and decision-making problems can be transformed into simple linear programming tasks. Some of these tasks directly follow each other, i.e. achievement of optimal solution will require the data resulting from solution of any of the previous tasks. Such tasks are a majority in the algorithm. Only a small number of tasks are independent of their previous activities.

As an example, we chose the order of 22,000 pieces which represents an average customers’ order. Starting from the beginning of process, it is necessary to establish the quantities of raw material and resources needed. In the case of this process, it is only one type of material. Mathematical model of the 1st activity transforms as follows (5):

\[
min c = (2 \times t_{k4} \times 2,84) + (2,17 \times BR_r) \\
q_r \geq 0,15 \times 22000 \times 1,4 \\
q_r - BR_r \leq 300 \\
2 \times (150 + 20) \geq 2 \times t_{k4} \\
t_{k4} \geq 0,25 \times G_i \div 2000 \tag{5}
\]

This operation involves two managers. They are the production manager, responsible for this manufacturing process and purchasing manager, whose tasks include the administration of orders of materials from approved suppliers. In the case of materials needed in the manufacturing process of rubber components, enterprise uses services of 3 approved suppliers. The first one has the more favourable conditions and therefore is considered to be the main supplier of this material and others are used only in exceptional cases. Enterprise has
so far not been in a situation when its suppliers would not be able to provide the required amount of material. For this reason, we do not need to model this activity in consideration with the condition relating to a limited quantity of material that may be available \((K_r)\).

In January 2017, the company has a relatively high percentage of defective products manufactured. For this reason, all orders are increased by a 20% margin. Company has a policy to minimize inventory including the inventory of raw materials and resources. The enterprise has in stock at any given time at least 300 kg of material that can be used if necessary in the production process.

It is also important to add conditions providing time analysis of raw material needs, the analysis of the material in inventory stock and the subsequent creation of the order. The duration of this operation depends on the planned number of products to be manufactured. The information provided by internal corporate documentation is lacking. For this reason, we have quantified these parameters on the basis of observations and consultations with corresponding employees. We found out that for every 2000 units of planned products to be manufactured analysis of material needs takes, on average, 15 minutes. Transcribed task has the following form:

\[
\begin{align*}
\min c &= ((5,68 \times t_{k4}) + (2,33 \times BR_r)) \\
q_r &\geq 4620, \quad q_r - BR_r \leq 300, \quad 170 \geq t_{k4}, \quad t_{k4} \geq 2.75
\end{align*}
\]  

(6)

The solution to the linear programming optimization problem is:

\[
X = [t_{k4}; BR_r; q_r] = [2.75; 4320; 4620].
\]

The total costs of this activity in the manufacturing process thus are 10 081.22 €.

In the decision node R2 production manager assess whether it is necessary to create order of material:

\[
q_r \geq Z_r, \quad 4620 > 300
\]  

(7)

Based on the data, we found that \(BR_r > 0\), i.e. it is necessary to create the order of 4320 kg of material. Ordered material is delivered on average within 7 days from the time when the purchasing manager confirms the order with the supplier. The following activity is its inspection, the duration of which depends directly on the amount of delivered material. Decision node is R3 (Table 1), which determinates the maximum duration of inspection:

Table 1: Decision parameters – node R3

<table>
<thead>
<tr>
<th>(BR_r)</th>
<th>(t_{k5})</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1 000 kg</td>
<td>under 30 minutes</td>
</tr>
<tr>
<td>1 000 kg – 7 000 kg</td>
<td>30 minutes – 1 hour</td>
</tr>
<tr>
<td>over 7 000 kg</td>
<td>1.5 hour – 3 hours</td>
</tr>
</tbody>
</table>

Source: the author.

In our case, we work with the delivery of 4320 kg of material, which means that we calculate with the mean of 30 minutes - 1 hour interval, i.e. 45 minutes. Inspection is performed by corresponding production manager:

\[
\begin{align*}
\min c &= (1 \times t_1 \times 2.84) \\
t_1 &\geq 0.75, \quad 170 \geq t_1
\end{align*}
\]  

(8)

The ideal duration (solution of linear programming task) is the time value corresponding to the data set out in Table 1, i.e. in our example the inspection of material should last 45 minutes to achieve the minimum costs. Total costs incurred by the enterprise in connection with the verification of the delivery of the material are 1.86 €.
During cooperation with these three suppliers the case has not yet come, that supplied material would fail the inspection of its properties. Nevertheless, we consider it necessary to supplement the information about what would happen in the process if the material does not meet the requirements. The company's quality policies are clearly defined in terms of cooperation with suppliers. In the event that the material contains serious deficiencies it would not be accepted and company’s purchasing managers would, depending on the type of error, have to consider measures including suspension of cooperation with this supplier.

Accepted material is unloaded and transferred into enterprise’s storage area. Similarly in the case of determining the duration of these activities we consider the amount of material delivered. We can determinate the duration and the number of employees, who participate in this activity. This is the decision node R4 (Table 2):

Table 2: Decision parameters – node R4

<table>
<thead>
<tr>
<th>BR&lt;sub&gt;r&lt;/sub&gt;</th>
<th>t&lt;sub&gt;k6&lt;/sub&gt;</th>
<th>I&lt;sub&gt;6&lt;/sub&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than 1 000 kg</td>
<td>30 minutes – 1 hour</td>
<td>1</td>
</tr>
<tr>
<td>1 000 kg – 7 000 kg</td>
<td>30 minutes – 1 hour</td>
<td>2</td>
</tr>
<tr>
<td>over 7 000 kg</td>
<td>1.5 hour – 3 hours</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: the author.

In our sample case, the unloading and transportation of raw materials on average take 45 minutes and is performed by 2 employees (9):

\[
min c = \left( (2 \times 0.75 \times 2.67) + (0.26 \times (300 + 4320) \div 8667 \times 4.3 \times 24) \right)
\]

\[
2 \times (150 + 20) \geq 2 \times 0.75, \quad 300 + 3660 \leq 8667
\]

(9)

No vehicles that would create costs are used to transport materials within the company. For this reason, it is unnecessary to take into consideration this item to minimize the total costs of the activity. Based on internal corporate documents, we determined the average amount of material stocks. It is 300 kg of rubber material needed to produce final products. In a similar way, we also determined the average storage time, which is 4.3 days. Maximum capacity of storage area is not provided in internal documents. For this reason, we calculated this figure based on the size of warehouse. We consider a total volume of 390 m<sup>3</sup> of storage space, which when calculated with dimensions and weight of one pallet of material represents a total capacity of 8 667 kg. The most problematic item to quantify is the operational costs of warehouse. Recalculated on the basis of the total fixed costs, we set this item to 0.26 € per hour. Total cost of this activity after validation of provided conditions are 18.31 €.

5. Conclusion

This paper presents a case study of procurement process modelling and optimization. Linear programming was chosen as a modelling tool because of its generality. It is a well-known fact that the majority of problems in practice of production enterprises can be expressed as linear programming tasks. The goal was to develop a model algorithm of procurement process which would be flexible in its nature and would also be able to ensure achievement of its main objective. Integrating measures to ensure cost minimization into operations management is not a new trend, but it is especially important nowadays since the market conditions are changing rapidly and the whole economy is becoming very uncertain. Cost minimization is becoming one of the key survival tools of the majority of enterprises. It
can also be an effective measure developed in order to deal with both inner and outer uncertainties.

The proposed linear programming model algorithm provided a useful tool to characterize analysed process in detail and to optimize each of its activities. Achieved solutions can not only help the company identify some of its problems, but also to design solutions to either fix them completely or at least to mitigate their negative effects. Proposed model algorithm is focused on the reality of operations running within the company; however, it does not examine closely the causes of any irregularities. On the other hand, by discovering problems model algorithm provides the company with a starting point to use other methods of optimization, which target a specific area. Furthermore, various tasks representing activities within the process provide company with information about running of operations which had previously not been included in corporate internal documentation. Sensitivity analysis was performed separately for each activity. This enabled identification of critical factors influencing the achievement of outcome during each activity and consequently provided an opportunity for company to discover critical areas for target optimization with emphasis on these factors.

One practical benefit of this study is an example of detailed analysis of the specific procurement process, which was performed as the basis for process optimization. A real process of medium-sized company was selected as a case to apply proposed model algorithm. As a baseline, a detailed process map was created. This analysis can serve businesses in practice as an example of application of the process approach, especially in the initial phase of their process management implementation.

The results achieved in the study create guidelines for further discussion and ways to new solutions. The conclusions of the research and described proposals may serve as a starting point for further research and development activities in the field of operational analysis, process analysis and linear programming as optimizing method. The proposed model algorithm and detailed characterization of its practical applications on specific process can serve other companies as a guide to optimizing their production processes using similar approaches.

However, our findings are mainly beneficial for the company whose process was used as an example for developing a model algorithm. The performance of the whole process can be improved by implementing just a few measures. The problems uncovered and partially optimized are mostly related to lack of either process or system approach in the company, which results in relatively high percentage of defect products produced during the process. This costs company resources and considerably slows down company’s delivery times. Proposed optimizing measures relate to better resource distribution and financial management. Therefore, they can significantly improve company’s performance.

References


RESPONSIBILITY OF MANAGERS FOR THE DEVELOPMENT AND STABILIZATION OF EMPLOYEES

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Abstract
The aim of this paper is to present the views of experts on HR management processes that most affect staff development and stabilization. As a result of the processes of globalization, the emergence of multinational companies. The global environment leads companies to change management system, content of manager’s work, quality of working life, creating and changing conditions for the development and stabilization of employees. Flexibility in management, pressure on the quality of individual activities, taking over the positions in a growing competitive environment for managers are a threat and a challenge. If managers want to succeed in a changing competitive environment they must have global competencies need to be successful. These changes increase the accountability of managers for achieving greater efficiency in the global market. Prerequisite for successful global orientation is the ability of managers to keep efficient and competent employees in the company. For this purpose, we conducted a survey of the level HR management in Slovakia in 2017. The results of the survey with emphasis on the staff development and stabilization were verified in a selected multinational company. The basic method of collecting information was sociological interview using a questionnaire and a structured interview. The result of the research is to confirm the initial assumptions about the impact of staff development on their stabilization.

Key words
multinational company, staff development, stabilization, responsibilities of managers

JEL classification
M50, M53

1. Introduction

The main reason for examining the importance of HR management in companies in Slovakia is to find out whether employees with their knowledge, skills and experience are the most important source of business. Enterprises that prefer HR management apply a strategic approach and flexibility in management, support employee loyalty, highlight a strong corporate culture, focus on the performance, development and stabilization of competent employees. A characteristic feature of the business environment in Slovakia is the predominance of small and medium enterprises (99.9%) owned by legal entities and individuals (Overview of basic indicators of SBA in Slovakia, 2015). Micro-enterprises
employing up to 9 people prevail. Strong presences in micro-enterprises are sole proprietors (56.8%). Abstrated from traders, the international network of the company involves 2.1% of businesses actively, the majority of enterprises are small and medium sized.

Small and medium enterprises can now compete globally. This is of considerable significance given that across countries of all levels of development and they have to think globally about human resource management. Influence and work in international environment changes the requirements for managers and employees of all enterprises (Zhang and Edwards, 2007). International practice requires people who are with their work involved in a variety of communication situations, in particular interpersonal and intercultural communication (Dolinská, 2016). The objective of cooperation is to achieve a synergic solution in multicultural teams, which can lead to an integrated culture.

The challenge for companies is to develop individuals at all levels and in a variety of locations (Mellahi et al., 2015). Global human resource development has largely been concerned with the training of employees, global managers and expatriates (Caligiuri and Tarique, 2012). An important aspect of training and development is the identification of employees with potential to become a high performance and competent for job in intercultural environment. The competent employees are guarantee of increasing the efficiency and success of the company.

The paper deals with clarification to development and stabilization of human resources in a company. The embedded resources into employees does not guarantee their higher performance and contribution to company’s success. We believe that the benefit-risk of investment into acquisition and retention of capable employees from different depends on the managerial maturity and foresight. We will assess the methods and procedures for stabilization of employees, who invest in their own development, know how to use acquired competences and want to use them for the benefit to company, based on the results of accomplished research.

2. Theoretical aspects of human resource development

Interest and responsibility of managers is to achieve performance at global level (Lim and Morris, 2006). It is needed to address the selected employees or groups of employees whose knowledge, experience and a prerequisite for further development guarantee future progress and maintain competitive advantage. Managers who make the decisions on human resources often ignore latest trends of its development and evaluation. Human resources evaluate only in terms of costs, and seek ways to reduce these costs, which hardly ever can be described as strategic behavior of an enterprise. Many managers do not or do not want to realize the value of their employees. Walker (2003), however, sees employees as an asset to the company or as human capital. It justifies the contributions of employees as independent human capital investors in the form of time, talent, effort, energy and commitment.

Company employees are the carriers and producers of human capital. According to Drucker (2012) human capital formation means working with each employee to motivate him to better performance, develop his talent and stabilize the company. This is an area in which the development of human resources meets with psychology, adult education and other scientific disciplines concerned with man. Human resources as a key presumption of increasing company prosperity change its structure. There is an increasing proportion of jobs requiring advanced skills, abilities, competencies and knowledge of employees at the expense of jobs with a simple profile.
Research of human resource addresses many authors (e.g. Caligiuri, 2006; Balakrishnan and Srividhya, 2007). Their views on the definition of human resource development are different. McGuire and Jorgensen (2011) argue that human development has an interdisciplinary dimension. They refuse to define the development of human resources, in the view, any definition distorts the real fundamentals of its development. The content and nature of the development of human resources help to clarify business studies and investigations of human resources. Holton and Naquin (2005) believe that the main principles of human resource development is a strong confidence in learning and professional development (1); belief that companies can profit from the educating and encouraging the employment potential (2); deep desire to see people develop (3).

Similarly to Thomas and Lazarova (2014), we consider HR development as a priority objective of strategic decision management. It focuses on exploring and enhancing employee skills, active education and learning management for current needs and long-term goals of the company. Wilson (2005) in this regard, highlights the capacity of human resources through training and development to achieve greater efficiency and loyalty to the company. We are inclined to the opinion of the multidisciplinary examination of human resource development. The aim of developing human resources is to improve the quality of personnel, employee competence which they can use in their current and future jobs.

Getting a relatively stable and strategic position on the global market requires a fundamental change in the thinking of managers and other employees. Pfeffer (2015) mentions the changes which will support career development and stabilization of capable individuals. In the responsibility of the top managers (Potkány and Stachová, 2015) is to create a social, political and economic environment that will allow every employee, irrespective of his nationality, to fully develop his knowledge, skills and competences and contribute to the objectives of the company. Prerequisite for successful management of labor and the development of other managers is the ability to perform tasks or activities that are common among, and unique to, those occupying global leadership positions.

Employees of multinational companies are the host country nationals, expatriates and third country nationals. Cross-cultural training helps to develop a more cosmopolitan outlook and gives managers a deeper understanding and appreciation of value and norms as well as appropriate and acceptable behaviors in the company (Pinnington et al., 2014). Heterogeneity of employees requires acceptance of certain social rules which respect equal opportunities and diversity of management. While a key concern of employers is to maintain productivity and competitiveness, this goal needs to be achieved with employment ethics and corporate social responsibility in mind (Cooke, 2014).

Developing of human resources in the global environment increases the value of human capital that exceeds the national framework and forms the potential of employees in the global labor market. It is natural that managers are interested in practical and useful investments in the training and development (Percival et al., 2013). The basic principle of decisions about investments is the same in every company. The investor expects from investments in human capital the revenue comparable or higher than the returns from alternative investments (Morrison, 2000). Revenue may not always be expressed by money. This can include income in the form of social prestige, the corporate image on the labor market, positive externalities (e.g. educated staff pass the knowledge to colleagues quickly, are less subject to negative influences from collective, are more stable, can work more effectively). In terms of the theory of human resource employees have investment properties (Armstrong and Taylor, 2014). The
employer will invest in "buying brain", in the programs of motivation, stabilization and stimulation of employee performance, their professional and personal development.

Quantification is difficult because human capital, unlike physical capital can not be expressed exactly. The evaluation processes of training and development activities are in practice limited to simple tests with general evaluation questions. Human resource managers have insufficient theoretical knowledge base, organizational support and experience of evaluation. There is insufficient attention paid to quantification processes of HR management. The forms of selection and assessment of employees, communication in the workplace, work motivation, leadership style, corporate culture and others, contribute to the development of each individual.

Bennington and Laffoley (2012) recommend using a number of indicators to measure the success of development programs for employees. The most commonly used is the average change in the results of the assessment of personnel, change in assessment of customer satisfaction, changes in survey results in employee engagement, stabilization of employees, the percentage of career growth in the company, changes in the evaluation of productivity in time and staff fluctuation.

From the theoretical knowledge the conclusion is that the stabilizing factor for employees in companies is their targeted and controlled learning and development. From practical experience Branham (2004) has identified 24 processes, methods and procedures, how to maintain and stabilize the key employees, the ones who are the benefit for business. Such companies are aware of the fact that their long-term success on the market is due to these employees. Changing job positions and moving the employees is considered the natural form of behavior. The bad experience is if the company management is not able to create conditions for retaining and developing employees who feel unsatisfied labor because they lack the opportunities to use their talents and potential. Their income does not match their work performance and skills and their contribution remains unnoticed. This is the reason for connecting theoretical knowledge with practical experience and the research results obtained in practice.

3. Research objective and methodology

Internationalization and globalization have brought many opportunities and challenges into the development of an international network of businesses but also puts pressure on productivity, which is automatically transferred to the employees. The requirements for work of employees and managers are changing and national culture is influenced by the values and practices of employees of other cultures. Not every employee is ready to work in a more advanced technological environment. Guarantee of future successful progress is in employees whose knowledge, competence and experience are in line with corporate goals and objectives. Development and stabilization of such employees is a management and strategic priority. The resources used for the promotion and development are paid back in higher added value. However, the human capital of individuals retains their own property. Everyone has the right to decide whether and to what extent they will be involved in the enterprise, perform their work tasks, and increase ones own potential or accept the offer of another employer and leave the company. Creating human capital means working with employees motivate them to better performance, develop their natural potential and stabilize them in the company.

We think the same recipe for stabilizing staff does not exist. Nevertheless, the responsibility of the managers is to know the status of employees according to the values
generated for the existence and successful progress of the company. According to performances, access to work and substitutability Branham (2005) created four groups of employees, top performing (10%), high-performing (20-30%), with stable performance (40-50%) and low performance (15-20%). He recommends to managers focusing primarily on the second group, which feels that it is not adequately valued, motivated and can have a better opportunity of self-actualization in another company. In terms of staff ethics, the wrong decision is to keep a group with low-performance, these employees are responsible for the majority of accidents, thefts, absenteeism and failure.

The main objective of this research is to diagnose the managers' views on the importance and development of human resources in Slovakia. This aim also suggests such combination of processes of human resources management that would result in effective utilization and retention of employees in the company. We accomplish this objective with the use of the following steps:
1. identifying the opinions of human resource managers on the employment and development of personnel in companies in Slovakia using the questionnaire survey,
2. verifying the processes that contributed to the development and stabilization of employees in the selected multinational company by use of questionnaire survey and sociological interviews.

When examining the issues we follow the prerequisite that processes of HR management influence the development and stabilization of employees. In 2017, with the use of trained surveyors, we identify the opinions of 381 human resource managers / referents to employ and develop employees in their businesses. Verification of the impact of human resources management processes on development and stabilization has taken a place in enterprises integrated into multinational company operating worldwide for more than 130 years in technology-intensive environments. The company's strategy is strongly focused on innovations and the customer. The processes applied by management are adapted to significant technological orientation. The reason is the need for harmonization of internal processes in domestic enterprises with corporate culture, processes and needs of company employees worldwide.

For our research we selected enterprises of one group operating in the three product segments, the automotive industry, technological solutions for building management and production of batteries. Each of the three divisions has a presence in several countries with different cultures. For the selected company, we decided to order the implementation of sophisticated processes of human resource management. Professional global managers work for this multinational corporation. The rules and evaluation indicators of employee performance are defined clearly. Employees perceive the established processes positively and are more sensitive due to their experience with international human resources management. The difficulties and employee expectations are high, especially in the development of human potential.

We received 184 correctly completed questionnaires. There were five options for questions on finding the staff views on the strength of processes supporting development and stabilization of human resources. We received 636 responses to the evaluation of HR management processes that employees regarded as crucial in supporting their development and 591 replies to support the company’s stabilization. The results of the findings were

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1 We can not use the company name.
confronted by personal structured interviews with 90 experts who were the current and potential managers. They evaluated the development and stabilization of staff and its impact on achievements in the multinational company. When choosing experts, we took into account the level of competence for work in a global environment.

4. Survey results

In the form of a questionnaire on employment and human resources development, we received responses from 381 enterprises operating in Slovakia, 88% of which are in the private sector and 12% in the public sector. According to the number of employees, there is a more balanced representation of enterprises in the private sector with the dominance of small enterprises (54.6%), while the public sector is dominated by enterprises with a number of employees from 50 to 249, which corresponds to the structure of private and public-sector enterprises. The size of enterprises by number of employees is characterized by the level of HR management.

The survey showed that the processes of HR management influence the achievement of the results of the company (63.22%). Nevertheless, primary focus is on securing other enterprise resources, and problems in personnel work are resolved in a non-systemic way. According to the majority of respondents (77.16%), in recent years there is a lack of qualified job seekers and employees who are willing and able to work. Insufficient job discipline and communication, falling reliability and responsibility, dissatisfaction with payroll, increasing staff demands are reflected in declining performance and rising fluctuation of employees. Organized education and employee development supports 48.16% of enterprises. In others, especially small and medium enterprises, managers rely on self-education of employees. The average amount per employee ranged from 0 to 100 € (68.95%) and from 101 to 200 € (31.05%). The positive finding is that 66.7% of managers want to streamline the adaptation process, expand the education and awareness of employees, change the quality of working life towards employees, reduce fluctuation and stabilize competitive staff, implement best practice to processes of HR management.

Processes which contribute most to the development and stabilization of employees are in Table 1.

From verifying of processes HR management in a multinational company (survey of 184 respondents) we identify 14 processes that are closely linked to the development and stabilization of employees. These include the searching and employee selection, process of adaptation, offer e-learning courses, performance management system, individual development plans, job shadowing, rotation planning, training/mentoring/coaching, succession planning, referral fees, talent pool, benefits, compensation and language learning.

We agree with the respondents’ views on the importance of individual approach to staff development and preparation of individual development plans. We believe that this is the economically best money spent for the development and stabilization of employees. The manager proposes to each newly recruited member of the team the individual development plan in response to the performance objectives. This is done within two weeks after entering the job in order to identify employee’s strengths and weaknesses. Performance and behavior of employees is monitored and transformed into a particular development plan in order to undergo training, activities and initiatives that help them achieve the expected changes. Individual approach to development is valued by talented staff. Such employees develop their
skills and competences specifically according to the educational program tailored to each individual.

Table 1: Respondents’ views on development and stabilization

<table>
<thead>
<tr>
<th>Processes</th>
<th>Development</th>
<th>Stabilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual development plan</td>
<td>108</td>
<td>94</td>
</tr>
<tr>
<td>Training/mentoring/couching at work</td>
<td>104</td>
<td>82</td>
</tr>
<tr>
<td>Language training</td>
<td>74</td>
<td>50</td>
</tr>
<tr>
<td>Efficiency management system</td>
<td>60</td>
<td>44</td>
</tr>
<tr>
<td>E-learning courses offer</td>
<td>55</td>
<td>23</td>
</tr>
<tr>
<td>Initial training and adaptation</td>
<td>40</td>
<td>14</td>
</tr>
<tr>
<td>Searching and employee selection</td>
<td>36</td>
<td>16</td>
</tr>
<tr>
<td>Employee benefits</td>
<td>34</td>
<td>100</td>
</tr>
<tr>
<td>Job shadowing</td>
<td>32</td>
<td>12</td>
</tr>
<tr>
<td>Succession planning</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Talent Pool</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Referal program</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Rotation planning</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td>Remuneration</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td>Other internal and external training programs</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>Other (self-education, talented and experienced colleagues, teambuilding, loyalty)</td>
<td>5</td>
<td>18</td>
</tr>
</tbody>
</table>

Source: the authors.

Training in the workplace through mentoring, coaching is mostly used by managers but also other employees in order to develop their global responsibilities, particularly the ability to work in international teams and ability to mentor and coach their team members. Condition for working in a multinational company at the administrative and management level is an active command of English and other languages. Respondents also rated positively the possibility to enhance their language skills through individual and group classes.

Performance management is an important process of human resources management because it monitors the fulfillment of individual and team goals for employees and managers of the company. It is the starting point for the creation of a development plan for employees. An economically efficient form of training and development is also offered in more than 200 e-learning courses through a company portal. Employee participation is approved by manager as an appropriate instrument for targeted development. 45% of the respondents were satisfied, 11% dissatisfied and 44% undecided with the existing system of human resources stabilization in the companies of surveyed group. The most powerful process that affects the
decision of an employee to leave the company was employee benefits. We hereby confirm the hypothesis H3. We expect that the result has a strong regional context due to lower employee benefit provision in local companies. Individual development plans, training, mentoring and coaching in the workplace, language learning is important for the development and stabilization of employees.

Employee rewards had no significant impact on development. However, remuneration is the fifth most important process that has an influence on the stabilization of employees. With the close research in the company, we found that one of the reasons of dissatisfaction with low pay is that after investing in human resource development, the knowledge and skills increase is insufficiently reflected in increase in wages. These employees become more attractive in the labor market, thus they leave the company at the first opportunity. Valuable information that confirmed our initial consideration about the complexity of the problems are the opinions of the respondents who effect talented and experienced colleagues (from whom they acquire knowledge and skills), teambuilding activities, their own attitude to work, including loyalty which they consider the most important when deciding about the voluntary fluctuation of the company.

We have confronted the results of the sociological questionnaire with the opinions of 90 key employees who work in management positions or prepare for the managerial job. The subject of the personal structured interview with 90 was questions relating to the impact of HR management processes on the development and stabilization of employees. Our intention was to choose five of the most important processes from the point of view of achieving business success, development and stabilization of competent employees.

We obtained 323 responses to investigated staffing processes with significant variance. In the first phase, respondents included individual development plan into the most important processes (44), a strategic search and selection (39), training, mentoring, coaching in the workplace (36), talent development (31), a performance management system (30), corporate employee benefits (28) and succession planning (26). 27.6% of the responses accounted for the other processes which have influence on development and stabilization of employees. For this reason, we chose the second phase and we offered the same respondents the summary results of the first phase. We acquired a majority consensus in the range of 80-100% of the responses to the 5 most important processes with the use of personal meetings with an individual or group (Table 2).

<table>
<thead>
<tr>
<th>Process influencing the corporate success</th>
<th>Number of answers</th>
<th>Compliance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual development plan</td>
<td>90</td>
<td>100%</td>
</tr>
<tr>
<td>Initial training and adaptation</td>
<td>90</td>
<td>100%</td>
</tr>
<tr>
<td>Training/mentoring/coaching at the workplace</td>
<td>88</td>
<td>98%</td>
</tr>
<tr>
<td>Strategic searching and employee selection</td>
<td>83</td>
<td>92%</td>
</tr>
<tr>
<td>System of performance management</td>
<td>72</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>423</strong></td>
<td><strong>x</strong></td>
</tr>
</tbody>
</table>

Source: the authors.
The views of managers and employees on the importance of the development process and their retention are mostly identical. Individual development plan for each employee is according to most managers’ motivation for employees to achieve higher performance and fulfill the strategic business objectives. Employees also perceive the development process as the strongest one for their individual development and as the second strongest one for the stabilization of the company. Management strategy and human resource development in a multinational company concentrate on forming the group of talented and high-performing employees who have the expertise, appropriate skills and competencies, and experience of working in an intercultural environment. Mobility within the company can be perceived as a challenge. Top positions are filled according to work competences, regardless of nationality. The conclusions of the investigation are a valuable source of information for top management decision making on the allocation of investment, promotion or attenuation of development processes and employee retention. They create space for discussion and further investigation incurred by the disproportion between the return on investment, voluntary fluctuations and the the importance of processes perceived by staff at headquarters and decentralized multinational trading and manufacturing units.

Remuneration policy in a transnational company is one of the stimuli for the discussion and research which are based on the research results. In remuneration in European countries is respected, the principle of social responsibility. The average salary of multinational company employees who carry out the same work differs in each region. In general, the labor remuneration and career development are in multinational companies more favorable than in local companies. When working abroad within the company the employee obtains a typical wage according to established rules of the sending company or according to the labor costs in the host country (Latta, 2005). These differences in pay seem to evoke the reactions of the respondents who consider the wage the important element of their stabilization. Expatriates and employees of third nationalities make up a small group of employees in the personnel structure of the multinational company. It is about 1% of the number of employees (Dvořáková et al., 2012). Nevertheless, special attention has been paid to them because they are valuable human capital in the structure of personnel costs.

5. Conclusion

Global managers are leaders who operate at very senior level within multinational company and leading diverse teams. The development of the global competences is also important for the managers and employees of domestic enterprises who are working in an intercultural environment. In filling key positions in local businesses and headquarters of the parent company the employer's policy and the legislation of the state in which the company is located are taken into account. Requirements for job qualifications and responsibilities of managers of multinational companies are much higher than local company managers because they predetermine success in international rather than in a national scale. Experience in managing people from different cultures and in different environments, willingness to develop their potential and be able to adapt to changing conditions are vital for work in a multinational company.

The main objective of this paper was fullfilled. We diagnosed the managers' views on the importance and development of human resources in Slovakia. The research results confirmed the links between development and stabilization of human resources to the success of the company. Many traditional principles of HR management have long been experienced in
international management. Examples of best practices, recommended practices and principles applied in successful businesses at home and abroad, new trends in international HR management lead to an efficient work organization and positively impact higher performance. If managers want employees to work responsibly, they know and want to do something, they have to create an environment that motivates them to self-improving, better work results and change of behavior. A precondition for their stabilization and reduction of fluctuation is satisfaction with the created working conditions and the management system.

References


THE MEASURES OF AN ENTERPRISE’S COMPETITIVE POSITION

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Abstract

Competitiveness of enterprises is not clearly defined. A universal definition is hard to find in specialist literature. In most general terms, it is the ability of an enterprise to operate in competitive conditions. It is the aim of this paper to determine measures key to evaluating competitive position of an enterprise. The theoretical section offers a critical analysis of literature concerning microeconomic conditions of enterprise competitiveness. Standard of competitiveness is assessed on the basis of competitive position of an enterprise, understood as evaluation by the market (in particular, by buyers) of what an enterprise has to offer, that is, all products and services provided to the market. Two research hypotheses are advanced that concern significance of specific measures of an enterprise’s competitive position. In order to verify the hypotheses, results of my own survey of 55 Polish and international experts (Slovakia, the Czech Republic, Serbia, Spain, the US) are used, compiled by descriptive statistical means. The analysis implies market share, financial standing of an enterprise, recognition of an enterprise and its products by the market, customer satisfaction, and implementation of Corporate Social Responsibility are all important to determining competitive position of an enterprise. Domestic and international experts diverge, however, in their assessments of the Corporate Social Responsibility as a measure of competitive position.

Key words

enterprise competitiveness, measures, competitive position, competitive potential

JEL classification

D23, D24, E42

1. Introduction

Competitiveness is an integral characteristic of the market economy. It guides all players and compels enterprises to introduce innovations and use their resources rationally. In the circumstances, each enterprise strives for a high competitive position that reflects its position relative to other entities. A better market standing means better financial performance and larger market share, among other things (Sońta, 2002; Kristofik et al., 2016).

Competitive position of an enterprise depends on market externalities and the enterprise’s competitive potential, measured with its skills and resources. It should be noted taking and holding of a high competitive position is a result of flexible responses to changing conditions, frequent innovations and constant search for ways to stand out from among competitors.

It is the aim of this paper to determine measures key to evaluating competitive position of an enterprise.

Specialist literature most commonly offers two measures of an enterprise’s competitive position: market share and financial position. A far wider range of measures can be applied to determine competitive position of an enterprise, however. In order to assess the importance of
particular metrics in detail, the expert method has been applied of collecting opinions of independent experts.

Two research hypotheses are proposed:

H1. In the opinion of experts, the following measures are very important to assessing competitive position of an enterprise: market share, financial position, recognition of the enterprise and its products in the market, customer satisfaction, and implementation of Corporate Social Responsibility.

H2. Polish and international experts greatly vary in their opinions on the role of Corporate Social Responsibility as a measure of an enterprise’s competitive position.

The theoretical section of this paper offers a critical review of literature concerning enterprise competitiveness. The empirical part, in turn, analyses expert opinions obtained as part of the author’s own research, using descriptive statistics.

2. Competitive position of an enterprise – review of literature

Competitiveness is an ambiguous and relative concept. It has a number of levels, with a state, region (Porter, 2011), sector, branch, industry (Bernard, 2013; Marakova et al., 2016), a group of countries (Boltho, 1996; Komarkova et al., 2014), or an enterprise (Adamkiewicz-Drwilo, 2010) as its subjects.

Scientific literature fails to give a single, generally accepted definition of competitiveness. This is possibly due to the fact it can be explored at several levels and using a broad assortment of measures and indices.

Speaking most generally, competitiveness represents standing of one economic entity (e.g. a country, enterprise or household) in relation to others by comparing quality of operation and performance in terms of superiority/inferiority (Reiljan et al., 2000, p. 12).

Ambastha and Momaya (2004, pp. 45-61) believe enterprise competitiveness means the ability to design, produce and sell products and services which are better than those offered by competitors in respect of price and quality criteria.

Competitiveness of enterprises can be analysed against the background of two theories. The first defines competitiveness as a chance of an enterprise functioning in the long term, which in practice means its ability to increase or maintain its market share. In this perspective, the ability to maintain demand for products and services and to counter competition is essential. Enterprise competitiveness may be expressed as pricing, quality or reputation. The other approach to competitiveness highlights the current standing of an enterprise in the market. Market share, profitability, etc. are evaluated. The two concepts share the determination whether an enterprise finds its market footing by assurance, configuration and use of resources.

Gorynia (2010, p. 77) has proposed describing enterprise competitiveness by means of three dimensions (groups of variables): competitive position, competitive potential, and competitive strategy (instruments of competing).

The notion of competitive potential is understood as tangible and intangible resources that enable an enterprise to build its competitive advantage in the market as well as the possibility of effective operation in a given market. Instruments of competing are the means enterprises deliberately create and use to win clients for their products. Results of the competition process in a sector are represented as competitive position, that is, position of an enterprise, its products or services in the market. Two-way cause-and-effect relationships occur among
these components defining standards of an enterprise’s competitiveness. This means a change of one of these elements may be a cause or effect of the other.

Competitive position of an enterprise at a given time results from its previous competitive position, currently available competitive potential (also affected by competitive position in a preceding period, e.g. by capacity for investing in the same potential), and current competitive strategy (Dzikowska and Gorynia 2012, p. 24). Selected definitions of enterprise competitive position are listed in Table 1.

Table 1: Selected definitions of enterprise competitive position

<table>
<thead>
<tr>
<th>Author</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>K. Simmonds</td>
<td>Strength of an enterprise in comparison to its direct competitors. It determines profit or loss levels generated by a given enterprise in future</td>
</tr>
<tr>
<td>P. C. Ensign</td>
<td>Effect of an enterprise’s competition strategy</td>
</tr>
<tr>
<td>M. E. Porter</td>
<td>It reflects ongoing struggle among competitors, is dynamic (variable in time) and can be controlled by a firm, e.g. by choosing a competitive strategy</td>
</tr>
<tr>
<td>M.J. Stankiewicz</td>
<td>Result of competing – an enterprise’s performance at competing in a given sector compared to results of its competitors. Competitive position is a given at a specific time as it changes in time, liable to improvement or deterioration. Synthetic market and economic results of an enterprise, arising from the degree to which it exercises its capacity for competing at present and in future</td>
</tr>
<tr>
<td>O. Flak, G. Glód</td>
<td>Effect of a good competitive potential (skills and resources) and competition strategy expressed as instruments of competing</td>
</tr>
<tr>
<td>M. Dzikowska, M. Gorynia B. Jankowska</td>
<td>Effect of a good competitive potential (skills and resources) and competition strategy expressed as instruments of competing</td>
</tr>
</tbody>
</table>


According to J. Otta, competitive position depends on the extent to which key success factors are mastered. The factors can be divided into five groups (Gorynia, 2010, p. 79):
• market standing of an enterprise,
• cost standing of an enterprise,
• brand and market rootedness,
• technical competence and mastery of technology,
• profitability and financial strength.

Competitive position is a result of an entire enterprise competing with its products in all markets. Thus, it is a result of the market evaluating what the enterprise has to offer.

Put simply, measures helping to determine competitive position of a business include market share and financial position of an enterprise. The market share reflects the extent to which an enterprise suits customer preference. Analysis of financial standing (e.g. profitability, liquidity or efficiency), on the other hand, represents effectiveness of generating adequate financial results (Dzikowska and Gorynia, 2012, p. 13).
3. Methods

This study was designed to collect independent expert opinions that would serve as the basis for identifying key measures for evaluating standards of enterprise competitiveness.

It was conducted in March - July 2017 as a first round of research according to the Delphi technique.

Delphi method was developed to limit undesirable characteristics of direct communication. Its four basic features are: independence of expert judgements, anonymity of opinions, staged procedure, and tendency to reconcile and summarise participants’ opinions.

Linstone and Turoff (2002, p. 3) say the method consists in structuring the process of group communication to assure efficacy of a collection of independent individuals who, as a whole, tend towards solving a complex problem.

The overall test mechanism of the Delphi technique relies on four bases (Plummer and Armitage, 2007, p. 3):

- group of participants (experts) selected for their specialist knowledge of an issue under consideration,
- process of multiple interactions that lead to discovery of expert opinions and reaching of unanimity,
- feedback to the participants for the purposes of interactions and reflection,
- opinions generated by the experts that contribute to solution of a set problem or predictions of the future.

The survey questionnaire distributed to the experts consisted of three questions:

1. Please assess significance of the individual measures of enterprise competitive position on the following scale: 0-insignificant; 1-low significance; 2-average significance; 3-high significance; 4-very high significance.

   The question comprised 5 proposed measures.

2. Please assess significance of the individual measures of enterprise competitive potential on the following scale: 0-insignificant; 1-low significance; 2-average significance; 3-high significance; 4-very high significance.

   The question comprised 23 proposed measures.

3. Please assess significance of the individual instruments of enterprise competition on the following scale: 0-insignificant; 1-low significance; 2-average significance; 3-high significance; 4-very high significance.

   The question comprised 20 proposed measures.

   The following sections of this paper will discuss the results with regard to competitive position of enterprises.

Table 2: Synthetic characteristics of the method employed

<table>
<thead>
<tr>
<th>Research mechanism</th>
<th>Examination of expert opinions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of experts engaged</td>
<td>55 experts, including 36 Polish and 19 international experts (the Czech Republic, Slovakia, Serbia, Spain, the US)</td>
</tr>
<tr>
<td>Detailed methods</td>
<td>Survey, questionnaire containing 3 questions</td>
</tr>
<tr>
<td>Form of communication</td>
<td>Electronic mail</td>
</tr>
</tbody>
</table>

Source: the author.
The study has supplemented theories in the literature and provided an overview of opinions on measures of enterprise competitiveness. In effect, the survey questionnaire will be modified to include only the measures the experts believe to be of high and very high significance. Results of a second round are expected to determine a clear position or capture a prevailing tendency among microeconomic conditions of enterprise competitiveness. Descriptive statistics have been employed to verify the hypotheses posited. Position measures (arithmetic mean, median), which characterise a statistical population regardless of any differences between its component units, and measures of variability (standard deviation, coefficient of variation), which characterise a statistical population with regard to differences between its component units, have been used.

4. Results

The survey questionnaire was distributed to 55 experts asked to assess significance of the following measures of enterprise competitive position:
- market share,
- financial position,
- recognition of enterprise and its products in the market,
- customer satisfaction,
- implementation of corporate social responsibility.

The scale applied: 0-insignificant; 1-low significance; 2-average significance; 3-high significance; 4-very high significance, has helped to compute measures of position and variability. The results are contained in Table 3.

Table 3: Descriptive statistics of measures of enterprise competitive position

<table>
<thead>
<tr>
<th>Measures of enterprise competitive position</th>
<th>Position measures</th>
<th>Measures of variability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Median</td>
</tr>
<tr>
<td>Market share</td>
<td>3.3</td>
<td>4.0</td>
</tr>
<tr>
<td>Financial standing of enterprise</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Recognition of enterprise and its products in the market</td>
<td>3.1</td>
<td>3.0</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>3.3</td>
<td>3.0</td>
</tr>
<tr>
<td>Implementation of Corporate Social Responsibility</td>
<td>2.5</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Source: the author.

The analysis of the arithmetic mean, which represents the average level of a characteristic measured (in this case, significance) shows the experts regard all the measures as having high
significance to assessments of enterprise competitive position. Implementation of Corporate Social Responsibility scored minimum (2.5), with the arithmetic means of the remaining measures ranging 3.1-3.3. The results cluster around the median, which proves the arithmetic mean is a good way of indicating mean results.

The values of standard deviation are evidence the most scattered responses related to significance of implementation of Corporate Social Responsibility in enterprises (1.09). This is reaffirmed by the highest coefficient of variation for this measure - 43%. This points to a great diversity of answers concerning significance of implementing Corporate Social Responsibility to competitive position of enterprises.

For the purposes of further analysis, the results concerning expert opinions identifying key measures of enterprise competitive position were divided into two groups. The first group comprised Polish experts and the other international experts (working out of Poland). Descriptive statistics of measures of enterprise competitive position are presented in Tables 4 and 5.

Table 4: Position measures as divided into Polish and international experts

<table>
<thead>
<tr>
<th>Measures of enterprise competitive position</th>
<th>Polish experts</th>
<th>International experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Financial standing of enterprise</td>
<td>3.2</td>
<td>3.1</td>
</tr>
<tr>
<td>Recognition of enterprise and its products in the market</td>
<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>3.3</td>
<td>3.2</td>
</tr>
<tr>
<td>Implementation of Corporate Social Responsibility</td>
<td>2.3</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Source: the author.

A comparative analysis of the results generated for the position measures indicates Polish experts rated implementation of Corporate Social Responsibility as of average significance whereas international experts attributed high significance to this measure. The arithmetic mean and the median were 2.3; 2.0 in the opinion of Polish experts and 3.1; 3.0 according to international experts, respectively.

A similar tendency applied to measures of variability. Responses of the Polish experts imply the standard deviation and coefficient of variation were maximum (1.13; 50.3%, respectively) for the implementation of Corporate Social Responsibility. Answers of international experts, meanwhile, exhibited a far lower variability in respect of this measure, as demonstrated with the standard deviation of 0.78 and coefficient of variation 25.5%. The responses concerning the significance of market share displayed maximum scattering in this
The standard deviation amounted to 1.13 and coefficient of variation to 38.3%.

Table 5: Variability measures as divided into Polish and international experts

<table>
<thead>
<tr>
<th>Measures of enterprise competitive position</th>
<th>Polish experts</th>
<th>International experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td>0.73</td>
<td>1.13</td>
</tr>
<tr>
<td>Financial standing of enterprise</td>
<td>0.87</td>
<td>0.81</td>
</tr>
<tr>
<td>Recognition of enterprise and its products in the market</td>
<td>0.91</td>
<td>0.73</td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>0.85</td>
<td>0.71</td>
</tr>
<tr>
<td>Implementation of Corporate Social Responsibility</td>
<td>1.13</td>
<td>0.78</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Measures of enterprise competitive position</th>
<th>Polish experts</th>
<th>International experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market share</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial standing of enterprise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recognition of enterprise and its products in the market</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation of Corporate Social Responsibility</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: the author.

In summary, there are statistically significant differences in assessments of implementation of Corporate Social Responsibility as related to competitive position of an enterprise. International experts point to a high significance of this measure to improvement of the competitive position, whereas Polish experts credit this measure with average significance.

5. Conclusion

Competitiveness is a complex issue, which is reflected in the variety and ambiguity of approaches to this subject matter. Depending on the level (macro, meso, micro), the notion is interpreted in various ways. In the macroeconomic dimension, it refers to competitiveness of states and regions; at the mesoeconomic level, it means competitiveness of sectors or industries; while on the microeconomic scale, that of enterprises and products. This multi-level nature of competitiveness is a cause of the difficulty with arriving at a clear and universally acceptable definition.

Competitiveness of enterprises is a result of competition processes in the market that lead to an enterprise gaining advantage over other market players. It is a subject of many studies. The specialist literature, however, fails to offer syntheses that would identify key measures applied to assess standards of enterprise competitiveness.

Microeconomically speaking, dynamic measures of enterprise competitiveness include: competitive position in future, competitive potential and competitive strategy of an enterprise. These determinants are aggregates of a number of measures.

My own research, which consisted in collecting opinions of 55 experts estimating significance of certain measures to competitive position of enterprises, indicates the hypotheses advanced in this paper are true. The results, developed by means of descriptive statistics, demonstrate:
1. Market share, financial position, recognition of an enterprise and its products in the market, customer satisfaction, implementation of Corporate Social Responsibility are very significant to assessments of an enterprise’s competitive position.

The arithmetic mean, which represents average significance determined by all the experts, ranged 2.5-3.3. This means the experts attributed high significance to all the measures as determinants of enterprises’ competitive position. The hypothesis H1 has been verified positively.

2. International experts believed implementation of Corporate Social Responsibility is highly significant to attainment of a higher competitive position. An arithmetic mean of 3.1 denotes high impact on competitive position of an enterprise. Polish experts, on the other hand, ascribed an average significance to this measure. It should also be noted responses of the international experts were not too varied, as proven with the low values of the standard deviation, 0.78, and coefficient of variation, 25.5%. In the case of Polish experts, the values were 1.13 and 50.3%, respectively. This is evidence of dramatic divergences in determining significance of CRS implementation as a measure of an enterprise’s competitive position. This means H2 has been verified in the affirmative.

Measurement of enterprise competitiveness is a crucial and multi-dimensional area of study. Therefore, the proposed set of measures may be expanded with some measures reflecting the specific nature of a business and changes in the environment of enterprises.

References


EWA WSZENDYBYŁ-SKULSKA, MAREK ZAWARTKA

Abstract

Corporate Social Responsibility (CSR) is an important element of running business. It is also seen as an important aspect of the sports sector and many sports organizations. In addition, growing interest of CSR in sports is reflected in many recent social studies. The importance of sports is seen today not just as an active lifestyle, but also as part of a business model. Today, sports events have many stakeholders, investors and sponsors, who not only want to see a ‘good show’, but have invested money and are looking for a return on their investment. Therefore, sports organizations should invest in the big picture and the sporting experience as a whole. This article points to relations between sports and CSR in the context of providing safety in sports events.

Key words

safety and security, social responsibility, sport

JEL classification

L83, M1, Z20

1. Introduction

Most developed nations treat sports as an integral business sector with a constant cash flow and also a significant element of their local and national economy. With the increased interest in sports (both on a professional and an amateur level) became an important part of business as more and more people every year become aware of benefits of living a healthy lifestyle. The dynamic growth of sports on a local, regional and national level draws in many stakeholders. From the sporting events organizers, the public expects not only a good show, but also some CSR. Moreover, for the development of sports as an economy sector, there needs to be ‘sustainable growth’ as noted in a study published by the European Commission in 2007.

Sports play a vital role in Poland’s economy, as well as in the rest of the world (Inoue et al., 2011). Sports sector is responsible for its addition to Gross Domestic Product - 2.16% GDP, but also it creates jobs - 289.1 thousands, which stands for 2.04% of total national employment), as well as domestic spending on sports events, accessories and services amounts to be a significant sector in overall economy of our country (Liberda et al., 2013). Globalization and commercialization causes growing interest in sports as a business operation. The market projections in sports show a steady growth of 3.7% in 2017, or about US$90 billion to a global economy (Changing the Game: Outlook for the Global Sports market to 2015, 2011). This is also true for the polish sporting sector. Sponsorship of sporting events has grown from PLN (Polish Zloty) 0.2 billion in 2001, to about PLN 4.9 billion in 2016.
Sports should not only be treated as a business operation, but it also should be based on a system of values, respect of the opponent, healthy competition based on ‘fair play’, as well as a betterment of health, and the importance of teamwork. Sports is an area of inspiration for many people, where they look for values, respect, ‘fair play’ game, teamwork, tolerance and that is why safety and security should also be integral part of it. In addition, today’s sports celebrities are very often treated as role models for kids and youth, so a high standard should be set. The face of sports changes with new technology, infrastructure, as well as organization itself. One thing, as Kuzbik (2014) argues cannot change, and that is the safety and that is the safety and responsibility in sports. The process of building CSR in sports is in its development phase (Babiak and Trendafiova, 2011; Chelladurai, 2016). However it should be noted that CSR must be implemented in all areas of sports.

The dynamic growth of sports brings forward many challenges in area of security and safety of mass sporting events. As stated in a report produced by EU Sports Platform, providing security is the biggest challenge to the image of sports. This essay states and argues the importance of safety and security needed to overall CSR’s success of the sporting event, especially guaranteeing profits for investors and all stakeholders involved.

2. Concept Corporate Social Responsibility (CSR)

Corporate Social Responsibility (CSR) of business is an idea that evolves with time. In sports, it should be defined to understand its importance. There are many definitions describing CSR, but there isn’t one universal definition that covers all aspects of CSR. Every author trying to define CSR, quotes different aspects important to manage each business and organization. Therefore, it is agreed that CSR is multi-layered. Even though, CSR is a new concept in today’s business world, its history dates back to the time of philanthropists of the 18th and 19th century. First time, a term ‘CSR’ was used by Bowen (1953), in regards to business having a responsibility to integrate its values with social justice and overall social betterment. The ‘popularity’ of the concept of CSR emerged in the 20th century. Besides the moral aspects of CSR, the economical aspects of CSR have been discovered. In 1991, Carroll (1991) illustrated the most comprehensive and valid meaning of CSR as a pyramid. In addition, the European Commission (2010) has noted changing and dynamically evolving definition of CSR, which describes it as a voluntary consideration of problematic aspects of environmental and social factors involved in organization’s business activity. Another definition of CSR was also proposed by the United Nations in regards to ‘Sustainable Development’ within CSR, stating that CSR is “a responsibility of a business operation to ethically and sustainably implement economic development for the betterment of local community, workers and their families”. The most common definition used in literature by International Organization for Standardization (ISO), is describing CSR as a responsibility of a company for the impact of its decisions on local communities in an ecological sense, as well as ethical behavior involving sustainable growth considering health and well-being of a society as a whole (ISO 26000:2010).

By applying definitions of CSR listed above, it is stated, that it is essential for any organization to have a comprehensive CSR incorporated in its business strategy.

One of the main benefits of CSR is its implementation into the way any business operates with highlighting an enhanced value of CSR as well as a positive image of the company for the public. The benefits also can be translated as potential monetary gains for the business partners. Thanks to eliminating any potential risks and by increasing security and safety of
operating standards, the company can maximize strategic targets and achieve its goals. Moreover, operating under CSR cannot hinder company’s competitive edge and it should be complementing in every aspect of social, ecological and business related issues. Therefore, in this context, the CSR places an organization in a wide sociological context of existence as part of society and not as a separate entity.

3. Levels and layers of CSR in sports

Taking into an account, a broad range of CSR and its dynamic growth within the sports sector, it presents a great topic for a study in the sports industry. With the growing interest of CSR in sports, the literature paints another picture of using CSR in context of regular conventional activities by businesses (Sheth and Babiak, 2010; Lovermore, 2010). This is a consequence of the role sports plays in regards to solving socio-cultural problems. For example, the characteristics of social responsibility in sports can be illustrated by:

1. Fair play: equality, inclusiveness, diversity. The basic idea of sports is the notion that it gives equal chances to everyone under equal conditions, so rules pertaining to equal access for everyone within the society.
2. Safety and security of attendees. Social responsibility of sports has to guarantee physical safety for participants and spectators.
3. Outcome independent of results. It makes sure that sports games are not compromised with other stakes like hazard.
4. Transparency of management.
5. Policies for protection of surroundings and lifespan of environment. Sport impacts the environment. Sports sector, which is socially responsible, mitigates its impact on the society and it creates policies to prevent damages to the environment.
6. Concentration of participants. The key component of social influence of sports on the public is providing equal opportunities. The principles used to formalize commitments of physical, social and personal development play a major role in social responsibility of sports.
7. Professional and qualified coach. Sports sector is committed to providing qualified and skilled coaches/leaders to achieve all of the principles listed above.

By analyzing the CSR in sports organizations, examination of crucial conditions needs to take place in order to evaluate its effectiveness. Firstly, those conditions function in a specific marketplace. Secondly, financial goals must meet sports targets. Thirdly, the sports sector has specific stakeholders like fans. Fan clubs are very strongly connected to sports companies and they are committed to growing relationship with the organization. The presence of fan base causes the organization to get socially involved in the local community (Kuźbik, 2014, p. 223).

Levels of involvement of sports organizations within the community and their social responsibility are presented in Figure 1.

The lowest level describes those activities, which do not require any extra efforts on behalf of the company like charitable events within the local community. The second level describes social responsibility like treatment of its employees, sorting of recyclables, using of renewable energy sources on daily bases and as internal actions of the sports club. With the rationale of business travel, public transit, video-conferencing, or water retention used to water soccer fields, the CSR can be widely used as a strategic asset of any sports operation. Another layer of CSR is building a relationship with company’s investors and
stakeholders. This strategy is used to create a sustainable responsibility in regards to investors or sponsors, who regardless of the outcome of a sporting match, can still realize their economic and social investments.

Figure 1: Hierarchy of sports organizations working within the framework of CSR.

In regards to CSR within sports organizations, a very important role is played in creating relationships with sponsors, investors, local public, fans, workers and players themselves. The CSR of a company can extend a contract with sponsors or add new marketing partners. If a sports organization proves its CSR by often investing in public, therefore it can benefit from new investments, loans and grants. Sport clubs by investing locally, gain support of local government administration. Better communication as well as growing a fan base results in increased sales of promo materials, tickets and overall enhancement of company’s financial situation. In addition, the ecological responsibility is also essential part of CSR in managing a sporting company. The sports organization can choose local producers, distributors and suppliers to mitigate any negative footprint it creates on the environment. Moreover, sports organizations can engage in charitable work on a local level. The main aspect discussed by the authors of this study is the CSR in regards to the security and safety of any sporting event. It is beyond any doubt, that the success of any sporting event is firstly based on safety of its participants and it is the main responsibility of any government, administration and the sports company.

4. CSR and security in sports

In the past, sport was a discipline playing a major role in educating and raising youth, creating healthy competition and creating new positive sporting heroes. Besides all of the positive aspects, sport is also associated with violence, doping, aggression and vandalism. The range of risks associated with aggression in sports varies. It comprises of sporting activities, unruly behavior of players and overall risks arising during mass sporting events.
It is evident that not only fans and the audience face the risks of safety and security. Today, some of the athletes push the limits of the sport, but very often, they do that by not playing a ‘fair game’. Besides the side effects of doping for players, there are always negative consequences for the image of the sport as well.

With the CSR in mind, taking care of safety and security of the sport event is the main goal, as when not delivered it can cause great negative effect on the financial situation of the institution.

Statistics show in tables below, the greatest risk for safety and security is present during soccer games.

**Table 1: Number of crimes disclosed in connection with mass events 2010 – 2015**

<table>
<thead>
<tr>
<th>Type of Event</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>In connection with the arts and</td>
<td>138</td>
<td>207</td>
<td>360</td>
<td>416</td>
<td>503</td>
<td>441</td>
</tr>
<tr>
<td>entertainment events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In connection with other sports</td>
<td>33</td>
<td>51</td>
<td>47</td>
<td>76</td>
<td>61</td>
<td>63</td>
</tr>
<tr>
<td>events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In connection with football matches</td>
<td>530</td>
<td>643</td>
<td>873</td>
<td>837</td>
<td>516</td>
<td>492</td>
</tr>
<tr>
<td>Crimes in total</td>
<td>701</td>
<td>901</td>
<td>1280</td>
<td>1329</td>
<td>1080</td>
<td>996</td>
</tr>
</tbody>
</table>

Source: the authors based on the report of Ministry of Internal Affairs about the state of security in Poland in 2014.

**Table 2: Number of crimes occurring during mass events 2010 – 2015**

<table>
<thead>
<tr>
<th>Type of Event</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>In connection with the arts and</td>
<td>501</td>
<td>1629</td>
<td>2208</td>
<td>1616</td>
<td>3973</td>
<td>2884</td>
</tr>
<tr>
<td>entertainment events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In connection with other sports</td>
<td>124</td>
<td>246</td>
<td>216</td>
<td>206</td>
<td>440</td>
<td>443</td>
</tr>
<tr>
<td>events</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In connection with football matches</td>
<td>1065</td>
<td>4916</td>
<td>4126</td>
<td>5685</td>
<td>8622</td>
<td>5782</td>
</tr>
<tr>
<td>Crimes in total</td>
<td>1690</td>
<td>6791</td>
<td>6544</td>
<td>7577</td>
<td>13035</td>
<td>9109</td>
</tr>
</tbody>
</table>

Source: the authors based on the report of Ministry of Internal Affairs about the state of security in Poland in 2015.

**Table 3: Number of crimes occurring during mass sporting events 2008 – 2015**

<table>
<thead>
<tr>
<th>Type and number of disclosed events</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>The number of hooligan excesses</td>
<td>222</td>
<td>188</td>
<td>105</td>
<td>170</td>
<td>204</td>
<td>371</td>
<td>277</td>
</tr>
<tr>
<td>The number of collective infringements</td>
<td>55</td>
<td>49</td>
<td>58</td>
<td>23</td>
<td>39</td>
<td>20</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: the authors based on the report of Ministry of Internal Affairs about the state of security in Poland in 2015.

Taking into an account, number of hooligan excesses and number of collective infringements that have occurred in Poland during the mass sporting events, one can conclude
that the threat for risks arises from the time of occupying the sporting facility to the time of departure from the event. In that timeframe, there are numerous risks of fights, vulgar comments, brawls and increased aggression, which needs to be addressed by the organizers as well as security. In this context, CSR can be inclusive of company’s laws and regulations that guarantee safety and security for mass sporting events.

From the legislative point of view, in Poland, the sole responsibility of providing safety and security is held by the organizers, who are also responsible for safety during the occurrence of the event (art. 5&1 and art.3 about safety of mass sporting events). The organizers’ responsibility includes safety and security for all attendees during the event, medical services, safety of the building structure, as well as all of the equipment included in the structure (installation, technical equipment etc. art. 5&2 art. about safety of mass sporting events). Security services provided by organizers are responsible for safety of the public as well as information flow and fire safety during the event.

Securing safety during mass sporting events should be well coordinated. From the CSR’s point of view, the responsibility lays with the soccer clubs. Prevention procedures and education of all involved should be initiated in order to guarantee safety and proper behavior.

The aggression during sporting events cannot be ignored, but it should be classified as a natural element of competition in sports. However, it is always necessary to minimize the effect of aggression as much as possible from the sporting event. It is evident that mitigating aggression in a sporting event is part of CSR and sets a good example for younger generation and youth.

Foreseeing consequences of aggression in the world of sports must happen in correlation with the positive view of the sport. Some of ways showing prohibitive actions taken on organizers’ behalf include eliminating negative occurrences in sports like corruption, doping, commercialization of the sport and many others. Some of pro-active behaviors include workshops run by fans, modern sports facilities and setting a positive example by soccer club members. All of those factors listed above, contribute to coordination and realization of CSR on behalf of sport clubs, which also include a responsibility to mitigate risks and threats during sporting events. Another powerful tool that can be used by sports is mass media. It is proven that media can be a great source of creating a positive message. The growing number of sports media and their geographical distribution has a great effect on how sports are communicated through the mass media. Thanks to media, the sporting events can promote facilitating CSR along with business safety and security in the world of sports.

5. Conclusion

The concept of CSR is gaining popularity in sports, but is not playing a major role in strategic planning of sporting companies yet, due to lack of understanding of its concept. The key cause for effective implementation of CSR is understanding its implications. Some of small organizations can have limited resources, fear of change or not enough resources to comply with regulations proposed. Another obstacle, from the company’s point of view, is not seeing the results instantly and little understanding of implementing CSR as a company strategy to gain more stakeholders.

In conclusion, promotion of good practices in relation to CSR in sports will grow and it will mobilize change within the sporting sector. Today’s sports sector needs a professional strategy and guarantee of safety, which is the highest value above all. The CSR within sports has to come from within the organization and it should benefit its workers, players and
stakeholders alike. All soccer club members have to benefit from CSR. Sport organizations who decide to implement strategic business model of CSR in regards to investors, public and all involved during its sporting event can achieve the highest level of security within its systems. Some ways of enforcing positive aspects of CSR in sports include respect, ‘fair play’, human aspect not just monetary gains, working closely with stakeholders, branding, promoting safety and health benefits for all involved. Implementing CSR in sports is only possible through close relationship with all stakeholders, who directly or indirectly can influence mitigating potential risks and threats of safety in sports.

References


THE SECOND PROFESSIONAL EDUCATION:
THE PRAGMATISM OF CONSUMERS’ BEHAVIOR

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Abstract
The scientific cognition instruments enabling the systematization of the behavior of the people, who obtained the second professional education, as to the availability of pragmatism signs, have been created. The employee’s professional-qualification qualities correspondence to the employer’s requirements, as to the first and the second education, made it possible to identify three nominations of people. The production subdivision of PJSC “Kremenchuk Plant of Road Machines” was chosen as the object of the research. 24 people out of 267 employees of the subdivision, consciously wished to modify their professional-qualification qualities. The first nomination includes people, whose professional qualities, as to the first and the second education, do not meet the professional requirements of the position. The second nomination includes people, whose professional qualities, as to the first education, meet the requirements of the position. The third nomination includes people, whose second education meets the requirements of the position as to the professional signs. The availability of this nomination proves the variety of not so much the reasons for the second education as the possibilities of its realization. The level of the second education of 4 out of 5 people included into the first nomination, all the people included into the second nomination and 9 out of 10 people included into the third nomination exceeds the level of the first education at the moment of the research. Empiric research proved, that the improvement of the educational level of half of the employees did not contribute to their promotion, so it does not provide compensation for the cost of the second education.

Key words
higher education, second higher education, educational pragmatism, employee’s professional and qualification qualities, employer’s professional and qualification needs

JEL classification
I210

1. Introduction

At the enterprises of various forms of ownership and scales, at the governmental and public institutions and organizations there are employees who have several documents certifying availability of professional knowledge and skills of different profile and level. Whereas some decades ago there were few such people, nowadays the situation has radically changed. Certain situations have grown into a phenomenon that should be rightly considered a modern tendency in the development of the social-labor relations (hereinafter – SIR). Accessibility of the professional education of all the levels became the original cause for the
occurrence and formation of this tendency. The market principle “demand creates supply” made higher education (hereinafter – HE) a mass phenomenon due to its accessibility. It is believed that the second professional education, especially higher education, improves the person’s compatibility at the labor market. The tendency covers practically all the fields of activity, but it directly touches upon the field of higher education (hereinafter – FHE) and SIR. It is in SIR that the person’s educational potential is realized. The expediency of the second professional education can be assessed on the basis of the degree of realization of the educational potential. That is why the SIR empiric research revealing the degree of the demand for the professional knowledge and skills obtained during the labor activity is rather topical.

2. Actual scientific research and literature review

For a long time in the society and FHE there have been polemics as to the benefit of professional education. Libanova (2008) regards professional education in the context of the strategic priorities of the governmental social policy. Shevchenko (2011) characterizes the economic character of the educational good. Dubaseniuk (2011) characterizes the tendencies and prospects of HE development. Shanskova (2014) determines the modern features of the second HE of the humanities. Kalinicheva (2014) analyzes HE in Ukraine in the context of the contemporary civilization changes. Palekhova (2010) is looking for the answer to the question – is education social welfare or a commodity? Some authors emphasize the significance of the professional education for the society and the person and regard the drawbacks of education as an extension of the virtues. The second education is presented as a form of improvement of professional skills. In particular papers the negative implication of the second HE is rather declarative than proved. The absence of the research tools for determination of the benefit of the second professional education, as well as of empiric research, suggested the idea of this work.

In the modern society there exists a stable stereotype concerning lifelong education. So, Libanova (2008) considers that rapid aging of knowledge in the postindustrial economy requires creation of a system of the personnel’s skills improvement (retraining) after obtaining the primary educational training. Dubaseniuk (2011) emphasizes introduction of continuous education as a tendency of the Western FHE reforms. This type of education takes different forms. Shanskova (2014) introduces terms synonymous to continuous professional education: “permanent education”, “qualification improvement”, “retraining”, “personnel training and refreshment”. The terms concern the post-degree education that provides lifelong training and rationally joins education and self-education. The author distinguishes the second HE from training, specialization or qualification improvement. Variety of forms and methods proves SIR manifoldness. They reflect the circumstances causing the necessity for knowledge improvement or diversity. The question, on whose initiative the knowledge is updated, remains unanswered.

The problem of advantage of professional education in general and post-degree education in particular is not original. In Shevchenko (2011) opinion, professional education belongs to “mixed benefits, rather to social-private benefits. Moreover, with the growth of the education level the private effect of study becomes more significant compared with the social effect”. The author is sure that the economic subject who obtains the benefit of HE is to pay for HE. Palekhova (2010) also observes that there existed a point of view that HE first provides benefit to the person and then to the society, so it must be attractive for private investment.
She remarks that this point of view became popular at the state level. Kalinicheva (2014) speaks about three related aspects of educational values: state, social and private. Implementation of HE humanistic concept in Ukraine determines its sense as a condition for personal self-affirmation according to the person’s unique abilities. The author refers pragmatization (transformation of HE purposes and values) to challenges of up-to-date HE. Pragmatization implies submission of HE to person’s utilitarian wish to obtain considerable salary. In this connection Palekhova (2010) remarks that investment in human capital is compensated for by income growth – essential part of the salary depends on the employee’s education and experience. Comparing the first and the second HE Shanskova (2014) determines motivation for the second HE by “clearly defined life experience” realized at the expense of physical persons and legal entities”. While the first professional education is considered a social-national and personal benefit, the second education (especially HE) is, to a greater extent, a benefit for the person.

If it is admitted that person’s interests in obtaining the second education are dominating, the comment “the best is the enemy of the good” is quite appropriate. So, Kalinicheva (2014) explains the problems of HE by “difficulties of HEE graduates employment and also by the fact that a significant part of them work not according to their specialty or are retrained (acquire the second HE) immediately after finishing the main education”. We should agree with the author that the second education is a forced procedure of person’s adaptation to the employer’s requirements. Essentially, the second education recognizes uselessness of the first education and, thus, recognizes low educational pragmatism when the person did not obtain efficiency from investment into the first professional education. This thesis is explained by logical arguments and empiric proofs shown below.

3. Research objective

The aim of the article is to formulate the scientific cognition tools enabling revelation and systematization of the behavior of people who obtained the second professional education and to determine if there are features of pragmatism in it.

4. The statement of basic materials

SIR, in which professional and qualification qualities of the employees meet professional and qualification requirements of the employers, should be considered ideal. This is the first condition of idealness. Achievement of the first condition at the first attempt is the second condition of idealness. If the person found “his/her place in life” at the second or another attempt, these SIR can hardly be considered ideal from the employee’s point of view. The person made efforts that were not successful in his/her opinion; otherwise there would be no second professional education. Thus, the second education recognizes futility of the first one, which proves the low level of educational pragmatism in person’s behavior.

The level of the second education educational pragmatism is determined by the degree of deviation from the ideal, i.e. it answers the question, to what extent it helps realization of employee’s professional and qualification ambitions. In its turn, ambitions have two parameters: the first one – employee’s professional qualities corresponding to the specialty according to the diploma (Zagirniak, 2016); the other one – the qualification qualities corresponding to the educational-qualification level according to the diploma (hereinafter – EQL) (Zagirnyak, 2017). Job descriptions contain requirements to the specialty and the EQL.
of the job seeker. EQL is designed by symbols: a qualified employee – “qe”, junior specialist – “js”, bachelor – “b”, master/specialist – “m/s”. EQL unqualified employee (“uqe”) is beyond the boundaries of the office.

Correspondence of the employee’s professional and qualification qualities to the employer’s requirements according to the first and the second education enables singling out three categories of people. The first category contains people whose professional qualities according to the first and the second education do not meet the professional requirements of the position they occupy at the moment of research. If the coefficient of person’s educational pragmatism in ideal SIR equals one ($k^\infty = 1$), in relation to the people of this category it equals zero ($k^\infty = 0$), as their professional qualities, irrespective of EQL are not realized. It does not matter if the person twice vainly obtained “qe” or “m/s” EQL or combination of different levels, as it was his/her free choice according to the possibilities and circumstances.

The second category contains people whose professional qualities according to the first education meet the requirements of the position. Table 1 contains characteristics of $k^\infty$ people included into the second category.

Table 1: Characteristics $k^\infty$ of people included into the second

<table>
<thead>
<tr>
<th>EQL according to the position</th>
<th>EQL according to the degree</th>
<th>First education</th>
<th>Second education</th>
<th>$k^\infty$</th>
</tr>
</thead>
<tbody>
<tr>
<td>qe</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.5</td>
</tr>
<tr>
<td>qe</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.4</td>
</tr>
<tr>
<td>qe</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.3</td>
</tr>
<tr>
<td>js</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.2</td>
</tr>
<tr>
<td>js</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.6</td>
</tr>
<tr>
<td>js</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.5</td>
</tr>
<tr>
<td>js</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.4</td>
</tr>
<tr>
<td>js</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.3</td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.7</td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.6</td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.5</td>
</tr>
<tr>
<td>b</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.4</td>
</tr>
<tr>
<td>m/s</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.8</td>
</tr>
<tr>
<td>m/s</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.7</td>
</tr>
<tr>
<td>m/s</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.6</td>
</tr>
<tr>
<td>m/s</td>
<td></td>
<td>X</td>
<td>X</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: the authors.

In Table 1 $k^\infty$ of people who have the same EQL of the first and the second education equals 0.5, i.e. half as high as with the ideal SIR. EQL equality means that the people’s compensation for the education cost will be twice as high as at the ideal SIR format. If EQL of the second education is higher than of the first one, the value of $k^\infty$ decreases by 0.1 in relation to 0.5 for every higher level. So, value $k^\infty$ for “js” EQL of the first education and “b” EQL of the second education is 0.4 and for “m/s” EQL of the second education is 0.3. Decrease of $k^\infty$ is explained by higher expenditure on education in comparison with the case
when EQL of both educations are equal. On the contrary, when EQL of the second education
is lower than EQL of the first one, value $k^{m}$ increases by 0.1 in relation to 0.5 of every lower
level. So, value $k^{m}$ of “$b$” EQL of the first education and “$js$” EQL of the second education
is 0.6 and for “$qe$” EQL of the second education – 0.7. It is explained by lower expenditure on
education in comparison with the case when EQL of both educations are equal.

In case when EQL of both educations does not meet EQL of the position, rule No. 1 should
be applied: value $k^{m}$ reduces (increases) by 0.1 from 0.5 with every level of deviation in
every education. E.g., if the position requiring “$qe$” EQL is occupied by a person whose first
education EQL is “$js$” and the second – “$b$”, $k^{m} = 0.5 – 0.1$ (for the first education) – 0.2 (for
the second education) = 0.2. It is necessary to take into account the case when the position
requiring “$qe$” EQL is occupied by a person with full HE (“$m/s$” EQL) by the first education
who meets the position requirement as to the professional parameter. Value $k^{m}$ in this case
will be decreased from 0.5 to 0.2 as to the first education as “$qe$” EQL is three levels lower
than “$m/s$” EQL. Later the person acquires HE whose professional profile does not meet the
position, i.e. value $k^{m}$ decreases by 0.3 more and achieves -0.1. As negative values of $k^{m}$
are senseless, its value is zero.

The third category includes people whose second education meets the position
requirements as to professional sign. Table 2 contains characteristics $k^{m}$ of people included
into the third category.

Table 2: Characteristics $k^{m}$ of people included into the third category

<table>
<thead>
<tr>
<th>EQL according to the position</th>
<th>EQL according to the degree</th>
<th>$k^{m}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>$Qe$</td>
<td>$Qe$</td>
<td>0.5</td>
</tr>
<tr>
<td>$Qe$</td>
<td>$Qe$</td>
<td>0.4</td>
</tr>
<tr>
<td>$Qe$</td>
<td>$Qe$</td>
<td>0.3</td>
</tr>
<tr>
<td>$Qe$</td>
<td>$Qe$</td>
<td>0.2</td>
</tr>
<tr>
<td>$Js$</td>
<td>$Js$</td>
<td>0.6</td>
</tr>
<tr>
<td>$Js$</td>
<td>$Js$</td>
<td>0.5</td>
</tr>
<tr>
<td>$Js$</td>
<td>$Js$</td>
<td>0.4</td>
</tr>
<tr>
<td>$Js$</td>
<td>$Js$</td>
<td>0.3</td>
</tr>
<tr>
<td>$b$</td>
<td>$b$</td>
<td>0.7</td>
</tr>
<tr>
<td>$B$</td>
<td>$B$</td>
<td>0.6</td>
</tr>
<tr>
<td>$B$</td>
<td>$B$</td>
<td>0.5</td>
</tr>
<tr>
<td>$B$</td>
<td>$B$</td>
<td>0.4</td>
</tr>
<tr>
<td>$m/s$</td>
<td>$m/s$</td>
<td>0.8</td>
</tr>
<tr>
<td>$m/s$</td>
<td>$m/s$</td>
<td>0.7</td>
</tr>
<tr>
<td>$m/s$</td>
<td>$m/s$</td>
<td>0.6</td>
</tr>
<tr>
<td>$m/s$</td>
<td>$m/s$</td>
<td>0.5</td>
</tr>
</tbody>
</table>

Source: the authors.

In Table 2 value $k^{m}$ of people who have the same EQL of both educations equals 0.5. If
EQL of the first education exceeds the EQL of the second one, value $k^{m}$ decreases by 0.1 in
comparison with 0.5 for every higher level. So, value $k^{m}$ for “$qe$” EQL of the second
education and “js” EQL of the first education is 0.4 and for “b” EQL of the first education is 0.3. On the contrary, when EQL of the first education is lower than EQL of the second one, value $k^{op}$ increases by 0.1 in comparison with 0.5 for every lower level. So, value $k^{op}$ of “js” EQL of the first education and “b” EQL of the second education is 0.6 and for “qe” EQL – 0.7. The logic of changes of values $k^{op}$ for people included into the third category is similar to the logic concerning people of the second category, i.e. rule No. 1 is to be applied.

A leading production unit of PJSC “Kremenchuk Road-Building Machines Plant”, where 267 people were employed at the moment of the research, was chosen as the object of the empiric research. Naturalization of labor SIR is attained due to the names of professions, specialties and qualifications that are the same in the text and in the staff list of the enterprise. People with higher education are designated by symbol $X^s$, where the index denotes the number of the position in the staff list of the production unit. SIR naturalization is acquired due to impersonal personification. The names of the specialties are given in the original of the staff list.

Table 3 contains attestation of five people included into the first category.

Table 3: Attestations of five people included into the first category

<table>
<thead>
<tr>
<th>$X^s$</th>
<th>Position</th>
<th>EQL</th>
<th>First Specialty</th>
<th>Education</th>
<th>Second Specialty</th>
<th>EQL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_{25}$</td>
<td>senior storekeeper</td>
<td>$Uqe$</td>
<td>seamstress</td>
<td>$qe$ technologist</td>
<td>technician</td>
<td>js</td>
</tr>
<tr>
<td>$x_{98}$</td>
<td>senior storekeeper</td>
<td>$Uqe$</td>
<td>repairman of industrial equipment</td>
<td>$qe$ mechanic</td>
<td>technician in metal-cutting</td>
<td>js</td>
</tr>
<tr>
<td>$x_{262}$</td>
<td>mechanic in metal structure assembling of 3rd grade</td>
<td>$Qe$</td>
<td>pilot</td>
<td>js</td>
<td>welding technology</td>
<td>js</td>
</tr>
<tr>
<td>$x_{134}$</td>
<td>storekeeper</td>
<td>$Uqe$</td>
<td>dental mechanic</td>
<td>js Marketing</td>
<td>b</td>
<td></td>
</tr>
<tr>
<td>$x_{154}$</td>
<td>mechanic in assembly work of 5th grade</td>
<td>$Uqe$</td>
<td>mechanic in assembly work</td>
<td>qe</td>
<td>business economics</td>
<td>b</td>
</tr>
</tbody>
</table>

Source: the authors.

Table 3 contains two groups of people. The first one contains people whose second education corresponds to “js” EQL. A mechanic in metal structure assembling of 3rd grade $x_{262}$ is notable among them as he dreamt of the sky and got the qualification of a “pilot” at Kremenchuk College of Civil Aviation. Later the dreams of $x_{262}$ became more “down-to-earth” as the person graduates from KrNU College mastering in a technical specialty. According to both educations, qualification of $x_{262}$ corresponded to “js” EQL, which exceeds the requirements to the position that needs other professional knowledge. Senior storekeeper $x_{25}$ according to the first education is a seamstress after studying at Vocational School No.5 in Kremenchuk and, according to the second education, - a technologist technician after finishing Kremenchuk College (hereinafter – College) of Kremenchuk Mykhailo
Ostrohradskyi National University (hereinafter – KrNU). A position of senior storekeeper is also occupied by \( x_{98} \), who finished Special Technical Vocational School No. 8 in Kremenchuk and Kremenchuk Automobile Mechanic College. Probably \( x_{98} \) has serious reason to neglect education.

The second group consists of people whose second education corresponds to “b” EQL. \( x_{154} \), who works as a storekeeper, has a unique motivation to education. According to the first qualification the person was a dental mechanic, according to the second – a bachelor in marketing. The behavior of \( x_{154} \) can be explained by yearning for learning that has nothing to do with educational pragmatism. Education of \( x_{154} \) obtained in Vocational school No. 22 in Kremenchuk corresponds to the position and logic of common sense. Later \( x_{154} \) acquired the qualification of a bachelor in economics at Kremenchuk HEE, which is contrary to educational pragmatism.

Thus, the positions of a storekeeper are occupied by educated people with several various qualifications. There are such people among mechanics but all of them, irrespective of education and position, are united by the ability to satisfy the thirst for knowledge. Palekhova (2010) explains this situation by the fact that in the knowledge economics excess of resources rather than their deficit is likely to be observed. Uselessness of the professional component must be compensated for by a high level of culture and moral and spiritual values inherent in a professionally trained specialist in the opinion of Dubaseniuk (2011, p. 136). Table 4 contains attestations of nine people included into the second category.

Qualified employees presented in Table 4 are grouped according to EQL of the second education. The first group consists of three people whose second education corresponds to “js” EQL. Tool maker of 6th grade \( x_{16} \) was not satisfied with the education obtained at STVS No. 5 in Kremenchuk and graduated from KrNU College majoring in a technical specialty. However, HE did not promote career growth of \( x_{16} \). A graduate of STVS No. 6 in Kremenchuk works as a crane operator of 4th grade \( x_{63} \), i.e. the person’s qualities completely meet the requirements of the position. \( x_{63} \) wanted more and graduated from KrNU College majoring in a technical specialty, but the new education did not influence the position of \( x_{63} \). Mechanic in metal structure assembling of 3rd grade \( x_{146} \) acquired the first education at Vocational School No. 26 in Kremenchuk and the second education – at KrNU College in a technical specialty. \( k^m \) of all the people is 0.4 as “js” EQL of the person exceeds the “qe” of the position.

The second group includes five people whose second education corresponds to “b” EQL. \( x_{200} \), who occupies the position of a slinger of 4th grade, is distinguished among them. \( x_{200} \) differs from the other people of this group due to two higher educations: Neither of the HE corresponds to the EQL requirements according to the position, which means low pragmatism in the actions of \( x_{200} \) (according to rule No. 1: \( k^m = 0.5 - 0.1 - 0.2 = 0.2 \)). A graduate of Vocational School No. 7 in Kremenchuk, who later obtained the qualification of a bachelor at KrNU, works as a mechanic in metal structure assembling of 4th grade \( x_{138} \). Turner of the third grade \( x_{149} \) was educated at Vocational School No. 7 in Kremenchuk. Later \( x_{149} \) was qualified as a bachelor of a technical profile at KrNU. Now education of \( x_{149} \) essentially exceeds the requirements of the position. Turner of 4th grade \( x_{173} \) finished Vocational School No. 7 and then a bachelor course in a technical profile at KrNU. Qualification of \( x_{173} \) according to the degree considerably exceeds requirements of the position, which is not pragmatic. \( x_{224} \) is employed as an automated machine operator of the 3rd grade, which corresponds to the education obtained at STVS No. 26 in Kremenchuk. However, \( x_{224} \) wished...
to obtain HE and took a bachelor course of a technical profile at KrNU. Remaining at the same position $x_{224}$ ignores educational pragmatism. $k^x = 0.3$ for the above mentioned four people.

Table 4: Attestations of the people included into the second category

<table>
<thead>
<tr>
<th>$X_n$</th>
<th>Position</th>
<th>EQ</th>
<th>L</th>
<th>First Specialty</th>
<th>EQ</th>
<th>L</th>
<th>Second Specialty</th>
<th>EQ</th>
<th>L</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_{16}$</td>
<td>tool-maker</td>
<td>$qe$</td>
<td></td>
<td>First group tool-maker</td>
<td>$qe$</td>
<td></td>
<td>technologist technician in plastic metal working</td>
<td>$js$</td>
<td></td>
</tr>
<tr>
<td>$x_{63}$</td>
<td>crane operator</td>
<td>$qe$</td>
<td></td>
<td>crane operator</td>
<td>$qe$</td>
<td></td>
<td>mechanic technician in automobile and tractor construction</td>
<td>$js$</td>
<td></td>
</tr>
<tr>
<td>$x_{46}$</td>
<td>mechanic in metal structure assembling of 3rd grade</td>
<td>$qe$</td>
<td></td>
<td>mechanic in assembly work</td>
<td>$qe$</td>
<td></td>
<td>mechanic-technician in repair and maintenance of automobiles and engines</td>
<td>$js$</td>
<td></td>
</tr>
<tr>
<td>$x_{138}$</td>
<td>mechanic in metal structure assembling of 4th grade</td>
<td>$qe$</td>
<td></td>
<td>Second group adjuster of tools and handlers</td>
<td>$qe$</td>
<td></td>
<td>mechanical engineer in manufacturing engineering</td>
<td>$b$</td>
<td></td>
</tr>
<tr>
<td>$x_{149}$</td>
<td>turner of 3rd grade</td>
<td>$qe$</td>
<td></td>
<td>multi-skilled machine operator, operator of numerical-control machine tools production of program-controlled tools</td>
<td>$qe$</td>
<td></td>
<td>mechanical engineer in manufacturing engineering</td>
<td>$b$</td>
<td></td>
</tr>
<tr>
<td>$x_{173}$</td>
<td>turner of 4th grade</td>
<td>$qe$</td>
<td></td>
<td></td>
<td>$qe$</td>
<td></td>
<td>manufacturing engineering</td>
<td>$b$</td>
<td></td>
</tr>
<tr>
<td>$x_{200}$</td>
<td>slinger of 4th grade</td>
<td>$qe$</td>
<td></td>
<td>technologist technician in materials machine processing operator of numerical-control machine tools</td>
<td>$js$</td>
<td></td>
<td>mechanical engineer in manufacturing engineering</td>
<td>$b$</td>
<td></td>
</tr>
<tr>
<td>$x_{224}$</td>
<td>automated machine operator of the 3rd grade</td>
<td>$qe$</td>
<td></td>
<td>Third group</td>
<td>$qe$</td>
<td></td>
<td>manufacturing engineering</td>
<td>$b$</td>
<td></td>
</tr>
<tr>
<td>$x_{37}$</td>
<td>mechanic in metal structure assembling of 4th grade</td>
<td>$qe$</td>
<td></td>
<td></td>
<td>$js$</td>
<td></td>
<td>mechanical engineer in wheeled and caterpillar vehicles</td>
<td>$m/s$</td>
<td></td>
</tr>
</tbody>
</table>

Source: the authors.

The third group includes $x_{37}$, who has complete HE. $x_{37}$ is employed as a mechanic in metal structure assembling of 4th grade. The first basic HE was acquired by $x_{37}$ at KrNU College. $x_{37}$ obtained this HE level hoping to occupy a corresponding position, but nothing happened in the career. Then $x_{37}$ made another attempt and got complete technical HE at
KrNU. However, this time again nothing happened in the career of \( x_{37} \). Probably, \( x_{37} \) obtains HE to improve professional self-appraisal \( (k'' = 0.3) \). The situation in which \( x_{37} \) found himself is not unique, e.g., Libanova remarks that “enterprises that develop quite dynamically suffer from lack of qualified labor force” (2008, p. 17).

Thus, availability of groups proves the diversity of attitude to education. As the people included into this category were trained vocationally but have HE of different level, the level of educational pragmatism of the representatives of the second group is lower than that of the first group and the representative of the third group has a lower educational pragmatism level than that of the second group. The people spent time and money on HE, but availability of another document certifying education does not influence their wages. People included into this category do not follow “meaningful continuity of the rising levels of educational stages” as the basic idea of realization of principles of the continuous system of education (Dubasenyuk, 2011, p. 138). All the people included into this category are united by the fact that the second education is of a technical profile, i.e. to a certain degree it promotes improvement of person’s qualification. Average value \( \hat{k}'' \) of the category is 0.34. Table 5 contains attestations of ten people included into the third category.

Table 5 contains people grouped according to the EQL sign of the second education. The first group contains five people whose second education corresponds to EQL “m/s”. \( x_{57} \) occupies the position of an administration economist of 1st category requiring economic education and EQL “m/s”. \( x_{53} \) obtained first complete HE at National University “Kharkiv Polytechnic Institute”. Later there was the second complete HE of an economic profile at KrNU that allows \( x_{52} \) to occupy the position according to the formal sign. Educational pragmatism of \( x_{57} \) is determined by two complete HE \( (k'' = 0.5) \). Three people of this group obtained complete HE having acquired basic HE. Among them \( x_{43} \), who occupies the position of an accountant of the 1st category. The person studied at KrNU College in a technical specialty and later, to meet the requirements of the position, graduated from Kremenchuk HEE \( (k'' = 0.7) \). Head of the technologic bureau \( x_{180} \) at first finished Kremenchuk Auto-Mechanical College and then KrNU in the specialty that meets the requirements of the position \( (k'' = 0.7) \), \( x_{39} \) occupies the post of an engineer-technologist of 3rd category. The first education was obtained by \( x_{29} \) at KrNU College and the second – at KrNU, which proves that this person consistently headed for the professional level \( (k'' = 0.7) \). Head of the tool supply department \( x_{238} \) chose another way to HE. He started his career after leaving Vocational School No.7 in Kremenchuk, majoring in a technical specialty, the, after graduation from KrNU, he obtained the education that also proves his educational pragmatism \( (k'' = 0.8) \).

The second group contains four people whose second education corresponds to EQL “b”. Junior specialist \( x_{103} \) obtained the qualification of a bachelor and occupies the post of a senior dispatcher. After Kremenchuk Railway College, to meet the requirements of the position, the person graduated from KrNU \( (k'' = 0.6) \). Three people were qualified employees before obtaining the qualification of a bachelor. So, \( x_{1} \) after STVS No.2 in Kremenchuk took a bachelor course at KrNU in a technical specialty, which allow him to occupy the position of a procuring section foreman \( (k'' = 0.7) \). Behavior of \( x_{159} \) should be considered a model example of educational pragmatism. Equipment repair master \( x_{159} \) obtained his first education at Vocational School No. 26 in Kremenchuk and the second – at KrNU taking a bachelor course. HE allows \( x_{159} \) to realize his professional ambitions \( (k'' = 0.6) \). Senior foreman of the section
First studied at Vocational School No. 26, then took a bachelor course at KrNU ($k^{\text{em}} = 0.7$).

Table 5: Attestations of the people included into the third category

<table>
<thead>
<tr>
<th>$X_*$</th>
<th>Position</th>
<th>EQL</th>
<th>First Specialty</th>
<th>Education</th>
<th>Second Specialty</th>
<th>EQL</th>
</tr>
</thead>
<tbody>
<tr>
<td>$x_{27}$</td>
<td>administration economist of 1st category</td>
<td>m/s</td>
<td>mechanical engineer in plastic metal working</td>
<td>m/s</td>
<td>engineer-economist in production economics and management</td>
<td>m/s</td>
</tr>
<tr>
<td>$x_{143}$</td>
<td>accountant of the 1st category</td>
<td>m/s</td>
<td>technologist technician in welding production material machining</td>
<td>js</td>
<td>accounting and auditing</td>
<td>m/s</td>
</tr>
<tr>
<td>$x_{180}$</td>
<td>head of the technologic bureau</td>
<td>m/s</td>
<td>adjuster of automatic transfer lines</td>
<td>qe</td>
<td>mechanical engineer in manufacturing engineering</td>
<td>m/s</td>
</tr>
<tr>
<td>$x_{238}$</td>
<td>head of the tool supply department</td>
<td>m/s</td>
<td>technologist technician in welding production</td>
<td>js</td>
<td>mechanical engineer in manufacturing engineering</td>
<td>m/s</td>
</tr>
<tr>
<td>$x_{176}$</td>
<td>foreman of the electricity section</td>
<td>js</td>
<td>electrician repairing and maintaining electric equipment fitter</td>
<td>qe</td>
<td>electrical mechanical engineer</td>
<td>b</td>
</tr>
<tr>
<td>$x_{166}$</td>
<td>foreman of the electricity section</td>
<td>js</td>
<td>electrician technician</td>
<td>js</td>
<td>mechanic technician</td>
<td>js</td>
</tr>
</tbody>
</table>

Source: the authors.

The third group includes a foreman of the electricity section $x_{166}$, who studied at River Fleet Vocational School No. 30 in the city of Homel, then obtained education at Homel Engineering College, which meets the requirements of the position. The person was guided by
the wish to realize himself in the profession, which demonstrates availability of educational pragmatism.

Thus, almost all the people obtained what they wanted from the second education, i.e. a position that hypothetically implies decent income that compensates for the educational costs. The average value of \( k \) in the category is 0.67.

5. Conclusions

Firstly, people who obtained the second professional education, as to the motives, fundamentally differ from those who did not want to realize their educational potential. Out of 267 people of the subdivision 24, i.e. 8.99 %, consciously wanted to modify their professional and educational qualities. Availability of the categories convinces one in the diversity of not so much the reasons for the second education as the possibility of their implementation. The first group is not numerous, but readiness of the people with education to do unqualified work does not mean at all that they failed in their profession. A detailed examination may reveal that the category consists of people of the pension age who are physically and morally ready to do this work. The category is not subject to assessment of educational pragmatism. The second category proves the inability of people to realize the educational potential of the second education. In the third category nine people out of ten realized their potential of the second education. Thus, educational potential of the second education is realized by every second person.

Secondly, four people out of five in the first category, all the people in the second category and nine people out of ten in the third category, i.e. 22 people out of 24, have the level of the second education higher than that of the first education at the moment of the research. However, for half of the employees improvement of the educational level did not promote their career growth, which does not allow compensation for the cost of the second education. In this regard we should agree with Palekha as to the action of economic laws not similar to physical laws but similar to the law of large numbers as it is possible to predict the behavior of most people but there is always a possibility of unusual behavior of particular people. Benefit is not necessarily the initial cause of education. This circumstance convinces one of the fact that, apart from the wish, it is necessary to correctly dispose of one’s educational potential.

Thirdly, absolute majority of people obtained their first and second education in Kremenchuk. It means that the high level of education of the subdivision personnel became possible due to availability of educational establishments of all accreditation levels and training profiles in the city. So, KrNU is a classical example of educational establishment orientation to meeting the needs of the local labor market for highly qualified personnel. In the nearest future KrNU is seen as a local coordination center orientating the education services consumers to business needs for employees of relevant profession and qualification.

References


