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Content

MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Consumers Neuroscience as a Modern Consumer Research Tool: Ethical Aspects and Size of the Research Sample

Jakub Berčík

Abstract

Traditional research tools, including questionnaire surveys, provide increasingly irrelevant information. There are several reasons for this, mainly hasty times we live in, as people in these surveys either do not have time to properly think about what the person conducting the survey asks them, they do not understand the question or simply do not want to answer truthfully, especially when it comes to sensitive issues or they respond the way the society expects them. On the other hand, many of the questions even cannot be answered truthfully, because the human brain receives in every millisecond a huge amount of information, which is then being filtered, and as a result, the person fails to fully recognize and realistically assess all the aspects of the decision-making. Marketers and traders until recently could not "see into the heads of consumers" and learn about their needs, but the current advanced technology allows them to explore the human brain through neuroscience and biometric methods. The paper points to the new possibilities of market research and underlines the growing need for their implementation. It also aims to highlight the selected critical aspects that can be applied in neuromarketing research, such as the typical sample size, so that the results hold a specific information value. The paper ends with suggestions and recommendations formulated for the business practice.

Keywords: consumer neuroscience, neuromarketing, size of research sample, critical aspects
JEL Code: M31, L81

1. Introduction

Traditional questionnaire tools which include questionnaire surveys provide less and less relevant information. There are more reasons for that, a significant part is represented by the fast era we live in, because people in these surveys basically do not have time to think about the issue which they are asked about, they do not understand the question or they just do not want to give the truthful answer, mostly when the questions are sensitive, or they respond in a way the society expects from them. On the other hand, many questions cannot be answered by the respondents truthfully, because human brain accepts in every millisecond a great deal of information which is consecutively filtered so man is not able to realise all the aspects of his or her decision making and then evaluate them in real (Nagyová, et al. 2014). Relatively new fields which move research possibilities forward are neuroeconomy and neuromarketing. Neuromarketing is a recent interdisciplinary field which crosses traditional boundaries between neuroscience, neuroeconomics and marketing research“ say Ulman (2015). Hubert (2010) explains that neuromarketing is a consumer neuroscience and a sub-area of neuroeconomics that investigates marketing-relevant problems. The discipline provides better understanding of how unconscious mind processing influences the decision to purchase and it helps to understand the consumers’ thoughts, emotions, feelings, needs and motivation in relation to the marketing products (Horská, Lajdová & Kapsdorferová, 2015). Neuromarketing could also help buyers and marketing experts to understand each other better, but also to understand better the products they want, which leads to a win/win situation for both sides (Wilson, et al., 2008).

An objective of these interdisciplinary analyses is better understanding of economic decision-making principles and customer/consumer behaviour in economic processes, e.g. when shopping, saving and investing

via methods which are utilised in medicine or psychology. In comparison with standard economic theories the neuroeconomic attitude brings a brand new point of view on the complex human decision making mechanism which is a result of penetration of many variables. It takes into consideration an influence of emotional, social, cognitive and other factors on economic behaviour of the individual in various market situations. In short, the aim of the neuroeconomy is to create a model of decision making which is not limited only by the economic/rational thinking but it is more realistic (Damasio, 2008).

Häusel (as cited in Gentner, 2012) describes the possibilities of consumer neuroscience as follows:

- Understanding of the unconscious decision-making processes and neural mechanisms;
- Identification of the various emotional systems in the human brain and investigation of their functions;
- Research of how various channels of perception can be used effectively;
- Analysis of the attention and cognitive processes in the brain;
- Optimization of text and language;
- Identification of certain consumer types and their better and more successful segmentation;
- Determination of effects of differences in thinking style, emotional structure and behavior for marketing purposes;
- Development of effective and efficient strategies in order to reach aging consumers.

The research in the consumer neuroscience is possible to realise in laboratory as well as real conditions (Paluchová & Kleinová, 2014). A suitable biometric method is chosen according to the research subject (e.g. monitoring of heart variability HRV, eye movements Eye tracker, facial expressions FA) or neuroimagine method (e. g. monitoring of electrical brain activity EEG) or a combination of these methods. Processing and interpretation of some data from the research (e.g. on brain activity) require active cooperation with neurologists and psychologists because work with these data demands involvement of experts from the mentioned fields. Apart from that there are a lot of other aspects which are necessary to be considered (e.g. total fatigue of the respondents or weather) what represents a need of repetition of the relevant interdisciplinary research types with an effort to gain more precise information (Horská, Berčík & Galová, 2015).

2. Material and Methods

The research paper is based on the contemporary knowledge in the following areas:

- Consumer neuroscience and neuromarketing
- Market research with a use of biometric and neuroimagine methods
- Critical aspects of neuromarketing

The result of the study leads into a definition of main reasons of the consumer neuroscience implementation need in the scope of market research to increase the conclusion value of these studies, evaluation of their ethical aspects and optimum size of the research sample. In order to gather information on the optimum size of the research sample were compared 13 available researches in the area of consumer neuroscience realised mostly abroad but in Slovak conditions as well. Standard size of the representative sample of the compared institutions was calculated on the basis of an average of conducted research by the relevant institution. Besides definition of the optimum size the contribution represents the most often used biometric and neuroimagine technologies of these institutions dealing with the consumer studies. Next part of the contribution defines the possible critical aspects of academic research on the field of consumer neuroscience alongside with the neuromarketing ones conducted in practice. At the end of the contribution are highlighted some examples acquired by primary data from the neuromarketing research used in academic and commercial reality.

3. Result and Discussion

3.1. Need of Consumer Neuroscience Implementation Into the Market Research

Contemporary hard competitive struggle puts the companies which do not use findings of this new innovative research into a difficult position, they can hardly succeed among the firms which have this information because the traditional research tools including questionnaire surveys provide less and less relevant information. The results which do not reflect the factual reality can mean for small and medium-

sized businesses taking strategic decisions even liquidation. On the contrary, bigger companies can take a lesson from such surveys as it happened with the Coca-Cola company in 1985. The results of a traditional marketing survey clearly proved that the world wants a "New Coke". So they made it. But the product ended up as a flop and was withdrawn from the market. In the case of questionnaire survey on automated cash machines (ATM) conducted before their launch more than 80 % of Australian consumers stated that they will not use the automated machines. However, more than 80 % of Australians use the ATM (Berčík, 2016).

The most expensive neuromarketing research so far (cost 7 million American dollars) was performed by Martin Lindstrom in cooperation with the Oxford University from 2004 to 2007, and it tested warning packages of tobacco products packs via functional magnetic resonance fMRI with a sample of 2081 respondents. The findings were shocking. Warning signs and pictures of various diseases provoked in smokers certain stimulation instead of discourage because the look at the terrifying warnings caused the same kind of feelings as they had with pictures of adrenaline sports. Despite the fact that this research has many critics and opponents, it is necessary to think about the question whether the governments of the individual states have this information at a time when the ongoing discussions are focused on the point that 60 % of tobacco products packages should comprise of these deterrent pictures (Berčík, 2016).

3.2. Ethical Aspects of Consumer Research With a Use of Biometric and Consumer Neuroscience Methods

Javor (2013) consider neuromarketing as a term often used in the media in recent years, however, on-going debate have been focused on potential ethical aspects and the public fear of negative consequences for society, more specifically for consumers. Nevertheless, other researchers and journalists believe that neuromarketing is considered to be beneficial for consumers due to the fact that it would lead to product improvement. Therefore, authors warn that it is important to distinguish academic studies using neuroscientific methods with focus on the consumer´s point of view from commercial marketing aimed to apply findings in order to sell product.

There are more than 100 companies in the world which provide the neuromarketing techniques for brain scan. Many of them do not state clearly the employed methodology and what they want to find out by the measurements (Rybanská, Nagyová & Koščialiková, 2016). In other words there are many unreliable providers of the neuromarketing services (Plessis, 2011). The research and knowledge themselves have to be controlled. The knowledge itself is not dangerous but its unethical or criminal usage has to be limited or banned. Censorship and regulation have to intervene especially in applications into marketing and not at the level of neuroscience which in this case means only a tool used for better understanding of customers´ reception and needs (Georges, et al. 2014).

Many people confuse these research forms with subliminal techniques and it is questionable whether it is something to help companies to sell more, but the consumer finally suffers the consequences. The neuroeconomy and neuromarketing are only tools to gain feedback and better understanding of the consumers while their aim is to help companies resulting in better fulfilment of needs and wishes of consumers. It means that finally both parties are satisfied with the fact that the decision always lays in the hands of the consumer. If it helps small to medium-sized company, which employs local people, to sell a product of reasonable quality it is right and makes sense. However, if we talk about a potential misuse (e.g. helping company with low-quality products), it is necessary to highlight that with every action there is a chance of its misuse (same as with nuclear energy or drones).

In the field of these new scientific areas there emerge researchers who overestimate their possibilities and mostly due to financial motives offer results without consultation with experts on the individual fields what in conclusion means that validity of these outputs is questionable and debatable.

3.3. Standard Size of Research Sample With a Use of Biometric and Neuroimagine Methods

In consumer studies with the use of biometric and neuroimagine methods does not exist such a term as "standard study". Every type of research in this field is unique in its own way and takes into consideration the needs of defined research presumptions. The implementation of the new technologies in the research in the area of the consumer behaviour and target segment represent an important time investment not only to realise the testing itself but especially processing and then interpretation of the results. As you can see in the Table 1. the size of the research sample depends not only on the utilised research tool but as well on the institution which organizes the relevant research activities.

Table 1. Chosen Researches and Standard Size of Research Sample Typical for Consumer Neuroscience

Researcher (academic/business)	Institution	Research Technics	Standard Size of Research Sample
Elissa Moses	Ipsos Neuroscience	EEG, Eye tracker, IAT, Facial coding,	65
Bernd Weber	University of Bonn / Life&Brain GmbH	fMRI, Eye tracker	30 - 40
Thomas Ramsoy	Copenhagen Business School / Neurons Inc.	Eye tracker, EEG, Facial coding, fMRI	40 - 50
Richard Silberstein	Swinburne University / Neuro-Insight	SST (EEG)	50 - 100
Jaime Romano	Neuromarketing S.A. de C.V. (NMKT)	EEG, Eye tracker, GSR, EKG, Blood volume pulse	18 - 96
Hirak Parikh	Neuromarketing Labs	EEG, Eye tracking, GSR, Respiration rates	25 - 40
Christopher Morin	Fielding Graduate University / Salesbrain	Voice analysis, Biometric studies, Facial imaging	6 - 200
Martin de Munnik	Neurensics	fMRI, Eye tracker	20 - 30
Arnaud Petre	Universite Catholique de Lille / Brain Impact	fMRI, EEG, Eye tracker, EKG, GSR	12 - 72
Gemma Calvert	Neurosence Limited	Implicit priming paradigms, fMRI	10 - 400
Martin Lindstrom	Oxfor university	fMRI, SST (EEG)	2081
Reada Montaguea	Human Neuroimaging Laboratory / Virginia Tech Carilion School of Medicine	fMRI	67
Jakub Berčík	Slovak University of Agriculture in Nitra	EEG, Eye tracker, Facial coding	18 - 60
Graham Page	Millward Brown	EEG, Eye tracker	100

Source: Based Neuromarketing Theory and Practice own Procesing

In some cases these institutions dealing with the research in the area of consumer neuroscience work only with 6 respondents due to time and finances consumption. In general it is possible to conclude that the most costly research so far was realised at the Oxford University from 2004 to 2007 where were tested 2081 respondents with a use of functional magnetic resonance. On the other hand, companies like Neurensics, Neuromarketing Labs; University of Bonn (Life & Brain GmbH), Copenhagen Business School (Neurons Inc.), as well as Slovak Agricultural University deal with smaller research samples.

4. Conclusion

The consumer neuroscience and neuromarketing join the knowledge from psychology, marketing, neuroscience and information technology, therefore, the interpretation of the results requires involvement of the experts. Due to the aforementioned fact there are some negative cases when the irresponsible providers of such research wanted to get rich at the expense of results relevance which was stated without any consultation with experts in the relevant fields. At the same time it is important to point out that the results of consumer neuroscience are not infallible because they are limited by the human brain cognition. They provide more and more precise results than the traditional forms (e.g. questionnaire or group talks), therefore we can expect that they will become a common part of everyday lives in more areas, even though with a different name. A perfect knowledge when and how a certain individual reacts to something is of a great importance for understanding of consumer behaviour and decision-making. Future development of these disciplines depends mainly on the development of technologies.

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References

Berčík, J. 2016. Prieskumy môžu firmy aj likvidovať. In: *Hospodárske noviny*, ISSN 1335-4701, Vol. 24, No. 48, p. 9.

Calvert, G., Campbell, R., Brammer, M. 2000. *Evidence from functional magnetic resonance imaging of crossmodal binding in the human heteromodal cortex.* Vol. 10, No. 11, pp. 649–657. [on-line] http://www.sciencedirect.com/science/article/pii/S0960982200005133.

Damasio, A. 2008. *Descartes' Error: Emotion, reason, and the human brain.* London: Random House. ISBN 0-380-72647-5.

Gentner, F. 2012. *Neuromarketing in the B-to-B Sector: Importance, potential and its implications for Brand Management.* Hamburg: Diplomica Verlag GmbH. ISBN 978-3-8428-7282-0.

Horská, E., Margianti, E. S., Berčík, J., Gálová, J. 2015. Consumer neuroscience solutions: towards innovations, marketing effectiveness and customer driven strategies. In: *5th International Conference on Management 2015.* Gödöllő: Szent István University, pp. 18—21. ISBN 978-963-269-492-4. [on-line] http://dx.doi.org/10.17626/dBEM.ICoM.P00.2015.p004.

Horská, E., Lajdová, Z., Kapsdorferová, Z. 2015. Bioeconomics, neuroeconomics and neuromarketing: new approaches to customers and businesses. In: *Globalization, economic development, and nation character building*. Depok: Research Institute of Gunadarma University, pp. 183—187, ISBN 978-602-9438-50-5.

Hubert, M. 2010. Does neuroeconomics give new impetus to economic and consumer research? In: *Journal of Economic Psychology.* Special Issue on Decision Neuroscience, Vol. 31, No. 5, pp. 812-817.

Nagyová, Ľ., Horská, E., Kretter, A., Kubicová, Ľ., Košičiarová, I., Récky, R., Berčík, J., Holienčinová, M. 2014. *Marketing*. Nitra: Slovak University in Nitra, ISBN 978-80-552-1269-2.

Paluchová, J., Kleinová, K. 2014. New trends in catering: How merchandising and other popular tools can attract customers. In: *New trends in management in the 21st century - Cross-Atlantic perspective*, Częstochowa: Sekcja Wydawnictw Wydziału Zarządzania Politechniki Częstochowskiej, pp. 373 – 382, ISBN 978-83-63500-78-8.

Plessis, E. 2011. *Jak zákazník vníma značku: Nahlednete s pomocí neurovedy do hlav spotrebitelu*. Brno: Computer Press, ISBN 978-80-251-3529-7.

Rybanská, J., Nagyová, Ľ., Koščialiková, J. 2016. The use of HRV analysis in the marketing research. In: *The agri-food value chain: challenges for natural resources management and society*: International scientific days 2016, Nitra, Slovak Republic. Nitra: Slovak University of Agriculture, pp. 1050-1057. [on-line] http://spu.fem.uniag.sk/mvd2016/proceedings/en/articles/s13/rybanska_nagyova_kosiciarova.pdf.

Ulman, Y. I., Cakar, T., Yildiz, G. 2015. Ethical Issues in Neuromarketing: "I Consume, Therefore I am!" In: *Science and Engineering Ethics*, Vol. 21, No. 5, pp. 1271-1284.

Wilson, et al. 2008. Neuromarketing and Consumer Free Will. In: *Journal of Consumer Affairs*, Vol. 42, No. 3, pp. 389-410.

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Eco-labeling in Slovak Republic according to the norm ISO 14020

Martin Bosák, Alexander Tarča, Stanislav Krajňák

Abstract

During the last years voluntary systems of support for the state environmental policy has emerged in the developing countries. Among them are the evaluation and labeling of environmentally friendly products (eco-labeling) and product labelling. The product is usually judged throughout its entire life cycle (so-called from the cradle to the grave), which is from the raw materials through the production, the phase of usage until its final destruction or recycling. Promotion of this system is backed by the legislative demands of the EU but it is also via the interest of the producers and the consuming public. In Slovak Republic is eco-labeling from 1997.

Keywords: eco-labelling, product, EU ecolabel, norm ISO 14020
JEL Code: M11, Q56

1. Introduction

Environmental product labeling is a voluntary tool in the protection of the environment. Environmentally friendly products meet strict environmental criteria and are considerate not only to the environment but to the consumer's health as well. They have a lesser negative impact on the environment.

To the consumer they offer a guarantee that a product or a service offered have lesser influence on the environment during its production, usage and its disposal in comparison with other products of the same functional and utility value - which is tested by an independent testing laboratory. It offers added value for the retailer and the producers and a competitive advantage on the market of green goods and services (Bosák, et al., 2013; Bosák, et al., 2016).

The label 'Environmentally friendly product' is given to the products for a limited period of time. The requirements and conditions according to the respective statute are revised in the view of the newest information regarding environmental protection and the modernisation of production technologies. This enables the national programme to increase or tighten the environmental requirement for the products.

2. Development of eco-labeling

The idea of labelling products informing the consumer about the environmental influence during and after its use and about the process of manufacturing and possibilities of its disposal, first emerged and was utilised in Germany in 1978. The label “Blue angel“ was given to the first product. The success of the German eco-labeling programme led to the foundation of other eco-labeling programmes.

The second state introducing unified labeling of the products considerate to the environment was Canada in 1988. The chosen symbol portrayed a maple leaf made by three doves symbolising the three partners protecting the environment – the government, the industrial sphere and trade.

In 1992 the statute of the European Council (European Act No. 880/1992) founded a transnational eco-labeling programme for the EU which was amended by the Act No. 66/2010 on the environmental label of the EU (MŽP SR, 2016).

Table 1. Introduction of eco-labelling systems in some countries

Country	Name of label	Effective from
Germany	Blue Angel	1978
Canada	Environmental choice	1988
Scandinavian countries	Nordic Swan	1989
Japan	Eco Mark	1989
USA	Green Seal	1989
Austria	Österreichisches Umweltzeichen	1991
France	NF-environment	1991
EU	EU-Ecolabel	1992
Czech Republic	Ekologicky šetrný výrobek	1993
Spain	Aenor Medio Ambiente	1994
Slovak Republic	Environmentálne vhodný produkt	1997
Russia	Vitality Leaf	2001

3. Systems and schemes of environmental labeling

Labeling products with an environmental label is organised by the state in most countries, usually the head governmental office for the environment. After paying the appropriate fee to this office the label is obtained via proof documentation that the product fulfils the specific environmental criteria. This way the state funds the system and guarantees its correct functioning - the state is the guarantee of the appropriateness of the process (Huttmanová et al., 2013).

By acquiring the environmental label it does not automatically mean the product is absolutely harmless for the environment. It only guarantees that the environment is influenced in a less negative way than as it is with other products of comparable functional characteristics - during its whole life cycle (from raw material processes through the production, usage until its recycling or waste disposal) (Rusko, Kollár, 2010).

The goal of the environmental product labeling is to inform the consumer and producers about the above standard, environmentally acceptable parameters of products with the environmental label and to motivate them to their manufacture or usage. The environmental label should guide the consumer to the purchase of those producers and services which have better attributes regarding the environment as compared with other products and services of the product line.

Currently more systems and schemes of environmental labeling exist on the market and according to the norm ISO 14020 they can be divided into:

- Types normalised within the norms ISO 14020,
  - type I (according to ISO 14024: 1999),
  - type II (according to ISO 14021: 2016),
  - type III (according to ISO 14025: 2006),
- Types normalised outside the norms ISO 14020.

4. The normalized types according to the norm ISO 14020

An environmental label offers a simpler answer to a difficult question of the environmental appropriateness of the product and it helps individuals and households to decide on an environmentally friendly purchase. It contributes to the optimising of energy usage, natural resources and to minimise the generation of waste.

On the international scale there is more than 30 national and transnational systems of environmental labeling.

Table 2. Environmental labeling of Type I in Europe

Slovakia	Czech Republic	Germany	Austria
Environmentálne vhodný produkt	Ekologicky šetrný výrobek	Blue Angel	Österreichisches Umweltzeichen
Hungary	**Scandinawian countries**	**Sweden**	**Poland**
Környezetbarát Termék	Nordic Swan	Bra Miljöval	Znak ekologiczny EKO
Russia	**Ukraine**	**Croatia**	**Spain**
Vitality Leaf	Green Crane	Environmentally friendly	Marca Aenor Medio Ambiente
France	**Holland**	**EU**	**EU**
NF Environnement	Milieukur	European Flower	Ecolabel EU

Table 3. Environmental labeling of Type I in the world

Canada	USA	Brasil	China
Environmental choice	Green Seal	Qualidad Ambiental	Eco-label Huan
Japan	**Singapore**	**Indonesia**	**Hong-Kong**
Eco mark	Green Label Singapore	Eco label	Eco label
Korea	**India**	**Malaysia**	**Hong-Kong**
Eco label	Ecomark	Eco label	Green label
Philippines	**Taiwan**	**Thailand**	**Israel**
Green choice	Green mark	Green label	Green label
Australia	**New Zeeland**	**South Africa**	**Africa**
Environmental choice	Environmental choice	Eco product	Ecomark

4.1. Environmental labeling of type I

Environmental labelling of type I according to STN EN ISO 14024: 1999 is guided by a programme, mostly on the national level, according to which the right to utilise the environmental label is awarded to the products fulfilling the requirements.

Environmental labelling of type I is based on the evaluation of several criteria by the third party which are awarded the license after the life cycle assessment legitimizing its usage on environmental products of certain product group (Rusko & Kucháriková, 2007).

4.2. Environmental labeling of type II

Rules and principles of the environmental labelling of type II are standardized by the international norm ISO 14021:1999 (STN EN ISO 14021:1999). This type of labelling enables the producer or anybody who deliverers, distributes, retails or by anybody with possible profit from the statement to present its own statements about the environmental properties of its product. Statements can be issued even without certification by a third party. Labelling as the type II enables the manufacturer or the deliverer to improve its environmental behavior and the environmental quality of the product, their own competitiveness in case there are no other specific regulations about national or European labelling system (Rusko & Kollár, 2010).

It is a voluntary informative statement describing the present state of the product. The usage is universal, can be used by any organization. According to the definition of the norm the self- produced environmental statement refers to the product, its parts or the packaging.

Environmental Labelling, China

Recycle Label, Japan

Figure 1. Example of environmental labeling of type II

4.3. Environmental labeling of type III

The goal of the environmental statement of the type III is to achieve an increase in demand and offer those products with less negative impact on the environment than the alternative products by disclosing verified, exact and non-misleading information about the environmental aspects of the product or service.

It is an informative tool stating certain chosen environmental information about the product (SAŽP, 2016).

EcoLeaf, Japan

Figure 2. Example of environmental labeling of type III

In 1994 a non-profit association of eco-labeling organizations from all over the world - Global Eco-labeling Network (GEN) was founded to gain information about all existing programmes of the environmental

labeling and consequent unifying respective environmental criteria and processes. It joins programmes of the environmental labeling of America, Asia, Europe, Oceania and Australia. Presently it has 27 members.

5. System of environmental labeling and evaluation in the Slovak Republic

The awarding of the national environmental label "Environmentally friendly product" through a national scheme has been performed since under the control of the Slovak Republic. The conditions and procedures in awarding and usage of this national label - as well as the environmental label of the EU - are set in the Act No. 217/2007 of the book of law which were amended with its validity on the 1st of June, 2007 by No. 469/2002 on the environmental labeling of products conforming to the Act No. 587/2004 of the book of law.

The aim of this amendment was the implementation of the European parliament regulation on awarding of environmental labels. The changes also included the term "goods" being replaced by "product" as a common name for the products and services (Bednárová, et al., 2013), (Bosák & Olexová, 2013).

Figure 3. Label "Environmentally friendly goods" and "Environmentally friendly product"

An environmental label is a voluntary tool of the environmental policy to protect the environment and to lessen the negative impact of manufacturing on the environment, health climate and natural resources through support and preference of products and services with a lower negative influence on the environment.

Since the Slovak Republic joined the EU in 2004 applicants can also obtain the European environmental label „EU ecolabel" (formerly "European flower"). Awarding of this European environmental label follows the regulation of the European parliament No. 66/2010 on the EU ecolabel.

Figure 4. Label „European flower" and „EU ecolabel"

Among the products that cannot obtain this environmental label are:

- Drinks, food,
- human and veterinary medicine, medical supplies,
- products containing chemical substances or mixtures qualifying for toxic or dangerous for the environment, are carcinogen, mutagen or reproductively toxic according to the European parliament regulation No. 1272/2008 and products containing a substance according to article 57 of the European parliament regulation No. 1907/2006 (REACH),
- products manufactured by processes most likely expressively harmful for mankind or the environment,
- products without an important share on the domestic market and in sales (Stričík, et al., 2011).

In 2008 the Minister of the environment of the Slovak Republic awarded the first label of the "European flower" to an apartment type hotel in Bratislava – MaMaison Šulekova. The awarded hotel also gained the

right to place the European label of excellence on their own products and documentation. In 2015 the right to use the label "EU ecolabel" was awarded to 131 products, out of which two were services, in Slovakia. There are more than 36.400 products within the EU.

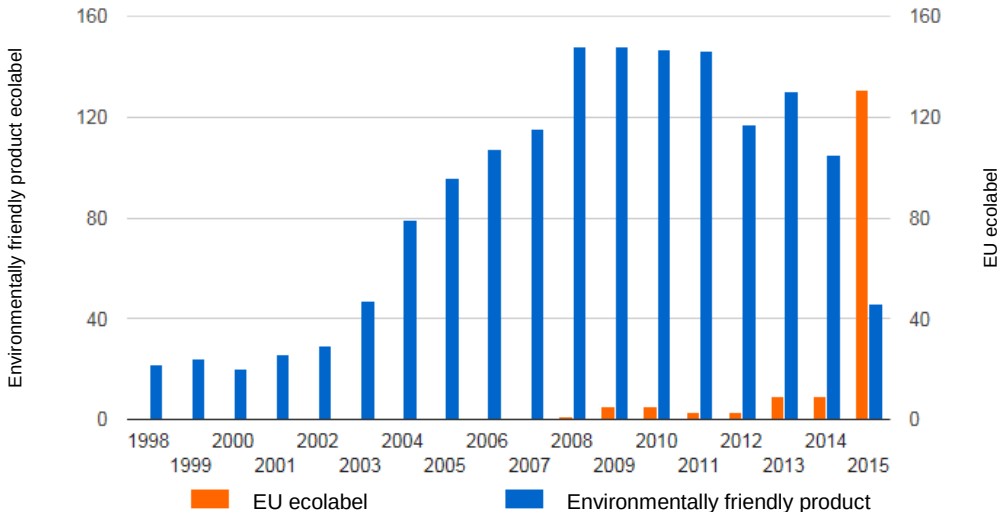

Figure 5. Review of the number of products with the right to use the national environmental label "Environmentally friendly product" and „EU ecolabel"
Source: SAŽP

Iceland and Croatia have not awarded any EU Ecolabel products or services. Out of the total licences in the March 2016 reporting period, the majority of products/services comprised within this total are from Italy (46%), France (10%) and Spain (9%) – Slovak Republic (0,4%).

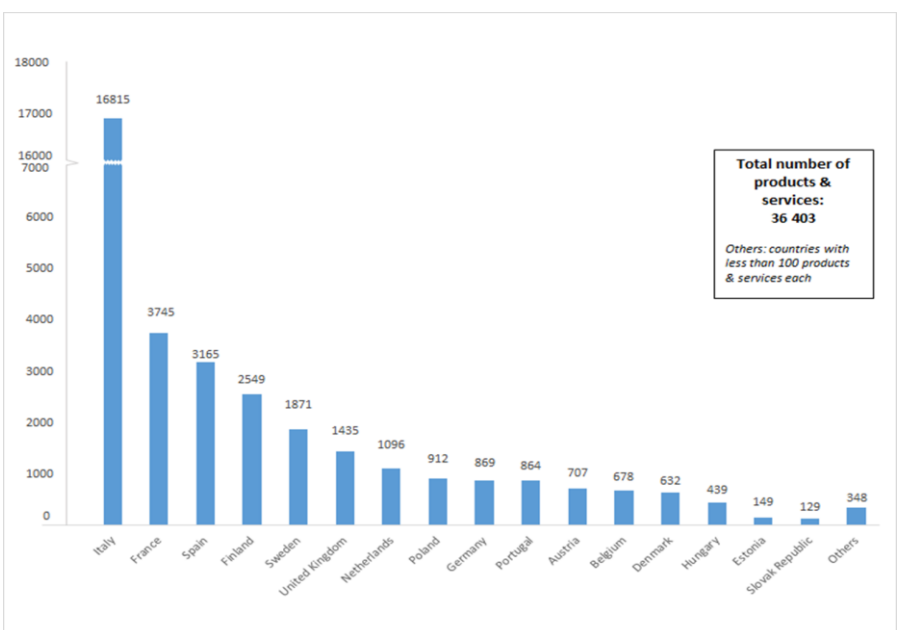

Figure 6. Total EU Ecolabel products and services per country

Verification of the statement about the environmental properties of the product according to the environmental labeling of the type II was confirmed for two organizations in Slovakia. Verification of the type III environmental labeling is not practiced in Slovakia.

Table 2. Environmental labeling of the type II in Slovakia

Organization/Products	Purpose of usage	Validity of the veracity of the environmental statement
N-POWER, s.r.o. Bratislava Product: Magnesium chloride – - magnesium salt (BIOMAG-MgCl2)	Antifreeze and defrosting product for winter maintenance of roads	until 23rd Jan. 2017
SILICON, a.s. Dobšiná Products: SOLMAG L, SOLMAG S	Antifreeze and defrosting product for winter maintenance of roads	until 15th Dec. 2017

Source: SAŽP

6. Conclusion

It is under some criticism that in the Slovak Republic there is little influence from the presence of this label on products to sway the buyer. Also criticised is the length and financially expensive certification and the fact that the label is only valid for three years deters many producers. An important bonus for businesses seems to be the label's influence on the acceptance by business partners and markets abroad.

References

Bednárová, L., Liberko, I., Rovňák, M. 2013. Environmental benchmarking in small and medium sized enterprises and there impact on environment. In: *Ecology, Economics, Education and Legislation, 13th International Multidisciplinary Scientific Geoconference, SGEM 2013*, Albena, Bulgaria, pp. 141-146.

Bosák, M., Krištanová, A., Kravec, M., Lešková, Ľ., Čorba, J., Čorba, J. 2013. Environmental-economic aspects of management. In: *Financial management of firms and financial institutions, 9th International Scientific Conference on Financial Management of Firms and Financial Institutions*, Ostrava, Czech Republic, pp. 82-87.

Bosák, M., Olexová, C. 2013. Recent environmental trends and innovations in the Slovak small and middle enterprises. In: *Ecology, Economics, Education and Legislation, 13th International Multidisciplinary Scientific Geoconference, SGEM 2013,* Albena, Bulgaria, pp. 247-254.

Bosák, M., Tarča, A., Majerník, M., Tomčíková, M. 2016. Application of new environmental recycling technology. In: *Ecology and Environmental Protection, 16th International Multidisciplinary Scientific Geoconference SGEM 2016*, Albena, Bulgaria, 2016, ISBN 978-619-7105-66-7, ISSN 1314-2704, pp. 77-83.

Huttmanová, E., Adamišin, P., Chovancová, J. 2013. Assessment of the current state of environment in the Slovak Republic with the use of green growth indicators. In: *Ecology, Economics, Education and Legislation, 13th International Multidisciplinary Scientific Geoconference, SGEM 2013,* Albena, Bulgaria, pp. 133-140.

MŽP SR (Ministerstvo životného prostredia SR). 2016. [on-line] www.enviroportal.sk.

Rusko, M., Kollár, V. 2010. Environmentálne značky a vyhlásenia. In: *Nehnuteľnosti a bývanie,* ISSN 1336-944X, pp. 51-66.

Rusko, M., Kucháriková E. 2007. Environmentálne označovanie produktov typ I, typ II a typ III. In: *Manažérstvo životného prostredia 2007, Zborník zo VII. konferencie so zahraničnou účastou*, Jaslovské Bohunice, ISBN 978-80-89281-18-3, pp. 136-143.

SAŽP (Slovenská agentúra životného prostredia). 2016. [on-line] www.sazp.sk.

Stričík, M., Andrejovský, P., Bosák, M. 2011. Udržateľnosť prírodných zdrojov. Bratislava: Ekonóm. ISBN 978-80-225-33616-4.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Insurance of environmental risks

Adriana Csikósová, Mária Janošková, Katarína Čulková

Abstract

Globalization process is closely related with rising of environmental risks. To manage such process needs to accept preventive measurements, but also to apply financial mechanisms for remediation of possible environmental damages. There are the so called normative means (orders, bans, directives, norms, regulations etc.), financial-economic means (environmental taxes and fees) and voluntary means (EMS, EMAS, and Environmental Labeling etc.). One of useable financial means is to prevent the appearance of environmental risks. Countries have different forms of environmental insurance. The developed economies have a wide spectrum of insurance products and different approaches of insurance of environmental risks contributing to the minimization of the consequences of environmental damages.

Keywords: Insurance, Environment, Company, Risk, Slovak republic.
JEL Code: Q52, 560, L10

1. Introduction

Global environmental challenges create risks and opportunities for companies in different sectors. Companies are driven by such challenges to actions (Seňová, et al., 2007). In regard to proactive environmental actions, the focus is typically on large companies (Chih, et al., 2010; Klettner, et al., 2014; Sharma, Vredenburg, 1998). Empirical evidence suggests that large companies are more likely to address environmental risks strategically than smaller companies (Chen, 2008; Singh et al., 2014). The need for studying driving forces behind proactive environmental actions of insurers is based on the ever growing pressure on insurers to deal with environmental issues, damages and related risks (Field, 2012, IPCC, 2013, UNFCCC, 2007). The study of Johannsdottir (2015) emphasizes the type of stakeholders insurance companies are in a position of influence, including customers, suppliers and authorities. The results have a theoretical implication, as the literature has not covered this subject in the context of insurance of environmental risks behind proactive environmental actions and the role of insurers as a driving force of proactive environmental actions of the companies, causing possible environmental damages. A practical implication for the insurance sector includes increased awareness about proactive environmental behaviour, knowledge about lack of drivers in the companies, knowledge about what stakeholder's insurers are providing insurance of environmental risks. The study suggest that the environmental behavior behind actions of financial companies do not necessarily follow the pattern of other sectors covered in the literature: it may therefore be sector-specific and they may also differ within a single industry setting. The institutional environment plays an important role, even in countries with similar characteristics and a similar national institutional context. Insurance is studied by the paper (Kempton, et al., 2010) as investment tool that responds to mine management issues, including also technical causes, policy examples, technical remedies, and principles for successful long-term management.

Management of environmental risk process is connected with accepting of normative tools, respectively with legislation, orientated to the area of prevention before rising of industrial emergencies, to the area of applying of polluter´s responsibilities for environmental damages, but also remediation of old burdens. At the same time together with acceptance of normative environmental tools importance is given also to financial

and economical tools, among which important position belongs to environmental taxes and fees (Romančíková, 2004).

In last time there is still greater importance given to so-called "soft legislation" that includes voluntary tools. It means *reflective regulation*, connected with using of "self-reflective" accesses of the companies, polluters of living environment. Such companies are not object of regulation from the side of institutions, responsible for quality of living environment, but also according their own decision they became part of regulation process. Voluntary tool can be considered also systems of environmental management (EMS and EMAS), but also marking of environmentally proper products, etc.

2. Insurance as a form of environmental risks financing

With respect to requirements for harmonizing in area of living environment authorities of the European Union adopted Directive 2004/35/EC on environmental liability with regard to the prevention and remedying of environmental damage that had been implemented by the Member States to their law. The Directive is based on the *prevention principle* and *polluter pays principle*. Slovak Republic has transposed a European directive in the form of a separate law No 359/2007 Coll. *"On the prevention and remedying of environmental damage"*.

Financial providing of polluter responsibility for covering of environmental damages is framed by the availability of financial resources of polluter that at some stage of his activities may or may not have the necessary extent available. Probability of such situation creates the conditions for the transfer of environmental risk to the insurance company.

In developed economies, a wide range of insurance products has developed, covering various damages and some of them cover subjective and objective responsibility, which may include:

- *Environmental Impairment Liability* – offering cover of damages, caused by third party. It means health and life emergencies, property damage, cost for removing or decreasing of pollution, as well as covering of costs for damages removing. Damages on biodiversity and covering of costs for removing of pollution from area of single operation are excluded from the insurance.
- *Coverage for On-site Cleanup Liability* – it means damages covering, rising for insured, while there are covered costs for pollution removing in area of operation. Such insurance is supplement of *Environmental Impairment Liability*.
- *Remediation Stop Loss* – covering costs for renovation of living environment pollution in case invested costs have overreached planned level. It is used mainly for covering of risks and uncertainties, connected with works on remediation of damages on living environment. Only damages, rising for insured, are covered from this insurance.
- *Contractors Pollution Legal Liability* – this insurance had been used formerly by companies, providing services in area of removing of living environment pollution, for example removing of contaminated materials from the soil. Insurance is source for covering of demands on responsibilities of living environment damages that would rise due to the performed activity.
- *Transportation Coverage* – covering risks, connected with accidents that can rise during transport of dangerous substances.
- *Environmental Coverage for Landfills* – product orientated to the damages, caused by operators of underground storage of waste that is regularly modified in connection to the clients' needs. Due to the modification there is high difficulty for covering of environmental risk not only during stock service, but also after its termination (Korauš, 2007).

3. Insurance of environmental risks in Slovakian market

Law No 359/2007 Coll. provides for subjects necessity to be financially secure against possible implementation of the environmental damage to 2012. The first insurance company in Slovakia, which provided insurance product for responsibility for environmental damage since 2008, was the Allianz Slovak insurance company. Based on the report of the Slovak Insurance Association it was at the beginning of 2012 the only insurance company providing insurance fully complying with the requirements of the Act on prevention and remedying of environmental damage. Currently, the insurance is offered in Slovakia as a separate insurance product by several insurers. An overview is given in Table 1.

Table 1. Insurers offering insurance of environmental damage responsibility in Slovakia

Insurer	**Insurance product**
AIG Europe limited	Enviro Pro
Allianz Slovenská poisťovňa	Insurance of environmental damage responsibility
Generali Poisťovňa	Insurance of environmental damage responsibility
Kooperativa	Enviro MAX
UNIQA	Insurance of environmental damage responsibility
Komunálna poisťovňa	EnviroPlus
HDI	Insurance of general responsibility
Groupama Garancia poisťovňa	Insurance of general responsibility

Review of insurance covering of environmental damage responsibility in mentioned insurance companies is given by Table 2.

Table 2. Insurance of environmental damage responsibility in Slovakia

Insurance coverage	**Insurance Company**							
	AIG	Alianz	Generali	Kooperativa	Komunálna poisťovňa	UNIQA	HDI	Groupama Garancia poisťovňa
Cost of preventive measurements	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Cost of primary, supplement, compensation remedy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sudden and random pollution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gradual pollution	Yes	No	No	Yes	No	No	No	No
Technical costs (legal services, monitoring, expert review)	Yes	Yes		Yes	Yes	No	No	No
Reimbursement of costs of civil proceedings	Yes	Yes	Yes	Yes	No	No	No	No
Own costs for cleaning and decontamination	Yes	No	No	Yes	No	No	No	No
Cleaning of living environment in state ownership	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
General responsibility (property damages, health damages)	Yes	Yes	No	Yes	Yes	No	Yes	No
Own break of operation	No	No	No	Yes	No	No	No	No
Product	No	No		No	No	No	Yes	No
Transport	No	No	No	Yes	No	No	No	No
Retroactivity	Yes	No	No	Yes	No	No	No	No

Insurer **AIG** offer to various subjects' insurance product EnviroPro that provides insurance coverage in the frame of European Direction 2004/35/EC and legislation No 359/2007. But insurer does not offer only basic covering, but also product, including number of various coverages, among which there is for example covering of monitoring and determination of damage volume, covering of property and health damage, technical costs and defense costs, etc.

Allianz Slovakian Insurance Company acts officially in Slovak insurance market since 2003, but its reformation from Slovak Insurance Company to Allianz Slovakian Insurance Company begin yet in 2001. Presently it is biggest insurance company in Slovakia, offering insurance product for covering of environmental damage responsibility that provides insurance protection against costs, invested to avoiding of immediate threatening of environmental damage, but also to already realized damages on living environment. Insurance is related also to the technical costs, including finances, invested for legislative services, emergency commissioners, expert reviews, etc. Insurer is obligated to pay also covering of reimbursement of the costs of civil proceedings. Further product is covering also damage on health and property for third subject.

Generali Poisťovňa, a. s. is part insurance group Generali PPF Holding that is one of biggest in Middle and Eastern Europe. In present time it belongs among three strongest insurers in Slovakian market. It provides insurance in the frame of its portfolio since April 2012 following the effectiveness of § 14 of the Act No 359/2007 Coll., which provides financial security obligation. Insurance is defined for production companies, but also for companies providing services. It provides insurance coverage according available legislation, which means covering of costs of primary, compensation and supplement remedy in case of environmental

damage realization and costs of preventive measurements in case of immediate threat of environmental damage. It includes also possibility for insurance of environmental damage, caused by product.

Kooperativa Poisťovňa, a. s. raised 30th October 1990 as first private universal insurance company in Slovakia. It is member of strong European concern Vienna Insurance Group. During last years it obtained Communal Insurance Company and Slovak Savings Bank, and by this way it increased its market rate to level 34,5%. It is regularly at rank of five strongest insurers in Slovakia. In the frame of responsibility insurance it offers product Insurance of responsibility for environmental damage - ENVIRO MAX.

Komunálna poisťovňa, a. s. started to act in Slovakian insurance market in 1994. It is orientated to the area of life and non-life insurance (insurance of industrial risks, property, vehicles, responsibilities). In 2001 insurance company became member of strong international concern Vienne Insurance Group. Insurer is working in area of big risks with strong reinsurances, such as MUNICH Re, Hannover Re, SCOR Paris, Swiss Re. For potential polluters it provides products Enviro Plus that bring the client insurance covering in full extend given by legislation. Insurance means „*claims made*“, during environmental damage insurer covers preventive measurements for avoiding of living environment damage.

UNIQA Poisťovňa, a. s. presents universal insurance company offering its clients broad spectrum of insurance protection in area of non-life and live insurance. It acts in Slovakia since 1990, when it raised as insurance company OTČINA, a. s. IN 1999 company merged with Bundesländer Versicherung, Reiffeisen Versicherung and Austria Collegialität Austrian concern UNIQA Group Austria. Product for insurance of environmental damage responsibility provides also full insurance protection in the frame of available legislation.

HDI Versicherung AG acts in Slovakian insurance market since 2009 when it takes the strain of former insurer HDI Gerling Slovakia, a.s. Its target segment are industrial companies, mainly energetics, electro technics, construction industry, engineering and general production. Insurance is provided also for companies, acting in area of business and services. Its portfolio of products includes also basic insurance of responsibilities, technical risks, transport and property insurance. It is orientated to the individual insurance needs of clients, offering customized products. Product „Insurance of environmental damage responsibility“ is offering since July 2010 as a possibility for reinsurance to general responsibility.

Groupama Garancia poisťovňa raised in France as cooperative insurance company, raised by farmers that wanted to be protected against fires and natural disasters. Lately it was developed and it started to insure also insuring dangers of various characters. In Slovakia it acts since 2009 when it raised by acquisition OTP Garancie poisťovne, a.s. and OTP Garancie životnej poisťovne, a.s. It provides life insurance, as well as non-life insurance and its products are available in clients' centers of OTP bank. Insurance of environmental damage responsibility is offering as reinsurance to general responsibility. It covers costs of preventive measurements and costs of primary, supplement and compensation remedy in case of realization of living environment damage that occurred randomly and unexpectedly. Product provides only basic protection, since it means reinsurance and it is proper mainly for clients in Groupama Insurance Company.

4. Conclusion

Based on analysis of insurance products at Slovak insurance market we can state that it provides a sufficient amount of insurance products. The range of coverage between them is a wide variety of products and company can choose from basic coverage to insurance coverage of transportation, product and service interruption.

Kooperativa insurance company with its products "*ENVIRO MAX*" provides its clients widest coverage in the Slovak insurance market. It covers all of the attributes that can be related to the occurrence of environmental damage, e.g. necessity to interrupt current operations, own cost of the land decontamination, and expert reviews. On the other hand, insurance coverage at a large number of insurance dangers and needs of those who take up insurance is questionable. Another product is EnviroPro from AIG. Those two insurances should provide for potential polluters coverage for almost all insurance dangers, related to environmental damage.

Although insurance is not the only possible way of financial guarantee for potential polluters as defined in Slovak legislation, it is still the most used method in the field of environmental risks. According to the report of the Slovak Insurance Association, in 2012 there is no information about the involvement of other subjects in this area, although ways how to insure are also, for example, a bank guarantee or a guarantee fund. In Slovakia, all the major insurance companies already offer environmental insurance and environmental

damages require large and financially strong partner. Therefore it is probable that insurance companies with lower insurance portfolio and capital do not plan in the future to provide such insurance. It is in case of insurance UNION, Inc., ČSOB Insurance Company, Inc., Astra Insurance Agency, Inc. etc. Another reason is the fact that the greatest interest in the insurance of environmental risks in Slovakia was to the date of rising of efficiency about obligation of financial security when the companies, which has to have obligation of financial providing for possible environmental damages within the meaning of the Act and companies have to demonstrate financial security for such damages.

Another problem in insuring environmental risks presents their nature and complexity. The probability of realizing such damage is small, but in case of its rising it reaches large financial dimensions. The insurers have over other insurance risks a more difficult task with regard to the underlying data. In case of responsibility of environmental risks insurance there is only small amount of historical data, from which insurers might expect the frequency and extent of damages on the living environment and, consequently, to create a quality insurance product, to determine adequate insurance and to ensure sufficient financial capacity. Moreover, there is a problem of risk anti selection when the insurer receives to insurance narrow range of major players who are aware of the high probability of causing environmental damage, but it means for the insurance company small portfolio with high risk, which cannot be differentiated by entry of smaller operators with lower risk of the insured event .

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References

Field, Ch. B., et al. IPCC. 2012. *Managing the risks of extreme events and disasters to advance climate change adaptation.* Special Report of the Intergovernmental Panel on Climate Change. IPPC, Cambridge & New York: Cambridge University Press. [on-line] https://www.ipcc.ch/pdf/special-reports/srex/SREX_Full_Report.pdf.

Chen, Y. S. 2008. The driver of green innovation and green image – green core competence. In: *Journal of Business Ethics*, Vol. 81 (2008), pp. 531–543.

Chih, H. L., Chih, H. H., Chen, T. Y. 2010. On the determinants of corporate social responsibility: International evidence on the financial Industry. In: *Journal of Business Ethics*, Vol. 93 (2010), pp. 115–135.

IPCC. 2013. Agreed Reference Material for the IPCC Fifth Assessment Report. [on-line] http://www.ipcc.ch/pdf/ar5/ar5-outline-compilation.pdf.

Johannsdottir, L. 2015. Drives of proactive environmental actions of small, medium and large Nordic non-life insurance companies – and insurers as a driving force of actions. In: *Journal of Cleaner Production*, Vol. 108 (2015), pp. 685–698.

Kempton, H., Bloomfield, T. A., Hanson, J. L., limerick, P. 2010. Policy guidance for identifying and effectively managing perpetual environmental impacts from new hardrock mines**.** In: *Environmental Science & Policy*, Vol. 13 (2010), No. 6, pp. 558-566.

Klettner, A., Clarke, T., Boersma, M. 2014. The governance of corporate sustainability: empirical insights into the development, leadership and implementation of responsible business strategy. In: *Journal of Business Ethics*, Vol. 122 (2014), pp. 145–165.

Korauš, A. 2007. Environmental insurance. In: *Management of Environment 2007. Proceedings of the International Conference*, Jaslovské Bohunice, pp. 1-8. [on-line] http://www.sszp.eu/wp-content/uploads/b_16-Koraus-1.pdf.

Romančíková, E. 2004. *Finančno-ekonomické aspekty ochrany životného prostredia*. Bratislava: ECO INSTRUMENT.

Seňová, A., Slaninová, P., Weiss. E. 2008. Posúdenie rizika bodovou metódou pre vybranú profesiu v ťažobnom priemysle. In: *Acta Montanistica Slovaca*, Vol. 13 (2008), No. 2, pp. 278-284.

Singh, N., Jain, S., Sharma, P. 2014. Determinants of proactive environmental management practices in Indian firms: an empirical study. In: *Journal of Cleaner Production*, Vol. 66 (2014), pp. 469–478.

Sharma, S., Vredenburg, H. 1998. Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. In: *Strategic Management Journal*, Vol. 19 (2007), No. 8, pp. 729–753.

UNFCCC. 2007. Report of the Conference of the Parties on its Thirteenth Session, Held in Bali. [on-line] http://unfccc.int/resource/docs/2007/cop13/eng/06a01.pdf#page=3.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Lean and innovative company

Jaroslav Dugas, Július Kmec

Abstract

It is most recently, in the time of continuing economical crisis, that companies are looking for the most effective ways to manage their productions. Primarily, they concentrate on lean processes that are today resulting in cut-down production costs, and they are optimising and rationalising their processes much better and much faster than their competitors. Companies are dealing with the issue of lean production daily, are unveiling squanders in manufacture and logistics, and are reducing production times and mainly, all the costs. To adhere to the company leanness means performing only vitally necessary activities that have to be performed correctly on the first try, that have to be performed faster than their competitors, and it also means to expend less moneys whilst doing so.

Keywords: Lean, company, processes, pillars, production
JEL Code: M120, O330

1. Introduction

The lean and innovative company rests on the following pillars: Lean production, Lean administration, Lean development and Lean logistics. In the following text are further describe the individual pillars.

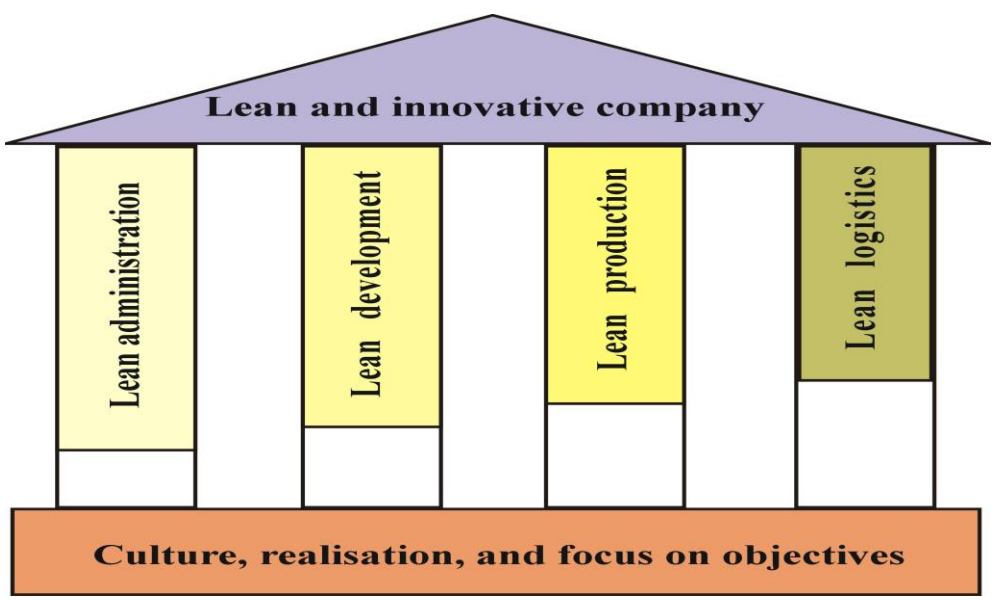

Figure 1. Pillars of lean and innovative company
Source: Čerkala, 2010

2. Lean production

Originally, the lean production philosophy arrived from Japan, and it rests in eliminating all those activities that do not result in creation of values or in satisfying the customer. The lean production:

- Eradicates all "useless" activities;
- Adjusts manufacturing premises so that the material flow was simple and straight;
- Eliminates all redundant stores and interim stores;
- Gets the employees involved in managing and innovating the processes;
- Engages suppliers and customers in the managing process;
- Reduces non-quality to minimum;
- Whenever possible, production is "drive"-controlled;
- Straightforward designing of products directly for the specific type of production;
- Putting aside all seldom-used materials, tools and fixtures.

The above-described principles mutually connect, and effects of their applying can be highly beneficial. Example: major foreign investors are not purchasing manufacturing premises from bankrupt companies; they find it much more advantageous to build a new "green field" manufacturing complex – it does not contain separation walls. In concern then are spacious and open areas arranged within which can be stores and the entire production according to the momentary need so that individual manufacturing operations were connected. A frequently utilised planning principle is the so-called "**PULL**": performed based on the momentary demand are calculations of necessary capacity and material resources, and the production cycle is established depending on the disclosed weak capacity spot. Sandwiched between production sources are buffering storerooms and when the inventory drops below a determined value, signalled is the need to top up from the previous source; this is to mean, that the "downstream" worksite is continuously "pulling in" inputs from upstream worksites. This way organised production can be managed using various techniques. Often employed is **Kanban** – and defined are areas managed by Kanban cards. Once material at a worksite is spent, the emptied Kanban card returns to the source workplace and provides the signal to be filled. Similarly function also properly marked crates or colour coded supply chambers. The "lean production" principles can be yet more effective if they are backed with an implemented top-notch information system.

Benefits of introducing lean production:

- Shorter delivery periods;
- Higher flexibility;
- Decreased production and services costs;
- Reduced inventories;
- Improved elaboration of production;
- Higher quality.

3. Lean administration

Variety of surveys in businesses suggest that more than half of the running time of an order is expended on administrative activities. In administration, lean management considers all non-productive processes. Usually, it is employed for supporting company processes and services such as all administration flows, recording of orders, processing proposals, purchase and logistics, sorting out various permission, implementing safety at work regulations, etc. Lean management is serviceable not only in administration of manufacturing companies but also in services providing organizations or in the running of municipal authorities and municipal governments. Applied in administrative activities as well can be the five lean management principles and 9 kinds of wasting. Practical experience of the employees point to very intense need of optimising administrative activities. The principles should be especially well known by all those working in offices. Insufficiently flexibly performed administrative activities result in prolongation of delivery periods. Whilst manufacturing plants are managed through be it quality control methods or various lean management methods to attain high efficiency, companies are rather helpless when it comes to administrative activities.

Eradication of whatever wasting presents the basis of all lean activities, regardless of that in which area are Lean management or Lean production, Lean construction or Lean maintenance introduced.

Some criticisers pronounce the "Lean" term ironically, taking it for false leanness. The ones that are intimately aware of the term take it for the name representing a system free of activities that are not adding on values.

Today, when markets are influenced by the financial crisis, a lot of companies are pushed to cut down their production, which automatically results in decreased profits. In this era, the "Lean" philosophy belongs to the group of tools enhancing competitiveness – and still, lean thinking remains seldom employed in company processes. Sought in the industrial production are all kinds and forms of wasting time and resources, and results are carefully recorded and evaluated. Negative impacts of enormous stocks, prolonged processing periods and flaws in production planning are sufficiently well known.

Throughout the world one can see how are progressive companies testing and optimising new processes and devices that ensure precision deliveries of all components, without any downtimes or wastes of materials. On the other hand, situation is totally different in the so-called indirect processes associated with commerce and administration. That is why administrative processes should be planned, optimised and standardised similarly as processes at manufacturing (Ferencz, 2012).

10 points of process optimising:

- Create values for the customer.
- Reduce and define interface of operations.
- Minimise questioning and redundant works.
- Eliminate "bottlenecks".
- Abandon any unnecessary approving processes.
- Determine priority of the information.
- Identify key issues in running processes.
- Allow parallel processing.
- Create by demand-controlled processes.
- Improve key processes.

Benefits of lean administration

Major benefits that transpire when applying lean principles in administrative processes are: cost saving; reduced complexity; enhanced transparency; better planning ability; improved possibilities to calculate impartially; enhanced motivating of the employees; increased quality of the output; satisfied customers.

Continuous introduction of changes focused on improving administrative processes through lean management should not be associated with laying off the personnel but with increasing efficiency at utilising the current number of employees. If employees are facing the threat of being laid off their permanent employment they become sceptic about the employer who will consequently suffer from absence of good ideas of his employees.

4. Lean development

Lean development focuses on eliminating the product design processes. Principles of LEAN DESIGN: Defining customers' requirements and functions; have the customer engaged in the product designing stages; identify functions with highest added values; eliminate items that do not add a value; use wasting decreasing tools and methods.

New trends in the product development processes: The basis is a real requirement of the customer and determination of the exact value; anything that do not satisfy need of the customer who has to pay for it is deemed to be wasting; concentration on the design initial stage where considered are multiple variants and points of view, whereas here is the real room for optimisation; parallel activities supported by an appropriate communication strategy; effort to fully understand and meet desires of the customer; optimisation of the low in designing processes and elimination of wasting; grouping of specialist from functional divisions into multi-profession teams to optimise prototype – product design.

5. Lean logistics

In general, logistics deals with optimal coordination, synchronisation, connecting and optimising the flow of raw materials, materials, semi-products, products and services, and also the flow of information and finances. In common companies, almost a quarter of employees and nearly entire cost of the product are involved with logistics. Pressures of the customer are pushing the companies to adapting to their individual requirements, though at cost of batch produced goods or services. This gives companies striving to prosper on markets for prolonged periods hard times. The most significant requirements are quality, price and promptness of deliveries. The only possible solution ready to meet the requirements is gradual introduction of the so-called lean logistics, which means cutting down wasting – i.e. on value not adding activities.

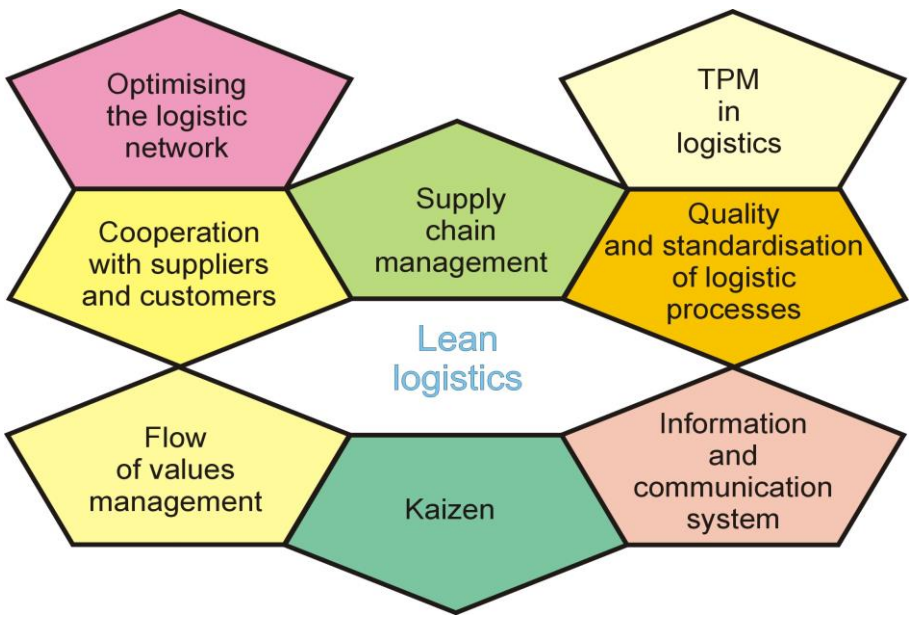

Figure 2. Shape of lean logistics
Source: Original design

Typical examples of wasting in logistics: useless handling and storing; shifting the material from one store to another; flaws in the planning system; insufficient preparation of worksites; altering packaging of products; downtimes.

However, quite a number of companies mistake lean logistics for decreasing of inventories only. Yet, their non-systemic decreasing at all costs may translate into more dire problems that can eventually interrupt continuity of the material flow. Besides specifying a max level of inventories, determined in the company must be their min level. An inevitable task of slimming the logistic processes is to apply the pull principle. In the logistics chain it means to better exploit available resources such as shortening of manipulation routes and minimising store areas surrounding assembly lines. A typical example of lean supply chain is the custom production concept. Lowering of the inventory volumes and slimming of the material flows definitely positively influences the company efficiency, though it also requires appropriate responses in all the supply chain elements so that by order requested items would be sufficiently promptly made available using the JIT (Just In Time) system. JIT warrants satisfying needs of the customer within specified time, quality, quantity and price. Hence, lean logistics needs such planning and control systems that reflect the nature of production, and based on the data develop adequate pull signals that derive from current needs of the market. On the other hand, lean logistics does not mean cutting down inventories only but, and especially so, stepped up organising of all of the involved activities. Implementation of the lean logistics principles has a connection with the automatic identification and mobile communication technologies that direct individual information as are necessary for maintaining the supply system, and hence also continuity of production. **Introducing this system of management organising into the internal logistic system is conditional upon meeting the following conditions:** *introducing the lean logistics principles into individual plants (introducing the*

transportation units system, and controlled supplying of production); introducing the workshop planning system based on data collecting; utilisation of the material flow as a significant source of topical data on the status and progress of manufacturing and logistic operations with subsequent optimisation in the Lean sense; on-line connecting the manufacture operating level with logistics. Successfully introduced changes in organisation and administration of the logistic system positively manifest in reduced costs of activities not providing values for the customer. The way how to arrive to these changes is gradual slimming accompanied by maintaining verified activities so that expended investments would be profitable. A space should also be established for presentation of various improvement proposals that should be individually examined and evaluated. Again, the most important thing to do is to satisfy needs of the customer at as low costs as possible and in an acceptable quality. This is where the Lean logistics seems to be helpful.

6. Conclusion

Considering varying situations within companies it is hard to tell where should be the lean production principles implemented first. Each of the four already mentioned domains – *production*, *logistics*, *development and administration* – has its un-substitutable place but implementation of the Lean system undoubtedly requires changes in the way of thinking of the top management, work-team members and of all the employees (Figure 3). Positive benefits of the Lean concept are undisputable by now, and for companies operating in the current competitive setting essential for surviving as well. The crisis has unpretentiously revealed the necessity to optimise and slim down individual processes in companies. If the businesses intend to maintain their loyal customers they have to make the most of and to be improving incessantly their company potentials employing the Lean concept. Why then is the lean production so important? *Muda* – a Japanese word for "losses" – is the basis of the entire lean production system - effort to eliminate all losses and activities that are not delivering already mentioned values to the customer.

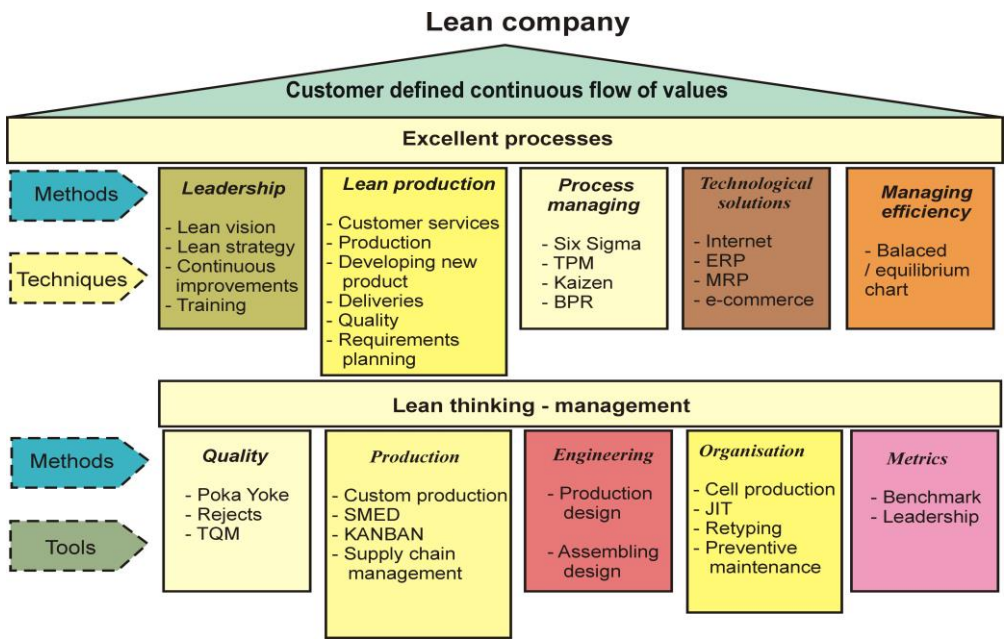

Figure 3. Tools of the Management of a Lean company
Source: Original design

References

Čerkala, P. 2010. Štíhle procesy v automobilovom priemysle. In: *Kováč, J. a kol. Zborník študijných materiálov „Automobilová výroba 2010"*. Košice: Strojnícka fakulta TU, pp. 112-121. ISBN 978-80-553-0505-9.

Ferencz, V. 2012. *Inovačný proces a reinžiniering v SR*. Bratislava: Ekonóm. ISBN 978-80-225-3450-5.

Kováč, J. 2006. *Projektovanie výrobných procesov a systémov*. Košice: SjF TU, Edícia EQUAL. ISBN 80-8073-720-7.

Kováč, M., Jahnátek, A. 2010. Technologická podpora inovácií. In: *Mihok, J. a kol. Podpora inovácií. Stratégie, nástroje, techniky a systémy*. Košice: Centrum inovácií a technického rozvoja. ISBN 978-80-970320-0-5.

Mihok, J. a kol. 2010. *Podpora inovácií. Stratégie, nástroje, techniky a systémy*. Košice: Centrum inovácií a technického rozvoja. ISBN 978-80-970320-0-5.

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Relationships between financial education and financial inclusion

Bożena Frączek

Abstract

Today around 2 billion people all over the world don't use basic formal financial products and services and more than 50% of adults in the poorest households are unbanked (World Bank, 2016). The financial education as the process aimed in increasing the level of financial literacy may facilitate financial inclusion. On the other hand, financial inclusion understood as a possibility of access to appropriate especially basic financial products and services of wide group of consumers, may influence the efficiency of financial education. It refers to informal financial education - education by practice. The described research problem will be analyzed by the prism the impact of various forms of financial education (formal, non-formal) on degree of financial inclusion. The objective of the article is show and analyze the characteristic of the concept of different forms of financial education and their relationships with financial inclusion. In addition in the article there will be presented the results of preliminary measurement of relationship between efficiency of financial education, represented by level of financial literacy and main areas of financial inclusion.

Keywords: financial education, financial inclusion, financial literacy
JEL Code: D1, D8, I22, I25

1. Introduction and literature review

Repeatedly proved positive correlation between the level of financial literacy[i] and the degree of financial inclusion[ii] may is probably results of the same factors influencing them. In the literature is a lot of evidence for impact of many socio-demographic factors on both financial literacy and financial inclusion. Among these factors the most important factors seem to be gender (OECD/INFE, 2013; Berggren & Gonzalez, 2010), age (Chen & Volpe, 1998; Atkinson, 2007; Lusardi, et al., 2010; Atkinson & Messy, 2012; Finke, et al., 2011), income (Atkinson & Messy, 2012; Spataro & Corsini, 2013), cultural norms (Nannyanzi, 2009) and motivation (Mandell & Klein, 2007). Better educated in finance and more financial included are also white collars workers (White-collar workers work in offices rather than doing physical work), teachers, officials and managers and individuals that are good in math and in numeracy (Spataro & Corsini, 2013).

The next factor influencing the level of financial literacy and financial inclusion is the effective education (financial education [iii]), that have positive impact for both financial literacy and financial inclusion. Considering the last factor (education) the attention should be paid into years of schooling as well as the areas of study. The years of schooling is positively correlated with the level of financial literacy and probably with financial inclusion. Undoubtedly the years of schooling influences the schooling attainments. Therefore, obvious is also relationship between increased levels of education and high financial literacy scores. In turn, people with higher test scores are more likely to hold a wide variety of financial instruments, including stocks, bonds, and mutual funds, savings accounts. It means that individuals with higher levels of education are more likely to participate in financial markets. Results from previous literature notes that educated households diversify their portfolios more efficiently (Campbell, 2006). Higher levels of education have also higher credit scores and are significantly less likely to be delinquent, declare bankruptcy or experience a foreclosure (Cole

et al., 2012). And although theoretically high level of financial literacy is possible even amongst those who have not completed formal education, usually financial literacy is increasing together with the years of schooling (Atkinson & Messy, 2012).

The higher level of financial literacy and the more advanced participation in financial markets is also represented by people who studied economics or financial fields. Such individuals not only more often use basic and more sophisticated financial products and services. They usually more often achieve the positive investment results. Individuals with one more year of schooling are 3%-7,5% more likely to report positive investment income and people who have graduated from high school are significantly more likely to report income from retirement savings (Cole & Shastry, 2007; Cole, et al., 2007).

To be able to make optimal use of financial products and services offered at the financial markets, individual financial consumer should have the relevant knowledge, and also desirable behavior and the right attitude toward financial market - elements of financial literacy achieved in the process of financial education).

The main objective of financial education is to increase financial literacy levels by teaching new knowledge, skills and attitudes that can bring about changes in money management in making financial decisions. Financial education may be also seen as a tool of rising the degree of financial inclusion, enabling people to take greater advantage of the financial services available to them.

But not every activity under education have positive impact on financial inclusion. In the literature are the results of research which show that a set of financial literacy education programs, mandated by state governments or other excellent personal finance courses are no more financially literate nor did not have an effect on individual financial decisions (e.g. on savings). Those who were not exposed to financial literacy education have similar or identical effects as those who were exposed to the programs of financial education (Cole et al., 2012; Mandell & Klein, 2009). Results of research available in literature also confirm that education only slightly reduces the likelihood that individuals make errors regarding macroeconomic variables, and that these errors affect buying attitudes and financial decisions (Tortorice, 2012). At the financial market, there are also the postulates "against the financial education" (Willis, 2008). This statement is argued by the lack of expected efficiency of financial education (low level of financial literacy and unsatisfactory degree of financial inclusion) and very high cost of financial education, including both phase of design and development of different initiatives under financial education as well as dissemination of the educational contents. Although the costs of financial education are difficult to quantify, all entities responsible for financial education underline that they are very high.

2. Research problem

The current paper focuses on impact of financial education on financial market participation and very closely related financial management in personal finance. The presented article is the type of review article, which aim is synthetic presentation of the concept and features of different form of financial education and their relationships with financial inclusion.

The paper is based on the study of literature in which both academic as well as non-academic sources have been used. The literature review – especially academically reviewed articles - shows that most research in the area of influence of financial education on financial inclusion. The main conclusion of this research is that not all researchers agree about the effectiveness of financial education measured by the prism of financial inclusion. Thus, searching and presentation ways of financial education and possibilities of their impact on financial inclusion (degree of participating in financial markets) may be a very relevant problem requiring much research.

The article is also the result of the preliminary calculations, using the Pearson coefficient to measure the relationship between the level of financial literacy and degree of basic areas of financial inclusion as well as the observation of financial and educational reality and rethinking of the Author.

3. The meaning and role of particular forms of financial education in financial inclusion

Financial inclusion refers to the process of promoting affordable, timely and adequate access to a wide range of regulated financial products and services and broadening their use by all segments of society through the implementation of tailored existing and innovative approaches including financial awareness and education with a view to promote financial well-being as well as economic and social inclusion (Atkinson & Messy, 2013). Both teaching and learning (as the elements of educational process) may be realized in formal, non-formal and informal way (Colardyn & Bjornavold, 2009). Each of this form of education has the impact on financial inclusion.

3.1. Formal financial education and its theoretical impact on financial inclusion

Formal education is curried out according to a given set of laws and norms, therefore it is organized, systematic, structured and administered form of education. It usually uses a mono-directional methodology, which is rather poor, ineffective and not creative, because regardless of the number of students, the same methodology - is adopted. In this form of education students don't participate in process of education in the active way. The usefulness of the education for the student's personal and professional growth is negligenced. The formal education in areas of finance realized at different level (e.g. primary, secondary, etc.) of financial education is usually very poor. That is why it does not support the expanding of financial inclusion.

According to many specialists, financial education should be taught cross-curricular in different courses, especially mathematics and with the financial numeracy aspect of personal finance education situated in mathematics (e.g. percentages, introduction to compound interest). Personal finance elements of mathematics should be clearly highlighted to emphasize how they relate to real life decisions. But reality is different.

In many countries the only elements of the financial education in primary and secondary schools are elements of mathematic (e.g. percentages) used very often at the financial markets. In such cases within the framework of compulsory program usually only several problems connected with the economics appear. In contrary in many other countries, there are compulsory financial education in schools. It refers the first of all to the countries, which have developed the national strategies of financial education NSFE. For example, in Czech Republic financial education is compulsory in high schools since 2009 and in primary schools since 2013. The main concepts under financial education (personal finance) relate to different subjects. Education on personal finance requires coordination and support in each school. Teachers should always lead on the teaching of personal finance education. Nevertheless, it is recognized that there is an important role for volunteers from financial service firms and other external experts in supporting the teaching of this subject in schools(Financial Education for Young People, 2011). Apart from this, it is worth to mention, that appropriately developed and effective financial system is good opportunity for teachers to develop the confidence and skills to teach the subject (Spielhofer, 2010).

The statutory programmes of financial education in schools may deliver financially capable school leavers – young people can manage their money well and who in many cases also can start running a business. The financial education in school equips young people to manage their own money for their own future. Compulsory financial education in primary and secondary level gives the children and youth the same chance in achieving the appropriate level of financial literacy and equips them in basic financial knowledge, financial awareness, financial attitudes and positive financial patterns. It influences the scale and the range of their future participating in financial markets. Current provision of personal finance education in schools is very important matter in many countries. But the problem is lack of appropriate very often limited financial sources.

3.2. Non-formal educational programs and other form of activities

There are also currently available a large number of non-statutory programmes. The particular form of non-formal education is focused on the student and his previously identified needs and possibilities. This form of education is intentional from the learner's point of view and it gives the possibility of immediate usefulness of the education for the student's personal and professional growth. Usually is carried out by studying voluntarily with a teacher who assists students with their self-determined interests, by using an organized

curriculum. Non-formal education is carried out by wide variety of educational actions and uses different way of delivery of educational contents, including "correspondence learning" and "distance learning". "Supplementary" forms of financial education are characterized by large diversity. They transfer the knowledge through: media, training, publications, competitions, etc. The programmes of non-formal financial education are prepared and/or provided as well as promote by governments, various public institutions, non-governmental organizations. banks, stock exchanges and other stakeholders interested in and responsible for financial education of societies. Non-formal education is dedicated to all population, although particular programmes may be directed to particular target group or level of school education. It may be seen as supplementary financial education, but its range and scale underlines its very significant role in financial education as the whole. But it is not compulsory.

Participating in different events under non-formal financial education increase the chance for achieving the higher level of financial literacy. It rises the financial awareness and make it clear and understandable many basic and more sophisticated concepts of finance. It also creates positive financial habits what directly influence the financial behavior in savings, borrowing and other financial behavior.

Financial inclusion and education by practice (unformal financial education)

Confucius is reputed to have said: "Tell Me and I Will Forget; Show Me and I May Remember; Involve Me and I Will Understand". This statement promote the education by practice. The education by practice is not organized and systematic education. It does not include the objectives and subjects usually encompassed by the traditional curricula and it does not lead to certification. It means the learning resulting from daily life activities. Taking into account the methods of learning, the informal education facilitates the realization the UNESCO idea of four pillars of the education: learning to know, learning to do, learning to live together, learning to be (UNESCO, 1996).

Education by practice is usually considered in the context of peoples' various financial experiences which may be informal, as a result e.g. participating in financial markets - having a banking account, using payments cards, carrying out transactions at the stock exchanges and forex, or formal and non-formal, involving courses, alternating regular study and work. Relationship between financial education (by practice) and financial inclusion in such situations is unquestioned.

The education by practice may be carried out by the prism of own experiences as well as by the observation or listening the media information referring to financial practice. Participation in the financial reality increases aware of financial issues and rises curiosity to financial concepts and mechanisms. It, in turns, increases the demand for further financial education. This kind of education is directly linked with financial inclusion. Education by practice is possible not only at the financial markets and in school. It may also appear in environment of peers and in family environment.

Children and youth are particularly susceptible to imitating. They often imitate colleques' spending habits. Their decisions are very often result of imitation rather than comprehension (Fletcher, 2005).

Financial education by practice may be also carried out in family environment. Many parents can, and do, pass on good money management skills to their children. It is possible by giving the children pocket money or common decisions on some expenditures and other examples of money management. Introducing and explaining on real examples the basic financial terms etc.

3.3. Preliminary calculations of the relationship between the level of financial literacy and degree of basic areas of financial inclusion

Taking into account the level of financial literacy measured by percentage of positive answers (at least 3 for 4 questions on risk diversification, inflation, Interest and interest compounding) as well as the percentage of adults aged 15+, who have an account, savings and borrow money as the main areas of financial inclusion - the relationships among them were measured. In this measurement the Pearson coefficient was used.

The values of the Pearson correlation coefficients, calculated based on data for nearly 150 countries, confirm the relationship between the level of financial literacy - as an effect of financial education and basic areas of financial inclusion.

Financial knowledge and financial skills achieved in the process of financial education influences on having account, savings as well as borrowing the money.

Table1. Measurement of relationship between the level of financial literacy and main areas of financial inclusion (among adults aged 15+)

	Account	**Financial Institution Account**	**Saved at a financial institution**	**Saved for old age**	**Borrowed from a financial institution**	**Outstanding mortgage at a financial institution**
Pearson coefficient	0,6528	0,6372	0,7511	0,6179	0,4828	0,7335

Source: Own work on the base of World Bank data

Financial awareness as the element of financial literacy, helps in informed participating in the financial markets. Considering the having an account, the most desired are accounts in formal financial institution. In turn, informed savings are results of the concern for the safe financial future. Also analysis of borrowing money shows, that people who have achieved the best scores in financial test most often borrow money for mortgages in comparison to other credit products (e.g. consumer loans).

However, the presented in Table 1. values (deviating from level 1) indicate the existence of other factors that influencing the level of financial inclusion. Their impact on activity in financial markets should also be verified. Among mentioned factors - the disposable income as the factor should be considered as the first. At the macro level - the degree of development of the country is very important.

4. Conclusion

Financial education covers basic principles and concepts of money management, which are universal. It should not only rise the level of financial literacy but it should decreases the differences in basic financial knowledge among people and help in increasing the financial experiences. It is of course not easy due to different contest of these differences. For example the young people have much less experience than older people, employees with a regular flow of income may be more regular savers and rural populations may have much less exposure to formal banking institutions.

Financial education should be effective. Effective financial education leads to positive financial behavior changes. Such education should adjust the types of financial education to particular target group, should use only the most effective methodologies in improving knowledge, skills, attitudes and practices and should combine the activity under financial education with other opportunities to reinforce long-term behavior change. But the fact is that financial education is not always effective.

Today's schools face significant barriers to teaching personal finance education, including pressures on curriculum time, no statutory mandate and lack of awareness of suitable resources. Additional problem is the lack of teacher training in personal finance education and therefore limited subject knowledge and confidence. Primary teachers should build upon their teaching of basic money and mathematics skills from an early age across the curriculum in preparation for secondary education and further education.

Providing personal finance education in schools is the best opportunity to embed basic understanding of financial matters The Governments and other entities should promote the provision of high quality financial education in schools. Personal finance education should be a compulsory part of every school's curriculum. Giving young people the possibility to talk about money issues, during lessons and activities at school, provides the bedrock to possibility of ensuring educated, informed consumers who are confident about money matters.

Meaning of financial education and its role in extension of financial inclusion suggests to use all possibilities/ways of education to promote, support and facilitate financial inclusion. Particular forms of financial education should not be alternative in undertaken efforts under financial education. The today's financial education requires coordinated attitude using formal, non-formal and informal financial education conducted in a comprehensive manner.

Presented in this paper relationships between financial education and financial inclusion is should be seen as preliminary and required further and more advanced research. Next research should be conducted taking into account the division of all countries into low, medium and high income countries. Under such division tendencies in analysed relationships sould be examined. And then their reasons.

References

Atkinson, A. 2007. Financial capability amongst adults with literacy and numeracy needs. In: *Personal Finance Research Centre*, p. 41.

Atkinson, A., Messy, F. 2012. *Measuring Financial Literacy.* Results of the OECD/International Network on Financial Education (INFE) Pilot Study. OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing. [on-line] http://www.oecdilibrary.org/docserver/download/5k9csfs90fr4.pdf?expires=1421766047&id=id&accname=guest&checksum=3B70F6B643D6EBA54BA7C209CF1D9C05.

Atkinson, A., Messy. F. 2013. *Promoting Financial Inclusion through Financial Education.* OECD/INFE Evidence, Policies and Practice, OECD Working Papers on Finance, Insurance and Private Pensions, No. 34, OECD Publishing. [on-line] http://dx.doi.org/10.1787/5k3xz6m88smp-en.

Berggren, J., Gonzalez, R. 2010, *Gender difference in financial decision making - A quantitative study of risk aversion and overconfidence between the genders.* Umeå University, p. 44.

Campbell, J. Y. 2006. Household Finance. In: *Journal of Finance*, No. 61, pp. 1553-1604.

Chen, H., Volpe, R. P. 1998. An Analysis of Personal Financial Literacy among College Students. In: *Financial Services Review*, Vol. 7, No. 2, pp. 107-128.

Cole, S., Shastry, G. K. 2007. *If You Are So Smart, Why Aren't You Rich? The Effects of Education, Financial Literacy and Cognitive Ability on Financial Market Participation*. [on-line] http://www.bostonfed.org/economic/cprc/conferences/2008/cfrg-october/cole-shastry-rich.pdf.

Cole, S., Paulson A. Shastry G. K. 2012. *Smart Money: The Effect of Education on Financial Behavior.* Harvard Business School Finance Working Paper No. 09-071. [on-line] http://ssrn.com/abstract=1317298, http://dx.doi.org/10.2139/ssrn.1317298.

Colardyn, D., Bjornavold, J. 2009. Validation of Formal, Non-Formal and Informal Learning: policy and practices in EU Member States. In: *European Journal of Education*, Vol. 39, No. 1, 2004, pp. 69-89.

Finke, M. S., Howe, J. S., Huston S. J. 2011. *Old age and the Decline in Financial Literacy*. [on-line] http://www.tilkingroup.com/texastech.pdf.

Lusardi, A., Mitchell, O. S., Curto V. 2010. Financial Literacy Among the Young. In: *Journal of Consumer Affairs*, Vol. 44, No. 2, pp. 358-380.

Mandell, L., Klein, L. S. 2007. Motivation and financial literacy. In: *Financial Services Review*, Vol.16, No. 2, pp. 105-116.

Mandell, L., Klein, L. S. 2009. The impact of financial literacy education on subsequent financial behavior. In: *Journal of Financial Counseling and Planning*, Vol. 20, No. 1, pp.15-24.

Nannyanzi, S. 2009. Financial Knowledge, Locus of Control, Cultural Values and Financial Behaviour among new vision employees. [on-line] http://www.mubs.ac.ug/docs/masters/acc_fin/Financial%20knowledge,20locus%20of%20control,%20cultural%20%20Values%20and%20financial%20behaviour.pdf.

Spataro, L., Corsini, L. 2013. Endogenous financial literacy, saving and stock market participation, MPRA, Paper No. 44342. [on-line] http://mpra.ub.uni-muenchen.de/44342/1/MPRA_paper_44342.pdf.

Spielhofer, T., Kerr, D., Gardiner, C. 2010. Personal Finance Education: Effective Practice Guide for Schools. [on-line] https://www.nfer.ac.uk/publications/LMM02/LMM02.pdf

Tortorice, D. L. 2012. Unemployment Expectations and the Business Cycle. In: *Journal of Macroeconomics*, Vol. 12, No. 47.

Willis, L. E. 2008. Against Financial Literacy Education. In: *Iowa Law Review*, No. 94.

Financial Education for Young People. 2011. Financial Education & the Curriculum, All-Party Parliamentary Group on Financial Education for Young People.

OECD/INFE. 2013, Women and financial literacy. OECD/INFE Evidence Survey and policy responses, p. 19.

UNESCO. 1996. Learning: The Treasure Within, UNESCO-report. [on-line] http://unesdoc.unesco.org/images/0010/001095/109590eo.pdf.

World Bank Group (2016) website of World Bank Group. [on-line] http://www.worldbank.org/en/topic/financialinclusion/overview#1.

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[i] Financial literacy is a combination of awareness, knowledge, skill, attitude and behaviour, necessary to sound financial decision-making and ultimately achieving individual financial well-being.

[ii] Financial inclusion means the access to a wide range of regulated financial products and services in any time and in affordable price.

[iii] Financial education is a process by which financial consumers/investors improve their understanding of financial products, main concepts and become more aware of financial risks and opportunities, to make informed choices.

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The Comparison of European Private Equity Activity Data 2006 – 2015

Magdaléna Freňáková

Abstract

The article is devoted to the issue of private equity and venture capital activity in Europe – fundraising, investments and divestments. Private equity is equity capital provided to enterprises not quoted on a stock market. Venture capital is a subset of private equity and refers to equity investments made to support the pre-launch, launch and early stage development or expansion of a business. The main objective of this article is the comparison of European private equity activity data during period 10 years, from 2006 to 2015. The figures come from the European Private Equity and Venture Capital Association (EVCA) Yearbooks, from EVCA Central and Eastern Europe Statistics and from the Invest Europe Yearbooks.

Keywords: private equity, venture capital, fundraising, investments, divestments
JEL Code: G23, G24, M13

1. Introduction

Private equity is equity capital provided to enterprises not quoted on a stock market. Private equity refers mainly to management buyouts (MBOs), management buyins (MBIs), replacement capital and venture purchase of quoted shares. Venture capital is a subset of private equity and refers to equity investments made to support the pre-launch, launch and early stage development or expansion of a business.

The article is devoted to the issue of private equity and venture capital activity in Europe – fundraising, investments and divestments. The objective of this article is the comparison of European private equity activity data during period 10 years, from 2006 to 2015. The figures come from the European Private Equity and Venture Capital Association (EVCA) Yearbooks, from EVCA Central and Eastern Europe Statistics and from the Invest Europe Yearbooks.

2. Definitions

In this part we try to provide main definitions of the private equity issue. All definitions come from EVCA Yearbook 2007 (EVCA, 2007a) and from Invest Europe's 2015 European Private Equity Activity (Invest Europe, 2016a).

According to EVCA Yearbook 2007 (EVCA, 2007a) **private equity** provides equity capital to enterprises not quoted on a stock market. Private equity refers mainly to management buyouts, management buyins, replacement capital and venture purchase of quoted shares. **Venture capital** is, strictly speaking, a subset of private equity and refers to equity investments made for the launch, early development, or expansion of a business (EVCA, 2007a).

There can be identified several financing stages in relation to the stages of development of a venture backed company. These are described as follows (EVCA, 2007a):

- ***Seed***: Financing provided to research, assess and develop an initial concept before a business has reached the start-up phase.

- ***Start-up***: Financing provided to companies for product development and initial marketing. Companies may be in the process of being set up or may have been in business for a short time, but have not sold their product commercially.
- ***Other early stage***: Financing to companies that have completed the product development stage and require further funds to initiate commercial manufacturing and sales. They will not yet be generating a profit.
- ***Expansion***: Financing provided for the growth and expansion of an operating company, which may or may not be breaking even or trading profitably. Capital may be used to finance increased production capacity, market or product development, and/or to provide additional working capital.
- ***Bridge financing***: Financing made available to a company in the period of transition from being privately owned to being publicly quoted.
- ***Secondary purchase/replacement capital***: Minority purchase of existing shares in a company from another private equity investment organization or from another shareholder or shareholders.
- ***Rescue/turnaround***: Financing made available to existing business which has experienced trading difficulties, with a view to re-establishing prosperity.
- ***Refinancing bank debt***: To reduce a company's level of gearing.
- ***Management buyout***: Financing provided to enable current operating management and investors to acquire existing product line or business.
- ***Management buy-in***: Financing provided to enable a manager or group of managers from outside the company to buy-in to the company with the support of private equity investors.
- ***Leveraged buyout***: Financing provided to acquire a company, by using significant amount of borrowed money to meet the cost of acquisition.
- ***Venture purchase of quoted shares***: Purchase of quoted shares with the purpose of delisting the company.
- ***Other purchase of quoted shares***: Purchase of shares on a public stock market.

These stages are usually regrouped into broader categories. For the purpose of this article these stages are regrouped into five broader categories: seed, start-up, expansion, replacement capital and buyout. Other purchases of quoted shares are excluded. We can make some classification of mentioned stages, as is shown in Table 1.

Table 1. Classification of financing stages

Stage	Classification
Seed	Seed
Start-up	Start-up, Other Early Stage
Expansion	Expansion, Bridge Financing, Rescue/Turnaround
Replacement Capital	Secondary Purchase/Replacement Capital, Refinancing Bank Debt
Buyouts	Management Buyout, Management Buy-in, Leverage Buyout, Venture Purchase of Quoted Shares, Other Purchase of Quoted Shares

Source: EVCA, 2007a.

According to Invest Europe's 2015 European Private Equity Activity (Invest Europe, 2016a) **private equity** is equity capital provided to enterprises not quoted on a stock market. Private equity includes the following investment stages: venture capital, growth capital, replacement capital, rescue/turnaround and buyouts. **Venture capital** is a subset of private equity and refers to equity investments made for launch (seed), early development (start-up), or expansion (later stage venture) of business (Invest Europe, 2016a). Table 2 shows stage of investment classification according to Invest Europe's 2015 European Private Equity Activity (Invest Europe, 2016a).

Table 2. Stage of investment – classification

Stage of investment	Classification
Venture capital transactions	Seed, Start-up, Later Stage Venture
Capital for mature companies transactions	Growth Capital, Rescue/Turnaround, Replacement Capital, Buyout

Source: INVEST EUROPE, 2016a.

Definitions of seed, start-up, rescue/turnaround stage, replacement capital are the same according to EVCA (2007a) as well as according to Invest Europe (2016a). We would provide definitions of some other stages of investment according to Invest Europe's 2015 European Private Equity Activity (Invest Europe, 2016a):

- ***Later stage venture***: This type matches definition of expansion stage, in addition later stage venture tends to be financing into companies already backed by venture capitalists.
- ***Growth capital***: A type of private equity investment – most often a minority investment but not necessarily – in relatively mature or developed companies that are looking for capital to expand, restructure operations or enter new markets.
- ***Buyout***: Definitions match definitions according to EVCA (2007a). This category includes: MBI, MBO, LBO, Public-to-Private or other type of buyout transaction.

3. European private equity activity in 2006

In Europe there was a record fundraising level of €112.3 billion in 2006, a significant increase over the €71.8 billion raised in 2005. Funds raised reached €112.3 billion in 2006 and it was a 56.4 % increase over the previous year. United Kingdom contributed a massive 66.8 % of these funds, specifically €75.0 billion (EVCA, 2007a).

If we take into account fundraising only for Central and Eastern Europe (CEE) situation was as it is shown in Figure 1. Fundraising for CEE reached a new record level of €2.25 billion in 2006, an increase of 74 % over the prior record level in 2005 (EVCA, 2007b). For the purpose of this article and according to EVCA Central and Eastern Europe Statistics, CEE comprises these countries: Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Serbia and Montenegro, the Slovak Republic and Slovenia. Data shown in Figure 1 are limited to capital raised by funds which declared CEE as their target region.

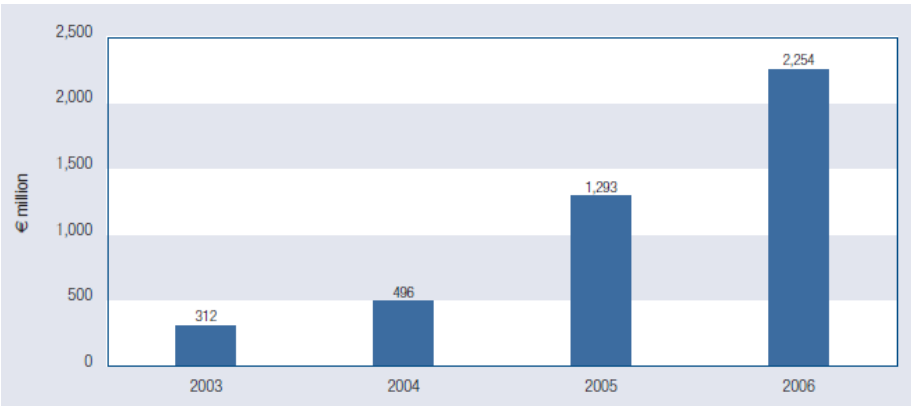

Figure 1. Fundraising for CEE private equity in 2003 – 2006
Source: EVCA, 2007b.

Investments in Europe also reached a record level of €71.2 billion in 2006, against €47.1 billion in the prior year (EVCA, 2007a). It was a 51.2 % increase. Buyouts represented 68.6 % of the total amount invested at €48.9 billion, up from €32.1 billion in 2005. Investments in high-tech and medical companies continued to be strong in 2006.

Annual investment value in the CEE region in 2006 is shown in Figure 2. In 2006 in the CEE region private equity investment activity increased dramatically, reaching €1.67 billion, what meant a more than three-fold increase compared to 2005 (EVCA, 2007b). Investment levels showed significant growth in almost all countries in the CEE region, in particular Hungary, the Czech Republic and Poland. In 2006 about 90 % of the CEE region's investment activity was concentrated in these countries: Hungary, the Czech Republic, Poland and Romania.

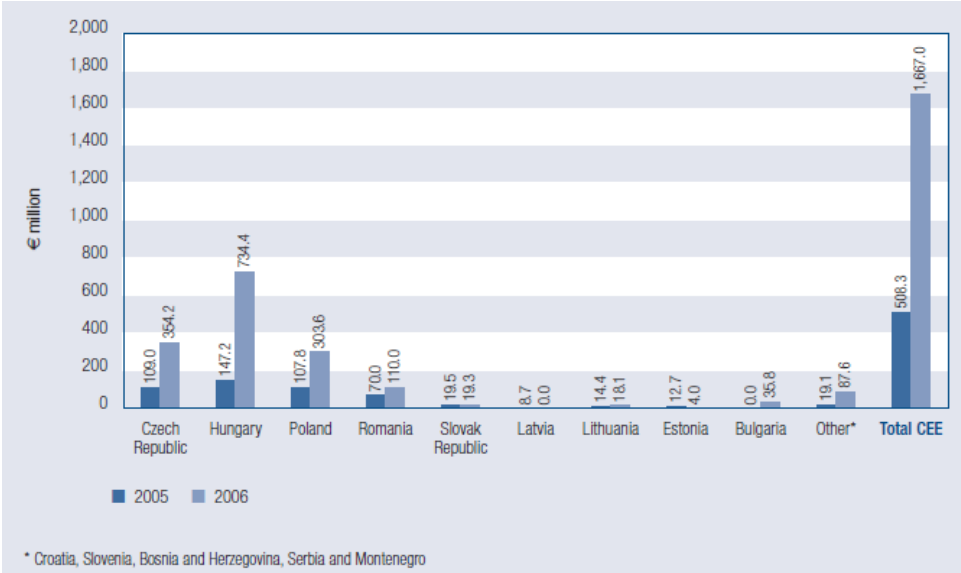

Figure 2. Annual investment value in the CEE region in 2005 – 2006
Source: EVCA, 2007b.

When comparing investment activity to GDP, the CEE region still lags far behind Europe as a whole, although the gap is shrinking. Investment as a percentage of GDP in CEE reached 0.218 % in 2006 as is shown in Figure 3.

	Total investment		Investment as % of GDP	
	2005	2006	2005	2006
Bosnia and Herzegovina	9,974	5,328	0.123%	0.055%
Bulgaria	-	35,812	0.000%	0.143%
Croatia	756	12,033	0.002%	0.035%
Czech Republic	108,952	354,208	0.112%	0.315%
Estonia	12,652	4,031	0.120%	0.031%
Hungary	147,247	734,360	0.167%	0.883%
Latvia	8,719	-	0.068%	0.000%
Lithuania	14,359	18,103	0.070%	0.076%
Poland	107,818	303,621	0.045%	0.118%
Romania	70,000	109,956	0.088%	0.115%
Serbia and Montenegro	6,367	31,501	0.030%	0.150% *
Slovak Republic	19,467	19,348	0.052%	0.045%
Slovenia	2,009	38,712	0.007%	0.130%
Total	**508,320**	**1,667,013**	**0.073%**	**0.218%**

* Based on 2005 GDP

Figure 3. Investment as a percentage of GDP in the CEE region in 2005 – 2006 (amounts in € th)
Source: EVCA, 2007b.

Divestments in Europe in 2006 continued to be strong at €33.1 billion, exceeding the previous record of €29.8 billion in 2005 (EVCA, 2007a). The divested amount achieved through public offering doubled to €5.3 billion. The largest element of divestment was €7.5 billion, achieved through trade sales. Divestment by repayment of preference shares/loans reached €5.7 billion and sales to other private equity houses amounted to €5.5 billion. Write-offs decreased, at €1.3 billion against the previous year write-offs of €1.4 billion.

When we look at exit activity in the CEE region it increased slightly in 2006 compared to 2005, by some 5 %. Trade sales remained the most important exit rout comprising 47.4 % of the divestment activity. Notable was increase of the proportion of sales to other private equity firms, known as "secondaries". In 2006 this route comprised 12.7 % of the exits, far above the 6 % recorded in 2005 and increasingly close to European level. These data are shown in Figure 4.

	Total CEE	% of total	Total Europe	% of total
Divestment by trade sale	209,291	47.4%	7,652,225	23.0%
Divestment by public offering	80,028	18.1%	5,348,614	16.0%
Divestment by write-off	930	0.2%	1,255,760	3.8%
Repayment of principal loans	36,040	8.2%	5,664,889	17.0%
Sale to another private equity firm	56,098	12.7%	5,529,199	16.6%
Sale to financial institution	300	0.1%	1,783,683	5.4%
Sale to management (MBO)	36,276	8.2%	2,048,871	6.1%
Divestment by other means	22,679	5.1%	4,044,112	12.1%
Total 2006	**441,641**	**100.0%**	**33,327,352**	**100.0%**
Total 2005	**421,693**		**19,562,478**	

Figure 4. Exits in the CEE region vs. Europe in 2005 – 2006 (exit value at investment cost, amounts in € th)
Source: EVCA, 2007b.

Figure 5 shows exit activity in the CEE region in 2006 by particular CEE country. Polish transactions remained the largest source of exit activity in CEE in 2006 at 31 % of total reported activity.

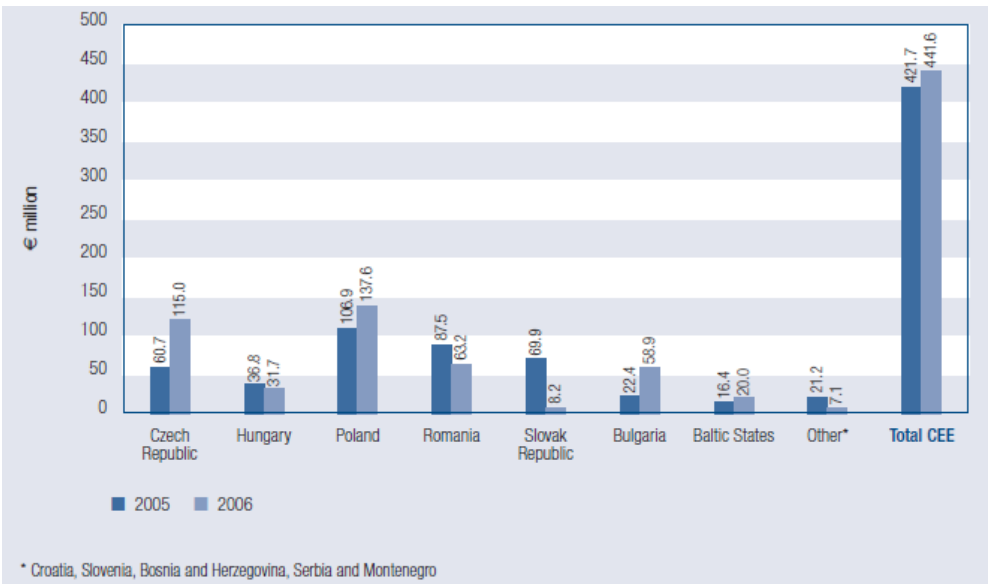

Figure 5. Divestments at cost by CEE country in 2005 – 2006
Source: EVCA, 2007b.

4. European private equity activity in 2015

Private equity activity in year 2015 remained high in part of fundraising and exit activity and increased in part of investment. According to Invest Europe's 2015 European Private Equity Activity report (Invest Europe, 2016a) in 2015 fundraising stays steady at €47.6 billion and nearly match the level of 2014. The number of funds raised (274) decreased by 15 % compared to 2014, but is still above the levels of 2012 and 2013. Data for fundraising in Europe shows Figure 6.

2015	All Private Equity	Venture Capital(1)	Buyout(1)	Growth(1)
Incremental - Amounts raised	€47.6bn	€5.3bn	€33.6bn	€2.9bn
Incremental - No. of funds	274	98	90	38
Final closings - Cumulative amount since inception	€50.4bn	€4.3bn	€40.5bn	€1.0bn
Final closings - No. of funds	129	40	50	13

Source: Invest Europe / PEREP_Analytics
Note: (1) relates to fund focus

Figure 6. Fundraising in Europe in 2015
Source: Invest Europe, 2016a.

If we look on the fundraising for the CEE region (Figure 7) we can see that year 2015 followed year 2013 after strong fundraising in 2014. Funds raised in 2015 reached €418 million. "This contrasts with a stable level of funds raised across all of Europe in 2015 versus the previous year. The CEE region accounted for less than 2 % of all private equity fundraising in Europe in 2015, reflecting a year with a limited number of fund managers in the market, especially from the region's larger firms." (Invest Europe, 2016c). Data in Figure 7 according to Invest Europe (2016c) match data in Figure 1 according to EVCA (2007b).

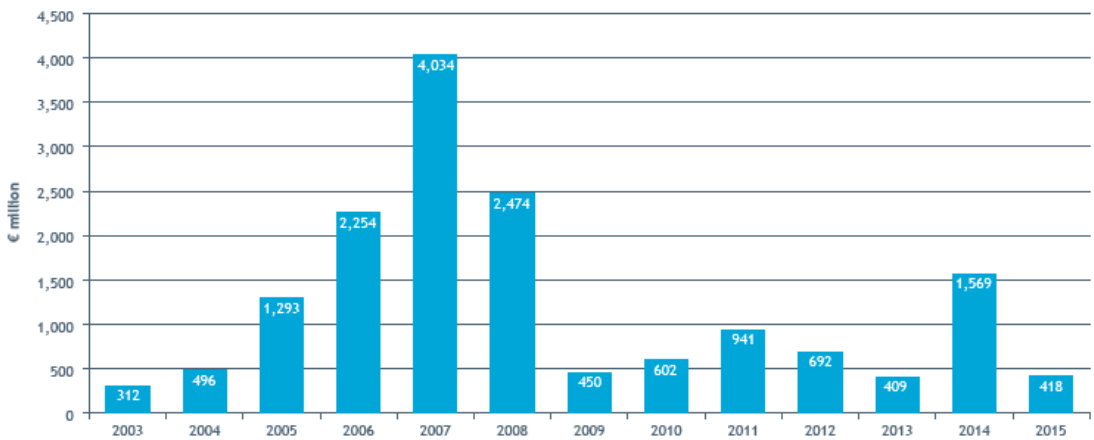

Figure 7. Fundraising in the CEE region in 2003 – 2015
Source: Invest Europe, 2016c.

In 2015 European private equity investment increased by 14 % to €47.4 billion (Figure 8). In this year investments were made into almost 5,000 European companies, while 86 % of them were small and medium sized enterprises (SMEs).

2015 - Market statistics	All Private Equity	Venture Capital(1)	Buyout(1)	Growth(1)
Amount	€47.4bn	€3.8bn	€36.3bn	€6.5bn
No. of companies	4,971	2,836	944	1,108
No. of firms	1,028	589	427	400
No. of funds	1,656	930	572	582

Source: Invest Europe / PEREP_Analytics
Note: (1) relates to the investment stage of the portfolio company

Figure 8. Investments in Europe in 2015 (market statistics)
Source: Invest Europe, 2016a.

Figure 9 provides detailed information about European private equity investment activity in years 2011 – 2015. We can see amount and number of companies in which investments were made. This classification corresponds with investment stage (venture capital, buyout, growth, other) as we mentioned in the chapter 2 of this article.

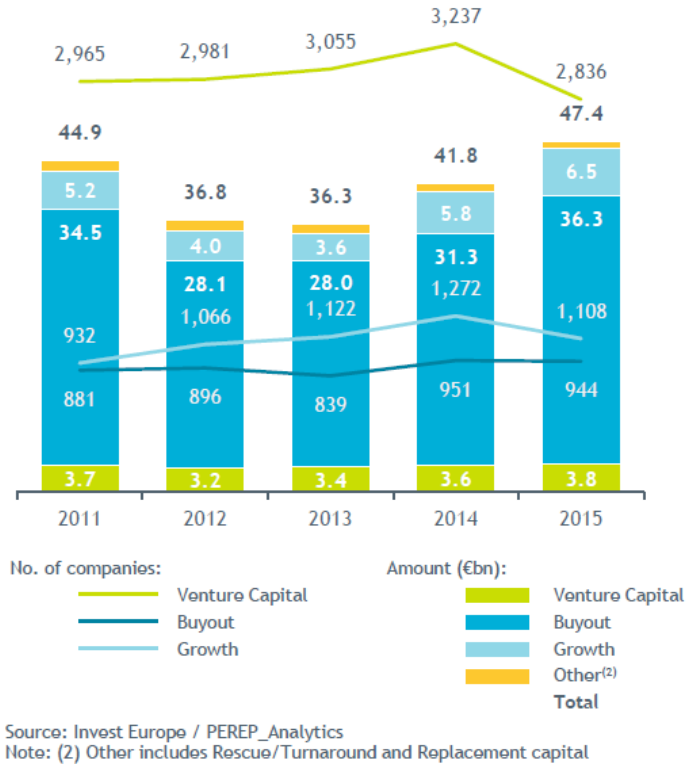

Figure 9. Investments in Europe in 2011 – 2015 (market statistics)
Source: Invest Europe, 2016a.

Annual private equity investment value in the CEE region in 2015 reached €1.63 billion, exceeding year 2014 by nearly 25 % and reaching the highest level since 2009 (Figure 10).

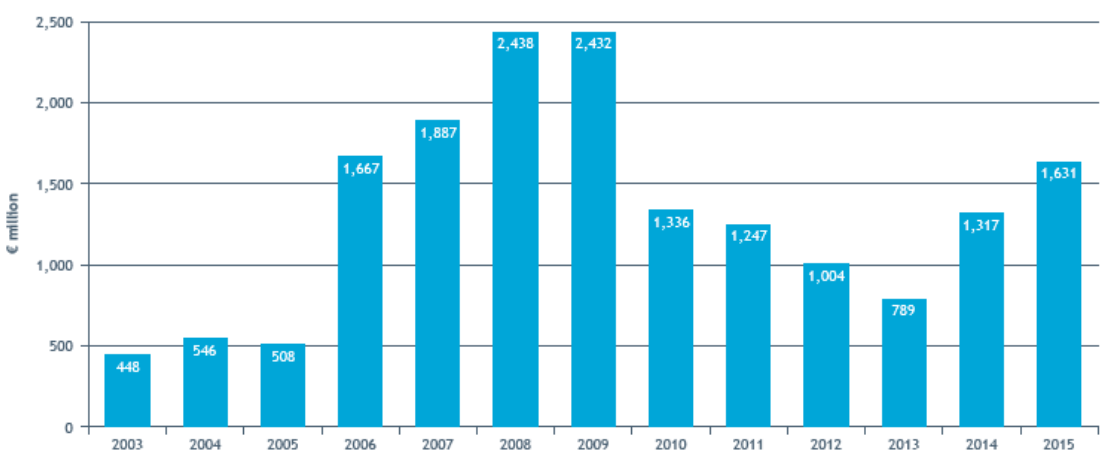

Figure 10. Investment value in the CEE region in 2003 – 2015
Source: Invest Europe, 2016c.

The number of CEE companies receiving private equity financing in 2015 was stable compared to the prior year and reached 312. The CEE investments growth in 2015 exceeded the overall 14 % year on year increase in investments for Europe overall. CEE investments comprised 3.4 % of total European private equity investment market in 2015. CEE private equity investment measured as a percentage of GDP was 0.127 % on average for the region in 2015 and remained below the European average of 0.302 % (Invest Europe, 2016c).

Divestments in Europe in 2015 remain high at €40.5 billion with almost 2,500 companies exited (Figure 11). The value of divestments matches the level of 2014, which was until then the highest reported exit volume to date for European private equity.

2015 - Market statistics	All Private Equity	Venture Capital(1)	Buyout(1)	Growth(1)
Divestments - Amount	€40.5bn	€2.1bn	€34.3bn	€3.2bn
Divestments - No. Companies	2,487	1,005	797	660
Number of Firms	640	297	321	162
Number of Funds	1,123	531	531	230

Source: Invest Europe / PEREP_Analytics
Note: (1) relates to the investment stage of the portfolio company

Figure 11. Divestments in Europe in 2015 (market statistics)
Source: Invest Europe, 2016a.

The most prominent exit routes by amount were trade sale (29 %), sale to another private equity firm (27 %) and public offering (23 %). Over 40 % of all the divested companies followed these exit routes. These forms of exit were followed by sale to financial institution (10 %), write-off (4 %), repayment of principal loans (4 %), sale to management (2 %) and other means of exit represented 1 % (Invest Europe, 2016a).

Private equity exit activity across the CEE region reached in 2015 value €1.2 billion. It was nearly the same level as in 2014 and the third highest level ever in terms of value. Exit value at investment cost in the CEE region in 2002 – 2015 shows Figure 12. In terms of number of companies divested, CEE achieved a record level of 97 in 2015 that was well above the number of 74 achieved in 2014 (Invest Europe, 2016c). The increase was driven primarily by a growth in the number of venturebacked company exits. "The value of divestments in 2015 in the CEE region (measured at historical cost) comprised 3.1% of total divestments across all of Europe. While exits by value in CEE decreased 2.4 % in 2015 versus 2014, it decreased 4.6 % across all of Europe." (Invest Europe, 2016c).

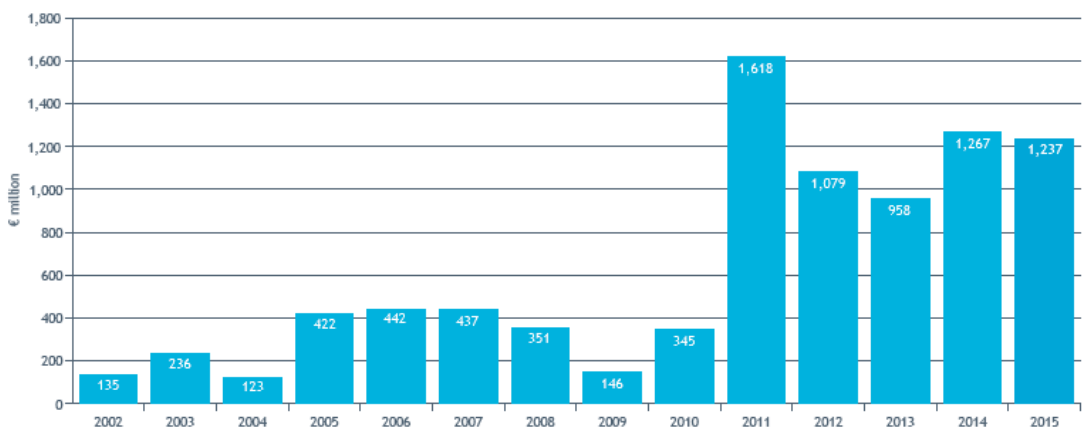

Figure 12. Divestment value in the CEE region in 2002 – 2015
Source: Invest Europe, 2016c.

5. Conclusion

Sector of private equity has a significant role in the economy. Investors of private equity (institutional investors such as pension funds or insurers) supply private equity sector with capital. This capital can be

invested by private equity managers (fund managers) in portfolio companies. "Since 2007, European private equity has backed in excess of 21,000 portfolio companies, to the tune of more than € 271 billion. The companies range from innovative start-ups needing capital to grow to mid cap businesses looking to take the next step in their development and struggling companies that need help to get back to growth, as well as larger businesses." (Invest Europe, 2016b).

The data presented in this article come from Invest Europe's 2015 European Private Equity Activity report and from EVCA material such as EVCA Yearbooks and EVCA Central and Eastern Europe Statistics. The material Invest Europe's 2015 European Private Equity Activity report is considered to be the most comprehensive and authoritative source of private equity fundraising, investment and divestment data for the European industry. This report provides verified data "gathered directly from more than 1,200 European private equity firms, covering 91 % of the €564 billion in capital under management in Europe" (Invest Europe, 2016b).

On the basis of our comparison we note that years 2006 – 2009 were very strong and positive from the perspective of private equity fundraising and investment activity in Europe as well as in the CEE region. In years 2010 – 2013 we have seen decrease in private equity activity (fundraising and investments), but in two last years 2014 – 2015 we can see repeated growth. For example investment activity (annual investment value) in the CEE region in the year 2015 reached €1.63 billion and was nearly the same in comparison to year 2006 (reaching €1.67 billion). On the other hand in years 2011 – 2015 there is strong private equity exit activity in Europe as well as in the CEE region.

Private equity and its subset venture capital can be considered for relatively new industry in much of the world. But we suppose that private equity sector will play a very important economic role in the future.

References

BERNOTH, K., COLAVECCHIO, R. 2014. The macroeconomic determinants of private equity investment: a European comparison. In *Applied Economics*. ISSN 0003-6846. Vol. 46, Issue 11, 2014, pp. 1170–1183.

BERTONI, F., COLOMBO, M., G., QUAS, A. 2015. The patterns of venture capital investment in Europe. In *Small business economics*. ISSN 1573-0913, Vol. 45, Issue 3, 2015, pp. 543–560.

EVCA. 2007a. *EVCA Yearbook 2007*. Brussels : EVCA, 2007. 336 p. ISBN 9789077715086

EVCA. 2007b. *Central and Eastern Europe Statistics 2006*. An EVCA Special Paper. Zaventem : EVCA, 2007. 12 p.

FREŇÁKOVÁ, M. 2011. Venture kapitál a rozvojový kapitál pre váš biznis. Bratislava : Vydavateľstvo TREND, 2011, 150 s. ISBN 978-80-89357-06-2.

INVEST EUROPE. 2016a. *Invest Europe's 2015 European Private Equity Activity*. Brussels : Invest Europe, 2016. 74 p.

INVEST EUROPE. 2016b. [online]. [cit. 29. 09. 2016]. Available on: <http://www.investeurope.eu/research/economic-impact-data/>

INVEST EUROPE. 2016c. *Central and Eastern European Private Equity Statistics 2015*. Brussels : Invest Europe, 2016. 44 p.

SOKOLOWSKA, E. 2016. Is the growing wealth the driving force for venture capital fundraising in Europe? An empirical analysis. In *Applied economics letters*. ISSN 1350-4851, Vol. 23, Issue 16, 2016, pp. 1125–1129.

SOLOMA, A., JEDLICKA, P. 2013. Venture capital and private equity markets: a comparison between Poland and the Czech Republic. In *International Scientific Conference on Hradec Economic Days 2013 - Economic Development and Management Region*. Hradec Kralove, Czech Republic, February 19-20, 2013. ISBN 978-80-7435-251-5, pp. 368–373.

UGHETTO, E. 2010. Assessing the contribution to innovation of private equity investors: A study on European buyouts. In Research policy. ISSN 0048-7333, Vol. 39, Issue 1, pp. 126–140.

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Current State and Strategy of Development of the Slovak Foreign Trade until 2020

Mária Hambálková, Zdenka Kádeková

Abstract

An important indicator of economic growth affecting the efficient functioning of the entire economy is a positive development of foreign trade. Foreign trade has a significant position in the national of the country as largely contributes to the economic growth, gross domestic product while creates an essential part of foreign exchange revenue. One of the basic objectives of the economic policy of Slovakia is to improve the economic performance and competitiveness of the Slovak economy. In fact, the foreign trade is an important tool to achieve such objective.

Keywords: Foreign Trade, Competitiveness, Export, Import, Transformation of Foreign Trade Performance, Michaely Index.
JEL Code: F1

1. Introduction

The liberalization of international business environment and use of modern technologies offer to businesses the new opportunities of establishment in foreign markets and at the same time to increase the global competitiveness of Slovak products in the foreign markets and sustainable development of the national economy.

2. Theoretical and Methodological Approaches, Achieved Results

The current business environment is typified by the global economic order, bringing significant changes to which the foreign trade policy has to respond in different sectors of the national economy. Together with openness of the Slovak economy comes a need to continuously improve the global competitiveness of Slovak products in foreign markets.

Machková (2014) in this respect notes that exporters will quickly adapt to the new trends, especially the liberalization of business environment at the international level. Lipková (2011) points out that foreign has a role of countervailing factor, as it fills the voids resulting in product mix of goods between domestic consumption and production, and the leveling operation, respectively countervailing function which is considered one of the most important functions of the foreign trade.

According to Kalinská (2010) is a trade policy of the state the summary of the objectives, strategies, policies, actions, instruments, treaties and institutions, creating and drafting at government level and aimed at corporates, domestic as well as foreign ones. Through the trade policy, governments affect the business climate and business relations, in order to ensure optimal internal economic development of the national economy and in the long, medium and short term. Through the real trade policy, the Governments of states engage economy in international relations and therefore achieves the re-allocation of productive resources and the redistribution of income.

Plchová (2011) argues that every country has their own personal system and method for the evaluation of competitiveness, through which is able to penetrate with their domestic goods and services to foreign markets

and gain competitive advantage. The most important factors in a competitive approach are demand, production factors, business strategy and support, and other related segments. States which joined the EU are constantly trying to increase the competitiveness in foreign markets. This is a challenging task that results from the Copenhagen criteria and any country that wants to be a member of the EU has to fulfill them. To be perspective and competitive on foreign markets is not a question of short-term process, on the contrary, it is a long and smooth gradual process. Jeníček and Krepl (2009) also show that the foreign trade is actually a manifestation of the links between economies that covers part of foreign relations which is generally related to exchange of that production which exceeds the domestic consumption demand. In contrast, import ensures demand for that part of production which cannot be satisfied through the domestic production. This process is highly complicated because of price, trade and political reasons routing to the export of production, implementation of which is possible in domestic country. Increasing competition related to import contributes to wider offer of products.

2.1 Aim, Data and Methods

The aim of this paper is to assess trends and strategies of development of foreign trade until 2020. To achieve the objectives, the following methodological apparatus was used: when assessing the foreign trade with selected countries, we applied SITC Rev.4. (Standard International Trade Classification, Rev. 4), by which was assessed the transformative power of selected countries for a certain period of time. Transformation output represents the value of net export per capita.

Transformative power (TP) of foreign trade of Slovakia can be calculated as follows (1):

$$TP = \frac{E\,(5+6+7+8) - I(2+3)}{\sum \text{inhabitants of SR in mil.}} \tag{1}$$

Where:
TP- Transformative power of foreign trade of Slovakia
E - total export
V - total imports
2 - raw Materials
3 - mineral fuels
5 - chemicals
6 - market products
7 - machinery
8 - industrial products
Σ Slovak population in mil. (5.4 million)

Michaely Index (2)

$$M_{ij} = \frac{X_{ij}}{\sum_i X_{ij}} - \frac{M_{ij}}{\sum_i M_{ij}} \tag{2}$$

Where:
Xij - export of "i" commodity group of "j"country
Mij - import of "i" commodity group of "j"country
ΣXij - total national export
ΣMij - total national import
$0 < M_{ij} < 1$ points to some degree of specialization of the country in a given commodity group
$-1 < M_{ij} < 0$ indicates lack of specialization of the country in a given commodity group

2.2 Achieved Results and Interpretation

Slovakia's accession to the EU has become a great opportunity for Slovak businesses to develop international business activities. Single internal market (free movement of goods, services, people and capital) means that business companies from EU Member States should not be restricted. Certain restrictions are unique and consist mostly of measures to protect the safety and health of consumers, the environment, requirements on qualifications of regulated professions and trades such as physicians, accountants and

architects.

Despite the limitations outlined in 2004 opened a Slovak enterprise market with nearly 500 million inhabitants with a stable business and legal environment and a well-functioning institutional background. The share of internal (intra) trade on total trade (intra + extra) in mld. EUR for the years from 2013 to 2015 is shown in Table1.

Table 1. The share of Internal (intra) Trade on Total Trade (intra + extra) of the Slovak Republic in mld. EUR for the years from 2013 to 2015

Index		**Export**			**Import**		
	Year	**Extra+ Inntra**	**Intra Export**	**%**	**Extra+ Inntra**	**Intra Import**	**%**
	2013	64,173.2	51,113.8	82.77	59,939.9	37,234.4	62.12
	2014	64,721.1	54,416.1	84.80	60,018.7	37,803.6	62.99
	2015	37,853.2	57,826.0	85.21	64,562.3	42,609.5	66.00

Source: Statistical Office of SR, own calculations

Table 1 clearly shows that the proportion of intra-export of SR to EU Member States for the reference years is around 85%. Export of Slovakia to the third countries is remaining 15%. Intra-import share of individual EU countries was amounted to 66% in 2015.

Table 2. Calculation of the Transformation Performance of Foreign Trade of Slovakia with Selected Groups and Countries in the Period 2013-2015 (per capita per year in EUR)

Groups and Countries	**Transformation Performance**		
	2013	**2014**	**2015**
Year			
Total	8,570.0	9,193.0	9,948.0
OECD	8,283.0	8,749.0	8,605.0
EU 28	7,809.0	8,303.0	8,659.0
Germany	2,324.0	2,489.0	2,655.0
Czech Republic	1,012.0	1,043.0	1,143.0
Poland	761.0	807.0	875.0
Great Britain	487.0	547.0	598.0
Netherlands	250.0	281.0	288.0
Russia	-609.0	-462.0	-390.0

Source: Statistical Office of SR, own calculations

The performance of foreign trade can be quantified by calculating the transformation performance, which represents the value of net exports per capita. From development of this indicator (Table 2) can be seen that the highest value was reached in 2015 when the value of net exports reached export 9, 948.0 EUR per 1 inhabitant of the Slovak Republic (per capita). The worst situation is reported with Russia when the long-term repercussions of a the negative value, in 2015 it was -390 EUR per capita, which is confirmed with regard to Russia that from the Slovak Republic to Russia prevails the import of raw materials and the export of finished products. The competitiveness of the Slovak products in the foreign markets is possible to measure by achieved level of specialization, using calculations of Michaely index (Table 3), suggesting that index of Standard International Trade Classification 7 Machinery in the interval (0-1) ended with amount 0.117 in 2015. Hints at a relatively low level of specialization can be seen in the SITC 6 Market products with an index of 0.007.

Actual results confirmed the positive trend of the global competitiveness of the Slovak Republic in the years 2015-2016 and competitive position in the World Economic Forum, where Slovakia was ranked at the 67th place and again got into the first half of the rankings of competitiveness. Despite this positive change, Slovakia remains third worst ranked country in the group of EU countries. Below is ranked just Croatia (77th place) and Greece (81st place).

Table 3. Calculation of Michaely Index in mil. EUR FOB/FOB

SITC Code	Import	Export	Michaely Index
Total	64,562.0	67,865.0	
SITC 0 Food	3,029.0	2,213.0	-0.012
SITC 1 Beverages and Tobacco	431.0	106.0	-0.005
SITC 2 Raw Materials	1,550.0	1,221.0	-0.006
SITC 3 Mineral Fuels	5,281.0	2,526.0	-0.079
SITC 4 Oils and fats	183.0	137.0	-0.005
SITC 5 Chemicals	5,729.0	3,197.0	-0.042
SITC 6 Markets Products	9,655.0	11,320.0	0.007
SITC 7 Machinery	30,351.0	40,393.0	0.117
SITC 8 Industrial Products	8,203.0	6,600.0	-0.030
SITC 9 Others	152.0	152.0	-0.003

Source: own calculations

In foreign markets, businesses can use a variety of strategies for international business. When choosing a strategy for the target market it is always necessary to take into account the specificities and maturity of the market and a number of other factors. These are mainly:

- Commercial and political conditions - the customs and foreign exchange regime, exchange rate policy, non-tariff instruments (technical barriers, quantitative restrictions, minimum prices, anti-dumping duties, import surcharges, import deposits),
- Economic environment - growth, inflation, unemployment, growth of industrial production, development of real terms of trade, investment, balance of payments, demographic change, living standards and consumption dynamics,
- Political environment - political system, political stability, the country membership in regional integration groupings and its political ties to other countries and foreign firms, corrupt environment, the importance of interest, groups.
- Legal environment - stability and credibility of the regulatory environment, the conditions for foreign entities, possibility to control the property rights, the possibility of purchasing the real estate and land, foreign exchange and legal aspects of the business with foreign entities, the possibility of repatriation abroad, resolving disputes when doing business with foreign countries, the employment conditions,
- Characteristics of products: industrial production, agricultural production, non-durable and durable goods, supplies for the public sector.
- Features of the business company - legal form, ownership structure, liability of the person authorized to act - to negotiate on behalf of the company, market position, and size of the company.
- The effectiveness of the selected company, the ratio of costs and risk, the costs return, the estimated profit margin.

In practice, there are international trade and international business available in different forms, which may be subdivided into following:

- Exports and imports of goods and services (business operations),
- Forms of low capital investment (licenses, franchises etc.),
- Capital-efficient forms of entering international markets (e.g. direct foreign investment). In recent years, document "Pro-export policy strategy 2007-2013" was an important document for improving foreign policy, which had been directly followed by expanded form of another document "Strategy for the external relations of the Slovak Republic for 2014-2020", and by decision of the Government of the Slovak Republic on March 25th 2013, it has been used to promote exports and investments.

Table 4. Initial Status of Indicators to Monitor the Goals of the Strategy

Aim	**Indicator**	**Year 2012**
Export Growth	The value of exports of goods	62,833.0 mil. EUR
	The value of exports per capita	11,612.0 mil. EUR
Number of Exporters	The number of exporting companies	28,297.0
Growth	Number of new exporters	882.0
	Number of employees in exporting reporting units	694,200.0
Diversification of	The volume of exports outside the EU markets	10,155.8 mil. EUR
Territorial	The volume of exports to markets outside Europe	4,399.7 mil. EUR
Export Structure	The volume of exports of SMEs in markets outside Europe	706.2 mil. EUR
Diversification of	The volume of exports minus exports in groups HS85 and HS87	
Commodity	The volume of exports minus exports of top 10 exporters	35,090.8 mil. EUR
Export Structure		36,791.4 mil. EUR
Increase the share of	The number of exporting SMEs	27, 474.0
exports of SMEs **	The share of exporting SMEs in the total number of exporters	97.1 %
	The volume of exports of SMEs	17,486.2 mil. EUR
	The export share of SMEs in the overall volume of exports	27.8 %
Increase the share of	The volume of exports of services together *	5,539.1 mil. EUR
export of services	The volume of exports of tourism services *	1,789.0 mil. EUR
	The export share of services in total exports *	8.14 %

Source: Statistical Office of SR

Notes:
* NBS monitors utility payments for services (and goods) within the balance of payments.
** The definition of SMEs does not reflect the sort of establishment under the EC recommendations but is based on a classification by number of employees (regardless of their ownership structure).

The aim of the external economic relations strategy is to ensure Slovakia's position in the international economic relations, promoting economic development of the country, the growth of living standards and the promotion of economic interests abroad, including guaranteeing compliance with the requirements of economic security. New quality of Slovakia's position in external economic relations in 2020 will be implemented in a strategic, security, economic and political level. Basic effects of the implementation of the strategies presented in the strategic level is the empowerment of the Slovak Republic as a visible and respected partner for economic cooperation, the strengthening of foreign economic cooperation, integration and partnership building allied ties in the economic field under the new medium-term strategy of Slovak foreign policy after 2015. The security level implementation of the strategy will seek to ensure the economic security of the Slovak Republic, mainly by providing a stable supply of strategic goods necessary for the operation of the economy in terms of energy security strategy of the Slovak Republic. In economic terms, the strategy will contribute to the establishment of a kind of external economic relations of the country, which will help to increase the level of economic development, stability, economic development and living standards. On the political level, the strategy will lead to the identification of Slovakia as a dynamic entity of the global economy and an active member of the EU and international organizations.

3. Conclusion

Based on information processed in the submitted paper can be stated that the competitiveness of the Slovak products in foreign markets is relatively low, manifested mainly by relatively high negative balance of foreign trade mainly with agro-food products, respectively by the low number of departments reporting a positive trade balance. Possible measures to improve the current situation are in particular:

- increase of business expenditures on research and development,
- higher specialization of production in large enterprises,
- increase of export of products with high added value,
- active promotion of products intended for export,
- participation in fairs and exhibitions,
- support of export-oriented activities directed to third countries.

References

Baláž, P., et al. 2010. *Medzinárodné podnikanie*. Bratislava: Sprint dva. ISBN 978-80-89393-18-3.

Hambalková, M., Čepilek, B., Rovný, P. 2011. *Systémy podpory zahraničného agrárneho obchodu v SR.* Nitra: SPU. ISBN 978-80-552-0649-3.

Jeníček, V., Krepl, V. 2009. The role of foreign trade and its effects. In: *Zemědělská ekonomika*, ISSN 0139-570X, pp. 211-220.

Kalínska, E., et al. 2010. *Medzinárodní obchod v 21. století*. Praha: Grada Publishing. ISBN 978-80-247-3396-8.

Kubicová, Ľ., Kádeková, Z. 2011.Comparison of the income development and the food demand elasticities of the private households in Slovakia. In: *Agricultural economics*, ISSN 0139-570X, Vol. 57, No. 8, pp. 404-411.

Lipková, Ľ., et al. 2011. *Medzinárodné hospodárske vzťahy*. Bratislava: Sprint dva. ISBN 978-80-89393-37-4.

Machková, H., Černohlávková, E., Sato, A., et al. 2014. *Medzinárodní obchodní operace*. Praha: Grada Publishing. ISBN 978-80-247-4874-0.

Plchová, B. 2011. Konkurenceschopnost v mezinárodním prostředí. Vybrané aspekty nových členských zemí EU. In: *Acta Oeconomica Pragensia*, ISSN 0572-3043, Vol. 19, No. 2, p. 27.

Svatoš, M., et al. 2009. *Zahraniční obchod, teorie a praxe*. Praha: Grada Publishing. ISBN 978-80-247-2708-0.

Statistical Office of the Slovak Republic. 2015. Database of Economics Factors. Bratislava: Statistical Office. [on-line] https://slovak.statistics.sk/wps/portal/ext/Databases.

Šterbová, Ľ., et al. 2013. *Mezinárodní obchod ve světové krizi 21. století*. Praha: Grada publishing. ISBN 978-80-247-4694-4.

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Cities identity as a factor of economic and cultural development of the country

Tatiana Chernysheva

Abstract

The article asserts that country's identity is a factor of economic and cultural development of this country. The goal of the article is to define competitive advantage of some Russian cities which are the points of potential rapid growth. The author resumes, that the country may acquire uniting prosperity in only case of the country management principles change. The rivalry of the cities is to turn into cooperation and coordination in joint project search. Big cities should be the partners but not dependent on country capital. They should take part in economic, communicatory and cultural exchanges being involved in interregional mutual relations. The cities of the country should become territorial ones of the regional development. For this task solution cities have to define its competitive advantage, which allows to fix the points of the rapid growth. The development of these points ought to bring a big revenue to cities and the country in whole.

Keywords: smart world, urbanization, country unity, city identity, new management principles, activities division, territorial mission, regional specialization, complementarity factor
JEL Code: O20, M31, R12

1. Introduction

Today modern city is economic subject, which struggles for the right to accommodate industries, ideas, businesses. It may succeed with the help of analysis of the most workable industries and services, which based on sole ownership or sole resources exploitation. In such case each city differs from others, it stands out by its professionalism against a common background being the leader in specific kind of the busy activities.

When the city is aware about its place in the system of regional economic and cultural relations, its unicity is evident and apprehended not as potential competitors repressing advantage but as the way to stimulate reciprocal accoutrement of the cities economies. Apparently, the property of all cities belongs to the country although situated allocated. After the spheres of activities division, the cities are to coordinate the strategic directions of territorial development, because the backup of the unique spheres of activities is not advisable. Cities missions will include the ideas of the security of the country unity and common interest realization. The functions and responsibilities distributed between the centers become operational, the intensification of the services exchange arises. Presumption of common interest is substantially important so as the reasons, which imitate the intentions to disintegration in the different parts of the country might be very specific.

2. Cities growth

Twenty first century is the century of the cities. Today more than 50% inhabitants of the planet live in the cities. In Russia this percentage is substantially above average, it is over 70%. By 2050, it's estimated, that twice the number of the people are going to be living in cities (Glazychev, 2011). So, the urbanization process outlasts intensively. The cities grow very rapidly, but their activities aren't balanced within the definite country, what influences on infrastructure and comfort of living in this country inefficiently. So balanced development of the country's cities is driving force of the country on its way to smart world. The actual goal

for the cities today is their identity creating and it is twice actual for the middle and little cities. The cities branding is more important today than ever (Vizgalov, 2011).

First population census in Russian Empire was held in 1897. It showed, that back then in the borders of present Russian Federation there were 430 cities, in which only 15% of the country population had lived. Essentially minor cities prevailed, big cities were seven in number: St. Petersburg, Moscow, Saratov, Kazan, Astrakhan, Rostov-on-Don, Tula. There weren't big cities on Ural and behind Ural. The population numerology in the biggest Siberian centers- Irkutsk and Tomsk – barely exceeded 50 thousands of people. Huge territory of Russia was penetrated with scarce net of economically depressed area. Many of minor cities became extinct because they had been situated far from railway roads and stations. In the 21th century beginning the situation changed dramatically. Today Russia has 1100 cities, and share of urban population is 73,1% (Kokoshin, 2014).

Especially notably the number of big cities has increased – till 7 to 167. In these cities almost half of the Russian population lives, it is almost 45%. Each sixth inhabitant lives in the cities - millionaires, which number has increased from 2 to 15, so as in Moscow, St. Petersburg, Novosibirsk, Ekaterinburg, Novgorod, Voronezh, Kazan, Rostov-on-Don, Perm, Saratov, Volgograd, USA, Chelyabinsk, Omsk, Krasnoyarsk. More cities- millionaires among economic of Russia are situated in Ural economic region. These are Ekaterinburg, Chelyabinsk, Ufa, Perm. The most cities - millionaires are the centers of social and economic development and attraction, being the platform of region forming. A shining example of it is Novosibirsk - the biggest transport junction of Siberia. It allowed Novosibirsk agglomeration become significant interregional center of social and economic development. Simultaneously Novosibirsk executes the functions of administrative center of Siberian Federal Circuit, Novosibirsk region and Novosibirsk district, which appeared to be the center of attraction of the migrants from all Siberia, Kazakhstan, Middle East. Novosibirsk became the first Russian city (after two historical capitals), which overshot the mark of one and a half million population. So, less then hundred years Russia from the country of the villages and rural inhabitants turned to the country of cities and citizens. On average approximately six cities in a year appeared during one century.

In 20th century more then 600 cities have grown in Russia, so that Russia may be called the country of new cities. And yet, there aren't enough for such vast country as Russia (Kokoshin, 2015).

3. Inequality

The net of cities in Russia is not equable in different country parts. On the north the cities are separated by huge distances and form rare infrequent focuses in the location of minerals take (Norilsk) or in junctions of transport communications (Murmansk, Magadan). Such zone of focus resettlement covers all Russian north. In maintain zone, margining Russian territory from the South, to build cities and roads is very difficult. The Caucasus mountains as though girded by thin ridge, big, middle and minor cities (Krasnodar, Maykop, Nalchik). The majority of Russian cities locate in the most developed part of the country. Baseband resettlement in European Russia comes from the central regions across Middle Volga to Middle and South Ural. Behind Ural and further to the East the baseband resettlement acquires a kind of narrow ribbon stretching from West to East along the southern borders of the country. Behind Baykal it passes along the southern borders of the country. Behind Baykal it passes along the Trans - Siberian railway. Sometimes tapering and sometimes disappearing entirely it becomes wider only in southern Pomerania.

North of baseband resettlement thinly inhabited are vast expanses of Siberia, and south of it - deserted mountain ranges - Altay, Sayany and so on. Within the baseband resettlement almost 100 millions of people live, that is a large part of the population (two-thirds of Russian residents), although different parts of this baseband differ from each other very much.

Central District takes less than 3% of the general square but more than 20% inhabitants of the country live there – almost the same as in Siberia plus Far East.

Russian East and West vary according to the nature of resettlement significantly. In the European part and Ural, which take only a quarter of country' s territory, there are almost 850 cities. But in vast expanses of Siberia and Far East, which take 75% of the territory, there are 250 cities. Here the luck of cities is felt very acutely. Certainly, Russia is highly inferior developed countries. Russia gives way to developed countries to the saturation of the cities network. One city in Russia services vast territories, for example, in Kurgan region- 8 thousands of square kilometers, and in Omsk region- 23 thousands of square kilometers that is many times more than in Western Europe. Thus, in the near future Russia has to create the cities near mineral deposits, to build the bridges on the Baltic Sea and the Black Sea (instead of those which rested on the territory of former

Soviet Union), and on the Arctic Ocean.

However, we should not so much create new cities how to use existing facilities.

4. Cities cooperation

Russian cities have to become the centers of cultural and political innovations (Granin, 2015). In "Strategy of social and economic development of the regions" the main bet on the idea of polarized economic development and territorial clusters, which cores are the cities, tied to international contacts.

As far as big cities are synchronically the central places, serving the needs of the neighboring territories, as well the tie of the different nets, they provide institutional registration of the global economy and global society, but not simply the spatial redistribution of spheres of economic influence. To the fore the junction functions of the city appear - these are functions of gathering, management and reallocation of transport, financial, commodity, migration and information and other flows. It is the intersection of these threads, that gives the city a benefit. The transit becomes one of the productive form of city life. The city generates and receives human flows (Depolo, 2001), it's inner existing depends on its capacity to adapt to the preferences of the nomads of global civilization.

Thus, the city-center starts to play serving role in the life of a city-junction.

Modern city is economic subject, which competes with other cities for the right to accommodate industries, ideas, big businesses on its territory. In connection with this, every city has to define its competitive advantage which allows to fix the points of rapid growth. The development of these points is to bring a big revenue to the city and a country overall.

It can be achieved with the help of the analysis of the most workable industries and services based on a monopoly ownership or monopoly resources exploitation. In this case every city stands out by its professionalism against a common background being the leader in specific kind of activities. When a city is aware of its place in the system of amidst regional economic and cultural relations, city's unicity is viewed not competitive advantage, repressing potential rivals, but as a way to stimulate reciprocal accoutrement of cities economies.

The property of the cities belongs to a country although situated allocated. Nowadays is not the time of self-sufficiency, the country may acquire the prosperity through unity gaining, what is going to happen in only case of the change of the country's management principles. The principle of rivalry in fight for the resources has to be changed into principle of cooperation and coordination in common projects search. Big cities should be the partners which aren't to be the dependent so far the country center. They should take part in economic, communicators and cultural exchanges, being involved in international and interregional mutual relations. They should become substantive partners of global markets. The division of the activities labour spheres between the centers of different levels is to take place, after that the accommodation of strategic directions of territorial development will be actualized. Because the backup of unique spheres of activities is not advisable.

Mission of each city is its unity and security providing, common interests and goals realization. The functions and responsibilities are to be distributed between the centers of different specialization, the intensification of services exchange is to arise.

Presumption of common interests is substantially important so as the reasons which imitate the intentions to disintegration in the different parts of the country might be very specific. In the South, this specificity is potential ethnosociologal problems. In the Far East it is remoteness and bad connection, in Siberia the main problem is weak cultivated territory, the gap in the standard of people living, the lack of social infrastructure. In Ural and Volga, it is the competition between the major centers for the resources development. Therefore, at the first plan not competition but coordination of projects in different regions should go especially in those regions when the key role is played by cities.

5. Value of nonduplication

Let's consider specialization of Siberia region and Far East region. So, Omsk and its surroundings clearly succeed in agriculture.

Certainly, engineering and minerals processing here are developed too, but agrarian economy is most developed sector.

Agriculture is also well developed in Altay. Novosibirsk – it is primarily intellectual production, the center of techno park ideology development, science and education conjugation. For Tomsk, besides innovative

technologies development, oil and gas production, investment in knowledge, science production are very important. Mountain Altay – is gambling and tourism cluster. Kemerovo is modernizing the mining industry. This is pronounced mining region, containing mining complex.

Krasnoyarsk is key economical region of Siberia, engaged in mechanical engineering and electrical power engineering. Irkutsk develops mechanical engineering and electrical power engineering, which are united by Angarsk industry complex. Sakha- Yakutia makes an accent on the mining industry and transport infrastructure development. In Khabarovsk transport industry, mechanical engineering, the military industrial complex flourish. In Kamchatka, in addition to to the seafood production, the most important points of the effort are sea transport and nontraditional energy. In Sakhalin oil industry perfects itself, the development of transport junction arises for the goods from Japan and to Japan delivery and fish processing. In Primorsky Krai the main industry is fishing branch and shipbuilding, the largest transport thoroughfare "The gate of Russia" is now developing (Blinkin, 2009). It should be noted that Chukotka, Jewish Autonomous Oblast, Magadan, Amur region, Tuva and Khakassia have no any pronounced specialization what confirms the absence of clear conception of strategic development on the platform of their main cities. Other listed places have obvious duplication of functions, what leads to the competition of the cities instead of their complementarity, coordination of the spheres of their activities and their missions. At such situation we can't speak about many-sided development of the Siberia macro region. The same we may say concerning whole Russia.

So, the main solutions of the problem of complex region development on the basis of its main cities, are:

1) Identification and development of the points of accelerated growth of the city on the basis of competitive advantages;
2) Accumulation of financial and manpower in the main point of growth and establishing the production capable to bring in the strategic income to the region;
3) Adaptation of a human resource of the region to the city specialization;
4) Coordination of the priority of the region area with priority areas of other regions;
5) Adjustment of the system of mutually advantageous exchange of goods and services with other region-forming cities.

In the conclusion we mean necessary to state that in presence of accurately designated vectors of development of Russian cities, which are built in a certain system, the cities will turn into the successful partners working for the whole country benefit.

References

Blinkin M. Y. Ongoing issues and unlearnt lessons//World Highways. 2009. Vol. 18. No. 9. P. 28-29

Vizgalov D.V. City branding. Moscow: Fund «The institute of a city economy», 2011

Glazychev V.L. Urban Sciences. Moscow: Publ. «Europe», 2008

Granin Ju.D. National identity in globalizing world//The Herald of the Russian Academy of Sciences. Moscow: Publ. MAIK «Nauka – Interperiodica». 2015, №9, P.805

Depolo D. Induced Development in the transportation Investment Corridors – The Probability Appearance Appraisal Method based on the Land Wise Profiles//Urban transport and the Environment in the 21st Century. Lemnos: Wessex Institute of Technology, 2001

Zhuravlev A.L., Jurevich A.V. Psychological aspects of Russian national idea search//The questions of philosophy. Moscow: Publ. «Nauka», 2016, №8, P.69

Kokoshin A.A. Real sovereignty of Russia in modern life//The Herald of Russian Academy of Sciences. Moscow: Publ. MAIK «Nauka – Interperiodica». 2014, №12, P. 1090

Kokoshin A. A. Strategic stability. Science-technical, war and political aspects//The Herald of Russian Academy of Sciences. Moscow: Publ. MAIK «Nauka – Interperiodica». 2015, №11, P. 963

Lappo G.M. The stories about the cities. Moscow: Mysl, 1976

Smirnov S.A. Event of thought (to the question of event ontology)//The questions of philosophy//The questions of philosophy. Moscow: Publ. «Nauka», №8, P. 103

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Production Management: from the Concept of System Approach to "Production System"

Alexey Chuvaev

Abstract

The system approach has long time of use for the enterprise activity analysis, because it makes possible a deeper understanding of characteristics and internal relations of such objects. Based on a system approach the author reviewed the production within the enterprise system. In accordance with the chosen approach the production should be considered from the point of "production system". The article contains comparative analysis of this definition; the author's interpretation is given. Modern development of the theory about production systems is based on their organization on the principles of flow, focus on the production of goods / services in accordance with the requirements of customers. The article will be of interest to researchers studying the theory and methodology of production management.

Keywords: system approach, production system, competitive environment
JEL Code: M11

1. Introduction

In unstable conditions of the environment and policy of import substitution the industrial development is of key importance. The industrial sector plays a key role in ensuring economic and national security because it is associated with the development and introduction of new industrial technologies, development of new products and markets. In this regard issues of organization of production and transition to efficient principles of production system management gain practical importance.

The lack of a comprehensive methodology of study and formation of production systems in Russian companies makes researches in this area relevant and up-to-date. The starting point in this research is conceptual definitions. There are some allegations in scientific and professional literature in that production systems in Russia didn't exist up to the 1990s. The aim of this article is to confirm or to reject this statement by analyzing the content of this concept.

2. Production activity in the concept of system approach

Consideration of complex systems such as industrial enterprises should be carried our within the framework of the appropriate approach and tools. System approach allows describing of characteristics and internal relations of such objects, drawing necessary conclusions about their conditions and laying the foundation for further effective management of them to the full.

Without going into the deep theory of systems one should note that essence of the concept "system" was defined in works of Bogdanov (1920). In particular his treatise "Technology: Overall organizational science" considers the question – why does the whole can be greater (being organized) or less (being disorganize) than the sum of the parts. This question formulation is directly related to the essence of concept "system".

In the diversity of definitions of "system" appeared in the further years one can distinguish a philosophical and teleological aspects (Zhylin, 2006). Within the first one the main features of the system are wholeness and

interconnectedness of the elements. Within the second one it is connectedness of elements by common goal and it leads to "interfacilitation" and manifestation of integrative properties, obtaining the desired results.

Thus the system can be defined as "collection of objects that have an integrative property, i.e. property, which is not the sum or average of collection of objects" (Zhylin, 2006).

System approach does not exist in form of strict methodological concept: it performs its functions, remaining not so rigidly bound with the set of cognitive principles, primary meaning of which is the appropriate orientation of the specific studies. In economics the principles of system approach (goal orientation, relativity, connectedness, modelability, synergy) got widespread use with tasks of planning optimization, construction of multivariate models of socio-economic systems of different levels in conditions of environmental variability. In science of production management this approach came in into use in the middle of XX century replacing the general scientific and rational approaches and was expressed in their synthesis. The scientific concepts were formed within this approach: social systems' (Barnard, Gouldner, March, Simon, Selznick, Etzioni), technological (Woodward), practical application of the theory of systems in enterprise management (Johnson, Kast, Rosenzweig).

The next issue it to justify the desirability and feasibility of a system approach to the production activity of industrial enterprises.

Many authors emphasize the system properties of the enterprise as the object of analysis. Glushchenko in his work defines the enterprise as a primary economic system of state economy, highlighting its complex systematic.

Noskova has the similar opinion: organization is a complex system, regardless of its size and functions. It consists of interrelated and interdependent parts and the activity of any part of the organization influences on the activity of any other segment of this organization in a varying degree. The author notes that there are also external components that affect the organization and (or) subjected to its influence, and this confirms the open nature of the organization as a system using elements of the environment (inputs) transforming them into outputs and offering the last ones to the environment.

Titov, Mezhov, Solodilov and other authors also are of mind that the effective management of a modern industrial company must be based on understanding of the enterprise as a system, namely production system. The authors consider an enterprise as multi-layer structure, within which the integration of flows of material, financial, labor, information and other resources is carried out in space and time. They propose to consider the system of organizational processes in the form of the scheme, where the central link is organizer, who has competence, knowledge, resources, powers and authority for management of organizational processes.

Like any system the enterprise consists of elements (subsystems), and each subsystem is also a complex object that can be considered as a separate system within detailed analysis (Baranov & Nugaybekov, 2015).

Structures of subsystems of different enterprises can vary depending on their size, kind of activity, used technologies, nature of tasks and traditions of management.

The analysis of scientific researches shows that all authors emphasize production as one of the major subsystems of the organization, highlighting the aspect of its close interconnection with other organization subsystems. Production is the subsystem where the value for customer is created.

Manufacturing is an intermediary that connects the customer's expectations and satisfaction by creating the product. It can be considered as macroeconomic unit, as function / functional department, as process or as concrete action. Further one will understand the manufacturing as a process of converting of objects of labor into finished good under the influence of labor and facilities – manufacturing process.

Thus, during the process of goal-setting it is advisable to use principles and tools of system approach and consider manufacturing as a production system for identifying and constructing of internal and external relations of industrial enterprise, achieving of desired results and searching of reserves their increase.

3. Modern content of the concept "production system"

In modern Russian economic dictionaries the definition of production system is not clarified sufficiently. Electronic resource Business Dictionary contains the following information: "Production system includes all the functions required for the design, manufacturing, distribution and service of manufactured products". The point of view of Kononova (2006) is close to this definition, she says that production system of enterprise is a way of organization of manufacturing processes, such as procurement management, workflow organization, material flow management, equipment maintenance, quality control, and so on (Kononova, 2006).

The Encyclopedia Britannica defines production system as "any methods used in the industry for producing goods and services based on combination of various resources". Being of mind Gurman extends this definition by describing production system as a set of methods and tools in all business areas, which allows to produce goods or services in the shortest possible time with the required quality and to eliminate all the wastes, as well as to focus on the changes of corporate culture, consciousness and behavior of each individual, to follow common principles using all available resources of enterprise".

An interesting approach is demonstrated by R.M. Young (University of Hertfordshire), he consider production system from the point of cognitive psychology: "It is a model of cognitive process, which consists of set of rules (called production rules of just production)". In the works of other authors production system is considered in general as a set of resources for production of goods and services organized in certain way (Young, 2012).

Romanenko, Litovka, Kalinin define production system as complex of production capacity of an economic entity, which characterizes the maximum possible volume of produced goods for a specified period of time, with the principles and methods of its operation. The authors place a priority on production capacity and this point of view differs from the one of the majority of researchers.

Turovets and Rodionova (2012) propose to consider production system in the broad sense as a set of mutually agreed and interrelated mechanisms (components and subsystems) responsible for the processes of self-development, organization, production, operating in accordance with the general rules of doing business and based on combining specialized knowledge in certain areas into a single holistic knowledge, ensuring the possibility of innovative development (Turovets & Rodionova, 2012). Production systems of such level can be represented by a network of several economic entities. In the narrow sense "production system is set of manufacturing factors interrelated and integrated into a single unit. The enterprise as production system is a set of interrelated activities, forming a chain of values, that allows to trace the process of creating added value. This approach suggests to consider the development of production systems on the macro, meso-levels and on the level of individual enterprise, because strategic emphasizes will vary for systems of different levels, and as a result tactic tasks will also vary.

Rudenko, Antipov and Iskoskov (2015) defines production system as "set of the interconnected elements of system, the including elements of system of the organization and management and the elements of object of management necessary for realization of purpose – implementation of the production program meeting the requirements for productivity and quality".

Recently the authors of new information systems aimed at serving the production called them also production systems. The examples are SuperB Simulation Production System (Tomassetti, et al., 2012), ATLAS Production System (De, et al., 2014), DIRAC system (Arrabito, et al., 2015), Belle II production system (Miyake et al., 2015). These systems help to systematize the workload and its management according to tasks defined for each unit of work. The authors call their information systems to emphasize their intended purpose.

Referring to the practice of modern approaches to the development of production systems of enterprises one can find a lot of definition of this term in strategic and regulatory documents of organizations.

For example, the production system of KAMAZ is defined as a set of business processes of this enterprise, its suppliers, commodity distribution and service network, organized on the basis of new philosophy of staff and principles of Lean Manufacturing, aimed at safety of operations and customer satisfaction (Tsvetkov, 2016).

The production system of the State Corporation ROSATOM (PSR) is defined as follows: "PSR is methodically holistic industry complex of interconnected manufacturing processes, where non-value added actions are minimized as a result of continuous improvements with the help of principles, rules, tools and methods". From our point of view there may be difficulties in interpretation, because according to this definition non-value added actions, which are not minimized, are not parts of the production system. In this regard, a reasonable question arises: "What are they parts of?"

The company RUSAL determines its production system as "the mechanism of creation and search, selection and implementation of best practices, forming a knowledge base, which allow to achieve Company's strategic goals, to support its long-term growth and high level of competitiveness".

Definitions of production systems of domestic enterprises are more like missions, descriptions of company's goals and using instruments. Therefore, use of these definitions for understanding the essence of the object is extremely difficult.

Finally, one should consider the definition of Toyota Production System (TPS). TPS is a Japanese manufacturing and managerial framework and philosophy (Brunet-Thornton et al., 2016). This system is aimed at ensuring the highest quality, minimizing costs and lead times by eliminating wastes. TPS is not a rigid set of procedures approved by the company, but rather a set of principles, confirmed the daily use of the practice for many years.

The current literature on production management techniques suggests that Toyota production system (TPS) is a lean manufacturing principle, with the following characteristics of product or service outputs. It should be: defect free (elimination of 'Jidoka' or 'Andon' events causing the warning system to 'flash'), delivered based on demand according to the version requested and delivered immediately, produced without wasting materials, labor, energy or other resources, and produced in a work environment that is physically and emotionally conducive for every employee. TPS is not only a process innovation to eliminate defects and reduce waste, but a systemic approach to enhance quality and safety, and a method rooted in the principles of total quality management (TQM) (Collins et al. 2015).

Thus, the production system in the understanding of different authors can serve as:

- a set of functions or business / production processes,
- a set of methods and instruments of production,
- a set of rules / principles in manufacturing,
- information system.

As a result of the analysis of the various definitions and taking into account that any system is a complex of its structural elements and their relations, subordinated to the common goal one can draw a conclusion the modern production system is a complex of productive forces and production relations organized in accordance with a set of principles and rules in order to produce goods / services according to the customer needs. At the same time from the author's point of view use of such terms as "minimal lead time". "high quality", "minimal wastes" is not quite correct. These terms characterize the efficiency of the production system, but not its presence or absence.

This allows to confirm that the production systems in domestic industry existed and were developed successfully in the conditions of socialistic production, based on created in those years methodology, well-known principles of the system approach and scientific organization of labor. But they were systems within the command economy which are significantly different from production systems developing in a competitive environment. During the transition to a market economy it is a fact there were no last systems in Russia.

Modern understanding of production system is closely linked with principles and rules of Toyota Company, built on a philosophy of eliminating various kinds of wastes – Lean manufacturing. These principles includes 5S, Six Sigma, TQM (total quality management), TPM (total production

Modern understanding of production systems is closely linked with the principles and rules of Toyota's built on a philosophy of eliminating various kinds of losses - Lean-production. As a part of those principles and rules - 5S, «Six Sigma», TQM (Total Quality Management), TPM (Total Productive Maintenance), JIT (Just-In-Time), Kanban, etc. Their combination and integration in traditional management system is innovation for the domestic industry. It explains a great interest of science and practices to these issues in recent years.

Thus, the development of a system approach to the management of the industrial enterprise leads to new aspects of research within the theory and practice of the organization of production.

4. Conclusion

System approach allows to reveal the characteristics and internal interrelations of production processes in the enterprise, to draw necessary conclusions about their condition and to establish an effective management system.

Based on this approach and taking into account the theory and practice of production management the author gives the definition "Production system" is a complex of productive forces and production relations organized in accordance with a set of principles and rules in order to produce goods / services according to the customer needs.

From the point of complex of means of production and production relations production systems existed also in conditions of command economy. However, the competitive environment imposes significant impact on their content. Modern understanding of production systems is related to their organization of the principles of flow, aimed at the production of goods / services in accordance with the requirements of customers. Among the key requirements are price, quality and lead time.

References

Arrabito, L., Bregeon, J., et al. 2015. Prototype of a production system for Cherenkov Telescope Array with DIRAC. In: *Journal of Physics,* Conference Series 664, [on-line] 10.1088/1742-6596/664/3/032001.

Baranov, A., Nugaybekov, R. 2015. *Development of Production Systems. Strategy of Business - Breakthrough. Kaizen. Leadership. Lean Manufacturing*. Saint-Petersburg: Piter.

Brunet-Thornton, R., Koža, M., Bureš, V. 2016. The Toyota Production System – Czech and Nippon Cultural Perspectives. In: *Business Administration and Management*. [on-line] 10.15240/tul/001/2016-2-010.

Collins, K. F., Muthusamy, S. K., Carr, A. 2015. Toyota production system for healthcare organisations: prospects and implementation challenges. In: *Total Quality Management & Business Excellence,* ISSN 1478-3363, Vol. 26, No. 8, pp. 905-918.

De, K., Golubkov, D., et al. 2014. Task Management in the New ATLAS Production System. In: *Journal of Physics: Conference Series 513*. [on-line] 10.1088/1742-6596/513/3/032078.

Kononova, V. Y. 2006. Modernization of production systems on the Russian industrial enterprises: current status and prospects. In: *Russian Journal of Management,* Vol. 4, No. 4, pp.119-132.

Miyake, H., Grzymkowski, R., et al. 2015. Belle II production system. In: *Journal of Physics: Conference Series 664*. [on-line] 10.1088/1742-6596/664/5/052028.

Rudenko, A. A., Antipov, D. V., Iskoskov, M. O. 2015. Increase of stability of functioning of a production system of machine-building enterprise. In: *IOP Conf. Series: Materials Science and Engineering*. [on-line] 10.1088/1757-899X/91/1/012071.

Tomassetti, L., Bianchi, F.. et al. 2012. SuperB Simulation Production System. In: *Journal of Physics: Conference Series 396*. [on-line] 10.1088/1742-6596/396/2/022053.

Tsvetkov, I. V. 2016. *Production system KAMAZ. Integration with existing management systems*. [on-line] http://www.umpo.ru/Files/kamaz.pdf.

Turovets, O. G., Rodionov V. N. 2012. Scientific bases of production organization: Process-system approach. In: *Vestnik of Voronezh State University*, Vol. 21, No. 10-1, p.106.

Young, R. M. 2012. Production Systems in Cognitive Psychology. In: *International Encyclopedia of the Social & Behavioral Sciences.* [on-line] http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.12.9158&rep=rep1&type=pdf.

Zhylin, D. M. 2006. *The Theory of Systems: Course Construction Experience*. Moscow: Kom Kniga.

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Trends in development of Integrated Management Information Systems in Poland

Mariusz Iskra

Abstract

The crucial influence on the results of enterprises is the efficiency of its management system. Integrated management information systems can easily improve management systems of enterprises. The article is concentrated on trends in development in IMIS. The trends are presented on the basis of literature, but also on the basis of information from ICT suppliers. In the article, there were identified two main trends: ERP in the cloud and mobile ERP. There is presented the conclusion that information systems are created in close connection to business process management.

Keywords: Integrated Management Information Systems, ERP, SaaS, cloud computing.
JEL Code: JEL O330, JEL M150, JEL M110

1. Introduction

Development of science and technology, especially information technology (IT) enables progress in the production, distribution of products and services. Extremely important features of current economic relations are growing dynamics of products markets, increase in international competition and globalization of the world economy. The opening to the world market might be is successful if products or services are offered with the required functionality and quality, low prices and short delivery times. Enterprises try to achieve a large market flexibility and productivity of resources involved.

The crucial influence on the results of enterprises is the efficiency of its management system. Since the sixties of the last century, information technology in the form of integrated management information systems is used in an increasing scale in order to improve management systems of enterprises. The other aspect of an implementing an information technology is the cost of doing it. The cost of software and licenses for their use, depend on many factors and ranges from several thousand to several million euros. Moreover, the cost of software and licenses is only part of the cost of implementing and using information technology system. There are also expenses such as: costs of hardware, modification and development of the system, the cost of lost opportunities if the system provides low efficiency.

Projects of this kind, in addition to their relatively high cost and the need for the involvement of senior executives and direct users, are characterized by a high risk of failure. Among the reasons for failure, the crucial is inconsistency functional package implemented with expectations and real needs of the user. The barrier applications in management is the lack of knowledge of decision-makers on the performance of modern information systems and directions of their development, poor recognition of user needs in this regard at the stage of formulating the strategy of informatization management, as well as the lack of reliability in the selection and implementation of the system.

2. Trends in development of Integrated Management Information Systems (IMIS) from the perspective of literature

At the end of the 50s it has been developed MRP system (Material Requirements Planning). Significant development of IT in 80s and 90s has resulted in a new standard system in the form of MRPII - Manufacturing Resource Planning (Wrycza, 2010). MRP II apart from calculating the exact number of materials and determining the schedule of deliveries was extended by the elements of the sales process and decision support at the levels of strategic production management (Grudzewski & Hejduk, 2004). In the MRPII are taken into account all areas of business management related to the preparation of production, its planning and control, and sales and distribution of manufactured goods. Further development of standard MRP II led to the development of ERP (Enterprise Resource Planning). The main objective of ERP is the fullest possible integration of all levels of management. ERP is a modular system comprising the processes of production and distribution. It integrates the different areas of activity the company, improves the flow of critical information for its functioning and allows to instantly respond to changes in demand. In the case of systems operating "on-line" information is updated in real time and available at the time of decision making (Abramek, et al., 2014).

The development of ERP is focused on the following areas (Sroka, 2006):

- Customer service - customer database, processing and handling of orders, electronic transfer of documents (EDI) and the Internet.
- Production - service store, setting production costs, purchase of raw materials and semi-finished products, production scheduling, management production changes, forecasting production capacity, determination of critical inventory levels, production process control, etc.
- Finance - accounting, control the flow of accounting documents, preparation of financial reports for customers.
- Integration in the logistics chain.

Mature ERP application system is characterized by (Sroka, 2009):

- Flexibility - the ability to change the configuration without interrupting manufacturing.
- Industry-specific features - special functions and substantive knowledge specific to the individual manufacturing industries, allowing for solving their problems, eg. Automotive industry, fuel and energy, etc.
- Support for international companies - support business activity of the company outside the country.
- Strong integration and loose architecture - ensuring data consistency (strong integration) and modification as needed changes to business processes (loose architecture).
- Specialization of complementary elements - expanding the application of individual business areas, eg. supply chain management, customer relationship management.

The concept of development of ERP systems by Dyczkowski (2002) assumes development IMISin direction of:

- EERP (Extended Enterprise Resource Planning) - they are expanding the functionality of ERP systems, eg. through their integration with CRM,SRM, SCM.
- eERP (electronic Enterprise Resource Planning) - that ERP systems support, among others, implementation of electronic transactions.
- @ERP (Active Enterprise Resource Planning) - ERP systems targeted on the reconstruction of the organizational structures, management practices and business processes.
- IERP (Intelligent Enterprise Resource Planning) - intelligent ERP systems, in which the center of gravity moved to the level of strategic and support ERP systems, BI, GDSS (Group Decision Support System), techniques of artificial intelligence, OLAP, data mining.

In 1999, the there was an expected transformation of the standard ERP into the standard e-commerce. In the first stage of development there was an extension by the functionality of electronic commerce and the full integration with the previously autonomous systems CRM (Customer Relationship Management) and SCM (Supply Chain Management). In addition, there are packages to further improve both internal and inter-organizational information processes (WF, MES, BI, SRM). The expected target is was standard c-commerce (Collaborative Commerce). It is a more modern (in relation to e-commerce) form of electronic commerce, the exchange of goods and services and documents between collaborating companies participating in trading.

(Figure 1 - list of abbreviations: APS - Advanced Planning & Scheduling Tools, BI - Business Intelligence, CRM - Customer Relationship Management, MES - Manufacturing Execution, PRM - Partner Relationship Management, SCM - Supply Chain Management, SRM - Supplier Relationship Management, WF - Work Flow, KM - Knowledge Management, e-commerce - Electronic commerce, c-commerce Collaborative commerce).

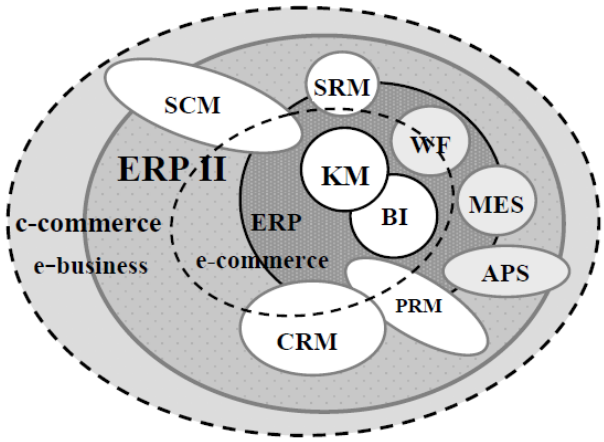

Figure 1. General model of ERP II systems
Source: Klonowski, 2004

The concept of c-commerce assumes the directional communication of information systems of trading partners. Companies must begin to think in terms of business processes, and that means accepting both to break the boundaries of individual applications, as well as the boundaries of the enterprises themselves. It is expected that ERP II systems during the development absorb the functions of trade and electronic commerce, as well as the functionality of developing in their shadow systems: CRM, SCM, WF, MES, APS and BI (Klonowski, 2004).

There is a close connection in development of Integrated Management Information Systems with functional areas of activity in company. But process-oriented organizations should mainly focus on systems dedicated to support business processes such as BPM (Business Process Management). BPM systems represent a new class of systems that use databases and other information systems to realizing business processes. BPM systems integrate information technology with business process management, helping users to implement the sequence of activities involved in a specific process. These systems are used for defining and modeling the major processes of organizations that are implemented across the board, going through the various functional departments of the organization. BPM systems within its coverage includes the whole organization (Ziemba & Obłąk, 2012).

BPM systems are necessary in the process-oriented companies, and the range of their functions should be adapted to the profile of the company, especially to the processes that are executed there. Business processes in company and information systems supporting them are presented in Table 1.

Table1. Information Systems supporting the business processes of the company

Business processes in company	**Information systems**
Strategy and management	BAM (Business Activity Monitoring), BI
Information Resources Management	BAM, EAI (Enterprise Application Integration)
HR management	ERP
Management of financial resources and material resources	ERP
Management of external relations	BSM (Business Service Management), EAI
Management improvement and change	QMS (Quality Management System)
Planning	BI, ERP
Development of products and services	BI, CAD (Computer Aided Design)
Production process	ERP, MRP II, MES (Manufacturing Execution System), APS (Advanced Planning and Scheduling Tools -APS)
Supply management	SCM (Supply Chain Management)
Marketing and sales	CRM (Consumer Relationship Management), BI, ERP

Source: Ziemba & Obłąk, 2012

3. Trends in development of Integrated Management Information Systems (IMIS) from the perspective of information system suppliers

On the basis of information from web sites of IMIS suppliers it should be noted that the functions of all the systems are similar. Suppliers provide to adapt the system to the specific business conducted by the company. There are those who specialize in trade, others in the distribution, and others in the production area.

The new solutions in the area of production include: comprehensive support for after-sales service and repair, possibility to use. Sales configurators, prototype production support, access to modules of advanced planning and scheduling production. IMIS support all the departments in companies: the logistics department, marketing, production, human resources management, of the finance department or IT department etc. by giving to the employees an access to their own set of functions necessary for everyday work with the system. Very crucial is also to provide support daily tasks for mobile workers. Mobile solutions go beyond the typical reporting.

Software suppliers pay attention to the:

- Development of functional systems, caused by the need to automate processes.
- Raising comfort of working with the system.
- Way of operating systems.
- Integration with other systems.
- Automation the acquisition and analyzing of information (business intelligence).

The important characteristic is ergonomics of ERP system: intuitive operation, fast search and access to information and easy knowledge sharing. The very significant trend is to achieve the high level of standardization, consolidation, optimization and hardware environment virtualization in order to reduce maintenance costs of IT environment.

More and more suppliers pay attention on modern scientific methods of production scheduling that they offer in their information systems.

4. Overview of modern information technologies in the development of IMIS

The specific sphere of information technology application is outsourcing various areas of application tools in a company or out tasking entire business processes. Overall outsourcing of information system technology is to give the processing to an external IT service provider. The companies often use outsourcing of accounting, HR, LAN network management. But there are more and more popular a new business models named SaaS - Software as a Service and NaaS - Network as a Service. In this model, software is not a one-time purchase, but it becomes a paid service periodically. The customer does not buy an application or an entire software system, but the license authorizing him to use it. The advantage of payment of subscription is that software costs are predictable. There are no additional fees for upgrades and new features of the application (update, patch, upgrade) causes the client knows how much it will cost to use the application.

SaaS is a new form of software development. The software developed in this model is designed to support multiple independent clients on a single server platform (one or multiple servers connected to a computing cluster). Simultaneously use SaaS and NaaS models, as well as the use by the service providers power distributed data centers (data center), interconnected by high-speed lines, allowed to make processing become independent from a particular location. From the point of view of users of such solutions, processing and sharing them with the application takes place in a virtual processing centers, seen by them as a kind of cloud computing. This was also the name of the specified processing model, which uses distributed computing power, calling such processing "cloud computing" (Kulisiewicz & Średniawa, 2012).

Cloud solutions are beneficial for service providers, which in turn enables the optimization of computing power and adapt them to the current load in a given period of time or a given regional market. User benefits will result from the fact that the service provider always have sufficient data processing power, could be increased if desired or replaced by another in case of failure in a particular processing center.

Cloud computing encompasses many different concepts, such as:

- Grid computing - the dispersion of computing tasks across multiple servers.
- Virtualization - the ability to create multiple "software" logical servers a single physical unit (blade server).
- IaaS -Infrastructure as a Service) - remote access to part of the computing infrastructure provided by the operator.

- PaaS - Platform as a Service - remote access to the application environment, allowing to create, test and run applications running in the cloud.
- SaaS - Software as a Service - remote access to applications implemented using cloud computing resources.

However, the division into SaaS, NaaS, IaaSis constantly evolving, as are developing more and more new forms of cloud services for the maintenance resources on the Internet, resource security and data management and processes and infrastructure, for example the mobile infrastructure in the form of Mobility as a Service (MaaS), and the business model of BYOD (Bring Your Own Devices). Additionally, distinguishes between several ways to implement cloud technology based on public cloud, private cloud, social cloud or hybrid clouds. One of the key challenges for ERP systems, in addition to the aforementioned cloud technology, is also using the potential of social networks (Abramek, et al., 2014).

5. Future trends for the next few years in IMIS

According to Gartner's analysts there are some significant information technology trends for the next few years:

- The ubiquitous network devices - already known world of mobile devices will be replaced by connected, networked devices which capabilities go far beyond today's perception of mobility. Beyond the typical mobile devices, such as smartphones, tablets or laptops - there will be in such network: wearable devices, consumer electronics, known for automotive infotainment systems class, as well as numerous sensors are part of a network of urban and business.
- New types of interfaces support - new developments in this area are to provide continuous access to selected solutions or IT services, regardless of which device currently used by the user. In addition, all of the networked devices are to provide a similar experience to the user and the possibility of changing, even repeatedly changing the currently used device - and the work on each new device will be able to start from the point at which ended the previous use of the terminal.
- More information and analysis - a growing number of mutually-connected and equipped with various sensor devices will contribute to further, substantial increases in the amount of information. Increasing the availability, completeness and scale of information opens the way for the emergence of a completely new innovation and business models based on large-scale analyzes.
- Automatic analytical systems - the dynamic growth in the scale of available and potentially useful business, information will help to increase the popularity of new analytical solutions - solutions that will help to automate the process of categorization and analysis of dynamic data sets. According to analysts, among others, they will gain in importance machine learning algorithms. With the systems have the ability to make independent forecasting events and learning about the world around them. Through such measures appear likely to systems that based on all available information, in an automated manner will generate complex, highly multidimensional analysis and forecasts.

6. Conclusion

The first conclusion, based on the literature sources, for changes in the development of integrated information systems is that it can be identified two main trends: ERP in the cloud and mobile ERP. Cloud computing gives mainly the opportunity to take advantage of the system implementation by small and medium-sized enterprises, which were previously deprived of opportunities to take advantage of this kind of technology mainly due to the high cost of implementing the system and the requirements for the implementation of infrastructure changes. The mobile ERP may be a response to the mobile needs of the companies and mobile workers (Sołtysik-Piorunkiewicz, 2013) and meet adjusting to the changes in society due to the large computerization based on the current mobile technologies (Kiełtyka, 2013).

The other conclusion is that information systems are created in close connection to business process management.

The main conclusion is that there is a large competition in the market of IMIS suppliers and all of their products are quite similar but there is a strong pressure on making their systems better and better. All the technological innovations which can be used in IMIS are immediately used there. Therefore we can notice

some trends in IMIS development but it is difficult to predict how the systems will look in the future, but we can be sure they will easily process larger amounts of data and they will be much easier to use for employees.

References

Abramek, E., Sołtysik-Piorunkiewicz, A., Sroka, H. 2014. Kierunki badań i perspektywy rozwoju Zintegrowanych Systemów Informatycznych Zarządzania. In*: Informatyka Ekonomiczna,* ISSN 1507-3858, No. 1 (31), pp. 114-125.

Grudzewski, W. M., Hejduk, I. 2004. *Metody projektowania systemów zarządzania*. Warszawa: Wydawnictwo Difin S. A. ISBN 83-7251-440-2.

Kiełtyka, L. 2013. *Technologie informacyjne w funkcjonowaniu organizacji. Zarządzanie zwykorzystaniem multimediów*. Toruń: TNOiK. ISBN 978-83-7285-691-3.

Klonowski, Z. J. H. 2004. *Systemy informatyczne zarządzania przedsiębiorstwem. Modele rozwoju i właściwości funkcjonalne*. Wrocław: Oficyna Wydawnicza Politechniki Wrocławskiej. ISBN 83-7085-841-4.

Kulisiewicz, T., Średniawa, M. 2012. *Kierunki rozwoju technologii informacyjnych oraz ich zastosowań w sektorze MSP*. Warszawa: MGG Conferences Sp. z o. o. ISBN 978-83-63557-27-0.

Sołtysik-Piorunkiewicz, A. 2013. The development of mobile Internet technology and ubiquitous communication in a knowledge-based organization. In*: The Online Journal of Applied Knowledge Management,* ISSN 2325-4688, Vol. 1, No. 1, pp. 29-41. [on-line] http://www.iiakm.org/ojakm/articles/2013/volume1_1/OJAKM_Volume1_1pp29-41.pdf>.

Sroka, H. 2006. *Strategie i metodyka przekształcania organizacji w kierunku e-biznesu na podstawietechnologii informacyjnej*. Katowice: Wydawnictwo AE w Katowicach. ISBN 83-7246-955-5.

Sroka, H. 2009. *Zintegrowane systemy zarządzania ERP w gospodarce wirtualnej*. Katowice: Wydawnictwo AE w Katowicach. ISBN 978-83-7246-594-8.

Wrycza, S. 2010. *Technologie Informatyka ekonomiczna. Podręcznik akademicki*. Warszawa: PWE. ISBN 978-83-208-1863-5.

Ziemba, E., Obłąk, I. 2012. Systemy informatyczne w organizacjach zorientowanych procesowo. In*: Problemy Zarządzania,* ISSN 1644-9584, Vol. 10, No. 3 (38), pp. 8-24.

http://itwiz.pl/10-trendow-it-ktore-wplyna-na-biznes-2016-roku/.

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Constraints in investment decision making in the field of RFID – opinions of Polish managers

Marzena Jankowska-Mihułowicz, Katarzyna Chudy-Laskowska

Abstract

The article aimed at identification of constraints in investment decision making and implementation of innovations, as well as empirical analysis pertinent to relations between managers' assessment of significance of particular constraints (lack of human resources – competent staff, lack of financial, material and other resources, unexpected changes in the environment, and a too high and too low degree of organization – i.e. formalization of tasks in an enterprise), and inter alia the size of an enterprise (micro, small, medium, large) and its practice area (local, regional, national, international). The method of social survey and direct questionnaire – 203 questionnaires – was applied. The research was conducted from 5 November 2014 to 5 February 2015 and was targeted at middle and top managers, who made investment decisions and were employed in enterprises in different branches operating in Poland. Moreover, statistical inference was employed. Identification of investment decision-making constraints constituted one of the purposes of the grant, which was pertinent to a new innovative product – an RFID transponder.

Keywords: investment decisions, constraints, resources, enterprise, RFID
JEL Code: D810, O330

1. Introduction

In the article, research results were presented, pertinent to the occurrence and importance of selected constraints in investment decision making in Polish enterprises, such as: lack of human (competent), financial and material resources, unexpected changes in an environment, too high or too low level of actions organization (formalization). The constraints may be defined objective, since – contrary to subjective (subject an psychologically-related) – features of an enterprise and its environment constitute its sources. Therefore, objective constraints in investment decision making should not be sought directly in managers' rationality or lack of rationality, but in external constraints that the decision makers are subject to. In the research part, opinions of Polish managers on the occurrence of objective constraints that they meet while making investment decisions in the field of implementing technical innovations were presented. The article presents a part of research outcomes obtained under the project of The National Centre for Research and Development (grant No. PBS1/A3/3/2012) in Poland. The objective of the project was firstly to identify decision-making conditions while implementing the RFID (Radio Frequency IDentification) system with an autonomous semi-passive RFID transponder in Polish enterprises, and secondly to assess the market potential and possibilities to commercialize the RFID transponder. The RFID transponder, constitutes an innovative product which is not yet present in the market and is the subject matter of research conducted by a team of scientists (Jankowski-Mihułowicz et al., 2008; Jankowski-Mihułowicz, Węglarski, 2012; Janeczek et al., 2013; Jankowski-Mihułowicz et al., 2013; Jankowski-Mihułowicz et al., 2014; Jankowski-Mihułowicz, Węglarski, 2014; Jankowski-Mihułowicz, et al., 2016), primarily from the Department of Electronic and Communications Systems, Faculty of Electrical and Computer Engineering of the Rzeszow University of Technology.

2. Literature review

From the perspective of Resource Based View, enterprises gain high effectiveness and competitive advantage thanks to tangible and intangible resources – human, material, financial, information, knowledge, technological and other – that are valuable, rare and difficult to imitate. Those resources determine the possibility to implement innovations in an enterprise, and difficulties in obtaining and developing them result from the occurrence of objective conditions of making investment decisions (Table 2).

Table 1. Areas of enterprise's environment and related objective constraints of making investment decisions and implementation of innovations

Item.	Areas of environment that determine making investment decisions	Objective constraints in investment decision making and implementation of innovations in an enterprise
1.	• State under the rule of law, • Stable political situation • Personal safety • Intellectual property protection	• No information transparency and national reliability or other investment area (Kahraman, 2011), • High taxes and low investment return rate (Santoro, Wei, 2012) – this factor is the most significant for large rather than small enterprises (Bialowolski, Weziak-Bialowolska, 2013), • Unexpected changes in the legal environment and simultaneously too high or too low degree of actions organization (formalization) in an enterprise.
2.	• Stable fiscal system, • Reasonable taxation levels, • Tax reliefs and regulations encouragements for investors.	• Lack of financial resources as the main investment constraint in small enterprises (Carr, Kolehmainen, Mitchell, 2010), which have limited access to capital markets and consist in own resources. The constraint is of little statistical significance for large enterprises that have better access external funding (Laux, 2008), • Low GDP growth rates, high loan interest, unfavorable model of paying off the debts, delays in obtaining receivables, no regulations encouragements for investors (Bialowolski, Weziak-Bialowolska, 2013), • Unexpected changes in the legal environment and simultaneously too high or too low degree of actions organization (formalization) in an enterprise.
3.	• Lack of difficulties while running a business, • Infrastructure availability, • Market size and prospects of its development, • Country's openness to international trade, • Attractive sector environment.	• Strong dependence on providers and/or receivers – as the main motive for enterprises diversity – difficult to obtain by small entities with limited strategic resources, • Returns to scale – difficult to obtain by small entities with small strategic resources, • Low competitive advantage in a sector – issue of primarily small enterprises, • Considerable constraints of entering the sector – constraint mainly of small enterprises, • Unexpected changes in the legal environment and simultaneously too high or too low degree of actions organization (formalization) in an enterprise.
4.	Access to qualified managers and employees, including international ones.	• Decisive mangers to a small extent – lack of knowledge and investment experience, lack of skills in obtaining strategic and other resources. (Kahraman, 2011), • Unexpected changes in the legal environment and simultaneously too high or too low degree of actions organization (formalization) in an enterprise.

Source: Author's own elaboration based on: Bialowolski, Weziak-Bialowolska, 2013; Carr, Kolehmainen, Mitchell, 2010; Kahraman, 2011; Laux, 2008; Santoro, Wei, 2012

Ability to obtain and flexibly reconfigure strategic resources is particularly essential in investment processes implemented in dynamic and complex markets. Such reconfiguration of resources is implemented as a result of making decisions inter alia pertinent to: changing the business model, mergers, takeovers, strategic aliases, investments, disinvestments, entering a cluster, outsourcing, insourcing, business internationalization and others (Bingham, Eisenhart, 2011; Danneels, 2010). Small enterprises are usually associated with small level of activities formalization, big operating flexibility, and therefore considerable adaptability in the market. However, low level of activities organization most frequently points out to lack of strategy, therefore highly reactive operating that may result in chaos, involving in unbeneficial investment projects, and consequently – loss of time and resources. Low level of activities organization may also lead to an insufficient reaction to changes in the enterprise's environment (legal, financial, sector, social and demographic) because they are not monitored enough. However, large entities, especially highly specialized large enterprises (production-related with slim organizational structure) are considered highly formalized, little flexible (having high inertia), slowly adjusting to changes in the environment. Managers in such

enterprises most frequently complain about headship (diktat) of the management system superior to them (decision makers) and consequent failure of many valuable investment undertakings. Advantage of large enterprises over small ones consists in the fact that they have bigger strategic potential, a bigger number of more complexed problems is solved there, which enables to develop managers' decisiveness and increase benefits. However, simultaneously it intensifies the demand for highly qualified employees and managers. The said features of enterprises determine investment decision-making processes making them more real for large entities rather than small ones.

3. Method of research

Public survey was selected as the research method, with the use of anonymous questionnaire. The research was conducted from 5 November 2014 to 5 December 2015 among managers from Polish enterprises. It was respondents availability that constituted the selection criterion, and the size of the research sample was 203 managers from the top and middle level, who make investment decisions.

The scope of the presented research fragment encompassed objective enterprise's conditions (organizational resources and processes) that were important for the respondents while making investment decisions and implementing technical innovations.

Statistical inference with the use of the non-parametric ANOVA the Kruskal-Wallis test was applied. Moreover, Statistica 10. PL and Excel 10 were used.

Partial outcomes of the grant research presented in the article are pertinent to objective constraints of implementing technical innovations in Polish enterprises (based on the example of an RFID system with an autonomous semi-passive RFID transponder). Those constraints were determined based of respondents' responses marked in the questionnaire.

4. Constraints of making investment decisions versus enterprise's size and area of business activity – research results

One of the main research objectives was to identify relationships between objective limitations, constraints of making investment decisions in enterprises and features of these enterprises, such as:

- Type of practice area – manufacturing, services, trade or mixed area,
- Enterprise's size – microenterprise (9 or less employees), small enterprise (10-49 employees), middle enterprise (50-249 employees) or large enterprise (250 and more employees),
- Of business activity – local, regional, national or international.

In the presented research area, the following hypotheses were formulated, pertinent to constraints of making investment decisions in enterprises:

- H 1: Unexpected changes in an environment are the most significant in the case of microenterprises, since in such enterprises one should expect the smallest number of strategic resources for all types of unexpected situations,
- H 2: Lack of (competent) human, financial, material and other resources that most frequently occurs in microenterprises,
- H 3: Too high degree of actions organization (formalization) is a constraint characteristic of large, international and production enterprises,
- H 4: Too low degree of actions organization (formalization) is a constraint characteristic of small, local and service enterprises.

For the aforementioned decision-making activities, no relationship with the type of practice area was found.

As regards the size of an enterprise, while applying ANOVA the Kruskala-Wallisa test, the following statistically strategic relationships were identified (degree of significance $\alpha=0,05$):

- Significant (test probability $p<0,05$) for decision making constraints such as lack of human resources – competent employees ($p=0,0438$) and lack of financial resources ($p=0,0107$),
- Highly significant (test probability $p<0,01$) for the lack of material resources ($p=0,0011$).

The research outcomes were presented in Figure 1.

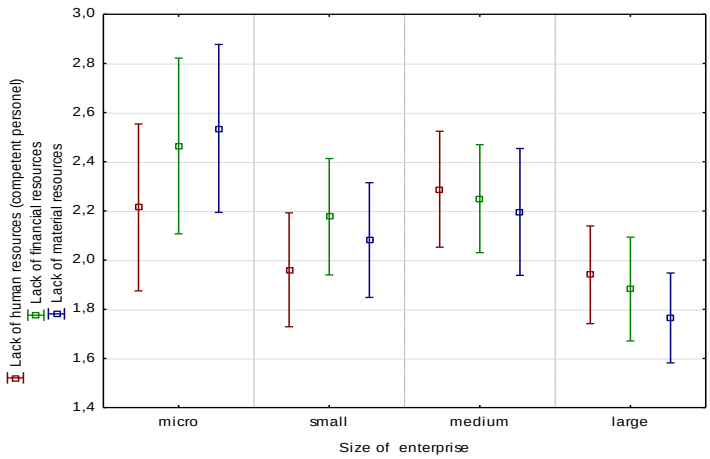

Figure 1. Relationships between constraints of making investments decisions and the size of enterprises (application of ANOVA the Kruskal-Wallis test)
Source: Author's own elaboration based on research outcomes

In somehow simplified way, one may claim that – according to the respondents – the bigger the enterprise, the lower the importance of the lack of human, financial and material resources viewed as constraints of making investment decisions. Therefore, to a large extent the research hypothesis was confirmed. In microenterprises, lack of material resources was deemed the biggest decision-making constraint, whereas in small ones – lack of financial resources, and in medium and large ones – lack of human resources (competent employees).

In the case of enterprises' area of business activity, the following statistical relationships were pointed out to (statistical significance α=0,05):

- Significant (test probability $p<0,05$) in the case of unexpected changes in an environment ($p=0,0454$),
- Highly significant (test probability $p<0,01$) for decision-making constraints such as: to high degree of actions organization (formalization) ($p=1,0012$) as well as too low degree of actions organization (formalization) ($p<0,0060$).

The research outcomes were presented in Figure 2.

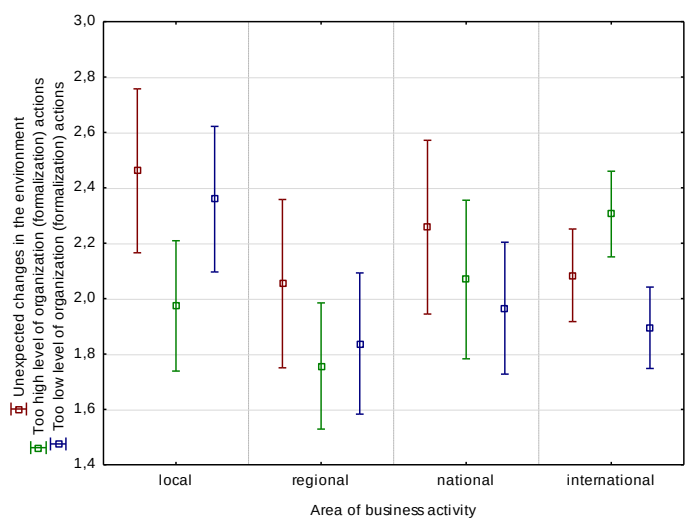

Figure 2. Relationships between constraints of making investments decisions and the enterprises' area of business activity (application of ANOVA the Kruskal-Wallis test)
Source: Author's own elaboration based on research outcomes

One may generally notice that the bigger the enterprise's area of business activity, the smaller the importance of unexpected changes in the environment of making investment decisions; regional enterprises constituted an exception in which the mangers' average assessment was lower than in the case of enterprises operating on a national scale.

Furthermore in enterprises operating on a: regional, national and international scale – along with an increasing business volume – it was the willingness to implement technical innovation that was rated higher by managers. It was a highly significant statistical relationship (p=0,0466).

As anticipated, too high degree of organization (formalization) of activities constituted the biggest decision making constraint in international enterprises, lower in enterprises operating on a national scale and the lowest in the case of regional entities. The lowest degree of activities organization was found the biggest constraint in making investment decisions in local enterprises.

5. Conclusion

The hypothesis 1 that unexpected changes in an environment are the most essential in terms of microenterprises was not confirmed – research outcomes proved that the size of an enterprise is not statistically significant. However, the bigger the enterprise's area of business activity (regional, national and international), the smaller the importance of unexpected changes in the environment of making investment decision making.

The hypothesis 2 was confirmed that lack of human, financial, and material resources constitutes essential constraint in investment decision making that most considerably relates to microenterprises, and the least considerably to large enterprises.

As anticipated, too high degree of organization of activities constituted a constraint, characteristic of international enterprises. However, the hypothesis 3 was only partly confirmed, because the constraint in making investment decisions did not show any statistically significant relationships with the size of an enterprises or the type of their practice area.

Too low degree of activities organization constituted a constraint in making investment decisions, mainly in local enterprises and had no statistical significance in the case of size and type of enterprises areas of business activity. The hypothesis 4 was partly confirmed.

To recapitulate, the smallest number of constraints in making investment decisions occurs rather in large Polish enterprises operation on an international scale. However in large entities, there are serious objective decision making constraints such as: excessive formalization and lack of competent employees.

6. Acknowledgements

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References

Bialowolski, P., Weziak-Bialowolska, D. 2013. *External Factors Affecting Investment Decisions of Companies*. In: *Economics Discussion Papers.* ISSN: 1867-8009, No. 44, August 22, pp. 1-18.

Bingham, Ch.B., Eisenhart, K.M. 2011. *Rational heuristics: The "simple rules" that strategists learn from process experience*. In: *Strategic Management Journal*. ISSN: 1097-0266, Vol. 13, No. 32, pp. 1437-1464. DOI:10.1002/smj.

Carr, C., Kolehmainen, K., Mitchell, F. 2010. *Strategic investment decision making practices: A contextual approach*. In: *Management Accounting Research.* ISSN: 1044-5005, Vol. 21, No. 3, pp. 167-184. DOI:10.1016/j.mar.2010.03.004.

Danneels, E. 2010. *Trying to become a different type of company: dynamic capability at Smith Cotona*. In: *Strategic Management Journal*. ISSN: 1097-0266, Vol. 1, No. 32, pp. 1-31. DOI: 10.1002/smj.863.

Janeczek, K., Jakubowska, M., Kozioł, G., Jankowski-Mihułowicz, P. 2013. *Passive UHF RFID-Enabled Sensor System for Detection of Product's Exposure to Elevated Temperature*. In: *Metrology and Measurement Systems.* ISSN: 860-8229, Vol. XX, No. 4, pp. 591-600. DOI: 10.2478/mms-2013-0050.

Jankowski-Mihułowicz, P., Kalita, W., Pawłowicz, B. 2008. *Problem of dynamic change of tags location in anticollision RFID systems*. In: *Microelectronics Reliability*. ISSN: 0026-2714, Vol. 48, Issue 6, pp. 911-918. DOI: 10.1016/j.microrel.2008.03.006.

Jankowski-Mihułowicz, P., Kalita, W., Skoczylas, M., Węglarski, M. 2013. *Modelling and Design of HF RFID Passive Transponders with Additional Energy Harvester*. In: *International Journal of Antennas and Propagation*. ISSN: 1687-5877, Vol. 2013, pp. 1-10. DOI: 10.1155/2013/242840.

Jankowski-Mihułowicz, P., Pitera, G., Węglarski, M. 2014. *The Impedance Measurement Problem in Antennas for RFID Technique*. In: *Metrology and Measurement Systems*. ISSN: 0860-8229, Vol. XXI, No. 3, pp. 509-520. DOI: 10.2478/mms-2014-0043.

Jankowski-Mihułowicz, P., Węglarski, M. 2014. *Determination of Passive and Semi-Passive Chip Parameters Required for Synthesis of Interrogation Zone in UHF RFID Systems*. In: *Elektronika ir Elektrotechnika*. ISSN: 2029-5731, Vol. 20, No. 9, pp. 65-73. DOI: 10.5755/j01.eee.20.9.5007.

Jankowski-Mihułowicz, P., Węglarski, M. 2012. *Determination of 3-Dimentional Interrogation Zone in Anticollision RFID Systems with Inductive Coupling by Using Monte Carlo Method*. In: *Acta Physica Polonica A*. ISSN: 1898-794X, Vol. 121, No. 4, pp. 936-940.

Jankowski-Mihułowicz, P., Węglarski, M., Pitera, G., Kawalec, D., Lichoń W. 2016. *Development board of the autonomous semi-passive RFID transponder*. In: *Bulletin of the Polish Academy of Sciences-Technical Sciences*. ISSN: 0239-7528, Vol. 64, No. 3, pp. 647-654. DOI: 10.1515/bpasts-2016-0073.

Kahraman, C. 2011. *Investment decision making under fuzziness.* In: *Journal of Enterprise Information Management*. ISSN: 1741-0398, Vol. 24, No. 2, pp. 126-129. DOI:10.1108/17410391111106266.

Laux, V. 2008. *On the value of influence activities for capital budgeting*. In: *Journal of Economic Behavior & Organization*. ISSN: 0167-2681, Vol. 65, No. 3-4, pp. 625-635. DOI:10.1016/j.jebo.2006.01.004.

Santoro, M., Wei, C. 2012. *A Note on the Impact of Progressive Dividend Taxation on Investment Decisions.* In: *Macroeconomic Dynamics*. ISSN: 1469-8056, Vol. 16, Issue 2, pp. 309-319. DOI:10.1017/S1365100509990964.

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Behaviour of Polish managers while making investment decisions in the field of RFID

Marzena Jankowska-Mihułowicz, Katarzyna Chudy-Laskowska, Krystyna Kmiotek

Abstract

The main objective of the article was to identify behaviour (orientations) adapted by Polish managers while making investment decisions. Individual, collective (group) and mixed approaches constituted he subject matter of the paper, and were distinguished based on the criterion of an extent to which the stakeholders' from the surveyed enterprises and their environment were involved in making investment decisions and the culture of cooperation in the said decision-making process. With regard to this problem area, various relationships were subjected to research, including those between managers' motivation to implement technical innovations, and an approach applied while making investment decisions. Moreover, the research encompassed managers' adaptiveness in the said process and related relationships. In order to achieve the objectives, social survey (203 questionnaires) was conducted from 5 November 2014 to 5 February 2015 that encompassed middle and top managers in enterprises operating in various branches in Poland. Moreover, statistical inference was applied. Managers' orientations adapted while making investment decisions were assessed within the framework of a technical project for a new innovative product – an RFID transponder.

Keywords: domination, cooperation, investment decisions, technical innovations, RFID
JEL Code: D810, D700, O330

1. Introduction

In the article, behaviour of Polish managers making investment decisions in terms of implementing technical innovations in enterprises, was characterized. The main objective was to indicate managers' dominant orientation, on account of the scope of stakeholders' involvement in the investment decision-making process (individual, collective or mixed decisions); as well as in view of managers' adaptability in the said process (high, low or mixed). A hypothesis was advanced that in both cases it is the mixed orientation that is the dominant one – the one that enables combining extremely different approaches, concurrent with premises of the evolutionary strategy theory – and consequently – achieving established goals, and take good advantage of chances, as well as avoid dangers immanently associated with the risky process of implementing technical innovations. The article presented a part of research outcomes obtained under the project of The National Centre for Research and Development (grant No. PBS1/A3/3/2012) in Poland. The objective of the project was firstly to identify decision-making conditions while implementing the RFID system (Radio Frequency IDentification) with an autonomous semi-passive RFID transponder in Polish enterprises, and secondly to assess the market potential and possibilities to commercialize the RFID transponder. The RFID transponder constitutes an innovative product which is not yet present in the market and is the subject matter

of research conducted by a team of scientists (Jankowski-Mihułowicz et al., 2008; Jankowski-Mihułowicz, Węglarski, 2012; Janeczek et al., 2013; Jankowski-Mihułowicz et al., 2013; Jankowski-Mihułowicz et al., 2014; Jankowski-Mihułowicz, Węglarski, 2014; Jankowski-Mihułowicz, et al., 2016), primarily from the Department of Electronic and Communications Systems, Faculty of Electrical and Computer Engineering of the Rzeszow University of Technology.

2. Literature review

Making investment decisions and implementing innovations in enterprises results in a temporary situation that the enterprise enters, which is predicated upon the redefinition of the business model. The transition from the present to the new business model is always a process that destabilizes the organization and consequently, decisions are made under conditions of risk or uncertainty. In line with the premises of the evolutionary strategy theory – vision, plans, goals, and therefore the decision-maker's intended strategy is confronted with emergent strategy. And it is the emergent strategy that results in the organization's real strategy (Mintzberg, Waters, 1985). According to the representatives of the organic concept of strategic management, enterprise's adaptability is achieved through planned and real coordination of goals and actions in time and space (Farjoun, 2002), whereas the strategy of redefining is flexible thanks to making numerous decisions together with stakeholders – which ensures permanent feedback between anticipated and achievable outcome of actions. The importance of flexible, temporary planning is highlighted, in terms of managing an enterprise in a competitive environment (Wiklund, Shepherd, 2005; Freel, 2005). Managers' entrepreneurial attitude along with permanently updated plans are important in the entire process of implementing innovations, since the benefits are always delayed compared to the time of the investment (Morris et al., 2008).

The article tackled the issue of decision makers' culture that is dominant in an enterprise while making investment decisions. Primary characteristics of an organization's culture are: low or high innovation and risk taking; low or high precision (synthesis or analysis); outcome orientation or orientation to techniques and processes; task orientation or people orientation; individuals orientation or team orientation; low or high aggressiveness (competitiveness); stability (maintaining the status quo) or striving for vitality and growth (Robbins, Judge, 2013). According to another concept, under conditions of cultural diversity (national differences, connections, relationships, individual and group goals in investment processes), one may differentiate three management strategies: domination, cooperation and coexistence – mixed orientation (Adler, 1980). Domination refers to the 'reductionist culture-specific', and cooperation to the paradigm of 'differentiated culture-specific' (Pudelko et al., 2015), compared in Table 1.

Table1. The „reductionist culture-specific" and the „differentiated culture-specific" paradigms

	Reductionist culture-specific	Differentiated culture-specific
Concept of culture	Reduction to an aggregate score	Differentiation to accommodate for complexity
Objective of study	Comparison of values	Description of interactions
Perspective towards time	Static	Dynamic
Reasoning	Deductive	Inductive
Relation towards theory	Theory testing	Theory generation
Relation towards knowledge	Confirmation	Exploration
Relation towards context	Abstraction of specific contexts	Embeddedness in a specific context

Source: Author's own elaboration based on: Pudelko et al., 2015

The process of implementing technical innovations has a lot in common with intercultural management, although it is not always conducted by managers from different nations. Partners speak various languages (e.g. technical and management-related), code and decode information differently, have different objectives, experiences, knowledge, leadership styles and other features of organizational cultures. In this paper authors assumed that decision-makers' dominant orientation in investment processes is the one that consists in their mental transition between the aforesaid extreme paradigms. First of them (cultural domination) reflects conservative mentality – careful, strongly controlling, reluctant towards new things; whereas the second

paradigm (cultural cooperation) is characteristic of open mentality, possessing considerable knowledge and experience, capable of learning. Implementation of innovations seems to require combining these two attitudes.

3. Method of research

The research encompassed the method of public survey, with the following most important features:

- Research tools: a questionnaire,
- Research duration: 5 November 2014 – 5 February 2015 (4 months),
- Population under survey: managers from Polish enterprises,
- Criterion from selecting the research sample: availability of respondents,
- Size of the research sample: 203 managers,
- Types of enterprises managed by the managers – according to criteria such as: type of business activity (34% – manufacturing, 28% – trade, 23% – services, 14% – mixed); area of business activity (47% – international, 15% – national, 18% – regional, 19% – local); organizational-legal form (47% – limited liability companies, 18% – joint-stock companies, 10% – general partnerships, 9% – registered partnerships and others); capital (59% – Polish, 41% – foreign),
- Target group: top- and middle-level managers who make investment decisions in terms of enterprises management,
- Scope of the presented part of research: external conditions of enterprises (decision makers, organization resources and processes),
- Description of the questionnaire form: questions (5 pages) concerning decision-making conditions in the process of implementing an RFID system with a semi-passive RFID transponder (API); metrics (1 page); and an attachment (2 pages) constituting an information sheet on the evolution of automated objects identification, autonomous semi-passive RFID transponder (API) and typical application of radio-frequency IDentification systems (FRID),
- Ways of conducting research: 500 colour copies of questionnaire were printed and distributed to Polish managers during fairs, conferences and directly in enterprises. Furthermore, an electronic form was published online to be downloaded and sent to managers by e-mail. The questionnaire was anonymous,
- Return of the questionnaires: managers completed 203 questionnaires. 171 completed questionnaires were returned which adds up to 34% of the total number; moreover, respondents filled out 29 electronic questionnaires downloaded from a webpage including the description of the research project,
- Statistical description of the research: statistical inference was applied. Non-parametrical tests used: Pearson's chi-squared test and ANOVA the Kruskal-Wallis test. Relationships were identified in terms of qualitative and mixed featured – quantitative-qualitative. Research was conducted with the use of Statistica 10.PL and Excel 10.

Partial results of the grant research presented in this article are pertinent to managers' behaviour, who make investment decisions germane to implementing technical innovations (based on the example of an RFID system with an autonomous semi-passive transponder). Decision makers' flexibility was determined based on their dominant attitudes – according to their own opinions.

4. Flexibility of managers in making investment decisions – research results

The aim of the research was to identify the dominant orientation in Polish managers while making investment decisions in enterprises. These orientations were distinguished based on a criterion of stakeholders' involvement (in an organization and its environment) in the process of making investment decisions (a culture of working with them); as well as in view of the level of managers' adaptability while making investment decisions. A hypothesis was advanced that in both cases it is the mixed approach that is the dominant one – which enables to combine extremely different approaches – and consequently – achieve

established goals and take good advantage of chances, as well as avoid dangers immanently associated with a risky process of implementing innovations.

During the research, the following orientations were taken into account that determine the scope of stakeholders' involvement in the process of making investment decisions and the culture of working with them:

- Individual decision making – competition, autocratic decision making, power centralization, domination, compulsory imposing of cultural pattern upon subordinate stakeholders by a superordinate entity,
- Collective decision making – cooperation, making decision with stakeholders, delegating powers, empowerment, decentralization of power, mingling and standardization of stakeholders' culture, and even establishment of common meta-culture,
- Coopetition (cooperence) – mixed approach: competition joint with cooperation.

The respondents had to indicate one of the said orientations which is dominant in an enterprises while making investment decisions. The application of Pearson's chi-squared test (χ^2) enabled to notice that there is no relationship between the orientation and the type of an enterprise $p>\alpha$ (p=0,21225); however there is a statistically essential relationship between the orientation and the size of an enterprise $p<\alpha$ (p=0,04882) as well as the area of its business activity $p<\alpha$ (p=0,02080). The outcomes are presented in Figures 1 and 2.

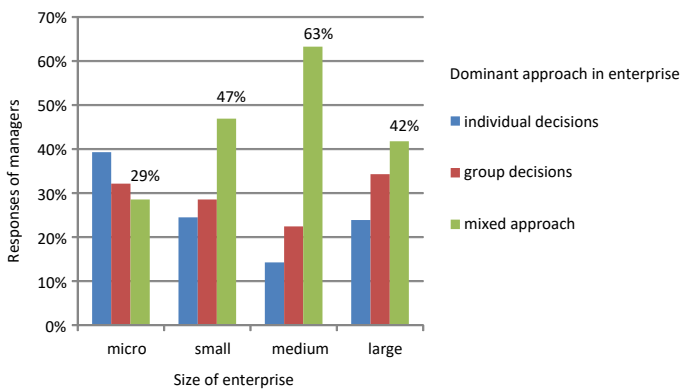

Figure 1. Relationship between the scope of involvement of stakeholders in the process of making investment decisions and the size of enterprises
Source: Author's own elaboration based on research outcomes

As regards micro, small, and medium enterprises, a relationship was noticed between the size of an enterprise and the level of dominant orientation pertinent to the scope of stakeholders' involvement while making investment decisions. The bigger the enterprise – the smaller the tendency to make individual and collective decisions and – the bigger the tendency to adapt mixed approach (coopetition); beside the large enterprises. The majority of managers adapted mixed approach (63%) in medium enterprises. In large enterprises, most managers pointed out to the mixed approach – coopetition (42%), and the smallest number of the managers indicated individual decision making and competition (24%).

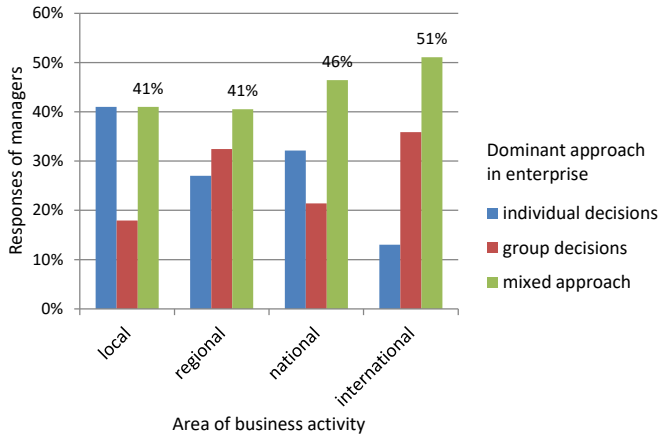

Figure 2. Relationships between the scope of stakeholders' involvement in the process of making investment decisions and enterprises' areas of business activity
Source: Author's own elaboration based on research outcomes

Investment decisions, in an individual and competition-oriented way were most frequently made by managers from microenterprises (41%), and the least frequently – by managers from large enterprises (13%).

Dividing enterprises into their areas of business activity enabled to infer that the mixed approach (coopetition) was used by the biggest number of managers. Furthermore, the bigger the area of business activity, the bigger the percentage. As regards enterprises operating in local and regional markets, 41% of respondents pointed out to the mixed approach, in national enterprises – 46%, and in international enterprises – 51%.

By means of the Pearson's chi-squared test it was verified that there are relationships (differences) as regard willingness to implement technical innovations $p<\alpha$ (p=0,0041), with division into orientations dominant in an enterprise while making investment decisions (Figure 3).

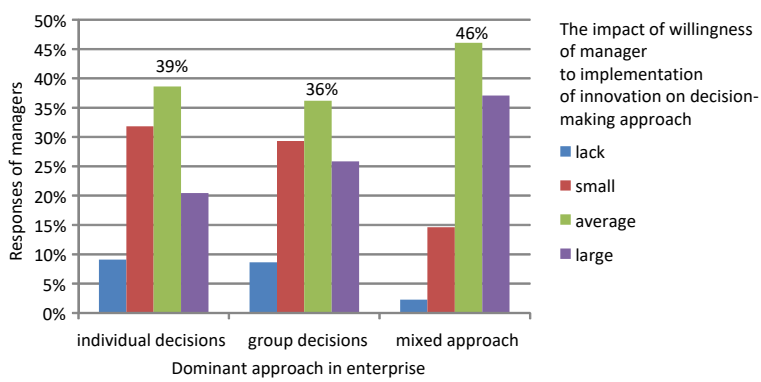

Figure 3. Impact of willingness to implement technical innovations on the approach adapted in the process of investment decision-making (application of Pearson's chi-squared test)
Source: Author's own elaboration based on research outcomes

The majority of managers, who postulated that in their enterprises it is the mixed approach (individual, oriented at competing, and collective – assuming cooperation) that dominates, simultaneously claimed that willingness to implement technical innovations has a medium (46%) or large (37%) impact on making a decision upon buying and implementing an RFID system with a semi-passive RFID transponder in an enterprise.

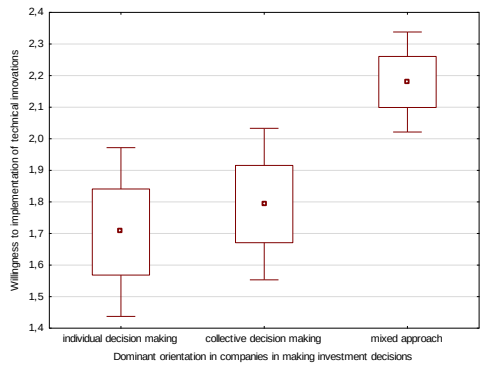

Figure 4. Impact of willingness to implement technical innovations on the approach adapted in the process of investment decision-making (application of ANOVA the Kruskal-Wallis test)
Source: Author's own elaboration based on research outcomes

The said relationships (differences) were shown in Figure 4 and the assessment of influence was presented quantitatively by means of the Kruskal-Wallis ANOVA test. There is a clearly visible tendency pointing out to the relationships between medium and strong motivation of managers towards implementing technical innovations and adapting the mixed orientation (coopetition).

During the research, also orientations that determine the level of managers' adaptability while making investment decisions were analyzed. Those included:

- Low adaptability – sticking to established goals and not giving them up, despite the difficulties,
- High adaptability – creating multiple options for action plans,
- Mixed orientation – mixed approach means that decision makers move between the extremes – low and high adaptability.

The respondents had to indicate one of the said orientations which is dominant in an enterprise, while making investment decisions. The application of Pearson's chi-squared test (χ^2) enabled to notice that there is no relationship neither between the orientation and the type of an enterprise $p>\alpha$ (p=0,27051), nor the orientation and the performance area $p>\alpha$ (p=0,81802). Research presented a statistically essential relationship between the orientation and the size of an enterprise $p<\alpha$ (p=0,04319). The outcomes are presented in Figure 5.

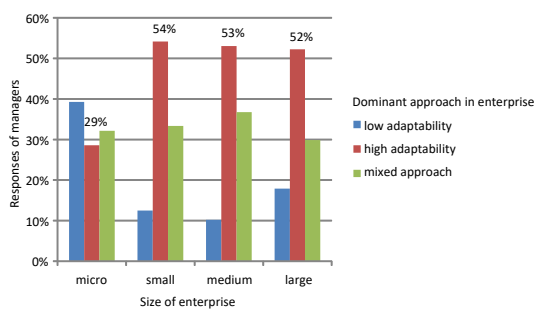

Figure 5. Relationships between managers' adaptability in an investment decision-making process and the size of enterprises
Source: Author's own elaboration based on research outcomes

In micro-enterprises, low adaptability (39%) constituted the dominant orientation, and high adaptability (29%) was the least frequently adopted approach. In other enterprises, opposite relationship may be noticed. The bigger the enterprise, the stronger tendency to adopt mixed approach; beside the large enterprises. Low adaptability was pointed out to by 13% of managers from micro-enterprises, 10% – from medium-enterprises, and 18% from large enterprises; whereas high adaptability was selected by 54% of managers from micro-enterprises, 53% from medium-enterprises, and 52% from large enterprises. Mixed orientation was applied by about 30% of managers from every type of enterprise.

What ensues from the research is that differences in assessing willingness to implement technical innovations are not statistically essential in the division into the orientation dominant in enterprises pertinent to decision-makers' adaptability $p>\alpha$ ($p=0,8056$).

5. Conclusion

Beside the large enterprises, the hypothesis was confirmed that the bigger the enterprise, the less frequently the managers made individual decisions aiming at competition or collective decisions aiming at cooperation – the more frequently the mixed approach was adapter, therefore coopetition. It was established that there is a relationship between average and large motivation of managers to implement technical innovations and adopting mixed orientation – i.e. combining the autocratic, aggressive and competition-oriented approach with collective orientation that aims at cooperation with various groups of interest – while making investment decisions. It indicates that decision makers in Polish enterprises have considerable cognitive flexibility.

Contrary to the assumption, mixed orientation (meaning that decision makers move between the two extremes – low and high adaptability) was used by about 30% of all surveyed managers – therefore only about one third of the research sample, while making investment decisions, decided to follow established goals and attempted not to give them up (despite the difficulties) and create multi-optional action plans. Highly adaptive approach of decision makers turned out to have reached the biggest percentage – it was used by over 50% of managers from small, medium and large enterprises. No statistically important relationship was found between managers' motivation towards implementation of technical innovations and adaptive, non-adaptive or mixed approach. Observations made during research indicated that, it was the strategic approach to take good advantage of chances and avoid risks that was most frequently adapted. The importance of strategic planning was the most considerable in micro-enterprises, whereas in the rest of the surveyed entities it was the least important. It means that (excluding micro-enterprises), while implementing technical innovations, the real strategy of an enterprise was also parallel to the emergent strategy, and managers' decisions were made under conditions of at least medium motivation of decision makers and constituted a network of feedbacks between decision makers and stakeholders based on competitions and cooperation. Both high adaptability (50% of indications) and mixed orientation (30%) constituted adaptive attitudes. Obtained results point out to higher – than expected in the hypothesis – managers' reactivity, which should be interpreted as a natural attitude under conditions of risk and uncertainty, as well as to some extent – as a sign of giving up established investment goals (which may e.g. result from the fear of failure) and/or goals that were initially formulated in the wrong way.

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References

Adler, N. 1980. *Cross-cultural synergy: the management of cross-cultural organization*. In: *Trends and issues in OD: current theory and practice*, Burke, W., Goldstein, L.D. (Eds.). San Diego, CA: University Associates. ISBN-10: 0883901625.

Farjoun, M. 2002. *Towards an organic perspective on strategy*. In: *Strategic Management Journal*. ISSN: 1097-0266, Vol. 23, No. 7, pp. 561-594. DOI: 10.1002/smj.239.

Freel, M.S. 2005. *Perceived environmental uncertainty and innovation in small firms*. In: *Small Business Economics*. ISSN: 1573-0913, No. 25, pp. 49-64.

Janeczek, K., Jakubowska, M., Kozioł, G., Jankowski-Mihułowicz, P. 2013. *Passive UHF RFID-Enabled Sensor System for Detection of Product's Exposure to Elevated Temperature*. In: *Metrology and Measurement Systems.* ISSN: 860-8229, Vol. XX, No 4, pp. 591-600. DOI: 10.2478/mms-2013-0050.

Jankowski-Mihułowicz, P., Kalita, W., Pawłowicz, B. 2008. *Problem of dynamic change of tags location in anticollision RFID systems*. In: *Microelectronics Reliability*. ISSN: 0026-2714, Vol. 48, Issue 6, pp. 911-918. DOI: 10.1016/j.microrel.2008.03.006.

Jankowski-Mihułowicz, P., Kalita, W., Skoczylas, M., Węglarski, M. 2013. *Modelling and Design of HF RFID Passive Transponders with Additional Energy Harvester*. In: *International Journal of Antennas and Propagation*. ISSN: 1687-5877, Vol. 2013, pp. 1-10. DOI: 10.1155/2013/242840.

Jankowski-Mihułowicz, P., Pitera, G., Węglarski, M. 2014. *The Impedance Measurement Problem in Antennas for RFID Technique*. In: *Metrology and Measurement Systems*. ISSN: 0860-8229, Vol. XXI, No. 3, pp. 509-520. DOI: 10.2478/mms-2014-0043.

Jankowski-Mihułowicz, P., Węglarski, M. 2014. *Determination of Passive and Semi-Passive Chip Parameters Required for Synthesis of Interrogation Zone in UHF RFID Systems*. In: *Elektronika ir Elektrotechnika*. ISSN: 2029-5731, Vol. 20, No. 9, pp. 65-73. DOI: 10.5755/j01.eee.20.9.5007.

Jankowski-Mihułowicz, P., Węglarski, M. 2012. *Determination of 3-Dimentional Interrogation Zone in Anticollision RFID Systems with Inductive Coupling by Using Monte Carlo Method*. In: *Acta Physica Polonica A*. ISSN: 1898-794X, Vol. 121, No. 4, pp. 936-940.

Jankowski-Mihułowicz, P., Węglarski, M., Pitera, G., Kawalec, D., Lichoń W. 2016. *Development board of the autonomous semi-passive RFID transponder*. In: *Bulletin of the Polish Academy of Sciences-Technical Sciences*. ISSN: 0239-7528, Vol. 64, No. 3, pp. 647-654. DOI: 10.1515/bpasts-2016-0073.

Mintzberg, H., Waters, J.A. 1985. *Of strategies: deliberate and emergent*. In: *Strategic Management Journal.* ISSN: 1097-0266, Vol. 3, No. 6, pp. 257-272.

Morris, M.H., Kuratko, D., Covin, J.G. 2008. *Corporate Entrepreneurship and Innovation.* Mason: South-Western CENGAGE Learning. ISBN-10: 0538478926.

Pudelko, M., Tenzer, H., Harzing, A.W. 2015. *Cross-cultural management and language studies within international business research: Past and present paradigms and suggestions for future research*, p. 5. In: Holden, N., Michailova, S., Tietze, S. 2015. *The routledge compendium to cross cultural management*, Routledge, pp. 1-15. Date of citation: 21.09.2016. Source: http://www.harzing.com/publist.htm. ISBN-10: 0415858682.

Robbins, S.P., Judge, T.A. 2013. *Organizational behaviour*. NJ: Pearson Education, Inc., Prentice Hall, Upper Saddle River. ISBN-13: 9780132834872.

Wiklund, J., Shepherd, D. 2005. *Entrepreneurial orientation and small business performance: a configuration approach*. In: *Journal of Business Venturing*. ISSN: 0883-9026, No. 20, pp. 71-91.

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The independence of the statutory auditor and its impact on professional scepticism

Zuzana Juhászová, Ján Užík

Abstract

The paper is focused on the characteristics of the relationship of the statutory auditor independence and compliance with professional scepticism. In addition to the characteristics of both essential requirements in an audit engagement, the contribution paid to the links between them and the impact on the issue of the audit report to the Financial Statements

Keywords: financial statement, independence, professional scepticism
JEL Code: M42, M49

1. Introduction

On the basis of audited accounts by the statutory auditor and issue its opinion as to whether the financial statements give a true and fair view in accordance with the applicable financial reporting framework, users adopt decisions that in many cases have an existential impact on whether a particular user (Tumpach, M., Baštincová, A. 2014), (Simonidesová, J., Manová, E., Stašková, S. 2015) or entity (Pakšiová R. Kubaščíková, Z., 2015). Scepticism is one of the important factors that need to be in the audit of financial statements into account. In this article we will focus on the auditor's independence and its impact on professional scepticism in the verification of financial statements.

2. The independence of the statutory auditor

In verifying the financial statements should be a statutory auditor impartial and independent of the entity (Krišková, 2008). The statutory auditor, respectively. auditing company derives not only from compliance with auditing standards in the performance audit, but it is also spelled out in the highest legal act - and in the law on statutory audit. In contrast to the previous adaptations, currently is defined by the period of independence, a period in which it carries out the statutory audit. Obstacles to the exercise audit in the audit period and the period in which the audit is carried out, in particular, are the following factors:

To 30.6.2016: Law no. 540/2007 Coll. on auditors, audit and supervision of auditing and on the amendment of Act no. 431/2002 Coll. on Accounting, as amended	**Past 1.7. 2016: Law no. 423/2015 Coll. on statutory audit and the amendment of Act no. 431/2002 Coll. on Accounting, as amended**
a) ownership, mutual or member relationship with the entity or another personal interest, except for the audit of financial statements of the Office or Chamber of Auditors by the statutory auditor or audit company,	a) ownership, mutual or member relationship with the audited entity or other personal interest except for shares held indirectly through a diversified collective investment schemes, including managed funds such as pension funds or life insurance or the statutory

	audit of accounts of the chamber or carrying out the statutory auditor or audit company,
b) employment relationship auditor to the accounting entity,	b) employment relationship of the statutory auditor to the auditee subject,
c) membership of the in statutory bodies, management or supervisory bodies of the reporting entity,	c) membership of the in statutory bodies, management bodies or supervisory bodies of the audited entity,
d) if the auditor is close person to persons who have a relationship entity referred to in points a) to c)	d) if the statutory auditor of a close person to persons who have a relationship to the audited entity referred to in points a) to c)
e) the performance of the trustee in bankruptcy, a liquidator or a trustee in the entity under a special regulation,	e) the performance of the trustee in bankruptcy, a liquidator or a trustee of the audited entity under a special regulation,
f) if the entity had not paid for the audit performed for more than one year,	f) If the entity has paid for carrying out the statutory audit for the previous period longer than one year,
h) relationship under a) to g), i) and j) between the network and the entity, including the provision of non-audit services for which the third party would lead to the conclusion that the independence of the auditor or audit firm is compromised,	g) relationship under a) to f) between the network, an individual that can influence the outcome of the statutory audit and the audited entity, including the provision of non-audit services by the third party would lead to the conclusion that the statutory auditor or audit firm is compromised,
j) other obstacles contrary to the Code of Ethics of the auditor.	h) other obstacles contrary to the Code of Ethics of the auditor.

Figure 1: The independence of the statutory auditor
Source: own processing

The statutory auditor is not independent in that case, if keeps its books and prepares the financial statements of the audited entity; It has a significant and direct involvement in securities and shares issued, guaranteed or otherwise supported by an audited entity.

In the period up to 2016 included barriers to the exercise of the audit was to provide expert services to the entity and the preparation of documents and information needed for the conclusion of contracts of sale, merger entity under a special regulation in the previous two reporting periods. In fact, such an audit has not an obstacle, but professional scepticism should be applied even more widely. Statutory auditor or audit firm, their key audit partners, their employees, any other natural person who is the statutory auditor or audit firm provides services or are controlled by them and who are directly involved in activities relating to statutory audit and persons close to them United shall neither seek nor accept them provide cash donations and donations in kind or other benefits only if an objective, reasonable and informed third party would consider its value as insignificant.

Statutory auditors and audit company shall take measures to reduce the risk affecting their independence. The statutory auditor and audit firm shall not carry out a statutory audit if the significance of the threats compared to the measures applied is such that would cause questioning their independence.

3. Professional scepticism

When looking for a connection between the two terms, it is necessary to define the meaning of scepticism. According to the dictionary of the Slovak language is defined in two ways: as an idealistic philosophies doubting the possibility of credible knowledge of the possibility of objective truth will get to the bottom; as well as questioning of all, scepticism, distrust: minority scepticism.

With professional scepticism in the performance audit it is mainly related to the second level of this concept - the opportunity to get to the bottom of objective truth.

Legislative adjustments to the requirement of professional scepticism obtained through the adoption of the new Act. 423/2015 on statutory audit and the amendment of Act no. 431/2002 Coll. on Accounting, as amended. As with any business over time developed and improved, and a new law on audit brought new specifications which are statutory auditor to assist in the performance audit (Kares, L., 2010). In § 20 include the requirement to comply with professional scepticism. The statutory auditor and audit firm are required throughout the performance of the statutory audit to examine the facts which are subject to statutory audit, with alert to circumstances that may indicate possible misstatement due to error or fraud and to critically assess the evidence found during the execution of a statutory audit.

Although that requirement binding on all activities during the audit, legislative regulation directly notes that statutory auditors and audit firm in the performance of the statutory audit must admit the possibility of material misstatement, including fraud or error due to facts or behaviour suggestiveness existence of such discrepancies, regardless of experience which have in the past regarding the honesty and integrity of management and those charged with governance and management of the audited entity. The statutory auditor and audit firm maintain professional scepticism in particular by:

• reviewing management estimates relating to the valuation of assets and liabilities at fair value,

• impairment of assets, reserves and future cash flows relevant to the entity's ability to continue as a going business.

Statutory auditors are obliged to adhere to national treatment and International Standards on Auditing (Maděra, F. 2013), which defines professional scepticism in ISA 200, Overall Objectives of the independent auditor and perform an audit in accordance with International Standards on Auditing as an attitude that is characterized of scepticism and vigilance aimed the conditions which could indicate the possibility of misstatements due to error or fraud and a critical assessment of audit evidence. The application of such an attitude is an obligation for the auditor to plan and perform the audit subsequently to circumstances which could cause significant misstatement in the financial statements. Vigilance must be reflected not only in the audit evidence are inconsistent with other audit evidence obtained, but also for information that questions the reliability of documents. Part of the audit of scepticism is also considering whether the audit evidence is sufficient and appropriate.

ISAs 240 Auditor's responsibility concerning Fraud in an Audit of Financial Statements underlines the obligation of professional scepticism in particular due to the possible existence of material misstatement that may be caused by fraud. In the event of such circumstances, the auditor may refer to a third party, respectively. use the work of an expert.

Professional scepticism is given to international auditing practical explanations 1000 special considerations in the audit of the financial instruments. As regards audit considerations in financial instruments professional scepticism is particularly needed in a critical assessment of audit evidence in relation to possible indications of bias management. The application of scepticism is not always easy, it is difficult requiring cases of use of complex financial instruments, the use of different pricing models, especially if there are no active markets for the trading of financial instruments (Mokošová, D., Bednárová B, Tkáčová, L, 2013).

The application of professional scepticism in the execution of the audit results also from supranational legislation - Regulation of the European Parliament and of the Council (EU). 537/2014 of 16 April 2014 on specific requirements regarding statutory audit of public interest entities, and repealing Commission Decision 2005/909 / EC. As part of that Regulation requires the application of professional scepticism in particular when public interest entities.

4. Conclusion

The statutory auditor in planning contract is obliged to take into account whether he or. any of the audit team are not threatened because of non-independence.

Pending the adoption of new legislation on auditing part of obstacles in the performance of the audit it was to provide expert services to the entity and the preparation of documents and information needed for the

conclusion of contracts of sale, merger entity under a special regulation in the previous two reporting periods. That fact is not an obstacle to performance audit, but the auditor should in an audit engagement reflect the fact that certain acts were carried out as management. on the basis of the expert services. Expert service entity generally used to evaluate their assets and achieve better financial results (Šlosárová, A., Bednárová, B., 2015). Performance audit in such cases is indissolubly linked with the observance of ethical requirements (Fketeová, R., Ivančíková, J., Kicová, M., 2008), which are part of business ethics and in such business (Meľuchová, J., Mateášová, M., 2015), such as performance audit.

Given the nearly 800 active auditors (772 Auditors on 10.7.2016) and the shrinking number of companies that require auditing services is to be assumed that the market for audit services, the operators of supply and demand actors in meeting the independence requirements will be increasingly difficult to cope. The basic principles of professional ethics within the meaning ISQC1 standard Quality Control for Firms that Perform Audits and Audited Financial Statements, and Other Assurance and Related Services include integrity, objectivity, professional competence and appropriate care, confidentiality, professional behaviour. As part of professional conduct, it is assumed that the auditor will evaluate in order acceptance and independence (Kršíková, V. Rybka, L., 2012) and also in cases where the entity performed activities but do not pose a threat to independence, it can take a position application professional scepticism. It should also be emphasized that a necessary condition for the application of professional scepticism in the audit of financial statements of the auditor's independence from the entity.

References

Feketeová, R., Ivančíková, J., Kicová, M. 2008. Profesijná etika ako súčasť podnikateľskej etiky. In *Etika v účtovníctve a audítorstve* : zborník z konferencie, Bratislava 11.6.2008. - Bratislava : [Vydavateľstvo EKONÓM], 2008. ISBN 978-80-225-2563-3, s. 51-56.

Kareš, L. 2010. [Quo vadis] audítorská profesia. In *Teória a prax v účtovníctve a v audítorstve v kontexte svetového vývoja : zborník príspevkov zo šiesteho vedeckého seminára k výsledkom vedeckovýskumnej činnosti Katedry účtovníctva a audítorstva*. - Bratislava : Vydavateľstvo EKONÓM, 2010. ISBN 978-80-225-2960-0, s. 36-37.

Krišková, P. 2008. Nezávislosť audítora. In *Účetnictví v procesu světové harmonizace*. - Praha : Vysoká škola ekonomická v Praze - Nakladatelství Oeconomica, 2008. ISBN 978-80-245-1393-5, s. 104-107. VEGA 1/0284/08.

Kršíková, V., Rybka L. 2012. Audit risk in the context of the audit profession. - Registrovaný: Web of Science. In *European financial systems 2012 : international scientific conference*, 21st and 22nd June 2012, Brno, Czech Republic. - Brno : Masaryk University, 2012. ISBN 978-80-210-5940-5, s. 102-106.

Maděra, F. 2013. Regulation, Professional Competency and Quality of Services Provided by Accountants: Lessons Learned from the Slovak Changes after 1989. In *Ethics in business, economics and finance in western, central and eastern Europe* : proceedings of abstracts : international symposium Branetix 2013 : september 11 - 13, 2013, [Neuchâtel, Switzerland] [elektronický zdroj]. - Neuchâtel : Faculty of economics and business University of Neuchâtel, 2013. ISBN 978-2-9700901-1-3, s. [15-17] CD-ROM.

Meluchová, J., Mateášová, M. 2015. The Ethical aspect of the business in insurance in the conditions of a globalized financial market. - Registrovaný: Web of Science. In *Financial management of firms and financial institutions*. International scientific conference. Financial management of firms and financial institutions : proceedings : 10th international scientific conference : 7th - 8th september 2015, Ostrava, Czech Republic [elektronický zdroj]. - Ostrava : VŠB - Technical university of Ostrava, 2015. ISBN 978-80-248-3865-6. ISSN 2336-162X, s. 783-790 CD-ROM. VEGA V-14-035-00 (2014 – 2016).

Mokošová, D., Bednárová, B., Tkáčová, L. 2013. Impact of fair value adoption in national and international frameworks for the business accounting and reporting. - Registrovaný: Web of Science. In *Financial management of firms and financial institutions* : proceedings : 9th international scientific conference : 9th - 10th september 2013, [Ostrava - Mariánské hory, Czech Republic] [elektronický zdroj]. - Ostrava : VŠB - Technical university of Ostrava, 2013. ISBN 978-80-248-3172-5. ISSN 2336-162X, s. 589-596 [CD-ROM]. KEGA 023EU-4/2012.

Pakšiová, R., Kubaščíková, Z. 2015. Business property of company and investments. - Registrovaný: Web of Science. In Annual conference on finance and accounting. Procedia economics and finance : 16th Annual conference on finance and Accounting, ACFA, Prague 2015, 29th May 2015 [elektronický zdroj]. - Holandsko : Elsevier B.V., 2015. ISSN 2212-5671, 2015, vol. 25, pp. 70-78 online. VEGA 1/0069/13. Dostupné na : <ftp://193.87.31.84/0210592/1-s2.0-S2212567115007145-main.pdf>.

Simonidesová, J., Manová, E., Stašková, S. 2015. *Societas Europaea as a new form of enhancement the quality of business from the perspective of the application of tax optimization*. - Registrovaný: SCOPUS. In Investment management and financial innovations : international research journal. - Ukraine : Limited liability company "Consulting publishing company" "Business perspectives", 2015. ISSN 1810-4967, 2015, vol. 12, no. 4, pp. 171-175. I-15-109-00.

Šlosárová, A., Bednárová, B. 2015. Analysis of measurement approaches in financial statements of selected industrial enterprises in the Slovak republic from perspective of users usefulness. - Registrovaný: Web of Science. In *Financial management of firms and financial institutions*. International scientific conference. Financial management of firms and financial institutions : proceedings : 10th international scientific conference : 7th - 8th september 2015, Ostrava, Czech Republic [elektronický zdroj]. - Ostrava : VŠB - Technical university of Ostrava, 2015. ISBN 978-80-248-3865-6. ISSN 2336-162X, s. 1263-1273 CD-ROM.

Tumpach, M., Baštincová, A. 2014. Cost and Benefit of Accounting Information in Slovakia: Do We Need to Redefine Relevance? - Registrovaný: Web of Science. In *European Financial Systems 2014 : proceedings of the 11th International Scientific Conference*: June 12-13, 2014 Lednice, Czech Republic [elektronický zdroj]. - Brno : Masaryk University, 2014. ISBN 978-80-210-7153-7, p. 655-676 online. Dostupné na internete: <http://is.muni.cz/do/econ/sborniky/2014/proceedings-EFS-2014.pdf>.

http://slovnik.azet.sk/pravopis/slovnik-sj/?q=skepticizmus, 8.10.2016

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Export vs domestic market orientation of firms and organizational and management characteristics

Alena Klapalová, Petr Suchánek

Abstract

The paper examines the differences between export and domestic market oriented firms. Comparative analysis based on the results of Mann-Whitney non-parametric test of two independent samples from the survey of managers of 447 Czech firms show that there are statistically significant differences between both groups of firms. These results (e.g. in performance management, human, social and organizational capital management) might have important managerial implications and export oriented firms seem to be more proactive in some managerial issues.

Keywords: export, market orientation, management, organization, characteristics.
JEL Code: D22, F23, M10

1. Introduction

Exporting in still more globalized world is increasingly considered to be an opportunity for firm growth and profitability, especially for small and middle-sized firms (Dean et al., 2000) and a way how to expand the business of large firms (Šuštar & Šuštar, 2005). There are many categories and individual examples of predictors or antecedents resulting in doing business abroad in the form of export activities. The two broad categories are external influences (environmental forces creating opportunities and drivers and threats and barriers as for instance character and structure of competition, character of demand, technical and relationship infrastructure and patterns of networks appropriate for export, legislation and governmental activities supporting or hindering to export, industry character) (Zhao & Zhu, 2002; Alvarez, 2004; Wilkinson & Brouthers, 2006) and internal influences (for instance resources, competencies, entrepreneurship and innovativeness of managers, strategies, export commitment of managers (Aaby & Slater, 1989; Kaleka, 2002; Griffith et al., 2006; Navarro et al., 2010; Ganotakis & Love, 2012). On the other side exporting activities affect various forms of firms´ performance and their impact is also in the improvement of the above presented list of internal preconditions turning into the outcomes.

Existing research has been dedicated to different determinants and consequences of exporting activities and characteristic features of export orientation, however there are still many gaps in theory. The aim of this paper is contribute to current debate and to offer some pieces of knowledge focused on the internal environment of firms and on the patterns of some organizational and managerial approaches through the comparison of export market oriented and domestic market oriented firms. Except those characteristics or antecedents that have been studied more or less thoroughly and which we want to test in the context of the Czech economy and so support or deny existing theory we also test some factors that have not been in the spotlight until now. We have categorized them as the ways that help to reach goals of productivity and created a mix of varied factors. Among all for instance according Delgado et al. (2002) higher productivity belongs to those factors that differentiate substantially between exporting and non-exporting firms, both as a precondition for export and as a result of export (Girma, et al., 2004). However, productivity is a result of many processes in firms or even "an attitude of mind" (Khan & Soverall, 2008).

Research questions, which is answered though the survey, is formulated as follows:

What are the differences between firms with export orientation and firms oriented solely on domestic market in some organizational and managerial characteristics?

2. Export orientation of firms – theoretical review

Exporting belongs to relative low-risk and relative low resource (investment) entry mode (Agarwal & Ramaswami, 1992). According to Chung and Enderwick (2001) it is one of the most common options of internationalization and considered to be also the quickest and relatively the easiest way of entering a foreign market. This entry mode helps to gain knowledge and experience of the new market (Chung & Enderwick, 2001) and so builds up foundations for another way of involvement in international business that is more demanding. Despite its relative simplicity and low demands, the decision to go abroad with products is not without any courage, commitment, expenses and effort both in the case of proactive and reactive export motivation and export initiation including continuation and development of export activities (Francis & Collins-Dodd, 2000). It means that management innovativeness as a part of management entrepreneurship is an important antecedent for such decision making (Ganotakis & Love, 2012).

Beside the main trigger of export, which is acknowledgment of some opportunity (also in case of reactive behavior), productivity in general represents the main motive and driving force for foreign market expansion. In the case of export Van Tulder (2015) argues that it is the export that is the most efficiency seeking mode of entry. Hessels and van Stel (2009) claim that exporting firms perform better than non-exporting firms in the terms of higher efficiency, higher innovativeness, higher productivity and higher financial gains. Although mixed results exist, prevalence of findings support the assumption that export usually leads to higher profitability (Grazzi, 2012). Higher commitment of exporting in comparison with domestic market business needs more strategic orientation where planning horizon used to be longer (Lages & Montgomery, 2004). Exporting firms belong also more often to bigger firms and this fact together with the need for higher level of coordination requires higher level of centralization and more formal communication (Cadogan, et al., 2006). However, the level of centralization and level of formal communication as well as length of planning horizon used to be affected by the size of firms – as the level of export involvement (Sammie & Walters, 1990; Dean, et al., 2000; Delgado, et al., 2002).

The above mentioned productivity that is reckoned as to be higher in the case of export oriented firms is characterized by Khan and Soverall (2008) "…*is a central long-run factor indicating the level of efficiency and competitiveness of an organization*"….and is important for a competitiveness of a country as well. Productivity growth is highly dependent on technological advance and new technologies utilization (within process and product innovation), quality of workforce and performance evaluation among all to know where the gaps for improvements and productivity growth exist (Khan & Soverall, 2008; Solberg & Olsson, 2010). For productivity growth knowledge management and promotion of knowledge sharing is crucial (Holsapple & Joshi, 2000) together with the promotion of education and training of employees. Range of studies show also on impact of various types of motivation and stimulation of employees on productivity in general (Danish & Usman, 2010). As export needs higher commitment also from the employees, it could be supposed that export oriented firms use more and diverse motivation and stimulation tools and promote knowledge sharing culture. These relations have not been researched sufficiently yet in the case of exporting firms, so only analogy from domestic oriented firms can be applied (Chen, et al., 2004). As Khan and Soverall stress (2008), productivity is "…*a life-view and a culture*".

3. Methodology

Survey with structured questionnaire was used to collect the answers to answer research question. Questionnaire incorporates also other questions mapping various organizational and managerial areas that are not analyzed for the purpose of this paper. Survey was done in the autumn 2014 and sampling was a combination of purposive and snowball one. Managers of 447 Czech firms from different industries and sectors and of different size answered asked questions. Top, middle and first line managers who have the overall overview of the inquired issues present the sample.

Descriptive statistics (frequencies and relative frequencies) together with cross-tabulation, Mann-Whitney non-parametric test of two independent samples and Spearman´s nonparametric correlation was applied as well as parametric t-test of two independent samples to better illustrate similarities and differences.

Dichotomous question – if firms do some export activities or not – divides whole sample into two separate groups. We did not distinguish between direct and indirect export. No firm in the sample from the group of exporting firms involves some other market entry mode. This condition was controlled to get clear picture without any potential bias.

One categorical question asks about the size of a firm according to the number of employees and the question offers four categories for a choice – up to ten employees (micro firms), from 10 to 49 (small), from 50 to 249 (middle-sized) and 250 and more (large). The second categorical question asks about the ownership and management nationality and offers four categories that combined both two elements and one, which enables to answer for some other possibility (however without concrete stating).

Eight scale questions investigate the ways firms use to reach productivity goals. They were formulated in the form of statements and respondents had to choose one position on the 7-points scale from 1 – I absolutely do not agree to 7 – I absolutely agree.

4. Results

47.5% of 432 firms (whose respondents answer the question) are engaged in export activities. Descriptive analysis also shows that there are 25.5% micro firms with export orientation from all small firms in the sample, 45.4% small firms, 61.4% middle-sized firms and 63.6% large firms. Export orientation is thus more prevalent in bigger firms. 73.3% of firms that belong to the category with foreign owners and foreign management are export oriented; 71.1% of firms are export oriented belonging to the category with foreign owners and Czech management. Only 43.2% of firms from category with Czech owners and Czech management are export oriented and both 2 firms (which represents 100% from category Czech owners, foreign management) are export oriented as well. 29 respondents were not able to answer the question related to ownership and management nationality. The structure of answers indicates that foreign element in management (either in the form of ownership or managers´ nationality) acts as a precondition for export orientation, nevertheless not the only one.

4.1. Export and general managerial and organizational issues

In Table 1 results of answers to four questions mapping more general managerial and organizational issues and one question about the profitability are presented. Export oriented firms are more profitable, the degree of centralization and level of formal communication is much higher and the planning horizon is longer as it is with domestic market oriented firms. Only slightly higher is also management innovativeness. Spearman correlation coefficients imply the impact of firms´ size and that is supported by calculating partial correlations which confirm substantial effect in the case of formal communication, management innovation and planning horizon, but without such an effect in the case of profitability and centralization. In our survey this means that 1. export oriented firms need more centralized management, probably because of coordination and control of more dispersed processes across more markets in comparison with solely domestic oriented firms and 2. export has positive impact on financial performance of firms.

Table1. Differences in general managerial and organizational issues and profitability

General managerial and organizational issues and profitability variables	Export orientation	N	Mean	Mean Rank	Median	MWU	p
profitability	no	226	4.35	194.69	4.00	18349.500	0.000
	yes	205	4.78	239.49	5.00		
degree of centralization	no	225	2.88	197.17	3.00	18939.000	0.002
	yes	203	3.25	233.70	3.00		
level of formal communication	no	229	3.38	204.98	3.00	20606.000	0.000
	yes	206	3.71	232.47	4.00		
management innovativeness	no	227	4.41	209.44	4.00	21666.000	0.271
	yes	203	4.57	222.27	5.00		
planning horizon	no	228	3.00	204.45	3.00	20623.500	0.044
	yes	203	3.28	228.41	3.00		

Source: Survey data

4.2. Export and means and methods to reach productivity goals

Table 2. demonstrates findings related to various approaches used by firms when supporting reaching productivity goals. Statistically significant differences have been found with the introduction of new technologies – export oriented firms apply this way distinctly more; on the contrary domestic oriented firms stimulate and motivate their employees substantially more in the form of a praise and recognition. This group of firms also stimulate employees more with the financial stimulation while export oriented firms stimulate and motivate their employees in a form of career advancement. Export oriented firms also use more innovative methods and innovation of processes and support organizational culture focused on performance. Only small differences were found with support of culture focused on knowledge sharing and knowledge development, however again in favor for export oriented firms and virtually no difference was detected with training and education for employees´ development.

Table 2. Differences in ways and methods for productivity goals achievement

Ways and methods for productivity goals achievement	Export orientation	N	Mean	Mean Rank	Median	MWU	p
innovative methods and innovation of processes	no	227	4.79	207.71	5.00	21273.000	0.116
	yes	205	5.01	226.23	5.00		
support of organization culture focused on performance	no	227	4.55	209.72	5.00	21728.500	0.224
	yes	205	4.76	224.01	5.00		
support of organization culture focused on knowledge sharing and development	no	227	4.68	213.60	5.00	22608.500	0.604
	yes	205	4.75	219.71	5.00		
introduction of new technologies	no	227	4.81	199.74	5.00	19463.500	0.003
	yes	205	5.24	235.06	5.00		
employees' development (training and education)	no	226	5.00	214.32	5.00	22784.500	0.764
	yes	205	5.08	217.86	5.00		
financial stimulation of employees	no	227	5.02	222.20	5.00	21745.500	0.264
	yes	204	4.65	209.10	5.00		
stimulation and motivation of employees in a form of career advancement	no	228	3.82	207.88	4.00	21291.000	0.088
	yes	206	4.11	228.15	4.00		
stimulation and motivation of employees in a form of a praise and recognition	no	228	4.75	232.18	5.00	20138.000	0.009
	yes	206	4.39	201.26	4.00		

Source: Survey data

5. Conclusion

Results of the survey support some existing knowledge about the firms actively engaged in export, e.g. positive impact on profitability, higher involvement in innovative approach, strategic orientation in the form of higher planning horizon or the degree of centralization and communication formalization, though influenced to some extent with the size of firms (not in the case of centralization and profitability). Size of firms and the structure of ownership and management nationality are another two factors which patterns in our survey support most of existing research. However, several findings of the survey are worth of further investigation as they can have important management implications especially in the way of motivation and stimulation of employees and the urgency of innovation management of firms.

Overall the survey show that there are differences between export market and domestic market oriented firms. Nevertheless, survey has several limitations that should be reduced through similar research with the adaptation of some questions or with the extension of the questionnaire.

References

Aaby, N. E., Slater, S. F. 1989. Management influences on export performance: a review of the empirical literature 1978-1988. In: *International Marketing Review*, ISSN 0265-1335, Vol. 6, No. 4, pp. 6-26.

Agarwal, S., Ramaswami, S. N. 1992. Choice of foreign market entry mode: Impact of ownership, location and internalization factors. In: *Journal of International Business Studies*, ISSN 1478-6990, Vol. 23, No. 1, pp. 1-27.

Alvarez, R. 2004. Sources of export-success in small and medium sized enterprises: the impact of public programs. In: *International Business Review*, ISSN 0969-5931, Vol. 13, pp. 383-400.

Cadogan, J. W., Cui, C. C., Morgan, R. E., Story, V. M. 2006. Factors facilitating and impeding the development of export market-oriented behavior: A study of Hong Kong manufacturing exporters. In: *Industrial Marketing Management*, ISSN 0019-8501, Vol. 35, No. 5, pp. 634-647.

Chen, T. Y., Chang, P. L., Yeh, C. W. 2004. An investigation of career development programs, job satisfaction, professional development and productivity: The case of Taiwan. In: *Human Resource Development International*, ISSN 1367-8868, Vol. 7, No. 4, pp. 441-463.

Danish, R. Q., Usman, A. 2010. Impact of reward and recognition on job satisfaction and motivation: An empirical study from Pakistan. In: *International Journal of Business and Management*, ISBN 1833-8119, Vol. 5, No. 2, pp. 159-167.

Dean, D. L., Mengüç, B., Myers, C. P. 2000. Revisiting Firm Characteristics, Strategy, and Export Performance Relationship: A Survey of the Literature and an Investigation of New Zealand Small Manufacturing Firms. In: *Industrial Marketing Management*, ISSN 0019-8501, Vol. 29, No. 5, pp. 461-477.

Delgado, M. A., Farinas, J. C., Ruano, S. 2002. Firm productivity and export markets: a non-parametric approach. In: *Journal of International Economics*, ISSN 0022-1996, Vol. 57, No. 2, pp. 397-422.

Francis, J., Collins-Dodd, C. 2000. The impact of firms' export orientation on the export performance of high-tech small and medium-sized enterprises. In: *Journal of International Marketing*, ISSN 1547-7215, Vol. 8, No. 3, pp. 84-103.

Lages, F. L., Montgomery, D. B. 2004. Export performance as an antecedent of export commitment and marketing strategy adaptation: Evidence from small and medium-sized exporters. In: *European Journal of Marketing*, ISSN 0309-0566, Vol. 38, No. 9/10, pp. 1186-1214.

Ganotakis, P., Love, J. 2012. Export propensity, export intensity and firm performance: The role of the entrepreneurial founding team. In: *Journal of International Business Studies*, ISSN 1478-6990, Vol. 43, No. 8, pp. 693-718.

Girma, S., Greenaway, A., Kneller, R. 2004. Does exporting increase productivity? A microeconometric analysis of matched firms. In: *Review of International Economics*, ISSN 1467-9396, Vol. 12, No. 5, pp. 855-866.

Grazzi, M. 2012. Export and firm performance: Evidence on productivity and profitability of Italian companies. In: *Journal of Industry, Competition and Trade*, ISSN 1573-7012, Vol. 12, No. 4, pp. 413-444.

Griffith, D. A., Jacobs, L., Richey, R. G. 2006. Fitting strategy derived from strategic orientation to international context. In: *Thunderbird International Business Review*, ISSN 1520-6874, Vol. 48, No. 2, pp. 239-262.

Hessels, J., van Stel, A. 2011. Entrepreneurship, export orientation, and economic growth. In: *Small Business Economics*, ISSN 1573-0913, Vol. 37, No. 2, pp. 255-268.

Holsapple, C. W., Joshi, K. D. 2000. An investigation of factors that influence the management of knowledge in organizations. In: *The Journal of Strategic Information Systems*, ISSN 0963-8687, Vol. 9, No. 2, pp. 235-261.

Kaleka, A. 2002. Resources and capabilities driving competitive advantage in export markets: guidelines for industrial exporters. In: *Industrial Marketing Management*, ISSN 0019-8501, Vol. 31, No. 4, pp. 273-283.

Khan, J., Soverall, W. 2008. *Gaining productivity*. Kingston, Jamaica. Arawak Publications. ISBN 9768189932.

Navarro, A., Acedo, F.J., Robson, M. J., Ruzo, E., Losada, F. 2010. Antecedents and consequences of firms´ export commitment: an empirical study. In: *Journal of International Marketing*, ISSN 1547-7215, Vol. 18, No. 3, pp. 41–61.

Solberg, A. C., Olsson, U. H. 2010. Management orientation and export performance: the case of Norwegian ICT companies. In: *Baltic Journal of Management*, ISSN 1746-5265, Vol. 5, No. 1, pp. 28-50.

Samiee, S., Walters, P. G. 1990. Influence of firm size on export planning and performance. In: *Journal of Business Research*, ISSN 0148-2963, Vol. 20, No. 3, pp. 235-248.

Šuštar, B., Šuštar, R. 2005. Size matters: the effect of European Union membership on firms in Slovenia. In: *Marketing Intelligence & Planning*, ISSN 0263-4503, Vol. 23, No. 5, pp. 505-514.

Wilkinson, T., Brouthers, L. E. 2006. Trade promotion and SME export performance. In: *International Business Review*, ISSN 0969-5931, Vol. 15, No. 3, pp. 233-252.

Zhao, Z., Zou, S. 2002. The impact of industry concentration and firm location on export propensity and intensity: an empirical analysis of Chinese Manufacturing Firms. In: *Journal of International Marketing*, ISSN 1547-7215, Vol. 10, No. 1, pp. 52-71.

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Personal bankruptcy anew - a second change for failed entrepreneurs

Oľga Kmeťová

Abstract

The article focuses on the actual upcoming amendatory act about bankruptcy, reconstruction and its impact on the business environment. The act, which seeks to improve the solution to personal insolvencies (those of entrepreneurs and non-entrepreneurs) reckons with two possible ways of addressing personal bankruptcy. In addition to the actual liquidation of the debtor´s assets and a rapid debt relief (so called "Fresh Start"), it depends upon the introduction of a repayment scheme, presenting a restructuring of the debtor´s obligations (so called "No Fresh Start"), who although having debts, though property as well, does not want to lose it.

Keywords: debt relief, personal bankruptcy, physical entity – entrepreneur, audition, deprivation of debts, unsuccessful entrepreneurship
JEL Code: G33, K22

1. Introduction

Act No. 7/2005 Coll. on bankruptcy and restructuring, amending and supplementing certain laws as amended, which replaced the previously applicable Act No. 328/1991 Coll. on bankruptcy and settlement, introduced into our legal system a new institute concerning the debt relief of individuals – physical entities (entrepreneurs and non-entrepreneurs) with the effect from the 1st of January 2006. The amendment to the Law then in force, about bankruptcy and settlement with regard to its considerably unsatisfactory adjustment, seemed insufficient. This state led to the introduction of a completely new Act on bankruptcy and restructuring and of Act No. 8/2005 Coll. on reports. The new legislation adjustment upheld towards a pro-creditor trend, while ensuring an adequate protection of debtors. Heretofore valid adjustment of bankruptcy law did not allow creditors to obtain a sufficiently strong enough position, in part with regard to the duration of the bankruptcy proceedings (from 3 up to 7 years) as well as onto the extent of satisfaction achieved (for e.g. with the securing by the creditor, it was only able to satisfy from 5 to 10% of its claims with regard to the bankrupted in bankruptcy. Creditors, as a rule, signed up their claims to auditions/bankruptcy proceedings only to achieve official write-offs of their irredeemable claims.

Ďurica states that the *"debtor, being an individual, has no positive motivation for submitting a draft for the proclamation of bankruptcy and that bankruptcy proceedings are not considered by the debtor a solution to his/her bankruptcy. (...) For these reasons, ZoKR, following the example of some Western law adjustments concerning bankruptcy laws, introduces the possibility for the debtor, being a physical entity, to "get rid of" debts after bankruptcy proceedings"* (Ďurica, 2010). Debt relief proceedings of physical entities (thenceforward of "FO") should have been directed pre-eminently towards the equalization of individual and legal persons, onto whose property bankruptcy proceedings were declared. A differing approach towards these persons caused in practice, given the consequences of the bankruptcy proceedings, considerable shortcomings and that mainly from the perspective of physical entities. A typical and most common example of legal entities, in the position of the debtor entering into bankruptcy proceedings, are commercial corporations.

In the meaning of Section 68 par. 3 letter D of Act No. 513/1991 Coll. Code de commerce (thenceforward "OBZ") commercial corporations are primarily dissolved by the cancellation of bankruptcy proceedings after meeting schedule decisions; after the completion of the final schedule of extracts; as well as in other cases defined by law, which are related to the abolition of bankruptcy or insolvency proceedings, due to a lack of assets of the bankrupt. A commercial corporation, as a subject of legal relations, expires only after its deletion from the Commercial Register. The deletion itself is preceded by the dissolution of the corporation with or without liquidation. The deletion of the corporation in the case of its cancellation without liquidation is conducted in accordance with Section 68 par. 4 OBZ by the Commercial Court, based on the final decision of the Bankruptcy Court (for e.g. by the rejection of the application for bankruptcy due to lack of property owning). If, after bankruptcy, some assets of the corporation would remain, liquidation should be carried out first and foremost and only then could the Commercial Court (based on the liquidator´s proposal) delete the commercial corporation from the commercial register. Thus, defunct commercial corporations, through bankruptcy proceedings, get rid of all their obligations.

The second variant (which is by far not being as positive) introduces a situation where in the status of the debtor is a physical entity. The result of the insolvency proceedings on the debtor´s assets, in this case of an individual, is the monetization of his/her assets and the collective satisfaction of the creditors. Receivables, which after bankruptcy remain unsatisfied, do not expire, but continue until the death of the debtor; and after the death of the debtor, pass onto his/her heirs, up to the amount of inheritance (if the heritage has not been declined) (Ďurica, 2015).

In practice, it means that a physical entity during bankruptcy virtually loses all his/her possessions, which, however, do not guarantee a getting rid of all debts! Correspondingly, the new ZKR introduces to physical entities (regardless of being an entrepreneur or non-entrepreneur) a possibility of complete debt riddance, including claims, remaining after the insolvency proceedings unsatisfied and continuously burdening the debtor; or, as the case may be, his/her heirs. Under the currently valid legislation, debt relief can only follow after a successful completion of bankruptcy proceedings and introduces a law available to the debtor – to a physical entity. From this simple scheme it can be deduced that in contrast to legal entities, the procedure burdening physical entities is two-staged. The result is the achievement of un-enforcement of debts (natural obligation; unenforceable at law), which have not been satisfied in bankruptcy proceedings, nor even in debt relief.

The obstacle in a successful completion of bankruptcy proceedings is often caused by the "input" of debtors without enough assets (so called "empty businesses"). Reasons may include: incorrect investment decisions; targeted transfer of assets and of other activities; an effort to maintain business-viability until the last moment possible; or cases of special business subjects, which essentially own no assets whatsoever, and only function on the basis of "cash flows" (Smrčka, Arltová & Schönfeld, 2013)

2. Debt relief – the person entitled to apply for a debt relief

The legislation-adjustment of debt relief proceedings, which to the public are also known under the name "personal bankruptcy" are, in our conditions, included only within six paragraphs (166-171 par. 4 ZKR). As compared with the thirty two paragraphs of the Czech law (389-418 IZ), it represents only a negligible number. Debt relief proceedings can only be initiated by the debtor´s proposal – physical entity. The Slovak legislation-adjustment does not limit the possibility of the application of debt relief only onto a physical entity - non-entrepreneurs. To seek debt reliefs, the law provides it also in the case of a physical entity-entrepreneur.

A different adjustment can be found within the Czech insolvency law. In the Czech Republic the bankruptcy law is adjusted by Act No.182/2006 Coll. on bankruptcy and method solutions (so called insolvency act). In the meaning under the Czech legislation (applicable till the 31st of December 2013) debt relief was a means of resolving insolvencies addressed exclusively for non-commercial entities = a debtor, who is not an entrepreneur (physical entities – non-entrepreneurs; legal entities – non-entrepreneurs). The new bankruptcy law - Act No. 294/2013 Coll. – which entered into force on the 1st of January 2014, introduced into the Czech insolvency law fundamental changes, whose requirement derived also from the difficulty of interpreting the term "*debtor, who is not an entrepreneur*". In accordance with the amendment, following from the jurisprudence of the Supreme Court of the Czech Republic, a decisive criterion in assessing the eligibility of a person requiring the solution of his/her bankruptcy, or of an imminent bankruptcy, is the very nature of the obligations of the debtor. In accordance with Act No. 389 par. 1 of the insolvency act an

authorized person is a legal entity, who is not considered to be an entrepreneur, while the condition is met that his/her debts do not derive from entrepreneurship; as well as a physical entity, having no debts from entrepreneurship. The very debt from entrepreneurship abreast earlier adjustments, which need not be an obstacle to the authorization of debt relief.

In my contribution, I would like to draw the attention onto the legal possibility of small entrepreneurs to get rid of their debts arising from entrepreneurship. It is well known that an entrepreneur in many cases finds him/herself in a bad financial situation due to the accretion of liabilities caused by others (for e.g. an entrepreneur is unable to repay his/her loan whereas to him/her sales invoices are not being paid, for his/her provided services!). Debt relief is therefore considered a possibility of a kind of "restart" enabling the correction of errors caused by inadequate entrepreneurship, or by inadequate selection of a business partner. In this regard, I would like to draw the attention onto the importance of applying existing models forecasting financial distresses of a high probability of bankruptcy as a specific financial analysis tool. Most of these models use for an evaluation two or three "zones" - healthy, gray and unhealthy. So called "sick companies" (apart from their own viability) significantly affect other businesses and with them, all related persons, whose existence, due to their unfavourable situation, are affected the same way (Čámska, 2016). Their usage can detect the future development of selected entrepreneurs and thus avoid the bankruptcy of small entrepreneurs simultaneously (for e.g. a sole trader/self-employed person).

For a better demonstration of the groups of people, who may be introduced under the term entrepreneur - physical entity, I am going to provide a brief excursion of the concept "entrepreneur" in general; the definition of the term "entrepreneur" as stated in Section 2 par. 2 of Act No. 513/1991 Coll. The Commercial Code distinguishes several groups of entrepreneurs. An entrepreneur is

- a person registered in the Commercial Register,
- a person, who conducts business on the basis of a trading licence,
- a person, who conducts business on the basis of some other authorization than a trading licence,
- a physical entity who exercises agricultural production and is registered under a specific regulation.

The registration of a physical entity – entrepreneur (having a permanent residence in Slovakia) into the Commercial Register (Act No. 27 par. 2 letter C) OBZ) is voluntary, or it may result from a specific regulation. An example is Act No. 308/2000 Coll. on broadcasting and retransmission, which establishes the obligation of a physical entity to register into the Commercial Register in case that an authorization has been granted for the broadcasting of a television program. Sole-traders – physical entities conduct business on the basis of a trading licence, which is an authorization to operate a trade and comes into being on the date of declaration; or at a later date, specified in the declaration. Such a sole-trader is for e.g. a carpenter, hairdresser, butcher, watchmaker, dental-technician, driving-school operator, security technician, etc. Examples of business licences, which may be defined differently than trading licences, can be found in the negative definition of trading licences in Act No. 3 ŽZ. A typical example is the administration of so-called "free professions" (lawyer, notary, auditor, specialist, interpreter, architect, restorer of cultural heritage, etc.). A separate category constitutes self-employed farmers (SHR) – physical entities engaged in agricultural production, which are registered into the register subject to the municipal office under Act No. 105/1990 Coll. on private entrepreneurship of individuals (Patakyová, 2013). Given examples are merely illustrative calculations of a group of persons, who may through debt relief seek a new start!

2.1. Proposal on debt relief

Such proposal, in terms of time, can be administered either simultaneously with the proposal on bankruptcy (basically even before the start of insolvency proceedings), or at any time during the very bankruptcy proceedings themselves. A limiting factor in the possibility of a successful submission of a proposal for debt relief is the abolition of bankruptcy itself (publication of the Court´s announcements on the entering into force of a court ruling, discontinuing bankruptcy proceedings in the Commercial Bulletin). Abandonment of the proposal for debt relief, a potential omission of his/her administration has for the debtor – physical entity fatal consequences. Simply said, his/her efforts incurred during the bankruptcy – funds deposited to the account of the court as an advance-payment of remuneration and expenditures of the preliminary administrator (663.88€) and other financial drawbacks (minimum of 1659.70€) caused by the encashment of the assets of the bankrupt, the ineffectiveness of the operations stinting assets subject to bankruptcy (challenged by legal acts) etc., would be practically useless. Receivables, which would remain after bankruptcy proceedings unsatisfied, continue to burden the debtor and may be subject to execution! The

debtor so often gets into the very same or even worse situation (during bankruptcy proceedings he/she became even homeless) as before the application for bankruptcy.

The causation of the debtor´s insolvency is not as severe within our legal system as in for e.g. Poland. Debt relief is possible for debtors only in cases, if the cause of their condition have been incidents such as illness, sudden job loss, etc. On the contrary, debt relief is not permissible if the debtor lost his/her assets as a result of some sort of addiction, alcoholism or due to assumption of additional commitments in time, once they knew about their bankruptcy (Majerová, 2014). The evaluation of the honest intention of the debtor is subject to, in each case, of individual assessments. It is somehow only possible to agree with the opinion of Macek and Maliar (2009), whereby an example indicating the dishonest intent of the debtor is for e.g. the final conviction of the debtor for an offense related to the bankruptcy proceedings, or re-insolvency proceedings for the assets of the debtor. About the honest intention of the debtor to satisfy the claims of his/her creditors nor can be talked, even in the case of proceedings, by which the debtor deprived of his/her assets through disputable legal acts.

2.2 Permission for debt relief

The debt relief process itself is precluded by bankruptcy proceedings. By the announcement of bankruptcy, the debtor becomes the bankrupt one (Act No. 23 par. 1 ZKR). Consequently, in the process of debt relief he/she is again designated as a debtor. Whereas debt relief is subsequent to the discharge of bankruptcy, the debtor enters into it basically without any assets. The essence of the process of debt relief is within that debtor after cancellation of bankruptcy (in the case of his/her authorization of debt relief) enter into a three-year trial period, during which he/she may do certain legal acts only with the consent of the administrator. The debtor during trial period provides part of his/her income, which the administrator divides among his/her creditors. After a successful expiration of a trial period the court shall order the decision on the debtor´s debt relief.

The proposal for debt relief is subject to the authorization by the bankruptcy court. The court decides on the authorization of debt relief immediately after the discharges of bankruptcy (in the ruling the administrator determines who is the person who was in office at the time of the bankruptcy proceedings – proceedings instituted from the 1st of January 2012). The court authorizes debt relief if it finds out that the debtor during bankruptcy proceedings properly fulfilled its obligations. In the resolution on the authorization of debt relief, it also determines the amount of finances, which (at the end of each trial period) provides to the administrators. The exact amount of finances (used for the satisfying of the creditors´ claims) is a matter of the reasoning of the court. The court determines such amount three years in advance.

All tables have to be numbered. The headings should be placed under the images and aligned to the center. The source should be included under the heading and aligned to the center.

2.3 Trial period

A three-year trial period begins upon a final resolution on the authorization of debt relief. Aforementioned resolution comes into force (in the meaning of Act No. 199 par. 9 Coll.) the day after its publication in the Commercial Bulletin. The probationary year is therefore not identical with the calendar year and in the case of individual debtors is differing. At the end of each probationary year the debtor is obliged to provide the administrator funds in the amount specified by the court, which is under the Act limited to 70% of total net revenues for the previous probationary year. The court in determining the amount of funds, which the debtor is required to pass on to the administrator at the end of the probationary year, is obviously based on his/her actual income at the time of deciding on the authorization of debt relief. The debtor is, in fact, obliged to pay 70% of his/her actually achieved net income. Suchlike formulation is correct, since the debtor during trial period may be temporarily unable to work; may take more changes at night, or on holidays, which can of course be higher reviewed (Babeľa, 2014). The lowest limit of net income of the debtor is expressed in Act. No. 168 par. 1 ZKR herewith, that the administrator after the deduction of his/her remuneration equally distributes transferred funds by the debtors among his/her creditors, according to the final schedule. In accordance with Act No. 24 par. 1 decree MSSR no. 665/2005 Coll., implementing certain provisions of the ZKR, 5% remuneration belongs to the administrator in the proceedings of debt relief of allocation at the end of the probationary year – at least 331.94€. In case that the administrator is subject to VAT, the amount of his/her remuneration increases by this tax. An obligatory ground for annulment of the trial period, then, will be the non-achievement of such annual net income, which would only be sufficient enough to pay the

administrator in the process of debt relief. Based on the purpose of debt relief, not being the satisfaction of the administrators claims on his/her reward, but the satisfying of the debtor´s creditors, then it is logical to conclude that the annual net income of the debtor has to be higher that the administrator´s remuneration.

Another duty of the debtor during the trial period is to showcase a reasonable amount of effort to find employment as a source of income, or with similar efforts, start an entrepreneurship. In this context, he/she is also required to provide to the administrator all the required information concerning in particular his/her income, expenditure, change of residence and employment, or the place of entrepreneurship. In this manner collected information, the administrator provides it to the court within the reports on the progress of the trial period and fulfilment of obligations of the debtor (in accordance with Act No. 24 par. 3 decree MSSR no. 665/2005 Z. z. at least two detailed written reports during the trial period in every probationary year). The requirements for entrepreneurship, however, are in contrary with Act No. 8 par. 455/1991 Coll. Trade Act – obstacles for trading. A licence to carry on a business cannot be operated by a physical or legal entity (entrepreneur or non-entrepreneur), on whose property bankruptcy proceedings have been finished and that for a period up to three years after the end of this period; but not even earlier than one year from the settlement of his/her liabilities, related to such bankruptcy according to the scheduled ruling of the Court. In case the entrepreneur caused his/her bankruptcy intentionally, this period is extended to five years from his/her complete settlement of liabilities. Such an obstacle may be forgotten by the Trade Office, if the economic situation of the debtor and his/her behaviour suggest that he/she will fulfil all obligations during entrepreneurship. For specific exemption, a statement of the Slovak Chamber of Tradesmen is also required. Aforementioned situation is not an option for debtors on whose property bankruptcy has been declared twice during five years or the bankruptcy has been caused intentionally. A licence to carry on a business can also not be operated by an individual, on who a ban has been imposed concerning trading (for e.g. if a penalty was imposed that banned him/her from driving). In addition to the above exceptions, this means (in practice) that the debtor can only be subject in such proceedings, which are not considered a trade involving a licence. It is not excluded for him/her to participate as a partner in a commercial corporation. For the performance of duties in the course of debt relief, it will often be needed to obtain other sources of income (this refers especially onto obtaining funds from labour relations).

2.4 Satisfying the creditors´ claims

The creditors´ claims (remaining after the discharge of bankruptcy "unsatisfied") can be satisfied during trial period in the manner provided by ZKR. Such claims are being satisfied by the administrator, from the funds remitted to him/her by the debtor equally, according to the final schedule (Act No. 168 par. 1 ZKR). The debtor is not entitled to satisfy the claims of creditors individually. For these, let us name them "old debts". It is not possible during trial period to begin enforcement or execution on the debtor´s assets. From the wording of the Act, therefore, it is not quite clear whether it applies onto all receivables, which during bankruptcy apply with an application form (not taking into account whether they have been registered) or only onto claims/receivables. In this regard, I would like to express my concurring opinion with the intentions of Macek and Maliar, according to whom: *"... if debt relief as an institution has ever has to have a sense whatsoever the effects of debt relief should apply to all claims, which ones during bankruptcy proceedings enrol within application forms"* (Macek, Maliar, 2009). However, the debtor may incur claims even after the discharge of bankruptcy. For such so called "new debts", mentioned restrictions do not apply and creditors may impose them without restrictions (execution). The debtor should have in mind that if such debts accumulate they should only be as high as he/she will be able to repay (along with his/her "old debts"). Otherwise, he/she could easily get into a situation, in which the new creditor would file a petition on bankruptcy proceedings. Although the law does not expressly addresses such situation (ongoing trial period; filing of a new application for a declaration of bankruptcy proceedings involving the same person – debtor), by the announcement of bankruptcy apparently one of the basic assumptions of debt relief would drop out – the honest intent of the debtor, which could become the reason for the cancellation of the trial period (Ďurica, 2015).

2.5 The cancellation of the trial period and debt relief

By the cancellation of the trial period restrictions expire concerning enforcements, executions; consisting limitation periods run anew. The result of the supervision of the administrator and the Court over the debtor

during debt relief the cancellation of the trial period may occur, if the court finds out that:

1. the debtor repeatedly violated his/her obligations provisioned in KKR (does not provide repeatedly despite the requisition of the administrator of a necessary cooperation);
2. the debtor seriously violated the obligations provisioned in ZKR (non-expending of the primary effort to obtain funds for e.g. is not seeking to find a job even if it does not prevent him/her from doing so);
3. the income of the debtor is not sufficient enough to cover the remuneration of the administrator.

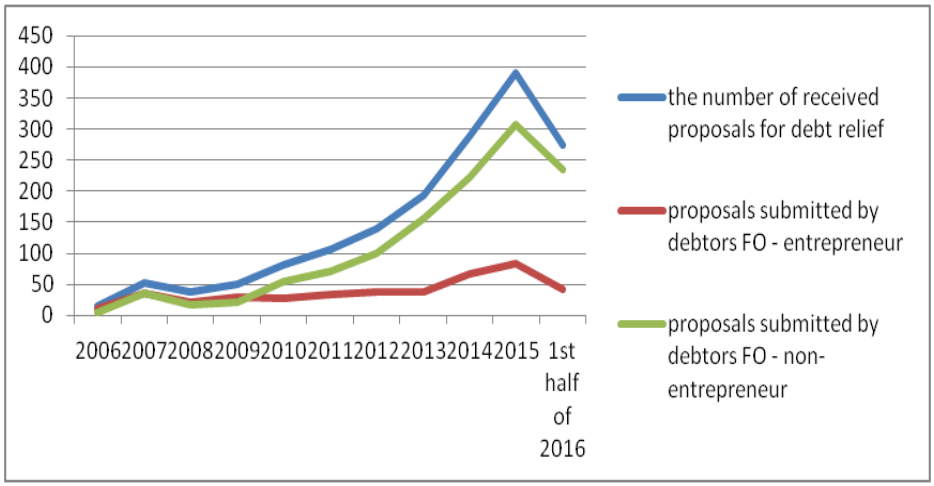
If the grounds for revocation of the trial period during its passage do not occur the court afterwards decides to debt relief the debtor. The court decides about the debt relief of the debtor on the grounds of a proposal, or without a proposal. Against the resolution of debt relief, appeal is not admissible (Ďurica, 2010). If, after the cancellation of bankruptcy, debt relief will occur in the case of a physical entity, receivables/claims remaining unsatisfied are becoming unenforceable by the disclosure of the resolution on debt relief in the Commercial Bulletin (Act No. 171 par. 2 ZKR) - on the day after its publication (Aštary, 2015). Although such claims do not expire, the creditor is no longer qualified (against the will of the debtor) to successfully enforce him/her. It does not exclude the voluntary fulfilment of the debtor, which cannot be considered an unjust enrichment of the creditor. In accordance with diction ZKR in Act No. 168 par. 1 it is obvious that with the satisfaction of claims or receivables during debt relief, only those are included, which have been registered for bankruptcy proceedings and which are identified and included in the final schedule of proceedings. It is obvious, that the current adjustment does not adjust clearly and properly, whether debt relief has legal effects on the claims of those creditors, who have not been applied during bankruptcy (in our opinion also these should happen to be analogously conducted as in restructuring unenforceable). Therefore, I consider it necessary to highlight German Insolvency Regulations, dealing with like issues in Act No. 301. The first section of this establishment states that granted debt reliefs also apply to other debts, so as acting against all creditors. Here, we have in mind all the creditors who did not signed up during bankruptcy proceedings.

Debt relief of physical entities – entrepreneurs enable these entities to stand economically active again, but also to positively enhance the economy of the state itself. Several global studies have considered the impact of macroeconomic determinants on the bankruptcy of enterprises. According to the results of these investigations, due to such determinants companies are dependent on interest rates; dependent on the gross domestic product or unemployment (for e.g. Finland, Great Britain) (Jakubík & Seidler, 2009) Also by assessing the financial health of the enterprise and predicting financial problems of enterprises, we can use various financial indicators, which can either be used as an input for expert appraisal or for creating various models using multivariate statistical methods for the forecasting of bankruptcy as the greatest preference is often given to the quantitative, based on statistical methods (Burganova & Salahieva, 2015). I am of the opinion that such results are applicable onto entrepreneurs – physical entities as well.

3. Statistics

The number of submitted proposals from the effectiveness of the new ZKR until today, by far has not reached its expected volume. According to the statistics of the Ministry of Justice (in respect of insolvency proceedings in the district courts of Slovakia) for the period from 2006 till the 1st half of 2016 the number of received and registered proposals for debt relief follows an upward trend from year to year. The highest number of proposals received (391) was registered in 2015, but in comparison with other countries, it still continues to be well below the expected numbers. O the basis of observed data (concerning the number of received proposals for debt relief) it is obvious that the institute of debt relief is in our case and conditions non-functioning and cries for the need to amend and for a more comprehensive treatment. Interesting remains the fact that the proposals presented by the debtor (physical entities - entrepreneurs) accounts for only about 25% (see graph No. 1). The reason for these results is possible to hypothetically search after under the satisfactory conditions of the entrepreneurial environment of self-employed individuals, or on the other hand and more so realistically, in their lack of legal awareness about the possibilities of debt relief!

Figure 1. Debt relief in the Slovak Republic for the period 2006 - 1st half of 2016



Source: Own processing by https://www.justice.gov.sk/Stranky/Informacie/Statistika-konkurznych-konani-OS.aspx

However, of such negative status of debt relief cannot be spoken about in the neighbouring Czech Republic. The number of "insolvency" debtor petitions, associated with the proposals to authorize debt relief, not only increase from year to year, but from 2012 has reached higher numbers every year as for the whole period of existence of this institute in Slovakia. The Czech Republic – the year 2012 (1891 proposals); 2013 (2614 proposals); 2014 (2930 proposals); 2015 (3491 proposals). During the period 2006 up till the 1st half of 2016 we only registered 1633 proposals for debt relief, of which there were from the same period debt relief proceedings completed with debt relief (thus, not by cancelling the trial period nor otherwise) only 159! This number (during a decade of existence of the institute for debt relief in Slovakia) is more than alarming!

4. Conclusion

The currently proposed amendment ZKR seeks to improve the solution of bankruptcy of a physical entity (entrepreneurs and non-entrepreneurs) followed by an emphasis on protecting dwelling, which in Slovakia appears to be and economic and social problem (homelessness). The effort is focused onto the accessing of the institutions on debt relief even for the poorest layers possible. The proposed amendment counts (on the basis of international adjustments) with two possible ways of addressing resolving insolvencies of physical entities – entrepreneurs and non-entrepreneurs. In addition to the actual liquidation of the debtor´s assets and a rapid debt relief (so called "Fresh Start"), it depends upon the introduction of a repayment scheme, presenting a restructuring of the debtor´s obligations (so called "No Fresh Start"), and should represent an ideal alternative for those individuals, who, although having debts, though property as well, do not want to lose it! Under the proposed amendments, every insolvent debtor (physical entity; entrepreneur and non-entrepreneur) will have the possibility and chance to seek for a debt relief; every who is not able to meet (180 days overdue) at least one financial obligation (the plurality of creditors will not be necessary). The condition of the eligibility of motion should be the execution onto the debtor´s assets. In order to prevent abuse of such institutes, the debtor will be entitled to enter into debt relief only once in ten years. To streamline this process 3 categories of claims need to be introduced: 1. Debt relief affected claims (for e.g. receivables from loans granted by the Legal Aid for the payment of prepayments); 2. Receivables excluded from satisfying (for e.g. receivables from bills, if the debtor signed it before bankruptcy); 3. Receivables satisfied in bankruptcy or repayment schedules (so called reported receivables/claims). A benefit should also be the recast of the honest concept honest intent of the debtor, while both positive and negative definitions are being introduced (for e.g. the debtor has not have an honest intent if from his/her behaviour before the application of a declaration of bankruptcy one can conclude that during the acceptance of his/her liabilities he/she relies on the fact that he/she will solve the problems by bankruptcy proceedings or a repayment schedule).

In terms of its form, it is assumed that the filling of an application form for debt relief through a prescribed application form should be done (a form with all the prescribed particulars). By the registration of receivables/claims, this particular becomes payable to the debtor. Unlike bankruptcies concerning legal

entities, thus, in the case of physical entities, no automatic maturity of liabilities of the debtor occurs during bankruptcy proceedings. I particularly appreciate the effort to solve the aforementioned problem concerning practice, which has so far been left onto the courts to decide. Under the new law it should apply that due to debt relief that claims, which can be satisfied only in bankruptcy proceedings or repayment schedules, become towards debtors (up to the extent to which the court got rid of his/her debts), unenforceable. This applies regardless of the fact, whether or not they were registered. Into the bankruptcy proceeding itself, basically all BSM will be included, while the other spouse in entitled to the so-called compensatory claim due to settlement shares. Specifically, is being regulated the ability to register into the bankruptcy of the fallen husband (based on the creditor´s claim of the other spouse), if this should be satisfied form the masses of BSM. A complete novelty has to represent the right of the debtor, of his/her loved one or municipality, in whose land registry his/her property is situated (both only with the consent of the debtor purchase the assets from the bankruptcy itself, when paying-off the administrator the price reached/stated in the auction within 10 days after the auction ends. A separate title should be given to the repayment schedule. Following a formal examination of the proposal determining the repayment schedule the court provides the debtor with a protection from creditors (similarly as in restructuring). The effects of protection will be used within the suspension of executive actions and within special rights of the debtor to request a postponement of the auction of his/her home in 6 months. The satisfying of unsecured creditors in rescheduling shall not be allowed to be below 30% and at the same time will have to include at least such a satisfaction of unsecured creditors as would be achieved in bankruptcy proceedings. The amendment also lays down the rules to determine deadlines ant the amount of payments according to the repayment schedule.

The current situation urgently calls after clarification and restatement of the process of debt relief! Briefly outlined data and problems in practical application speak for themselves. The institute for debt relief is by far below the expected numbers! The amendment undeniably aims to improve the protection of property of individuals – physical entities, who found themselves in a difficult situation and is a future vision of a new life free of debts! The fact, whether such novation is also directed towards the fulfilment of the fundamental principles of insolvency proceedings (to satisfy the creditors´ claims as much as possible) is debatable. The court, administrators and the creditors´ committee have to, in accordance with these principles, proceed in a way so as to reach the highest possible degree of satisfaction of the creditors. Equally questionable appears to be the necessity of execution on the debtor´s assets as a new condition necessary for the fulfilment of bankruptcy proceedings.

References

Aštary, A. 2015. Prihlasovanie pohľadávok v konkurze a reštrukturalizácii vo svetle práva vlastniť majetok a práva na prístup k súdu. In: *Justičná revue,* ISSN 1335-6461, Vol. 67, No. 5, pp. 589 – 606.

Babeľa, M. 2016. *Inštitút oddlženia fyzickej osoby a úvahy o jeho aplikácii v praxi.* [online] http://www.epi.sk/odborny-clanok/Institut-oddlzenia-fyzickej-osoby-a-uvahy-o-jeho-aplikacii-v-praxi-1.htm.

Bombor, T. 2014. Oddlženie v praxi. In: *Daňový špeciál,* ISSN 1338-2918, Vol. 4, No. 1-4. [online] http://www.epi.sk/odborny-clanok/oddlzenie-v-praxi.htm.

Burganova, R. A., Salahieva, M. F. 2015. Z-score for bankruptcy forecasting of the companies building materials. In: *Asian Social Science*, ISSN 1911-2017, Vol. 11, No. 11, pp. 109-114.

Čámska, D. 2016. Accuracy of Models Predicting Corporate Bankruptcy in a Selected Industry Branch. In: *Journal of Economics*, ISSN 0013-3035, Vol. 64, No. 4, pp. 353 – 366.

Ďurica, M. 2010. *Konkurzné právo na Slovensku a v Európskej únii.* Žilina: Eurokódex. ISBN 978-80-89447-31-2.

Ďurica, M. 2015. *Zákon o konkurze a reštrukturalizácii. Komentár.* Bratislava: C. H. Beck. ISBN 978-80-89603-36-7.

Jakubík, P., Seidler, J. 2009. Insolvence podniků a její makroekonomické determinanty. In: *Journal of Economics,* ISSN 0013-3035, Vol. 57, No. 7, pp. 619 – 632.

Macek, J., Maliar, M. 2009. Oddlženie ako inštitút konkurzného práva? In: *Justičná revue,* ISSN 1335-6461, Vol. 61, No. 11, pp. 1171 – 1180.

Majerová, J. 2014. Debt relief in the context of de lege ferenda reasoning on the basis of legal comparatistics. In: *Journal of international relations*, ISSN 1336–2751, Vol. 12., No. 2, pp. 150 – 175.

Ministerstvo spravodlivosti SR. Štatistické údaje konkurzných konaní na okresných súdoch v Slovenskej republike. [online] https://www.justice.gov.sk/Stranky/Informacie/Statistika-konkurznych-konani-OS.aspx.

Patakyová, M., et al. 2013. *Obchodný zákonník. Komentár*. Bratislava: C. H. Beck. ISBN 978-80-89603-12-1.

Přehled o průbehu insolvenčního řízení v České republice. [online] http://cslav.justice.cz/InfoData/prehledy-statistickych-listu.html.

Slivková, A., Sabolová, M. 2014. Prediction of Bankruptcy in enterprises of the automotive industry. In: *SGEM 2014 Conference on political sciences, law, finance, economics and tourism*, Vol. 2, ISSN 2367-5659.

Smrčka, Ľ., Arltová, M., Schonfeld, J. 2013. Príčiny neúspěšného prosazování sanačních postupů v insolvenční realite. In: *Politická ekonomie*, ISSN 0032-3233, Vol. 61, No. 2, pp. 188 – 208.

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The Effectiveness of the Internal Control System in the Business Units on the Example of the Public Finance Sector

Tatiana Kożak-Siara

Abstract

The internal control system is directed to the effectiveness of functioning of the public finance sector of the units as well. It is an incredibly useful tool in the unit management. It allows on the independent assessment of the effectiveness of the key activities being done inside the unit and the areas identification, which, by insufficient skill, hinder reaching the established strategical and operational aims. The chances of reaching the established aims, realization of the organization`s task, and even skilful management of this organization are small, if a moderately well-organized control system does not exist. The audit cell is responsible for monitoring, controlling and assessment of the internal control system effectiveness or if in fact the internal control elements are followed and used, and at the same time they minimalize the risks appearing in the unit.

Keywords: internal audit, risk, internal control, internal control system
JEL Code: G

1. Introduction

The management of a given unit is responsible for the effective functioning of the internal control system. In practical terms, an employee of the unit is responsible for the functioning of the internal control system as part of their duties. Not only does this practice concern the units, which work on the basis of market mechanisms, but also the ones of the public finance sector. The internal control system is therefore a wide term, which involves many areas and connected elements to them, such as:

- supervision done by the unit`s management,
- measurement and assessment of the risk,
- proper division of duties and control of their performance,
- communication and the way of passing the information within a given task,
- monitoring, detecting and correcting the mistakes.

Together with the self-reliance development, the control and analysis process of the areas, which have leading meaning for the activity of the public sector unit, began. The areas are connected to collecting public finance and its distribution according to the financial plan and the needs of the local government. The risk, which is connected to each activity, even in the one of the public units and above all, at present, the process of its constant monitoring, requires elaboration of consistent and clear public finance management model. According to Maria Jastrzębska (2012), self-reliance of the local government should, above all, be considered in relations to the financial sphere, because the one who has the money rules". Reasonable economy of the budget funds is also efficient management control system, which identifies, in time, the possibility of appearing different kinds of risk and indicating these activities, which should be done in order to avoid or mitigate the negative effects of the detected risk and prevent them in the future.

The aim of this article is to show the tasks and role of the internal audit as the instrument, which supports and assesses the effectiveness of the activities done by the management control.

The internal audit, as independent and objective activity, should support a village head, a mayor, a city president, a district head, voivodship marshal in realisation of the management control tasks by systematic assessment and advisory activities (Jastrzębska, 2012).

2. The internal audit and its conditioning

The internal audit is introduced in the local government units if the incomes or the sum of expenses and expenditure is over 40 000 thousand zlotys and it is included in the budget resolution.

The internal audit is also introduced in the public finance sector units, where managers make such decisions (Public Finance Act of August 27, 2009). Obligated by the act to realisation in state institutions and local government units, the internal audit is the independent, objective and advisory activity, which aim is to cause values and improve the operating activity. Moreover, in the unit, it also plays an important role in terms of reaching the aims by systematic and disciplined approach to the assessment and improvement of the efficiency of the risk management processes, control and governance (organizacją) (Ministry of Finance, 2003r). This assessment concerns, in particular, adequacy, effectiveness and efficiency of the management control in the government department or local government unit (The Public Finance Act of August 27, 2009, Journal of Laws from 2009, No. 157, item 1240, as amended).

According to the Public Finance Act, the internal audit is a number of activities by which the unit`s manager receives an objective and independent assessment of the unit functioning in terms of the financial management as far as loyalty, thriftiness, purpose, honesty, clearness and openness are concerned[*]. Therefore, in economic practice, it is the efficient instrument of the company management, which objectively and responsibly assesses the effectiveness of the internal control system. The internal audit has a crucial meaning in the unit management process due to the tasks, which are done by it in the range of using homogenous rules of getting information, its processing, reporting and the effective risk management. The more important the role the bigger influence of the audit results on improving the quality and effectiveness of the activities done by a company, financial condition of a unit and efficiency of the management decisions.

Not only does a contemporary auditor try to detect overuses and study the financial documents of the organisation, but its another purpose is to find the answer to the question if the unit`s action plans have been economically, effectively and efficiently introduced (The Public Finance Act of August 27, 2009, Journal of Laws from 2009, No. 157, item 1240, as amended).

The audit`s aims should be formally defined in the audit card of each unit. They ought to be in accordance with the standards and approved by the council.

The internal audit`s aims are:

- analysis and identification of the risks which a given unit is facing and the internal control environment, in order to determine the audit`s programme based on the risk assessment and, in particular, the assessment of the risk management effectiveness process,
- presentation of the results from the made arrangements in forms of reports, and also if it is proper or necessary, introduction of suggestions and conclusions concerning the improvements,
- expression of the opinion concerning the effectiveness of the control mechanisms in a given system,
- based on the internal control system assessment, deliverance of a logical assurance that the researched organisation works correctly (The Public Finance Act of August 27, 2009 (Journal of Laws from 2009, No. 157, item 1240, as amended).

In general, it can be stated that the internal audit should lead to the assessment of a current state in relations to the operational plans of a unit by systematic management control assessment and advisory activities.

By fulfilling the audit tasks and advisory activities, the auditor shows the weaknesses of the unit and offers the improvements. The weaknesses should not always be understood as incorrectness or the state which is against the law – there can be some areas, in which the activity can be improved, taking into consideration effectiveness and efficiency. Due to the fact how important planning in each unit`s activity is, the auditor also suggests where dangers in aims realisation can appear and tasks to explain, where these dangers can result from. If the researched area works properly, the auditor informs the manager about this fact. Such “positive assurance” is also very precious information for the management. It is advisable for the auditor to prepare the

results of their work in a maximum precise and specific way. Some recommendations can even bring a unit positive financial effects.

The auditor should also be a kind of a shield for the unit`s manager, because the work results of the audit allow to improve or perfect the areas, in a unit, which require it before the possible imperfections are noticed by the external entities.

There are also conditions, which are necessary for the auditor to properly do the above mentioned task – the auditor`s direct contact with the manager of the researched unit is incredibly important, as well as regular and honest communication and mutual trust. The unit`s manager is responsible for creating such conditions for the internal auditor, in which they know and understand what priorities of the units are and has an access to all crucial, from the point of view of doing business, information. Then, the unit`s manager can expect proper and effective internal audit.

The internal auditor should examine and assess the areas, which are crucial for the unit and its manager. The choice of the areas to the research should be based on the risk analysis, which is done be the auditor at least once a year. The choice of the research areas should be thus based on the dialogue between the internal auditor and the unit manager. The internal auditor can also, in the range of so called, advisory activities, support the unit in conducting self-esteem of the management control, help the manager by giving their opinion, carry out training courses for the unit employees. The aim and range of these activities should be based on the previous arrangements between the internal auditor and the unit manager.

The units of the public sector are appointed to certain public tasks and the managers are appraised from their duties. The areas of the unit activities connected to doing these specific tasks are the ones of basic activity for the internal auditors. The tasks in the range of social affairs, culture and education can be an example. It would be obvious that the internal auditor and the unit manager ought to be mainly interested in the assessment of the above mentioned areas. However, it results from the analyses done by the Ministry of Finance, that the auditors concentrate on the assessing the so called supporting areas like for example accounting, public orders, staff. The supporting areas is the absolutely important element of a unit activity, but it should be kept in mind that the public tasks, which are assigned to the units, determine the aims. The managers are checked if they fulfil the above assignment. For this reason a lot more valuable, for the unit manager, should be the functioning assessment of the areas connected to the basic unit activity.

It should be stressed that the auditor cannot take over the responsibility for the management in the unit, because this is the role and task for the unit manager. In practice, it means that decisions if the recommendations given by the auditor should be introduced, always ought to be made by the unit manager. The internal auditor should have guaranteed independence, therefore their work must not be limited, for example by the denied access to the documents, people or ban on examining a given area of the unit activity. This lack of possibility of taking over responsibility, by the internal auditor, for the management and independence are the basis for the auditor`s objectivity. It does not mean that the internal auditor is not responsible for the quality and effectiveness of their work. The unit manager and the internal auditor should strive toward the dialogue which would result in positive solution in accordance with the rules and standards of the internal audit. It can mean that in the situation, in which the auditor is not able to make the unit manager`s expectations within the internal audit, they should advise a different solution. Advisory role of information and assessment of the management control.

The internal audit, in public administration, has been mainly regulated in the following legal acts:

1) The Public Finance Act of August 27, 2009 (Journal of Laws from 2013 No. 885, as amended) ;
2) The Minister of Finance Regulation of February 1, 2010 on carrying and documenting the internal audit (Journal of Laws No. 21, item. 108);

On the basis of the article 273 paragraph 1, of the Public Finance Act of September 27, 2009 (Journal of Laws from 2013 item 885, as amended), including commonly acknowledged standards of the internal audit, the Minister of Finance defined International standards of the internal audit work placement elaborated by The Institute of Internal Auditors (IIA) as standards of the internal audit for public finance sector units. The Ministry of Finance attained permission of the Internal Auditors Association IIA to spread Polish translation of the Standards in the Official Journal of the Minister of Finance. The internal audit Standards for the public finance sector units have been introduced – Statement No. 2 of Minister of Finance from June 1, 2013.

According to the article 273 section 2 of the public finance, internal auditor, realizing the internal audit, is obliged to follow the tips included in the internal standards audit for the public finance sector units.

The internal audit, according to the act from August 27, 2009 about public finance is done in: the prime Minister`s administrative office, ministries, provincial offices, customs chambers, internal revenue services,

the Social Insurance Institution (and in the funds administered by it), the Farmers` Social Security Fund and in the National Health Fund. The internal audit in these institutions, is done by the internal auditor employed in the unit. Moreover, the internal audit, according to the act, is done in:

- state budget entities if the sum of the earnings or the sum of expenses, included in the financial plan of the budget entity, is over 40000 thousand zlotys,
- state higher schools, independent public health cares, which have not been created by the units of local government, executive agencies, state earmarked funds, if the sum of the included in the financial plan earnings or the costs, exceeded 40000 thousand zlotys.

In these units, the internal audit is led by the internal auditor employed in the unit or a contractor, who does not work for the unit, if: the sum of earnings, expenses or incomes and costs, included in the financial plan of the unit, did not exceed 100000 thousand zlotys or when the unit employs fewer employees than 200.

Unit managers obliged to conduct the internal audit in their units, have to inform The Minister of Finance in writing about the fact that they begin the internal audit. A group or one person cells of the internal audit are created in the units, like in case of the Starost`s Office of the Poviat in Jarosław. The internal audit manager of the cell is in charge of the several member cell of the internal audit. Whereas, the internal auditor of one person cell is employed in the unit The Public Finance Act of August 27, 2009 (Journals of Law from 2009, No.157, item 1240, as amended).

3. The internal audit in the unit of the local government.

The internal auditor prepares and presents the manager of a given unit the audit plan for the next year to the end of December of the current year. Such plan should be elaborated in agreement with the unit manager on the basis of the risk analysis. The stages of preparing the internal annual audit plan:

1) Assigning the risk areas;
2) Involving management in planning;
3) Defining the priories;
4) The risk analysis;
5) Preparing the plan in the form of a table, which should include:
   a) information about the unit, which is crucial while conducting the internal audit;
   b) the risk areas analysis;
   c) the audit activities description to do in a given year;
   d) the internal audit work organization (Szymańska , 2007).

The internal auditor sends questionnaires (surveys) to the heads of given organisation cells and to the dependent unit managers, in which they are obliged to define the most important risks in their content-related activity. In the researched unit 23 risk areas have been chosen. They include all activities done in the organisation units. The basic aim of the unit is, above all, accomplishing public tasks, which have supracommunal character. The tasks are divided into own and commissioned tasks from the range of the government administration. The list of 23 the most endangered audit areas of incorrectness and failures, which should be included in the internal audit, has been done:

1) Safety of the information systems
2) Management
3) Public orders
4) Information systems administration
5) Obtaining and using the European Union means,
6) Personnel management
7) Health protection
8) Environment protection
9) Institutional control
10) Education and upbringing
11) Social help
12) Functional control
13) Transport and roads maintenance
14) Procedures in the range of work safety regulations (BHP in Polish) protection and protection against fire
15) Unemployment counteraction

16) Supervision and organisation of the subordinated units
17) Architecture and construction
18) Property management
19) Budget expenses
20) Budget incomes
21) Protection of the Classified information and dangers counteraction
22) Administration in the office
23) Legal service.

Subject risk areas with the aims have been analysed on account of:

- activities which can influence public opinion;
- legal regulations concerning financial operations;
- number, kind and size of the financial operations, which have been done;
- size of wealth;
- number and qualifications of the employees;
- working conditions;
- ethical attitude of the employees, their attitude and motivation to do the tasks;
- quality and safety of the information systems;
- corrective actions introduction in the result of the conducted control;
- specific risks connected to the cases, which a given cell or organisational unit deals with.

On the basis of the questionnaires sent from the management, information about the risks from particular content-related departments were obtained. Then, the unit manager informed about their priorities within the identified, by the auditor, areas. A three-step validity scale with the management priorities was accepted, that is high, medium and low. Next, the list of audit tasks, which should be assigned for the risk analysis, was done. The risk analysis was conducted including the management priorities in the table form, with the use of a spreadsheet programme and a mathematical method. By making use of this method "weighing risks" was used, assuming that if a certain set of "risk categories" was defined, that is different kinds of risks – they would have to be prioritised, indicating which ones are the most and least important for the district. The expression of this assessment are weights, assigned to each category. The sum of weighs, for all used to the assessment categories, is 1. Five basic risk categories were formulated for the risk analysis in the district:

- Importance – effectiveness of the financial means use and possibility of material loses appearance, while determining the level of weight the possibility of financial implications appearance or their lack and the level of the financial system complication.
- Management quality – is the quality of the staff and the internal structure, including employees qualifications, human resources fluctuation, the level, including the internal procedures, education, etc.
- Internal control – is the quality of management control functioning, including mechanisms, internal procedures, internal and external information flow, a range of duties, financial operations, organizational culture and their accordance with the management control standards.
- External factors – vulnerability to the system changes, any legal regulations, often changes of legal articles and their influence on fulfilling the tasks in the office.
- Operational factors – size and frequency of registering financial operations, time pressure, innovation of performing new tasks.

In each risk category, the assessment of the risk in the four -point scale (1-4) was done. The management priorities and the date of the last audit were included to the choice of certain audit areas in 2016. On the basis of all these criteria weighs the final assessment was achieved. The obtained value is the measure indicating the diligence of a given task accomplishment. The bigger the percentage value, the more priority area to the audit research. In the most important areas with the biggest risk level, the number of working days dedicated to the realization of the audit task, was shown. For this purpose, temporary budget of the audit cell was made in order to estimate labour intensity of certain audit activities. On the basis of the risk analysis conducted in this way, the hierarchy of the tasks to realisation in the year 2016 and the following ones, was established. In the audit plan, the areas are sorted from the highest to the lowest risk. The subjects of the audit tasks and advisory activities were defined in the areas of the highest risk. Due to the above, taking into consideration the highest achieved assessment, two ensuring tasks were selected and three topics (ranges) to realization in the advisory activities.

The internal auditor of the researched unit uses the mathematical method in the risk analysis. The method is based on the risk assessment of all activity areas with the use of the risk category and the

spreadsheet.

1 – Name of the risk area
2 - Names of the audited units
3 – Risks category : Importance
4 – Risks category: Management quality
5 – Risks category: Internal control
6 – Risks category: external factors
7 – Risks category: operational factors
8 – Management priorities
9 – Date of the last audit
10 – Risk assessment after taking into account: the criteria
11 –Risk assessment after considering: the date of the last audit
12 –Risk assessment after considering: the management priorities
13 – Risk assessment : final
14 – Number of working days

The table below presents the risk analysis needed to prepare the annual internal audit plan for 2005 (Table 1. The risk analysis to plan 2016 year.)

Tab.1. The risks analysis to plan 2016 year.

The name of the risks area	The name of the audit units	The risk categories							The risk assessment			Final
		The importance	The management quality	The internal control	The external factors	The operational factors	The management priorities	The last audit date	After taking inot consideration			
		0,25	0,15	0,25	0,15	0,20			criteria	The last audit dates	Management priorities	
1	2	3	4	5	6	7	8	9	10	11	12	13
Safety of the information systems	All organisational units, organisational Department	4	4	4	4	4	high	never	100%	130%	160%	100%

Management	All organisational. units	4	4	4	3	4	high	never	96,25 %	126,25 %	156,25 %	97,66 %
Public orders	The investments and public orders department	4	4	4	4	3	high	never	95,%	125,%	155,%	96,88 %
Administration of the information systems	All organisational units. Organisational departament	4	4	4	4	4	mediu m	never	100%	130%	145%	90,63 %
Winnnig and using the EU means	All organisational units	3	3	3	3	3	high	2010	75%	95%	125%	78,13 %
Human resources management	All organisational units, Organisational department	4	4	3	3	4	mediu m	never	90%	120%	135%	84,38 %

Health protection	Health department and social policy	3	3	3	3	3	high	2010	75%	95%	125%	78,13 %
Environment protection	Environment protection department	3	3	3	3	3	high	never	75%	105%	135%	84,38
Institutional control	Control and supervision department	3	1	1	2	3	low	2011	51,25 %	61,25 %	61,25 %	38,28 %
Education and upbinging	Education department, education units	3	1	1	2	2	mediu m	2012	46,25 %	46,25 %	61,25 %	38,28 %
Social assitance	PCPR, DPS, DD	4	3	3	2	4	mediu m	2011	82,50 %	92,50 %	107,50 %	67,19 %
The fuctional control	All organisational units	1	1	2	1	2	mediu m	2012	36,25 %	36,25 %	51,25 %	32,03 %
The transport and roads	All organisational units	1	1	3	2	2	mediu m	never	46,25 %	76,25 %	91,25 %	57,03 %

The source: Own elaboration on the basis of the data from the Starost`s Office of the Poviat in Jarosław.

The way of calculating with the use of the mathematical method for the risk analysis was following:

1. making the assessment of the audit needs – identification of all possible risk areas (column 1 „the name of the risk area").
2. defining the organizational unit responsible for the correct course of a given process (column 2 „ The names of the audit units").
3. defining the management priorities after the management opinion (column 8 „management priorities").

After the conducted risk analysis, the areas to conduct the internal audit were chosen and within these areas, the audit areas were shown to the realization:

- safety- mainly the ITC one,
- -management – in terms of management control system compatibility with the standards defined by the applicable law,
- public orders – paying special attention to projects realization, which a unit joins.

4. Conclusion

The integral part of the coverage from conducting the audit tasks is a report, which emphasizes strong sides of certain unit activity areas but it also notices its weak sides, which require control and error correction. The effective internal control system is a necessary and integral part of effective company management. Benefits generated thanks to the existence and functioning of the internal control system are connected to the activities and tasks consigned to this department. They can be characterized in the following way:

- systematic monitoring of the organizational structures, in terms of identification of potential changes, introduction of which could improve the unit activity and remove the revealed incorrectness,
- assessing the duties and competences division among the employees and the controlling their fulfillment,
- assessing the correctness and adequacy of the procedures and instructions, etc., being in force and the control of their fulfillment,
- identification and monitoring of the loopholes in the safety systems and the error corrections,
- preparation of the research plans of the particular elements of the unit organisational structures in the way that the unit areas exposed to the highest danger were the subject of the research first,
- carrying out ad hoc research in the situations when unexpected signals, indicating, that in a given cell/area of the unit activity incorrectness appeared,
- monitoring the recommendations of the realization included in the report prepared after the research is carried out,
- keeping in touch with the external control organs in order to make sure that a given unit is following the law and fulfils the duties resulting from it.

References

Czerwiński K., Audyt wewnętrzny (Internal audit), Edition InfoAudit, Warsaw 2006.

Jastrzębska M. 2012. *The Finances of the local government units*, edited by Wolters Kluwer Poland, limited liability company Warsaw 2012, page. 31.

Kaczurak- Kozak M., Winiarska K., Rachunkowość budżetowa (Budget accountancy), Editon Wolters Kluwer S. A, Warsaw 2013.

Kiziukiewicz T., Rachunkowość jednostek sektora finansów publicznych i instytucji finansowych (The accountancy of the public finance units sector in financial institutions), PWE, Warsaw 2011.

Kiziukiewicz T., (red.),Audyt wewnętrzny w jednostkach sektora finansów publicznych (Internal audit in the units of the public finance sector) , Edition Difin, Warsaw 2007.

Mazurek A.,Piołunowicz M., Audyt wewnętrzny w sektorze publicznym w Polsce- diagnoza i propozycje zmian (Internal audit in the public sector in Poland - diagnosis and changes propositions), Edition FOR Foundation, Warsaw 2008.

Ministry of Finance. 2003r. *The internal audit manual in public administration*, page 6.

Minister of Finance Regulation of April 10, 2008 on the detailed way and mode to conduct an internal audit (Journal of Laws No.66, item 406).

Podręcznik audytu wewnętrznego w administracji publicznej, Ministerstwo Finansów 2003. (The textbook of the internal audit in public administration, The Ministry of Finance 2003.)

Przybylska J., (red.) Audyt wewnętrzny w sektorze publicznym (Internal audit in public sector) , Edition Cedewu, Warsaw2012.

Szymańska, H, 2007. Planning the internal audit. In: T. *Kiziukiewicz (editor), Internal audit in the public finance sector units, Difin*, Warsaw 2007, p. 101-105.

The Public Finance Act of August 27, 2009 r., (Journal of Laws from 2013, item 885 as amended.)
The Public Finance Act of August 27, 2009r. (Journals of Law 2009 No. 157, item 1240, as amended).
Winiarska A., Audyt finansowy (Financial audit), PWE, Warsaw 2009.
Zysnarska A., Rachunkowość budżetu, jednostek budżetowych i samorządowych zakładów budżetowych (Budget, budget units and local governemt budgetary establishments accountancy), Edition ODDK, Gdańsk 2014.

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Service concession arrangements in the financial statements

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Abstract

Information about service concession arrangements belongs to the specific problems of public sector financial reporting. Financial reporting on information about service concession arrangements is specified in the IPSAS. The paper deals with areas related to financial reporting on services concession arrangements, namely definition of service concession arrangements, recognition and measurement of service concession assets, recognition and measurement of liabilities, presentation and disclosures relating to various aspects of service concession arrangements. The application on the IPSAS supports consistency and comparability of the public sector financial reporting with the aim of achieving the objectives of financial reporting, which is to provide transparent information to users that is useful for accountability and decision-making purposes.

Keywords: service concession arrangements, financial statements, financial reporting, accounting, IPSAS.
JEL Code: M40, M41, H83

1. Introduction

Service concession arrangements belong to the specific problems of accounting and financial reporting of the public sector. Service concession arrangements are the binding arrangements between the grantor and the operator. Service concession arrangements involve the operator providing public services related to the service concession asset on behalf of the grantor. Grantor is the public sector entity that grants the right to use the service concession asset to the operator. Operator is the entity that uses the service concession asset to provide public services subject to the grantor's control of the asset. Binding arrangement describes contracts and other arrangements that confer similar rights and obligations on the parties to it as if they were in the form of a contract. These issues are included in International Public Sector Accounting Standard entitled IPSAS 32 – Service Concession Arrangements: Grantor. IPSAS 32 was first issued in October 2011. The latest version includes amendments resulting from IPSAS standards issued up to July 2016. International Public Sector Accounting Standards are published on the website of the IFAC in Handbook of International Public Sector Accounting Pronouncements which was released in two parts (IFAC, Handbook, Volume I., 2016), (IFAC, Handbook, Volume II., 2016) in 2016.

The objective of IPSAS 32 is to regulate the accounting and financial reporting on service concession arrangements in the financial statements under the accrual basis of accounting from the perspective of the grantor, a public sector entity. Arrangements within the scope of IPSAS 32 include the operator providing public services related to the service concession asset on behalf of the grantor. Arrangements outside the scope of IPSAS 32 are those that do not include the delivery of public services and arrangements that involve service and management components where the asset is not under the control by the grantor. IPSAS 32 does not deal with the accounting and financial reporting for the service concession arrangements from the perspective of the operator. Guidance on accounting and financial reporting for service concession arrangements by the operator is addressed in the relevant international or national accounting standard dealing with service concession arrangements. The issue on accounting and financial reporting for service concession arrangements from the perspective of the operator is addressed in the Interpretation of the Committee IFRIC 12 – Service Concession Arrangements and SIC 29 – Service Concession Arrangement: Disclosures.

This paper includes detail knowledge of the areas related to the financial reporting on service concession arrangements in the financial statements under the accrual basis of accounting from the perspective of the grantor, namely the recognition and measurement of the service concession assets, recognition and measurement of liabilities based on financial liability model or grant of a right to the operator model, presentation and disclosure related to the service concession arrangements.

The aim of this paper is to describe and analyze knowledge about the specific problems of financial reporting by public sector, in particular results of the analysis of requirements for the reporting on information about the service concession arrangements in the financial statements of public sector entities in accordance with IPSAS. We applied epistemology as a basic method for researching this problem. Standard research methods, such as selection, analysis and synthesis, presenting basic methodical approach to paper processing are applied. We combined the obtained knowledge to form new, higher level of knowledge of research problems. In particular, ways of understanding and explaining requirements for the reporting on information about the service concession arrangements in the financial statements of public sector entities, the inductive-deductive and analytic-synthetic logical scientific methods are used.

The researched object that is financial reporting on information about service concession arrangements in the financial statements by the IPSAS was chosen because of its timeliness and dynamic development. This topic is a comprehensive solution in International Public Sector Accounting Standards. We got information about the researched object from book and magazine sources, conference proceedings and from our own previous knowledge of the research activities. We have worked with the current literature published in 2016, which was mainly in English. This literature is listed in the references section. The above issue deals mainly with provisions of relevant International Public Sector Accounting Standards that are listed in the Handbook of International Public Sector Accounting Pronouncements, which was published in 2016 on the IFAC website and was divided into two volumes (IFAC, 2016). We also used our knowledge of our research activities that is listed in monograph related to international harmonization of financial reporting in the financial statements of the public sector (Kršeková, 2011) and articles in scientific journals and conference proceedings (Kicová, 2006; Kicová, 2007; Kršeková & Pakšiová, 2014; Kršeková & Pakšiová, 2015; Kršeková, 2016; Moscalu, 2011; Pakšiová, Kubaščíková & Kršeková, 2015; Pakšiová & Kršeková, 2014). The knowledge gained forms the basis for the processing of results and conclusion.

2. Recognition and measurement of service concession assets

Service concession arrangements are the binding arrangements between a grantor and an operator in which the operator uses the service concession asset to provide a public service on behalf of the grantor for a specified period of time and the operator is compensated for its services over the period of the service concession arrangement. Common features of service concession arrangements are:

- The grantor is a public sector entity;
- The operator is responsible, at least in a part, for the management of the service concession asset and related services and does not act only as an agent on behalf of the grantor;
- The arrangement specifies the initial prices to be levied by the operator and regulates price adjustments over the period of the service concession arrangement;
- The operator is obliged to hand over the service concession asset to the grantor under specified condition at the end of the period of the arrangement, for little or no cumulative consideration, irrespective of which party initially financed it; and
- The arrangement is governed by a binding arrangement that sets out performance standards, mechanisms for adjusting prices, and arrangements for judgment of disputes (IFAC, Handbook, Volume II., 2016).

Service concession asset is an asset used to provide public services in a service concession arrangement that is provided by the operator which the operator constructs, develops, or acquires from a third party or is an existing asset of the operator. Service concession asset is also an asset used to provide public services in a service concession arrangement that is provided by the grantor which is an existing asset of the grantor or is an upgrade to an existing asset of the grantor. Examples of service concession assets are roads, bridges, tunnels, prisons, hospitals, airports, water distribution facilities, energy supply and telecommunication networks, permanent installations for military and other operations, and other non-current tangible or intangible assets used for administrative purposes in delivering public services. It is a traditional asset which is created, operated and maintained by the public sector and financed through public budget. The provisions of IPSAS 32 are applied to an asset used in a service concession arrangement for its entire useful life, namely

a whole-of-life asset. In assessing whether service concession asset should be recognized is taking into account all the facts and circumstances of the service concession arrangements.

The grantor shall recognize an asset provided by the operator and an upgrade to an existing asset of the grantor as a service concession asset if:

- The grantor controls or regulates what services the operator must provide with the asset, to whom it must provide them, and at what price; and
- The grantor controls any significant residual interest in the asset at the end of the term of the arrangement through ownership, beneficial entitlement or otherwise (IFAC, Handbook, Volume II., 2016).

The control or regulation is governed by a binding arrangement, or otherwise (such as through a regulator that controls other entities that operate in the same industry or sector as the grantor), and includes circumstances in which the grantor buys all of the output as well as those in which some or all of the output is bought by other users. The ability to exclude or regulate the access of others to the benefits of an asset is an essential element of control that differ an entity's assets from those public goods that all entities have access to and benefit from them. When the binding arrangement provides the right to control the use of the service concession asset to the grantor, the asset meets the condition applicable to the control in relation to those entities to which the operator must provide services. The service concession arrangements may involve an existing asset of the grantor to which the grantor gives the operator access for the purpose of the service concession arrangement or for the purpose of generating revenues as compensation for the service concession asset.

The grantor shall initially measure the service concession asset recognized in accordance with provisions of IPSAS 32 at its fair value. The binding arrangement sets the initial prices to be levied by the operator and regulates price revisions over the period of the service concession arrangement. Initial recognition means that the fair value is used to determine the cost of construction or development of service concession asset, or to determine the costs of upgrade to an existing asset. Where an existing asset of the grantor meets the conditions specified in provisions of IPSAS 32, the grantor shall reclassify the existing asset as a service concession asset. The reclassified service concession asset shall be regulated in accordance with IPSAS 17 – Property, Plant, and Equipment or IPSAS 31 – Intangible Assets, as appropriate. After initial recognition or reclassification, service concession assets shall be recognized as a separate class of assets in accordance with IPSAS 17 or IPSAS 31, as appropriate. Within the scope of IPSAS 17 and IPSAS 31, the grantor recognized subsequent measurement of assets and applies the impairment tests of assets, as appropriate, when there has been a change in use of asset that affects its future economic benefits or service potential. In assessing whether any of the indicators of impairment have been activated under circumstances that causes impairment, the grantor refers to the provisions of IPSAS 21 – Impairment of Non-Cash-Generating Assets and IPSAS 26 – Impairment of Cash-Generating Assets. Grantor that has previously recognized service concession assets and related liabilities, revenues, and expenses shall apply provisions of IPSAS 32 retrospectively in accordance with IPSAS 3 – Accounting Policies, Changes in Accounting Estimates and Errors.

3. Recognition and measurement of liabilities

Where the grantor recognizes a service concession asset in accordance with provisions of IPSAS 32, the grantor shall also recognize a liability. The liability recognized in accordance with provisions of IPSAS 32 shall be initially measured at the same amount as the service concession asset, at its fair value. The grantor shall not recognize a liability when an existing asset of the grantor is reclassified as a service concession asset in accordance with provisions of IPSAS 32, except in circumstances where additional consideration is provided by the operator. When the grantor additionally recognizes the liability in accordance with provisions of IPSAS 32, the liability shall be initially measured at the same amount as the service concession asset measured in accordance with provisions IPSAS 32, adjusted by the amount of any other consideration from the grantor to the operator, or from the operator to the grantor. The nature of the recognized liability is based on the nature of the consideration exchanged between the grantor and the operator. The nature of the consideration given by the grantor to the operator is determined by reference to the terms of the binding arrangement and, if necessary, contract law.

In exchange for the service concession asset, the grantor may compensate the operator for the service concession asset by any combination of:

- Making payments to the operator by the financial liability model;

- Compensating the operator by other means by the grant of a right to the operator model such as granting the operator the right to obtain revenue from third-party users of the service concession asset or granting the operator access to another revenue-generating asset for the operator's use (for example, a private wing of a hospital where the remainder of the hospital is used by the grantor to treat public patients or a private parking facility adjacent to a public facility) (IFAC, Handbook, Volume II., 2016).

Where the grantor recognizes liability in accordance with the service concession arrangements within the scope of IPSAS 32, it may be used financial liability model or grant of a right to the operator model.

In applying the financial liability model the grantor has an unconditional obligation to pay cash or another financial asset to the operator for the construction, development, acquisition, or upgrade of a service concession asset and shall recognize a liability in accordance with provisions of IPSAS 32 as a financial liability. The grantor has an unconditional obligation to pay cash if it has guaranteed to pay the operator specified or determinable amounts or the possible difference between amounts received by the operator from users of the public service and any specified or determinable amounts, even if the payment is contingent on the operator ensuring that the service concession asset meets specified quality or efficiency requirements. Guidance on recognition for financial liability can be found in relevant international accounting standards dealing with financial instruments, namely IPSAS 28 – Financial Instruments: Presentation, IPSAS 29 – Financial Instruments: Recognition and Measurement, and IPSAS 30 – Financial Instruments: Disclosures, where IPSAS 32 does not provide requirements and guidance. The grantor shall allocate the payments to the operator and recognizes them according to their substance as a reduction in the liability recognized in accordance with provisions of IPSAS 32, as a finance charge, and charges for services provided by the operator. The finance charge and charges for services provided by the operator in a service concession arrangement determined in accordance with provisions of IPSAS 32 shall be recognized as expenses. Where the asset and service components of a service concession arrangement are separately identifiable, the service components of payments from the grantor to the operator shall be allocated by reference to the fair values of the service concession asset and the services. Where the asset and service components are not separately identifiable, the service component of payments from the grantor to the operator is determined by estimation techniques.

In applying the grant of a right to the operator model the grantor does not have an unconditional obligation to pay cash or another financial asset to the operator for the construction, development, acquisition, or upgrade of a service concession asset, and grants the operator the right to obtain revenue from third-party users or another revenue-generating asset, the grantor shall recognize a liability in accordance with provisions of IPSAS 32 as the unearned portion of the revenue arising from the exchange of assets between the grantor and the operator. The grantor shall recognize revenue and reduce the liability recognized in accordance with provisions of IPSAS 32 according to the economic substance of the service concession arrangement. Where the grantor compensates the operator for the service concession asset and the provision of services by granting the operator the right to obtain revenue from third-party users of the service concession asset or another revenue-generating asset, the exchange is regarded as a transaction that generates revenue. The right granted to the operator is effective for the period of the service concession arrangement and grantor does not recognize revenue from the exchange immediately. Instead, a liability is recognized for any portion of the revenue that is not yet obtained. The revenue is recognized according to the economic substance of the service concession arrangement, and the liability is reduced in case of recognition of revenue. If the grantor pays for the construction, development, acquisition, or upgrade of a service concession asset partly by incurring a financial liability (by predetermined series of payments) and partly by the grant of a right to the operator (by receiving the right to obtain revenue from third-party use of either the service concession asset of another revenue-generating asset), it is necessary to recognize separately for each portion of the liability related to the grantor's consideration. The consideration to the operator is divided into a financial liability portion for the predetermined series of payments and a liability portion for the right granted to the operator to obtain revenue from third-party use of the service concession asset or another revenue-generating asset. Each portion of the liability is recognized initially at the fair value of the consideration paid or payable. The amount initially recognized for the total liability shall be the same amount as the service concession asset.

The grantor shall recognize other liabilities, commitments, contingent liabilities, and contingent assets arising from a service concession arrangement in accordance with IPSAS 19 – Provisions, Contingent Liabilities and Contingent Assets, IPSAS 28 – Financial Instruments: Presentation, IPSAS 29 – Financial Instruments: Recognition and Measurement, and IPSAS 30 – Financial Instruments: Disclosures. The grantor

shall recognize revenues from a service concession arrangement in accordance with IPSAS 9 – Revenue from Exchange Transactions.

4. Presentation and disclosures relating to service concession arrangements

Disclosures relating to various aspects of service concession arrangements may be addressed in existing international accounting standards. IPSAS 32 addresses only the additional disclosures relating to service concession arrangements. Where the disclosures relating to particular aspect of a service concession arrangement is addressed in another standard, the grantor applies the disclosure requirements of that standard in addition to those set out in IPSAS 32. The grantor also applies the relevant presentation and disclosure requirements in other IPSAS standards, for example in accordance with IPSAS 1 – Presentation of Financial Statements, as they relate to assets, liabilities, revenues, and expenses recognized in accordance with provisions of IPSAS 32. All aspects of a service concession arrangement shall be considered in determining the appropriate disclosures in the notes to the financial statements.

In accordance with the provisions of IPSAS 32, the grantor shall disclose in the notes to the financial statements the following information in respect of service concession arrangements in each reporting period:

- A description of the arrangement;
- Significant terms of the arrangement that may affect the amount, timing, and certainty of future cash flows (for example, the period of the concession, re-pricing dates, and the basis upon which re-pricing or re-negotiation is determined);
- The nature and extent (for example, quantity, time period, or amount, as appropriate) of rights to use specified assets; rights to expect the operator to provide specified services in relation to the service concession arrangement; service concession assets recognized as assets during the reporting period, including existing assets of the grantor reclassified as service concession assets; rights to receive specified assets at the end of the service concession arrangement; renewal and termination options; other rights and obligations (for example, major overhaul of service concession assets); and obligations to provide the operator with access to service concession assets or other revenue-generating assets; and
- Changes in the arrangement occurring during the reporting period. (IFAC, Handbook, Volume II., 2016).

The disclosures relating to service concession arrangements required in accordance with IPSAS 32 are provided separately for each material service concession arrangement or in aggregate for each class of service concession arrangements. A class is a grouping of service concession arrangements involving services of a similar nature (for example, toll collections, telecommunications or water treatment services). This disclosure for each class of service concession asset is in addition to that required in IPSAS 32 by class of asset, for example, a toll bridge may be grouped with other bridges or may be grouped with toll roads.

5. Conclusion

The aim of this paper was to describe and analyse knowledge about the specific areas related to financial reporting on information about service concession arrangements, namely characteristics of service concession arrangements, recognition and measurement of a service concession asset, recognition and measurement of liabilities on the basis of financial liability model or grant of a right to the operator model, presentation and disclosure of service concession arrangements. These issues are dealt with International Public Sector Accounting Standard IPSAS 32 – Service Concession Arrangements: Grantor and further specified in the relevant international public sector accounting standards when it is not dealt with in detail by IPSAS 32.

Service concession arrangements within the scope of IPSAS 32 have been satisfied the following set requirements:

- The grantor controls or regulates what services the operator must provide with the service concession asset, to whom it must provide them, and at what price;
- The grantor controls, through ownership, beneficial entitlement or otherwise, any significant residual interest in the service concession asset at the end of the service concession arrangement;
- The service concession asset is used in the arrangement for its entire useful life;
- The service concession asset is constructed, developed, or acquired by the operator from a third party for the purpose of the service concession arrangement, or the service concession asset is an existing asset of the operator which becomes the service concession asset as part of the service concession arrangement; and

- The service concession asset is an existing asset of the grantor to which the operator is given access for the purpose of the service concession arrangement.

Within the scope of the IPSAS 32:

- The grantor recognizes a service concession asset, or the grantor reclassifies an item of property, plant, and equipment, an intangible asset, or a leased asset as a service concession asset;
- The grantor recognizes the service concession asset as property, plant, and equipment or an intangible asset in accordance with IPSAS 17 – Property, Plant and Equipment or IPSAS 31 – Intangible Assets, as appropriate;
- The grantor applies impairment testing as set out in IPSAS 21 – Impairment of Non-Cash-Generating Assets and IPSAS 26 – Impairment of Cash-Generating Assets;
- The grantor recognizes related liability equal to the value of the service concession asset in accordance with IPSAS 9 – Revenue from Exchange Transactions, IPSAS 28 – Financial Instruments: Presentation, IPSAS 29 – Financial Instruments: Recognition and Measurement, and IPSAS 30 – Financial Instruments: Disclosures; and
- The grantor recognizes revenues and expenses related to the service concession asset.

The results of the issue are that provisions of IPSAS 32 supports consistency and comparability of the procedures by which public sector entities reporting on information about service concession arrangements, thus providing transparent, consistent and comparable information to users that is useful for accountability and decision-making purposes.

References

International Federation of Accountants. 2016. *Handbook of International Public Sector Accounting Pronouncements. Volume I.* ISBN 978-1-60815-293-3. [on-line] http://www.ifac.org/system/files/publications/files/IPSASB-2016-Handbook-Vol-I.pdf.

International Federation of Accountants. 2016. *Handbook of International Public Sector Accounting Pronouncements. Volume II.* ISBN 978-1-60815-293-3. [on-line] http://www.ifac.org/system/files/publications/files/IPSASB-2016-Handbook-Vol-II.pdf.

Kicová, M. 2006. Medzinárodné účtovné štandardy pre verejný sektor (IPSAS) ako základ medzinárodnej harmonizácie účtovníctva vo verejnom sektore. In: *AIESA 2006*, Bratislava: Ekonóm, pp. 1-7.

Kicová, M. 2007. Medzinárodná harmonizácia účtovníctva verejného sektora. In: *Mezinárodní Baťova doktorandská konference*. Zlín: Univerzita Tomáše Bati ve Zlíně. pp. 1-14. ISBN 978-80-7318-529-9.

Kršeková, M. 2011. *Medzinárodné účtovné štandardy pre verejný sektor – IPSAS*. Bratislava: Iura Edition. ISBN 978-80-8078-390-7.

Kršeková, M., Pakšiová, R. 2014. Long-term fiscal sustainability of public sector entities` finances. In: *Finance and risk 2014*, 16th international scientific conference, 24th -25th November 2014, Vol. 1. Bratislava: Ekonóm, pp. 115-124. ISBN 978-80-225-3991-3.

Kršeková, M., Pakšiová, R. 2015. Financial reporting on information about the financial position and financial performance in the financial statements of the public sector. In: *Finance and risk 2015*, 17th international scientific conference, 23rd – 24th November 2015, Vol. 1. Bratislava: Ekonóm, pp. 136-145. ISBN 978-80-225-4218-0.

Kršeková, M. 2016. Zmluvy o licenciách na poskytovanie služieb z pohľadu poskytovateľa - subjektu verejného sektora. In: *Ekonomika a informatika*, ISSN 1339-987X, Vol. 14, No. 1, pp. 1-11.

Moscalu, M. 2011. Financial integration in the euro area and SME's access to finance: evidence based on aggregate survey data. In: *Financial Studies*, Vol. 19, No. 2, pp. 51-66. [on-line] http://fs.icfm.ro/vol19i2p51-66.pdf.

Pakšiová, R., Kubaščíková, Z., Kršeková, M. 2015. Valuation of all fungible items' assets reduction and its influence on measuring companys' performance. In: *Financial management of firms and financial institutions*. 10th international scientific conference, 7th – 8th September 2015, Ostrava, Czech Republic. Ostrava: VŠB - Technical university of Ostrava, pp. 921-928. ISBN 978-80-248-3865-6.

Pakšiová, R., Kršeková, M. 2014. Ethical Principles in Distribution of Recognised Gain in a Company. In: *Ethics as an essential condition for sustainable economic development*,proceedings of scientific papers. Bratislava: Ekonóm, pp. 69-74. ISBN 978-80-225-3953-1.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Valuation of assets and liabilities at fair value

Eva Manová, Jozef Lukáč, Zuzana Nižníková

Abstract

Entrepreneurship is an activity in which the enterprise is subject to a number of regulatory measures by the state Therefore, the entity responsible for following the changes that are applied to business practice and is obliged to apply and respect. Over the past period, the biggest changes the amendment to Act no.431/2002 on Accounting. From 1.1.2016 the law does not include the concept of replacement cost and replaces it at fair value. We describe at the replacement cost to change the law. This article deals with the changes that are in effect from 1.1.2016 in valuation. Ways how to determine the fair value, as set out in the Accounting Act. Subsequently, the fair value analyzed also in terms of International Financial Reporting Standards. When comparing we can follow the mutual similarity between Slovak accounting legislation and IFRS. This comparison can prove that the Slovak Republic has continued the harmonization of accounting.

Keywords: real value, accounting, valuation, IFRS.
JEL Code: M 41

1. Introduction

In practice, economic entities still feel a stronger need to monitor emerging trends in the business, which inherently belongs to monitor amendments of laws, regulations and decrees. Successful business activity related to the legislative process of the country. In the context of legislative changes over the last year of accounting change made in this article we will deal valued in the accounts, in particular measuring assets and liabilities at fair value. Valuation area is accounting important element that we understand the usability of the information provided by accounting as a source for users to assess the characteristics of a true picture of an entity. To determine compliance with the essential functions of the financial system and the needs of different users of accounting information is exactly the right approach to the valuation of assets and liabilities in the accounts, but also defining the content and scope of individual items of assets and liabilities. These basic functions include accounting usefulness in determining which is associated with the valuation of items of assets and liabilities, costs, revenues and profit.

2. Evaluation in terms of the law of Slovak Republic

In accounting valuation is represented by the process of expressing and capturing economic transactions in monetary terms. We can say that the valuation of the business entity which assigns a monetary amount to the individual asset and each liability component and the difference between assets and liabilities. It must not forget also the valuation of the economic entity's operations. All these items are included in the accounts and are well recognized in the financial statements. The very subject of valuation are not just separate parts of assets and liabilities, but also the enterprise as a whole. The pricing includes posting of updates of assets and liabilities within the reporting period and reporting of assets, liabilities, equity and profit determination. For the purposes of the correct valuation method it requires a good choice of valuation parameters. The choice of variable pricing depends on height, accuracy, reality and objectivity of reporting the condition and changes in assets and sources of financing of assets, as well as height and content profit entity.

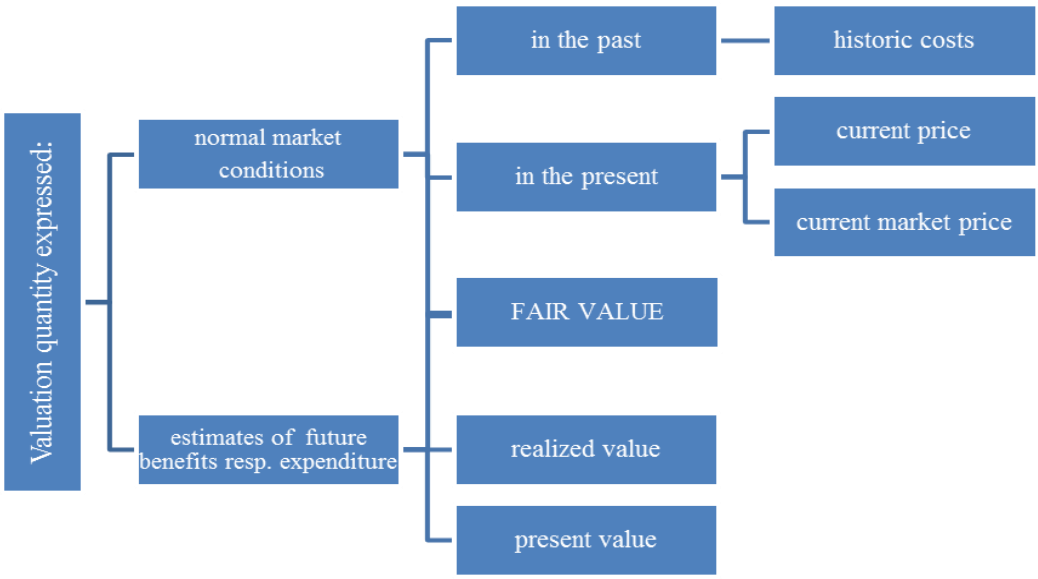

Figure 1. Valuation parameters
Source: Own processing according to Kovanicová, et al., 2003

The basic valuation approaches include valuing the actual purchase price, but this approach is becoming a problem in an environment in which frequent changes in market prices and purchasing power of the monetary unit. This problem is particularly reflected in declining explanatory valued asset deal. In accounting practice, constant access to the search for more and better ways of valuation.

The actual valuation is fixed and has a place in accounting rules, which limit shall be valued different types of assets and liabilities. According to the Law on accounting, assets and liabilities are measured:

- the date of the transaction,
- the date on which the preparation of financial statements,
- to another date in the accounting period if required by a special regulation.

Law of accounting also states how to appreciate the individual components of assets and liabilities at the transaction date, ie the date when the entity first captures the asset or liability in its records. The amendment to the Law of accounting of 31.12.2015 referred to these types of individual valuation of assets and liabilities at the date of the transaction:

- cost value,
- own costs,
- nominal value,
- replacement cost,
- fair value.

Below replacement cost means the price at which assets would be acquired at a time when it is recorded. Replacement cost shall be used for the valuation of assets in the case of free entry, for intangible assets created by own activities if they are their own costs higher than replacement cost, but using the prices were even with the assets transferred from private ownership in the company and intangible and tangible assets yet uncaught in accounting.

Among the changes that can be observed in accounting law in force from 1.1.2016 the deletion of the notion of using replacement cost. Free of charge assets acquired and assets transferred from private ownership into a business (except for cash, securities and assets valued at nominal value), as well as tangible and intangible assets with new onset of inventories and accounting so far not removed shall be measured at fair value.

In practice, an entity is required to know how to determine fair value and also the components of assets and liabilities measured at this value.

3. Application of fair value after 1.1.2016

Fair value is valued according to the law:

- assets and liabilities acquired by purchase of a business or part thereof,
- assets and liabilities acquired contribution of a business or part thereof or acquired confusion,
- commodities traded on a public market,
- securities, derivatives and equity shares:
  - Securities held for trading,
  - Securities held by the Fund, unless special legislation provides otherwise,
  - Securities available for sale at a stock brokerage firm,
  - derivatives in the fund,
  - derivatives at a brokerage firm,
  - shares in the capital of companies.

Assets that are up 12.31 2015 at replacement cost from 1 1. 2016 shall be measured at fair value. They are:

- assets acquired free of charge, except for cash, securities and receivables which are measured at nominal value,
- assets transferred from private ownership into a business, except cash, securities and receivables which are measured at nominal value,
- intangible assets and fixed assets and inventory with new onset of accounting so far not removed,
- Assets acquired free of charge by the contracting authority for the performance of the concessionaire in the form of concessions for construction works under a special regulation.

Accounting Law defines fair value as the term:

- Market price,
- the value detected by the valuation model that uses data primarily from the operations or the quotes in an active market where price is not referred to in subparagraph a) is known,
- operations other than active markets, if they are not in an active market information that could be used in the valuation model referred to in point b);
- expert opinion, if the item of property valuation is not possible to determine its fair value under a) to c).

The very definition of the market price of the law deleted the possibility to use immediately preceding the final price (max. 10 days) or offer price, if not from the stock exchange or other active market available on the valuation date.

Accounting Law defines to determine the fair value valuation models. Valuation models, an entity uses only case where there is no observable market price.

These models are used in the case of unknown market value appropriate for estimating fair value are divided into two levels, namely:

- models that use information or subsidies from transactions in active markets,
- models, using the information of the operations in other markets where the lack of information on active markets.

An entity may elect to use one of three methods for the assessment of fair value listed below. However, the law allows an entity to create their own valuation models, either themselves or by consulting firm depending on the structure and complexity of the assets and liabilities of the entity.

Under the ***market approach*** reasonable method that uses information generated by operations in the market (comparing market prices of similar assets, comparing assets with a value that correlates to the price valuated property). The ***expenditure approach***, also known as the purchasing is based on the basis of the price at which the entity acquired comparable mostly non-financial assets (by comparing the bids, information on the execution of the transaction). The third ***revenue approach*** is a valuation technique that converts future amounts to a single present discounted amount. Fair value measurement is determined on the basis of current market expectations of future cash flows.

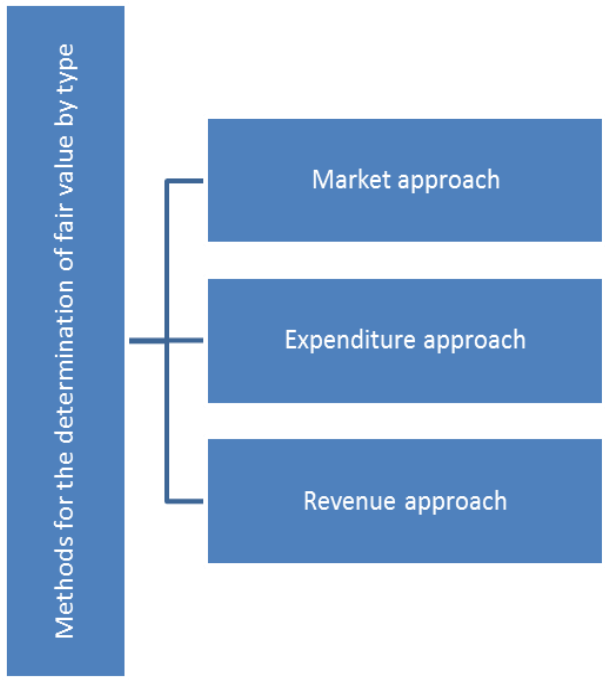

Figure 2. Methods for the detection of fair value
Source: Own processing according to Zákon o účtovníctve č.431/2002 Z.z.

Situations may arise when the market price or reliable model can not be determined. In this case, the procedure expert report. The law also lays down conditions for the valuation of assets of diverse file below which we can understand part of the business including a plurality of types of assets and liabilities.

For example, assets that are transferred from personal use to business is to 31.12.2015 stated at replacement cost, and the price was defined as the price at which the property acquired at the time when the property will be charged. In a similar case, after 1.1.2016 should act in a manner which would be the entity chose one of the above valuation models. The transferred assets from the private use would be appreciated through the expenditure approach is based on the determination of the cash amount that would be spent on the acquisition of assets. It is therefore necessary to determine the amount to the entity comparable benefits as the other transferred assets. But do not forget to follow the information from transactions or quotations from the market by its nature and the place where the property would probably get it. That is, it is appropriate to e.g. the donation of office furniture company would price survey, the offers of Slovak producers, and whether retail or wholesale.

4. Valuation of assets and liabilities at fair value according to IFRS

The issue of pricing in terms of International Financial Reporting Standards devotes IFRS 13 Fair Value Measurement, issued in May 2011 is the result of six-year preparation process. In this document it is to define fair value, the basic structure of the fair value measurement, not me requirements regarding disclosures about fair value. The validity of this Standard was acquired on 01.01.2013.

Fair value according to IFRS is defined as the price does not include transaction costs, and represents the price that would be received if the sale of assets or to pay in case of payment of liability in a regular transaction between market participants on the day of valuation. The condition is to complete this transaction in the underlying market that we understand the market with the highest volume of transactions if necessary. most preferred market, market conditions, regardless of whether the price is directly comparable, or is determined using valuation techniques. IFRS defines fair value measurements that may be related to the actual assets and liabilities, but also a group of assets or liabilities.

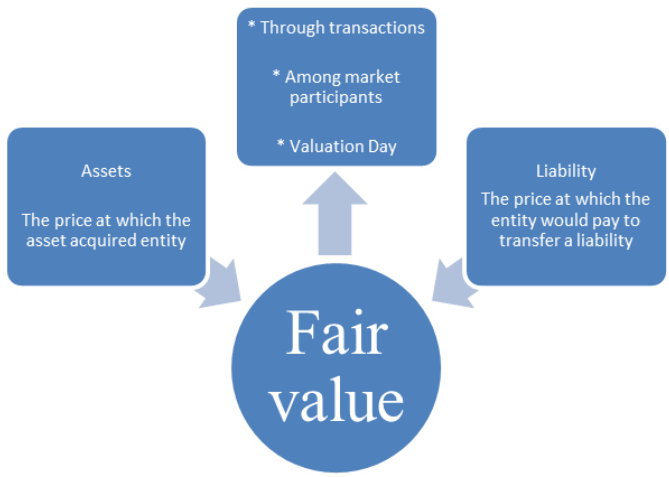

Figure 3. Fair value according to IFRS
Source: Own processing according to IFRS 13

As in the accounting legislation in Slovakia standard deals with the valuation techniques aimed at estimating the cost of an asset or liability between market participants at the measurement date under current market conditions. In the case of techniques shows that our legislation harmonizing legislation with IFRS. Valuation techniques used are the same, identify three approaches, the markets, cost and revenue.

IFRS compared to the Slovak legislation in the field of accounting using the fair value hierarchy. This hierarchy is used to determine the degree of estimation and possible inaccuracies in the determination of fair value. The levels of the fair value is included in the financial statements and is used for external as well as internal users of financial statements, thus informing them of the extent of uncertainty in determining the fair value of the above techniques.

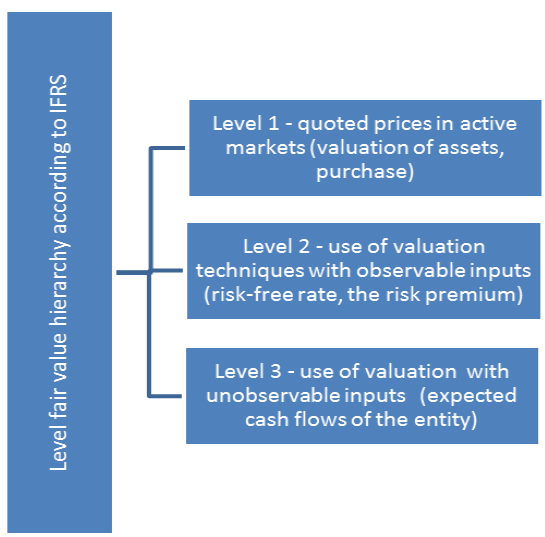

Figure 4. Level values in determining fair value
Source: Own processing according to IFRS 13

The obligation of an entity is also used in determining fair value, which meets the requirements of Level 1, which suggests that the estimate of fair value is the most accurate. If you can not use the first accounting unit level using level 2, but if the conditions do not permit the level 3, which is associated with significantly bias estimates. IFRS 13 is not in our full accounting legislation included, but parts of it gradually passes into our legislative system.

5. Conclusion

The basic function of accounting is usefulness in decision-making entity. The issue of dismantling us the area of the fair value. Within the legislation, IFRS changes have occurred in recent history but in the conditions of Slovak legislation occurred in the concept of fair value changes by amending Law no. 431/2002 Z. z. of the Accounting, as amended from 1.1.2016. Just valuation of assets and liabilities is an essential activity of the company, which can also affect the actual results of operations. Needless to forget the fact that the changes are in force of the law must be followed by the entity and to avoid sanctions by the administration of the country. The use of IFRS accounting system capable of making businesses more competitive and easier to expansion of business venture abroad.

References

Kovaničová, D. et al. 2003. *Finanční účetnictví - světový concept.* Praha: Polygon. ISBN 80-72-73-090-8.

Dvořáková, D. 2011. *Finanční účetnictví a výkazníctví podle medzinárodních standardů IFRS.* Brno: Computer press. ISBN 978-80-251-3652-2.

Paseková, M. 2012. *Implementace IFRS do malých a středních podniků*. Praha: Wolters Kluwer. ISBN 978-80-7357-866-4.

Zákon o účtovníctve č. 431/2002 Z. z. v zmenách neskorších predpisov platný od 1.1.2016

IFRS 13. Oceňovanie reálnou hodnotou.

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Financial results of business entities from 2007 to 2015 in Poland

Paweł Marzec, Grzegorz Krawczyk

Abstract

The following article analyses data concerning income, costs and financial results as well as assets and liabilities of non-financial entities operating on the market between 2007 and 2015. The source of information was constituted by reports submitted on form F-01/I-01 by non-financial entities employing over 49 people and keeping accounting ledgers. The data was obtained from Local Data Bank created by Central Statistical Office of Poland (GUS). The article covers the main problems of the financial situation of business entities. The recent years have brought changeable tendencies of numerous financial criteria. Periodic fluctuations do not change the favourable overall financial situation of businesses. It is, thus, worth pointing out that the overall financial situation of business entities can be assessed as generally positive. Companies increased their incomes.

Keywords: financial result, business activity.
JEL Code: G30

1. Introduction

Financial result is the difference between revenues and costs of the company to obtain them in the selected reporting period. In accountancy it is also called, interchangeably, an accounting result or a result of operations/activity. A positive financial result is, in other words, a profit, while a negative one is a loss. A financial result reflects a financial condition of a company (Kisielińska & Waszkowski, 2015), shows the pattern of revenues and costs of a company, depicts what kind of results were achieved during the regular and usual economic activity and what results appeared as a result of extraordinary financial operations. The financial result of a company is presented in a financial report (Świderska & Więcław, 2012). Still, it is not a document created solely for the inner purposes of a company, as it is also the basis of registering data at the Tax Office and National Court Register. In the article the data concerning financial results of non-financial companies refer to economic entities keeping accounting ledgers and obliged to submit reports every three months, including their revenue, costs and financial result - F-01/I-01 (excluding operators whose basic activity is the one categorised by PKD – NACE as the section of 'Agriculture, hunting, forestry and fishing' as well as 'Financial and insurance activity'), in which more than 49 people are employed.

Financial result

Figure 1 shows the number of entities which were analysed in the study. By the year 2009 an increase in the number of entities can be observed reaching 18299, while from 2009 on we can notice a decrease in the number of entities down to 17194 in 2015.

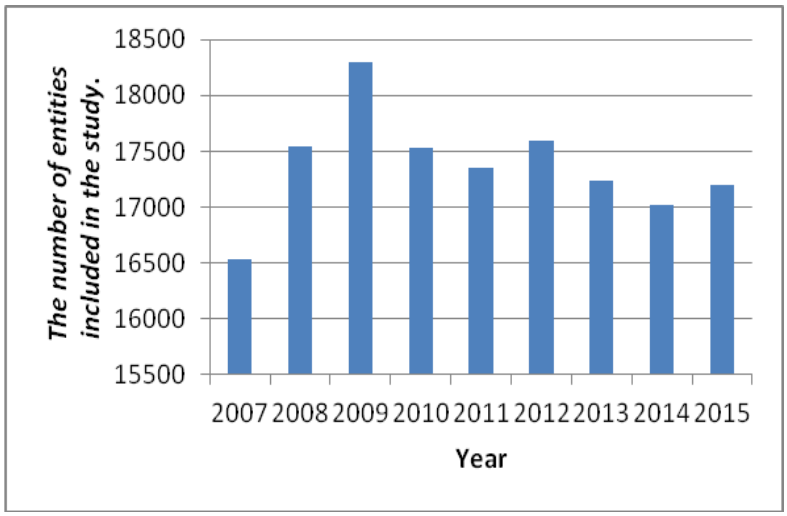

Figure 1. The number of entities included in the study.
Source: Own research based on Central Statistical Office (CSO) data

Absolute data characterising the sector of entities allow to observe a few characteristic phenomena and tendencies. They were included in the current prices, thus, presented in the tables of figures they have only relative comparability. It is worth pointing out that between 2007 and 2015 the dynamics indicators for prices displayed rather low level, which allows rather correctly to evaluate phenomena and processes on the basis of current prices.

Revenues from total activity (Figure 2.) cover (Walkowska, et al., 2016):

- **net revenues from sale of products** (Figure 3.) within country and for export which have been manufactured by the entity (goods, semifinished goods and ,services) as well as packaging, equipment and third party services if the customers are invoiced for the foregoing together with the purchased products; Revenues from sale of products, foods and materials designated for intra- Community delivery to the member states of the European Union and export outside the European Union.
- **net revenues from the sale of goods and materials** (Figure 4.)**,** i.e. current assets purchased for resale in a nonprocessed condition and products manufactured by entity if they are sold by shops within the company's network along with foods manufactured by other manufacturers;
- **other operating revenues** (Figure 5.), i.e. revenues indirectly related to the operating activity of the entity, In particular: profits from the sale of non-financial fixed assets (fixed assets, assets under construction, intangible fixed assets, investments in real estate and rights), assets (cash) received free of charge, including donated assets, as well as damages, reversed provisions, adjustments of the depreciation value for nonfinancial assets, revenues from social activities, revenues from rent or lease of fixed assets and investments in real estate and rights;
- **financial revenues** (Figure 6.), i.e. amounts due in respect of dividends and share in profits, interest on loans granted, interest on term deposits, default interest, profit from the sale of investments (sale), reduction of depreciation write-offs relating to investments due to the fact that the reasons resulting in the permanent loss of their value have ceased to exist (whether partially or totally), surplus of foreign exchange gains over losses.

In the studied period the revenues from the total of activities show an increase (Figure 2.). The following revenues represent a growing trend: net revenues from sale of products (Figure 3.), net revenues from the sale of goods and materials (Figure 4.), other operating revenues (Figure 5.) and financial revenues (Figure 6.).

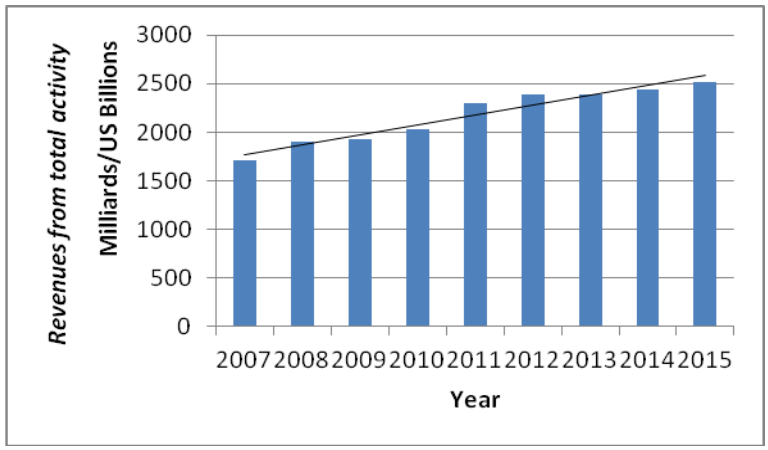

Figure 2. Revenues from total activity
Source: Own research based on Central Statistical Office (CSO) data

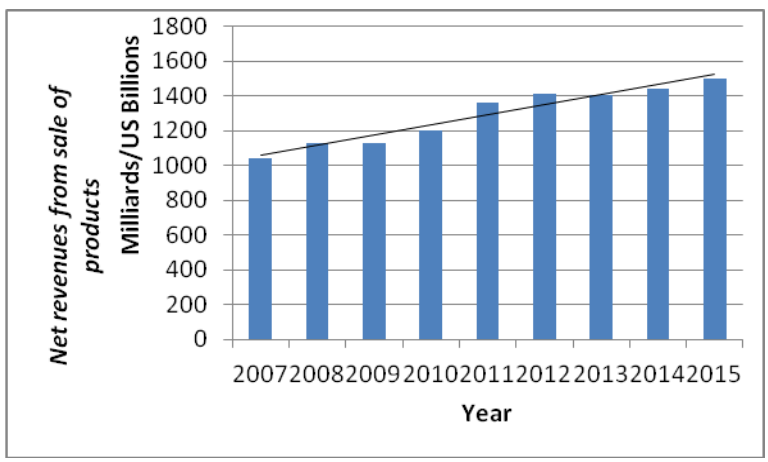

Figure 3. Net revenues from sale of products
Source: Own research based on Central Statistical Office (CSO) data

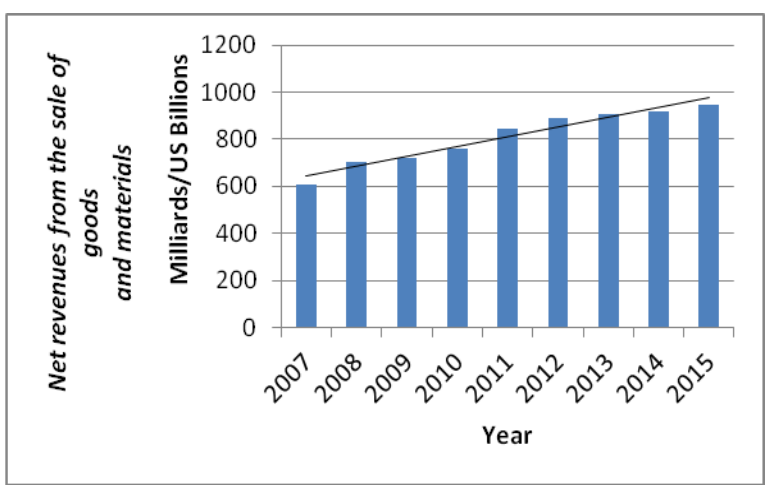

Figure 4. Net revenues from the sale of goods and materials
Source: Own research based on Central Statistical Office (CSO) data

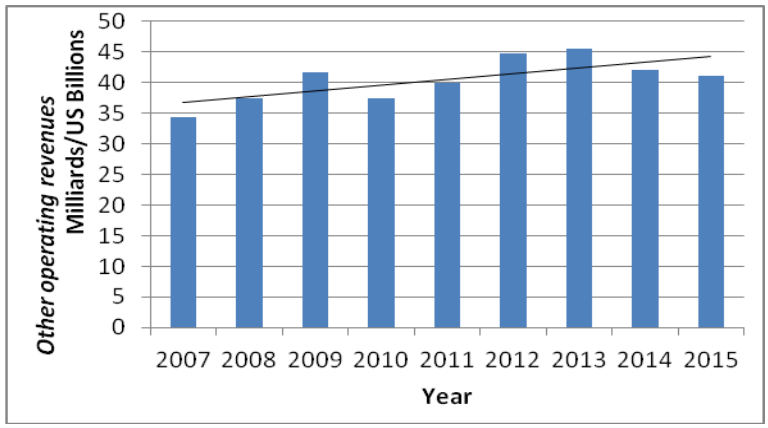

Figure 5. Other operating revenues
Source: Own research based on Central Statistical Office (CSO) data

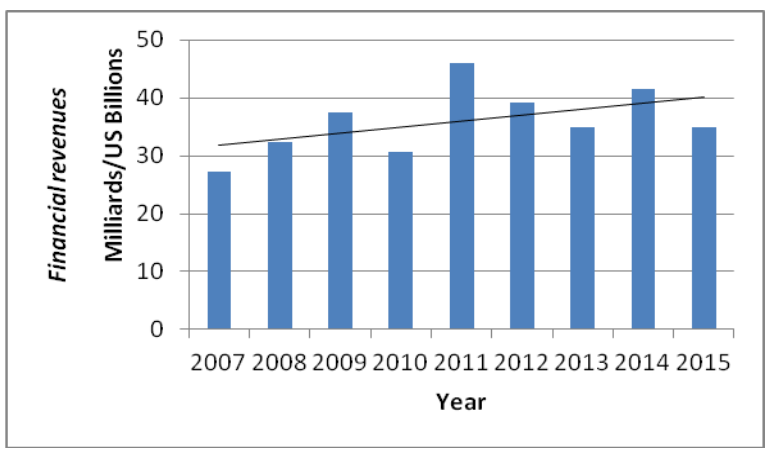

Figure 6. Financial revenues
Source: Own research based on Central Statistical Office (CSO) data

Costs of obtaining revenues from total activity (Figure 7.) cover (Walkowska, et al., 2016) (Niemczyk, 2011):

- **cost of products sold, goods and materials** (Figure 8.) related to the basic operating activity, including the value of sold goods and materials and total costs decreased by the costs of generating benefits for the needs of the entity and corrected by the change in product inventories;
- **other operating costs** (Figure 9.), i.e. costs indirectly related to operating activity of the entity, in particular: loss on the sale of non-financial fixed assets, depreciation of leased or rented fixed assets and assets under construction, unplanned depreciation write-downs (write-downs relating to permanent loss of value), fines, penalties and damages paid, wholly or partially written-off receivables relating to bankruptcy, composition or reorganization, provisions formed for future certain liabilities or liabilities which are likely to occur (losses on current business transactions), adjustments of the depreciation value for non-financial assets, costs of maintaining premises required for social activity, donations and fixed assets received free of charge;
- **financial costs** (Figure 10.), i.e. among others, interest from received bank credit and Lorans (Rychłowska-Musiał, 2015), interest and discount on bonds issued by the entity, default interest, loss on the sale of investments, write-offs updating the value of investment, the surplus of foreign exchange losses over gains.

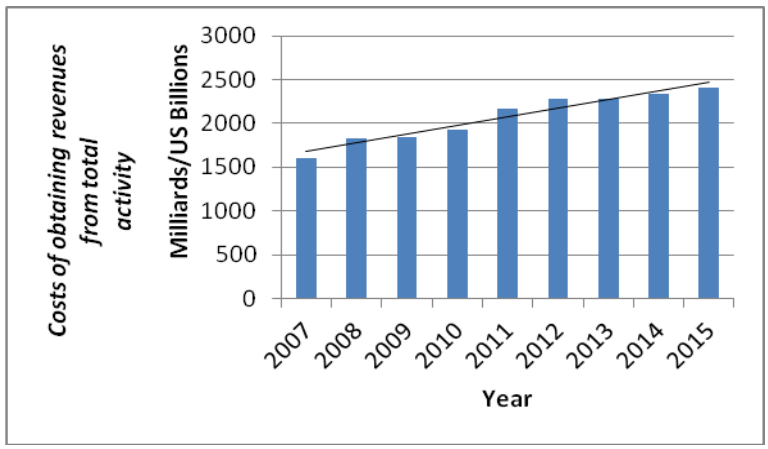

Figure 7. Costs of obtaining revenues from total activity
Source: Own research based on Central Statistical Office (CSO) data

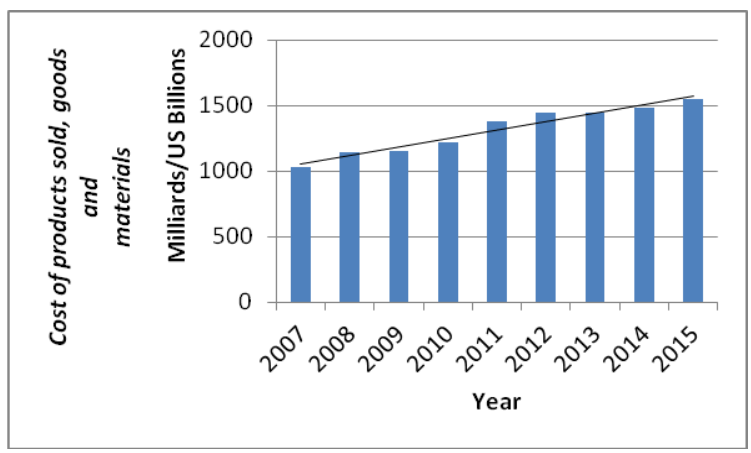

Figure 8. Cost of products sold, goods and materials
Source: Own research based on Central Statistical Office (CSO) data

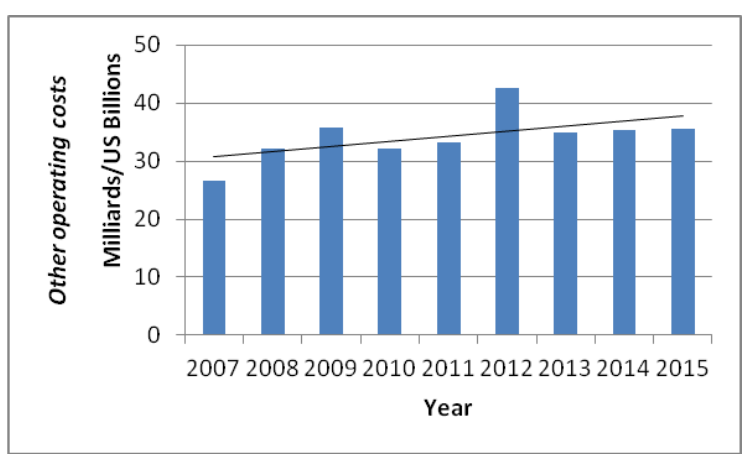

Figure 9. Other operating costs
Source: Own research based on Central Statistical Office (CSO) data

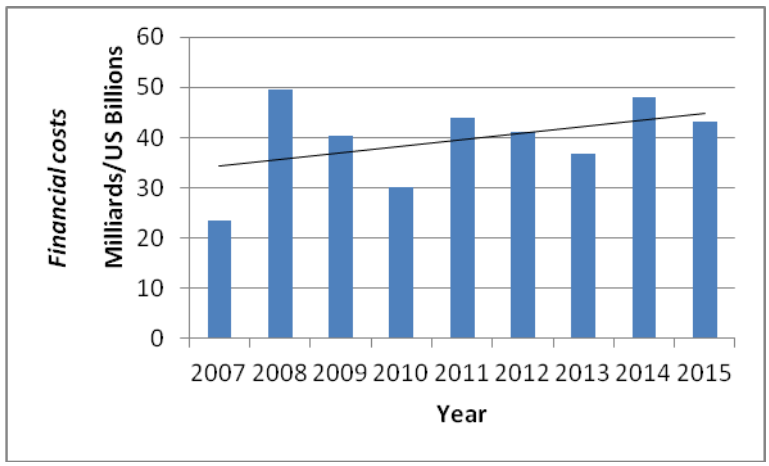

Figure 10. Financial costs
Source: Own research based on Central Statistical Office (CSO) data

In the analysed period the costs of obtaining revenues show a growing tendency (Figure 7.). An increase can be also observed in: the cost of products sold, goods and materials (Figure 8.), other operating costs (Figure 9.) as well as financial costs (Figure 10.).

Financial result from the sale of products, goods and materials (Figure 11.) constitutes a difference between net revenues gained from the sale of products, goods and materials and costs bore for their obtaining (cost of products sold, goods and materials) (Walkowska, et al., 2016).

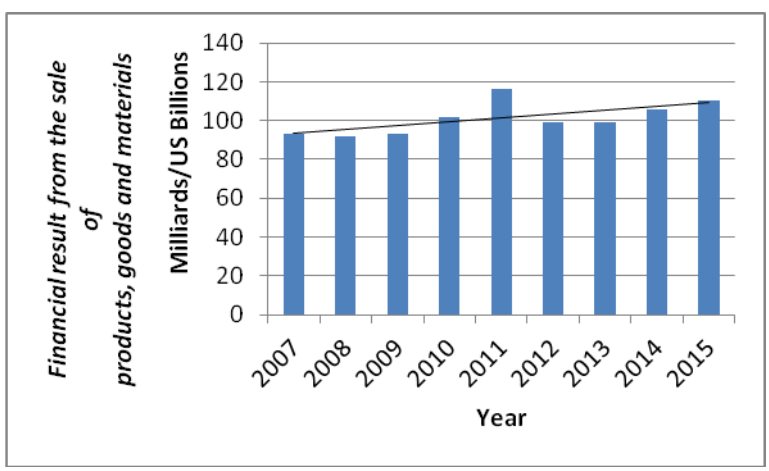

Figure 11. Financial result from the sale of products, goods and materials
Source: Own research based on Central Statistical Office (CSO) data

Financial result on economic activity (Figure 12.) (Czubakowska, et al., 2009**)** is the sum of financial results: on the sale of products, goods and materials, on other operating activity and on financial operations (Walkowska, et al., 2016)**.**

Gross financial result (profit or loss) (Figure 13.) is a result on economic activity, corrected by result on extraordinary events (Walkowska, et al., 2016).

Obligatory encumbrance on gross financial result (Figure 14.) include income tax on legal and natural persons as well as other payments resulting from separate regulation (Iwin-Garzyńska, 2016). The income tax affecting the financial result relating to a given reporting period is composed of a current part and a deferred part. The deferred part constitutes a difference between provisions and assets relating to deferred tax (pertaining to timing differences between gross financial result and the taxable base due to different moments

of reporting revenues and cost in accordance with the Accounting Act and tax regulations) as at the end and the beginning of the reporting period (Walkowska, et al., 2016).

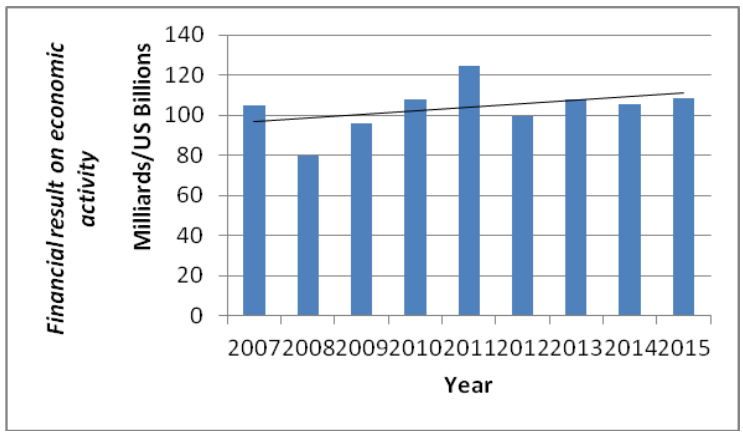

Figure 12. Financial result on economic activity
Source: Own research based on Central Statistical Office (CSO) data

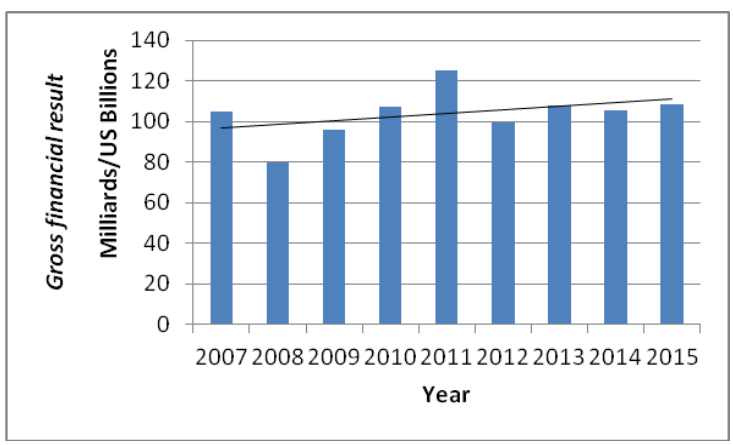

Figure 13. Gross financial result
Source: Own research based on Central Statistical Office (CSO) data

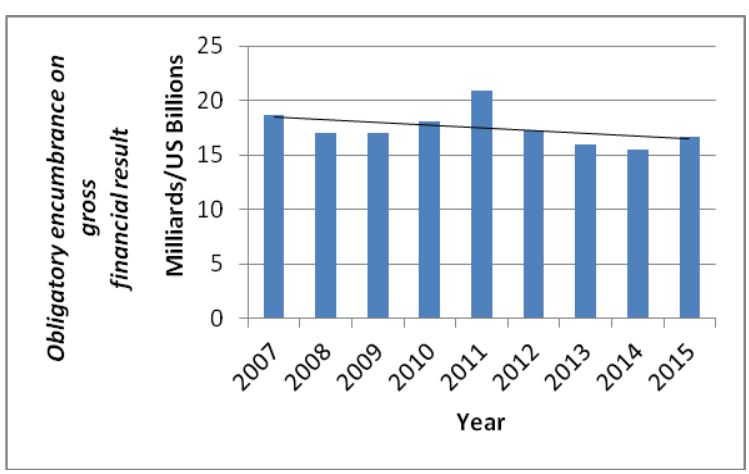

Figure 14. Obligatory encumbrance on gross financial result
Source: Own research based on Central Statistical Office (CSO) data

Net financial result (Figure 15.) (Światowiec-Szczepańksa, 2012**)** (profit or loss) is obtained after decreasing the gross financial result by obligatory encumbrances (Walkowska, et al., 2016).

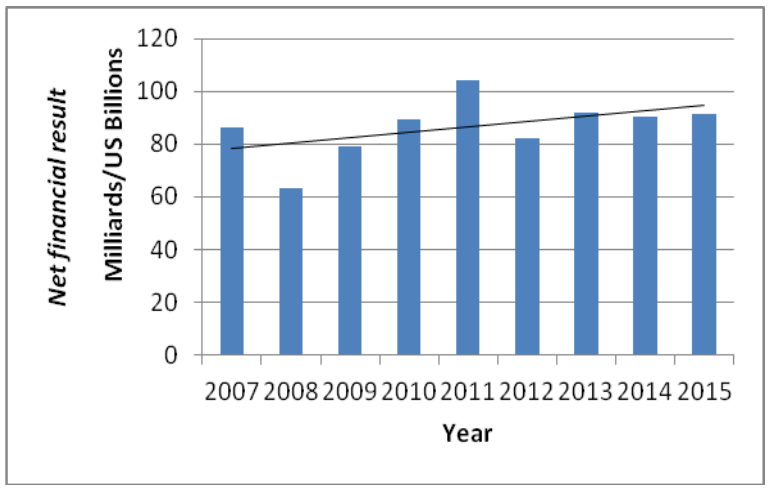

Figure 15. Net financial result
Source: Own research based on Central Statistical Office (CSO) data

The result from the sale of products, goods and materials in the examined period shows an increase (Figure 11.). Financial result on economic activity also depicts a growth (Figure 12.). Gross financial result represents a growing trend in the studied period (Figure 13.). Obligatory encumbrance on gross financial result is decreasing in the studied period (Figure 14.). Net financial result represents a growing trend in the studied years (Figure 15.).

Current assets and liabilities (Walkowska, et al., 2016):

- **current assets** (Figure 16.) are part of the property controlled and used by the entity in its operating activity whose value has been determined in a reliable manner resulting from past events and bound to generate economic benefits to the entity in the future; they include stock (circulating or current fixed assets), short-term: dues, investments and inter-period settlements;
- **short-term dues** (Figure 17.) include total debtors from deliveries and services and the whole or part of other debtors, which are not financial assets, with the maturity of twelve months as of the balance sheet date;
- **short-term investments** (Figure 18.) are short-term assets acquired for the purpose of generating economic benefits owing to the increase in the value of these assets;
- **short-term inter-period settlements** (Figure 19.) are the prepayments made for the period up to twelve months as of the balance sheet date;.
- **short-term liabilities** (Figure 20.) (excluding special funds) are total trade creditors and the whole or part of other liabilities with the maturity of twelve months as of the balance sheet date;
- **long-term liabilities** (Figure 21.) are total liabilities with the maturity of more than twelve months as at the balance sheet date, apart from trade creditors.

Current assets in the studied period show a growth (Figure 16). Short term dues represent an increase in the analysed period (Figure 17.). Short-term investments are also growing in this period (Figure 18.). Short-term inter-period settlements depict an increasing tendency (Figure 19.). Short-term liabilities are increasing in the studied period (Figure 20.). Long-term liabilities are growing in the studied period (Figure 21.).

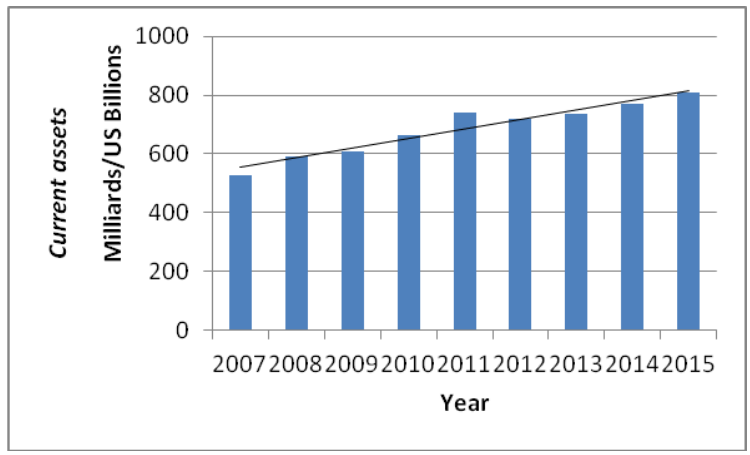

Figure 16. Current assets
Source: Own research based on Central Statistical Office (CSO) data

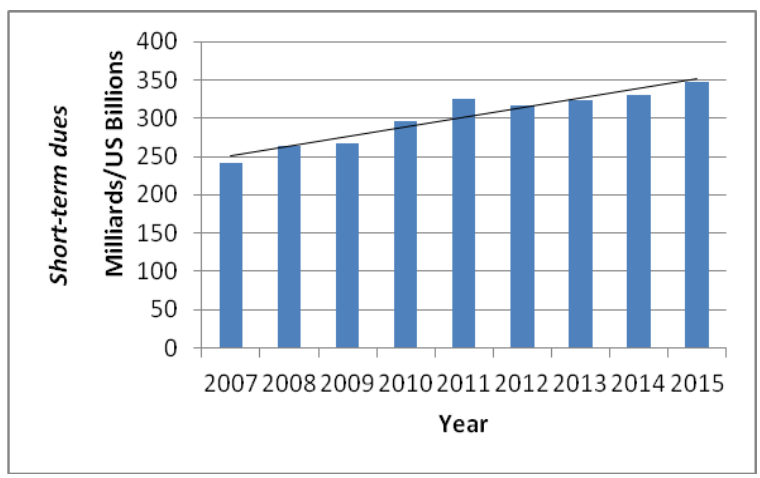

Figure 17. Short-term dues
Source: Own research based on Central Statistical Office (CSO) data

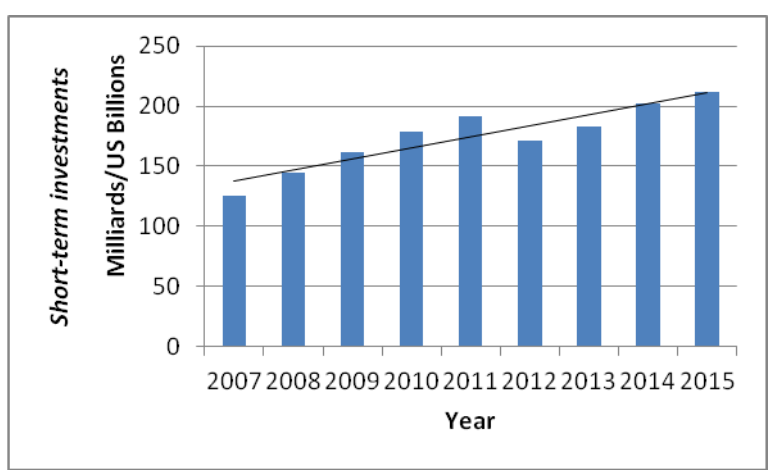

Figure 18. Short-term investments
Source: Own research based on Central Statistical Office (CSO) data

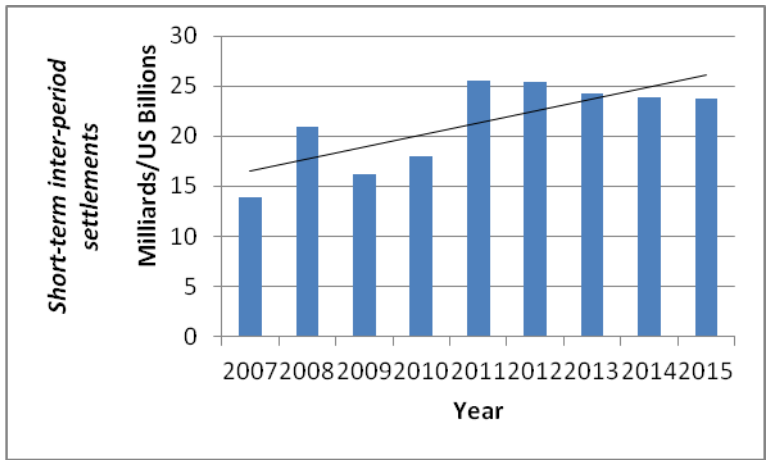

Figure 19. Short-term inter-period settlements
Source: Own research based on Central Statistical Office (CSO) data

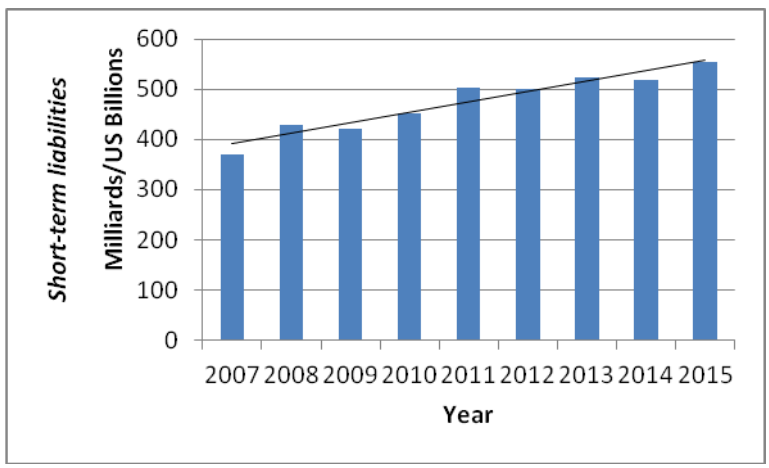

Figure 20. Short-term liabilities
Source: Own research based on Central Statistical Office (CSO) data

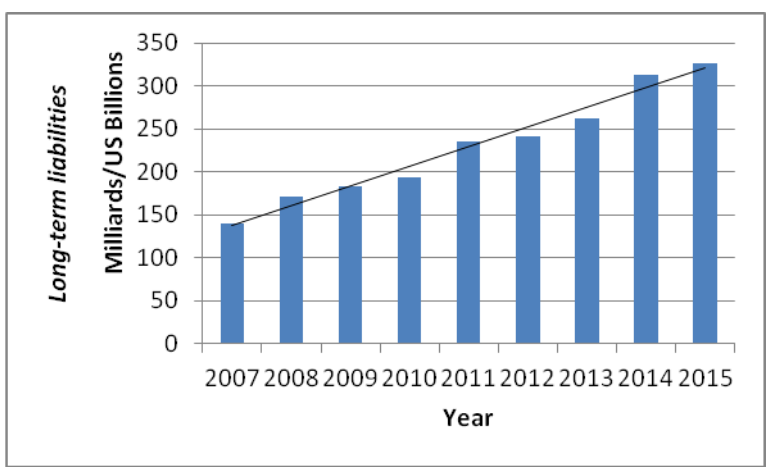

Figure 21. Long-term liabilities
Source: Own research based on Central Statistical Office (CSO) data

Table 1. Indices

Indices		2007	2008	2009	2010	2011	2012	2013	2014	2015
cost level indicator	%	93,9	95,8	95,0	94,7	94,6	95,8	95,5	95,7	95,7
sales profitability rate	%	5,6	5,0	5,0	5,2	5,3	4,3	4,3	4,5	4,5
profitability rate of gross turnover	%	6,1	4,2	5,0	5,3	5,4	4,2	4,5	4,3	4,3
profitability rate of net turnover	%	5,0	3,3	4,1	4,4	4,5	3,4	3,8	3,7	3,6
liquidity ratio of the first degree	%	33,7	33,6	38,5	39,7	38,1	34,1	35,0	38,9	38,3
liquidity ratio of the second degree	%	98,9	95,1	102,2	105,5	102,7	97,4	96,8	102,5	101,0

Source: Own research on the basis of CSO data

Indices (Walkowska, et al., 2016):

- **cost level indicator** constitutes the relation of the costs of obtaining revenues from total activity to revenues from total activity,
- **sales profitability rate** constitutes the relation of the result from the sale of products, goods and materials to net revenues from the sale of products, goods and materials,
- **profitability rate of gross turnover** constitutes the relation of gross financial result to revenues from total activity,
- **profitability rate of net turnover** constitutes the relation of net financial result to revenues from total activity,
- **liquidity ratio of the first degree** constitutes the relations of short-term investments to short-term liabilities (excluding special funds),
- **liquidity ratio of the second degree** constitutes the relations of short-term investments and short-term dues to short-term liabilities (excluding special funds).

The indicator of the level of costs shows a growing trend in the studied period. The rate of sales profitability is quite high. Fluctuations in these indicators in the consecutive years have different causes. They are represented by a few leading factors shaping profitability, which include: the level of revenues, the structure of revenues, costs of obtaining revenues, the cost of materials and energy as well as exterior services, the productivity of the assets and the ratio of assets to equity capital. The level of indicators in case of financial liquidity is commonly assessed as proper, securing the ability of payment of liabilities on time by an entity. Between 2007 and 2015 fluctuations of these indicators can be observed, yet this level still secures a high level of financial liquidity.

Conclusions

The article presents the basic problems of the financial situation of economic entities. The recent years (2007–2015) have brought changing trends of many financial figures. Periodic fluctuations do not change the favourable overall financial situation of entities. However, in conclusions, a few key issues should be pointed out:

- In the studied period revenues from total activity show a growing trend including: net revenues from sales of products, net revenues from sales of goods and materials, other operation revenues, financial revenues.
- Throughout the analysed period the costs of obtaining revenues depict a growth including: cost of products sold, goods and materials, other operating costs and financial costs.
- A growing trend in the studied period can be found in: the financial result on economic activity, gross financial result and net financial result.
- A decreasing trend can be observed in obligatory encumbrance of the financial result in the examined period.
- The financial situation of economic entities in the recent years can be perceived as rather positive (Gorynia & Kowalski, 2008). The entities increased their revenues.
- The level of profitability of the Polish sector of entities is quite high.
- The level of financial liquidity ratios is rather commonly assessed as proper.

References

Czubakowska, K., Gabrusewicz, W., Nowak, E. 2009. *Przychody - koszty - wynik finansowy przedsiębiorstwa.* Warszawa: Polskie Wydawnictwo Ekonomiczne. ISBN 978-83-208-1784-3.

Gorynia, M., Kowalski, T. 2008. Global and Domestic Conditions Affecting the Operation of Businesses in Poland. In: *Ekonomista*, ISSN 0013-3205, No. 1, pp. 51-76.

Iwin-Garzyńska, J. 2016. The Common Consolidated Corporate Tax Base (CCCTB) and Enterprise Finance. In: *Ekonomista*, ISSN 0013-3205, No. 4, pp. 583-606.

Kisielińska, J., Waszkowski, A. 2015. The Aggregate Rating of Enterprise Financial Condition Using the Polish Bankruptcy Models. In: *Ekonomista*, ISSN 0013-3205, No. 5, pp. 679-692.

Niemczyk, R. 2011. Koszty i ich wpływ na wynik finansowy w rachunkowości przedsiębiorstw przykłady wraz z rozwiązaniami. Warszawa: PREHOUSESS, ISBN 978-83-62452-19-4.

Rychłowska-Musiał E. 2015. Firm's Debt Priority Structure: Implications for the Enterprise Value. In: *Ekonomista*, ISSN 0013-3205, No. 2, pp. 203-224.

Światowiec-Szczepańska, J. 2012. Economic Rent and Firm's Competitive Advantage. In: *Ekonomista*, ISSN 0013-3205, No. 2, pp. 203-226.

Świderska, G. K., Więcław, W. 2012. *Sprawozdanie finansowe według polskich i międzynarodowych standardów rachunkowości.* Warszawa: Difin. ISBN 978-83-7641-634-2.

Walkowska, K., Pasiak, K., Bajorek, J., Pabijanek, E., Słomska, L., Motkowska-Wójcik, M. 2016. Financial results of economic entities. In: I-XII 2015, ISSN 1425-7882, Warszawa: Zakład Wydawnictw Statystycznych,

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Benefits and risks of shared services centers as part of corporate financial management

Martina Mateášová, Jitka Meluchová

Abstract

The shared services centers (SSC) are the entity responsible for the execution and the handling of specific operational tasks, such as accounting, human resources, payroll, IT, legal, compliance, purchasing, security. SSC are the result of globalization of economic activities within the company and are and often a spin-off of the corporate services to separate all operational type of tasks from the corporate headquarters, which has to focus on a leadership and corporate governance type of role. SSC are created for a variety of reasons, for example: to reduce costs of decentralization, to increase the quality and professionalism of support processes for the business, to increase cost flexibility for supporting services, to create a higher degree of strategic flexibility.

Keywords: shared service centers, corporate, financial management, accounting, risk management.
JEL Code: G32, M21, M41

1. Introduction

Globalization is a process in which whether man, trade, investment, information or market crosses the border of one state and gradually phase out the related restrictions. Modern trends in the context of globalization are also changes in ownership transactions. Their continued growth and needs are essential for maintaining competitiveness (Ondrušová & Parajka, 2014). Globalization thus does not only increase trade in goods, products and shifting manufacturing to lower-cost countries, but also brings a dynamic development of the sector of tradable services (Hanousek, Kočenda & Shamshur, 2014). In the second half of the eighties of last century multinational corporations began to establish first shared services centers in Europe. Shared Services Center carries out specific internal processes aimed at reducing costs (such as financial services and accounting, IT support services in human resources) to support key activities of parent companies and subsidiaries or affiliates. Shared services centers have undergone their natural evolution, and gradually become an important segment, which forms an indispensable part of their parent company (Balog, 2016). In its early days they were mainly devoted to finance and accounting, and performed only simple transactions, operational and routine activities without much value added (Tumpach & Baštincová, 2014). But they have gradually redesigned to intellectually demanding functions with higher demands for professional skills and experience. Comprehensive activities, processes and not least so called property in the standardization processes have been centralized in shared services centers.

Table 1. Development phases of shared services centers

Development phases	Indication	Description of the development stage
Phase 1	start-up	there are simple and mainly manually intensive processes with a low level of standardization moving into the shared centers – it is used especially by companies with a simple organizational structure
Phase 2	growth	shared services center has established standardized processes, they are gradually beginning to implement control processes and tools to support customer service
Phase 3	expansion	shared services center is in addition to internal and external clients, has automated business processes, established system of control processes, training and continuing education of employees, it has implemented a standard enterprise IT systems and operational risk management, addressing the effectiveness of setting processes
Phase 4 (second generation)	excellence center	shared services center is already acting as a sovereign organization that generates revenue, provides highly professional, technical and strategic services for internal and external customers

Source: Processed by methodology PricewaterhouseCoopers. Trend, 2016

Nowadays, there are already implemented purchases of inputs (materials, tools, and equipment), call centers, IT services, science and research through shared service centers. They have become centers of the second generation at the level of business partnership with parent concerns. Trading companies worldwide invest a lot of effort to increase efficiency in particular, their financial departments (such as accounting, treasury department). Transfer of processes outside their home country helps multinational corporations to increase their competitiveness, especially in cost savings and the effectiveness of each activity. Among the attractive "off-shore" locations include India, Philippines, China, Costa Rica, Brazil, Mexico and others. In Europe the most attractive countries include Ireland, Poland, the Czech Republic but also Slovakia. On the other hand, governments of the countries have started to develop a legislative pressure on multinational corporations and started to increasingly mention the question of "returning home" so called on-shoring. The reason is that globalization tendencies of these companies beyond one country are getting out rigorous regulation and control of the party by the state itself. On-shoring starts to actively support the US and Canada through various tax and subsidy incentives because in many cases off-shoring and outsourcing has not met the expectations of multinational corporations or their significance in terms of provided benefits and work efficiency in the last ten years has changed (Dvořáček & Tyl, 2010).

2. Shared services centers in Slovakia

The first shared services centers of multinational corporations in Slovakia were established 15 years ago, when these multinational corporations started to move their "back-office" activities of their Western Central to Eastern Europe. They are mainly subsidiaries of multinational corporations; whose pressure on profitability and the need to increase the efficiency of processes have led to centralization of their activities to locations outside their headquarters and production base. Investors choose Slovakia especially for low wage costs, educated, flexible and linguistically equipped workforce with good work habits, the location and level of infrastructure development and not least for the stable political environment.

In Slovakia, there are already own operational centers, as transnational corporations such as IBM, Dell, Hewlett-Packard, Accenture, Lenovo, AT & T, NESS and others. There are two categories of business service providers: shared services centers and business process outsourcing, where some processes are fully committed to third parties (specialized supplier). Business Service Center Forum brings together companies that operate Shared Services Centers in Slovakia or provide external services (outsourcing). Most of these shared service centers are located mainly in Bratislava and Košice, Figure 1.

Figure 1. Shared services centers in Slovakia
Source: Survey Business Service Center Forum, 2014

According to the analysis (Business Service Center Forum, 2014) in Slovakia, there are in most cases shared advanced centers that provide value-added services and provide complex processes for its plants operating in the wider regional or global space. The most common functions according to the survey (PwC, 2016) have been the services in the finance and human resources that have been concentrated within shared services centers. In 2014, Business Service Center Forum conducted research services, which examined what services are most often provided by the centers. In particular: Financial Services and Accounting (89 %), IT services (68%), customer service (63%), human resources (52 %), sale and orders processing (47 %), purchase (42 %) and others (10 %). In Slovakia, there are mostly shared services centers in a third development phase of "expansion" with a high ambition to move into the fourth phase of „excellence“. At this phase, shared services centers should ensure the provision of services with the highest added value. The centers currently provide their clients with increasingly sophisticated services and therefore demands on staff working in the centers are growing, not only for their linguistic skills but also soft skills such as communication, teamwork and presentation. As technology evolves, several activities get automated, thereby reducing the share of manual work and also in the activities carried out in the shared services centers. A number of activities are carried out routinely and regularly and therefore they are part of the so called computerized accounting. All events in the company are ultimately reflected in the accounting operations and transactions. Reality captured in the accounting transactions are subsequently recognized in the financial statements that the company presents itself mainly in the external environment (i.e. user). In today's globalized world, quality information provided at the time, are becoming the most important source for sound decision-making and strategic direction of the company. Bookkeeping is an important part of the information system and quality information is currently the largest source of wealth. The role of accounting is not only to provide information that a transaction has been conducted, alternatively, what was its impact on the financial position and economic results of the company but also prepare information that enables company management to take decisions for the future and at the same time re-assess the efficiency with which those decisions have been implemented. So that accounting can meet all the requirements that are placed to it, it is necessary to properly set "debug" accounting information system and adapt to the needs of a particular company, so that these data meet the required quality characteristics (to be understandable, relevant, reliable, comparable and provided in time). Accounting thus provides various types of outputs in the form of numerical reports, analysis and reporting for both internal and external needs, for a wide range of users and serve different purposes. Truthfulness of the information forms the basis of financial accounting (Meluchová & Mateášová, 2015).

By the effect of globalization there is a deepening of international economic relations and the growing need for comparability of economic information in the form of financial statements. The financial statement as a major quantifiable output from the accounts of the company is an important source of information to establish economic situation and financial health, in order to ensure its future growth. The financial statements

are the basis for financial analysis, which aims to provide owners (investors) and management with relevant information for strategic planning, decision making and financial management. Requirements of investors focus on the risks associated with their current or future investment in the company and the return on the investments. Investors expect from financial statements their quality standards, i.e. it contains significant, reliable and complete information that is useful for their decision making and thereby gives a true and fair view of the company. Management responsibility is to ensure the fulfillment of this objective, financial statements, fulfillment of basic assumptions valid in accounting and compliance with generally accepted accounting principles (Šlosárová & Šlosár, 2005). In our opinion, there are three basic elements that affect the quality of information presented in the financial statements, namely people (labor), tools (ensuring the automation and enterprise software) and processes (i.e. changes that should reduce variability, automate and modernize each operation). By automating processes, representing the carrying out routine operations in the form of accounting operations, there is the fact that the individual routine tasks are programmed and thus are carried out with minimal human intervention (e.g. accountant, biller). Many companies through shared services centers have standardized accounting and financial processes in the single operational indicators, data, reports the interpretation of results, uniform chart of accounts, a unified set of systems for accounting, in order to process huge amounts of data and provide relevant information and subsequently also present them in the financial statements of the company.

3. Benefits and risks of financial services outsourcing

Shared services centers provide their activities mostly founding so called parent company and other entities within the organizational structure of multinational corporations. These services are usually provided across regions such as Europe, Middle East and Africa, Asia, Pacific and the regions of North and Latin America. The very structure and organization of services and processes depends on the needs of the parent company and the market demand in the country. For example, there is an international trading company XY, which actually operates in 10 countries around the world. In each of them it has its branch, which among other things also employs people in charge of accounting. Some branches are so small that they only employ accountant at half-time, what may cause considerable problems with substitutability of its employee. Despite the fact that the parent company is trying to establish uniform rules of accounting for all branches, each branch can be adapted to them with respect to the local (national) legislation. So, there are branches where rules are respected but also branches where the rules complied only in part, and vice versa affiliates that you introduce even stricter rules than the one requested by the parent company. This creates a broad spectrum of risks arising from compliance with global versus local rules. If the parent company decides to create a shared services center and therefore share accounting as one of the main processes, it will mean that the accounting for all branches will be centralized in one place in the selected country. This step can bring a number of benefits of the parent company but also a number of disadvantages in relation to the provision of quality information from all branches, their timeliness, accessibility, clarity and completeness.

Shared services centers, based on the so called SLA (Service Level Agreement), guarantee services in the required quality, scope, based on the specific needs and requirements of the parent company. On the other hand, the parent company can also meet with a number of problems especially if the SLA is not sufficiently implemented in practice. The main reason is the lack of setting core values (e.g. establishment of the order to each invoice or timely payment of invoices), the lack of defined processes (e.g. regular cleaning of the balance of advance payments) and the lack of involvement of human resources (e.g. unskilled labor for certain professions). This increases some of the major types of business risks:

- strategic risk (i.e. inability to respond flexibly to market requirements, the high competition in the field of business, mergers, acquisitions),
- operational risk (e.g. the quality of service, information technology, changes in legislation, natural disasters),
- financial risk (e.g. liquidity, profitability, credit, cost) and
- non-compliance risk (e.g. different fiscal policy and financial legislation). The result of non-compliance risk can be a financial transaction (conducted in any country under the same rules and the same way), but without taking into account local regulatory requirements, as it is processed in standardized manner, according to the rules of the concern.

These risks affect the quality and comparability of the information presented in the financial statements. Eliminating and managing those risks is a complex process that requires high-quality and timely information, sophisticated methods and techniques, as individual risks are closely intertwined.

The advantage of shared services centers is primarily a saving of personnel costs, including job costs and necessary overhead costs. Cutting costs is considered the most sophisticated advantage. Another advantage is that shared services center is easier to solve the problem of representation and training of employees. Productivity of labor and specialization of activities in shared services centers is high; also flexibility in the system and automatic setup of reporting is the usual standard. The advantage is also uniform, enterprise-wide system platform i.e. the same ERP system (Enterprise Resource Planning) and optimization of processes that can be provided with fewer employees in a predefined standard quality. Dividing the process into smaller units can achieve greater automation, timely processing and in particular the elimination of human errors. Since the entire process is centralized, shared services center provides the same quality of services supplied to all branches without limitation of localization. Another advantage is also easier control and setting the process. In the absence of broader responsibility for the whole process, it is possible to employ a less skilled workforce that is able to learn and serve their narrowly defined scope of work (routine) due to standardized processes and outputs.

On the other hand, as the gaps of shared services centers, we can identify reduced qualification requirements for personnel as it is not necessary to master accounting and tax issues because they only routinely select an item from a preset systems and databases using manual of individual activities. This increases the risk of errors of assessment mainly tax and non-tax expenses for the determination of income, which may have the effect of reducing the quality of information presented in the financial statements and business tax return. Reduced qualification requirements of employees (e.g. accountant) can be negatively reflected in his inability to flexibly and competently identify and then deal with unusual situations that are found in every business. Risk fulfillment can mean significant financial losses for the parent company if the employee is not able to properly assess and deal with the situation in all mutual relations. Another disadvantage is that standardized processes have been defined primarily for the needs of multinational corporations (parent company). Standardization itself is a narrowing of the space for flexibility and ad hoc requirements. The absence of comprehensive knowledge and skills, due to the narrow specialization, calls for the compensation of so called coordinators with a broader "end to end" knowledge and can successfully response for the quality of the output and the satisfaction of a global company (Bódi, 2014). From individual branches it requires increased discipline and rigor in the supply of inputs because inaccuracies or incomplete entries may not be properly recognized and processed and thus information presented in the financial statements of the parent company may be distorted. Finally, the numbers of processes centralized into shared services centers have the interaction with the external world, and therefore communication is necessary in a non local language, thereby increasing the incidence of some of these commercial risks.

4. Conclusion

Current development and globalization trends in the economy and finance have the effect of increasing the level of risk that affect the internal and external environment of the company. A degree of risk also arises in shared services centers, which are particularly established by transnational corporations. If the multinational corporation decides to establish a shared services center, and thus share accounting as one of the main processes, it must realize that this step may bring its affiliates many advantages but also many disadvantages including in relation to the provision of quality information, timeliness, accessibility, clarity and completeness. National corporation and its subsidiaries must therefore learn to identify and manage the risks that affect the prosperity and effectiveness of all its activities. Instrument to counter this trend is the implementation of effective risk management, internal control system, and internal audit to achieve integrated management of business risks. In order for this strategy to be successful it is necessary to build quality information entity system, established control mechanisms using modern IT technology.

Analysis of the benefits and risk has been carried out on a particular multinational company XY (service recipient), where the area of commitments has been investigated, namely trade payables. XY multinational company performs this liability system throughout consortium in the accounting software SAP, which is the name of ERP system.

Table 2. Accounts payable

Receiving, scanning, approval and posting invoices				
Type of service	Responsibilities of shared services centers (services supplier)	Date	Responsibilities of customer (services receiver)	Date
Purchase and receiving inputs into store	- in standardized manner, no action is required when the need arises for consultation, the service provider is ready to cooperate	continuously	- create an application form for purchase - create an order in SAP system and send it to the supplier - bill of the material entry, goods for storage after delivery	2 days
Benefits: uniform processing across the entire group, establishment of uniform material items in the SAP system, an overview of the suppliers ability to rely on multinational suppliers for the purchase of the same items throughout the entire group and thus be able to influence (optimize) the price of inputs, simplified control of the entire process of purchasing a single setting process control, unified reporting and process efficiency. **Risks:** different standards of living in the country has a local effect on the price of inputs, i.e. countries with lower living standards (Branch Office) can have lower prices, as the country selected for the group could purchase a uniform for all branches. Redefining risk of incorrect entries in ERP system, misclassification for the needs of local accounting and taxes (check of the factual and formal correctness of documents).				
Receipt of invoices for the purchase of inputs	- incoming invoices for the service provider scanned and placed into SAP - service provider requires absence of invoices from suppliers of inputs	1 day	- it does not require any interaction	-
Benefits: unless the invoice from the vendor (delivery subject, quantity, unit price) equals orders submitted and approved in SAP (subject to order, quantity, unit price), the invoice will be billed automatically to the order without further substantive approval, as substantive approval is already reported in SAP when the order is created. Automatically reckoning eliminates operational risk, risk of human error and accelerates the process of circulation of bills at the branch XY. **Risks:** invoices received from suppliers are not sent to the registered office of the branch, but the mailing address (place) where all received invoices for all branches of the group are scanned from one place into SAP system. All invoices are archived in electronic form outside the branch. The risk for the office is that archiving documents may not be consistent with archiving policy of the concern and in accordance with the legislation in force in the country of the branch. Further, the risk of incomplete documents (invoices loss) increases and this is associated with the risk of late payment by the supplier of inputs. This risk is linked with the risk of incorrect recognition of the needs of monthly accounts, paying taxes, and so on. Finally, the risk of awards increases, i.e. in relation to the correct calculation of the cost of entry.				
Treatment of invoices for the input purchase	- automatically pair and charge invoices with purchase orders (invoice = order) - before posting send invoices without a purchase order for approval - before posting send invoices for approval (invoice is not equal to order)	2 days 1 day after identifying an approver	- deal with exceptions - approve invoices without purchase orders - approve invoices with order (invoice is not equal to order)	5 days 5 days
Benefits: uniform chart of accounts, joint accounts and billing setting rules, online automatic posting invoices. **Risks:** billing invoices without supporting documentation, failure to assemble documents, information on the carrying case are archived in different places, treatment of invoices without correctly identifying ancillary costs that increase cost and thus false accounting and tax assessment. Another risk is that often in practice contract conditions are subsequently changed (e.g. place of delivery, extension of the scope of delivery of the services provided, etc.) which is poorly recorded and when automatically posting the invoice it may lead to erroneous assessment of the accounting and tax point of view of the supply of inputs. Reduced eligibility requirements for an employee (accountant) can be negatively reflected in his inability to flexibly and competently identify and then deal with unusual situations that occur in every business, and thus optimally assess the situation in all its complexity.				
Payment processing - invoices payment	- make a list of payments - make payments	1 x weekly (Wednesday)	- it does not require any interaction	-
Benefits: unified system of automatic setup of invoices payment in specific terms, elimination of operational risk and human error. **Risks:** invoices payment is not in accordance with the payment terms concluded in the contract (orders) which has a negative impact on cash flow. Another risk is the failure to consider restraint already in the treatment of invoices, which is initially stipulated in the contract as it is not always indicated on the invoice (this increases the risk of transposition entry with unfinished and the purchaser position is getting more difficult to claim the goods supplied).				
Other activities	- billing the formation of reserves and unbilled supplies and their reversals - perform reconciliation of accounts, and the book inventory. - responding to inquiries - store and archive records	1x monthly according to the schedule of financial statements 1x yearly 1 day 1x yearly	- continuous checking and cleaning acquisition accounts, balance of payables and prepayments	1x monthly according to the schedule of financial statements
Benefits: automatic processing of single output, ensuring ongoing documentation to the financial statements. **Risks:** failure to identify all items on the formation of reserves, incomplete documents for the proper fulfillment of tax obligations, recordings storage and archiving (not specified how, where, what a period).				

Source: Own survey

References

Balog, M. 2016. Faktory rozvoja klastrových organizácií v Slovenskej republike. In*: Ekonomický časopis*, ISSN 0013-3035, Vol. 64, No. 2, pp. 149-168.

Bódi M. 2014. Prínosy a úskalia centralizácie podporných činností vo firmách. In: *Finančný manažér*, ISSN 1335-5813, Vol. XIV, No. 3, pp. 10-14.

Business Service Center Forum. 2014. [on-line] http://www.google.de/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0ahUKEwjy6pL6tMTOAhUGvRQKHb_HBRIQFggfMAA&url=http%3A%2F%2Fwww.amcham.sk%2Fdownload.pl%3Fhash%3DV6K5IDIhSfeI9ZR5857LDwEaiRMT32kt%26ID%3D4132&usg=AFQjCNGDbQPfY9BWY1e3CPXxfHn1yAjKGQ.

Dvořáček,J.,Tyll, L. 2010. *Outsourcing a offshoring podnikatelských činností*. Praha: C. H. Beck. ISBN 978-80-7400-010-2.

Hanousek, J., Kočenda, E, Shamshur, A. 2014. Efektivita evropských firem. In: *Politická ekonomie*, ISSN 2336-8225, Vol. 62, No. 3.

Meluchová, J., Mateášová, M. 2015. Účtovníctvo a účtovnícka profesia v 21. storočí. In: *AIESA, Zborník: 16. medzinárodná vedecká konferencia*, Bratislava, pp. 285-291. ISBN 978-80-225-4151-0.

Ondrušová, L., Parajka, B. 2014. The revaluation of assets and liabilities at fair value in merger. In: *7th International Scientific Conference on Managing and Modelling of Financial Risks Location*: Ostrava: VŠB Ostrava, Series PTS I-III, pp. 577-581.

PwC. 2016. *Trend*. [on-line] http://www.etrend.sk/trend-archiv/rok-2016/cislo-16/slovenske-servisne-centra-su-na-ceste-do-prvej-ligy.html.

Šlosárová, A, Šlosár, R. 2005. Fundamental aspects of the accounting theory within the context of market economy. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 53, No. 2, pp. 184-197.

Tumpach, M., Baštincová, A. 2014. Cost and Benefit of Accounting Information in Slovakia: Do We Need to Redefine Relevance? In: *11th International Scientific Conference on European Financial Systems 2014*, Lednice, pp. 655-661.

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Business performance measuring by selected indicators

Bohuslava Mihalčová, Peter Gallo

Abstract

Corporate performance measurement using generally accepted indicators is a key source of information on corporate efficiency and future prospects. This information provides a variety of financial and non-financial indicators, which is tracking the company management a clear signal amendments or vice versa, keeping the measures in specific areas of business and in any industry. Business performance is necessary to plan in the long term. The aim of the paper, based on theoretical assumptions and selection methods is to select appropriate indicators for measuring performance and apply them to selected enterprises.

Keywords: financial and non-financial indicators, performance, company.
JEL Code: L25, M21

1. Introduction

Since performance evaluation usually affects employee compensation and rewards (Kaplan & Atkinson, 1998; Horngren, et al., 2002), employees are likely to be concerned with the performance evaluation process including the types of measures used to evaluate their performance.

The evaluation of performance of the enterprises is most often in three basic ways (Kislingerová, 2010) at present:

- Such as such as ratios of profitability, activity, liquidity, capital structure, and market value;
- Evaluation of a set of indicators that are arranged in a pyramidal scanning, in which the key top is highly synthetic indicator, such as return on assets - ROA and return on equity – ROE;
- Evaluation using a single aggregate indicator that is a synthesis of partial indicators and other statistical data into one unit, which is one of the ex-ante financial models (Altman Z -score, Taffler model, credit index and models Inka and Ivan Neumaier IN99 01, 05);
- These models are an excellent tool in terms of early warning for the future.

Among the drawbacks of these conventional indicators, however, is the fact that they ignore the time value of money, risk and impact of inflation, the market environment, even as requirements for the future development of the company. Therefore complements the recent indicators, for example indicator EVA (Economic Value Added), INEVA (in Economic Value Added), MVA (Market Value Added), RONA (Return on Net Assets), WACC (Weighted Average Cost of Capital), SVA (Share Value Added), AEVA (Adjusted Economic Value Added) or indicators based on the FCF (Free Cash Flow), CVA (Cash Value Added) and the others.

Some phenomena affecting the overall efficiency cannot be expressed by financial indicators. They cannot be recorded into accounting standards, as being unable of reflecting non-financial aspects of company reality. These are expressed in details of company goals and company strategies. Their role is to protect the company from the one-sided risk of financial indicators, which is to mean means that they sometimes are more suitable than those financial indicators (Jurkovič & Sosedová, 2011). Similar statements result from the research conducted by Ittner and Larcker (2000), who maintain that their survey

of 148 US financial services found significant "measurement gaps" for many non-financial measures. For example, 72% of companies said customer-related performance was an extremely important driver of long-term success, against 31% who chose short-term financial performance. However, the quality of short-term financial measurement is considerably better than measurement of customer satisfaction. Similar disparities exist for non-financial measures related to employee performance, operational results, quality, alliances, supplier relations, innovation, community and the environment. More importantly, stock market and long-term accounting performance are both higher when these measurement gaps are smaller.

The aim of the contribution is to evaluate the effectiveness of the various factors that affect the performance of the selected company and suggest their optimization.

2. Literature review

According to Šulák and Vacík (2003), the term performance of the company means a property of company to make the most of the resources invested in the business, long-term achievement of prosperity, while maintaining a stable market share and loyal customers. Powerful business is such a company where managers can anticipate customer wishes and consequently their best to satisfy with quality products at reasonable prices. No less significant factor affecting the performance of the company is to create competitive advantages. Thanks to them, the company is able to ensure financial stability and maintain market share.

Business performance is influenced by the reconciliation of operational and strategic objectives of the business itself. This is reflected also in the company's ability to gather available information on the status of the company for top managers; via those they are able to make better decisions about enterprise (Gates, 1999).

One of the definitions adopted by the European Foundation for Quality Management is that the performance is understood as a measure of goal achievement by organizations and processes in them, groups and individuals. Currently, is recommended prioritize access to the motto "measure is governed."

In analysing the economic performance of the company, it is important to draw on different sources of information, the processing of which will give us a comprehensive view of the current situation of the company in the area. Different approaches are used depending on whether the information is collected by an internal body which is not a problem to obtain by them, or whether it is an external entity.

To achieve quality results are important information about the following subjects:

- Legal information about the company - subject of business, legal form, capital,
- Marketing area - information on the enterprise products and services offered, plans for the future, market share,
- Information on the processes and the technologies used by the undertaking,
- Accounting - financial statements, consolidated financial statements,
- The organizational structure and human resources.

Performance measurement system is perceived primarily as a set of indicators used to quantify the business efficiency and effectiveness of its activities. It can be understood as a process of reporting that gives feedback to employees on the results of their activities. In strategic terms, we identify two different aspects of corporate performance measurement system. On the one hand it reflects the procedures used in the selection of appropriate performance benchmarks within the strategy of the organization. On the other hand, this system provides the information necessary to challenge the relevance and validity of the strategy that is applied in the organization (Ittner, 2003).

Among the experts represented the university sector or consultancies, are currently being heated discussions about the most appropriate concepts of management and performance measurement, because there are many systems of its measurement (see introduction chapter).

Worldwide the most widespread system of numbering to determine the relationship between the financial and accounting information are financial indicators. However, we draw attention to the non-financial performance measurement systems and their application in the business sector. Financial indicators have certain limitations, so they cannot express certain phenomena. The role of non-financial indicators is some protection business before the narrow perspective of financial indicators, and of the consequent risk. To build a successful business performance measurement system is essential and appropriate to link a combination of both indicators (Jurkovič, 2011).

Within the creation of corporate strategies have big part systems that measure performance. Current research shows that managers are dissatisfied with the complexity of the measurement methods used in their businesses, which include mainly financial calculations with less emphasis on value creation. Because of this, more and more oriented towards non-financial indicators that are value-such as innovation, satisfaction of employees and customers, quality and other (Varcholová, 2007).

Non-financial indicators are closing gaps financial ratios and rounding off the overall picture of corporate performance. Provide managers and employees with the information necessary to achieve the strategic goals of the company. However, only few companies are aware of these benefits. They do not see a clear link between improvements in non-financial activities and financial results, such as earnings and share price. These companies then end up with the wrong location of the investment and implementation of the strategy (Ittner & Larcker, 2003). Advantages of the non-financial calculations lie on the fact that they can be applied in the long-term objectives of the company, while financial calculations are using for evaluation of the short term. A reaction of non-financial indicators on changes in the indoor environment is much more sensitive. Based on these, we can also determine the amount of intangible assets to total enterprise results.

According to several surveys, the most popular non-financial instruments include in particular:

- Customer Relationship Management (CRM),
- Benchmarking,
- The survey employee engagement,
- Strategic planning,
- Outsourcing,
- Balanced Scorecard,
- The mission and vision of the company,
- Supply chain management,
- Change Management,
- Customer segmentation.

As by Hvastová (2015) there is a number of factors related to the performance of the business and influencing it in various ways, such as amount of financing, use of technology, age of business, operating location, business structure, or environmental factors as well as moral and ethical principles. Similarly Hvastová (2014) says that business performance is related to various factors which could be divided into external factors (such as state of economics) and internal factors such as innovative activities, the quality of production and so on. The communication process inside the business is not less important. A well-functioning communication inside the business could become a substantial motivational factor for employees as well as an important factor for the well-being of the organization.

3. Object, body examination and Methodology

The object of the study is to measure business performance by identifying appropriate indicators. The subject has been studied unnamed private company ALFA - a software company with two subsidiaries in Slovakia, Bratislava and Kosice. Company's main products include antivirus software that conveys to users at home and abroad. Employing between 250-499 placed the company for medium-sized enterprises.

In the process of making paper we used several methods, namely, analysis, synthesis, induction, deduction, comparison of.

4. The results and discusion

In vertical and horizontal analysis, we monitored the structure and evolution of property and sources of coverage of the holdings (Fabianová, 2016). The share of non-current assets to total assets during the period amounted to low levels was highest in 2012 and to 9.49%. We point out that many of the graphics processing commented indicators absent, according to the limited extent of the contribution. Current assets in the total assets thus contributed much more significantly, its share is held at approximately the same level of between 88% and 92%. From this ratio it showed that the company has sufficient flexibility.

The highest part of the company's revenues consisted of revenue from sales of own products and services. The most significant increase in sales, up by 62.17%, we identified from 2011 to 2012. The impact it could have on the fact that the company in late 2011transferred management of the region's Europe - Middle East -

Africa to headquarters in Bratislava. In the region also entered into a distribution and software contract that created a new financial structure and business model.

The company revenues are closely related to the cost items of business where the highest share of the cost to production consumption. We found that in the company rose personnel costs, hence labour costs. We assume that the cause was appropriate social policy of the company. The increase in wage costs is due to the increases in the number of employees. Payroll costs in 2010 increased compared to 2011 by almost 36%.

Height profit after tax during all the years developed variably in the last year, the value of profits 68,596,967 euros. The highest increase was recorded from 2011 to 2012, when profit rose by more than 10.5 million euros, which could cause changes to the management of the company to 1.1.2011 and therefore a new approach to management. However, in subsequent years the enterprise value was acceptable.

The values of liquidity ratios in individual years ranged in recommended zone with a minimum of deviations which do not indicate a risk we have seen only in some cases. This means that the company was in the years 2010-2014 unable to pay its obligations in the required amount and time.

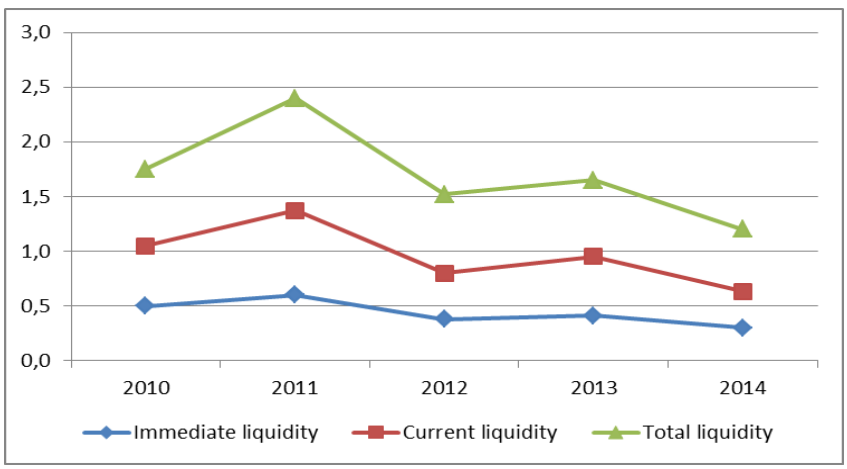

Figure 1. Evolution of liquidity ratios
Source: own processing

Development of profitability indicators exhibited throughout the period for the enterprise positive trend. Return on capital values indicated a high production potential of the company. The highest level reached in 2012 and to 88.38% (sees Figure 2).

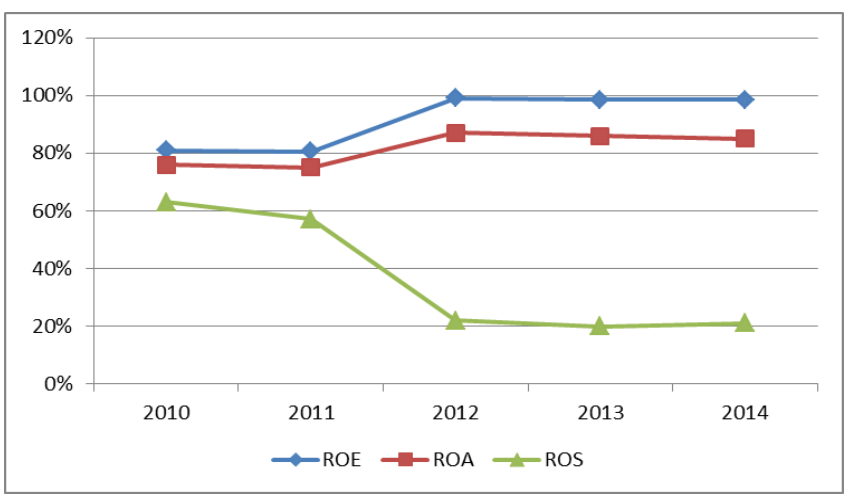

Figure 2. Development of profitability indicators
Source: own processing

Debt ratios we have seen the extent of the use of external resources in financing of the holdings. The total debt acquired low. Undertaking has the option of financing through credit. Coefficient of self-financing was evidence of stable financial situation. Value of indicator insolvency demonstrated that the company is able to pay its debts on time (see Table 1.)). Problem area, however, repayment defaults by customers on time.

Table 1. The development of debt indicators

Debt ratios	**2010**	**2011**	**2012**	**2013**	**2014**
Total indebtedness	6,76%	6,88%	9,97%	11,42%	12,04%
Coefficient of self-financing	93,18%	93,06%	90,01%	88,58%	87,77%
Financial lever	1,073	1,075	1,111	1,129	1,139
Insolvency	20%	17%	19%	17%	21%

Source: own processing

Development of indicators of activity shows the length of the turnover of each asset. Inventory turnover was during the period of less than one day, the first clue that the company planned to purchase and material consumption effectively. Turnover time claims expressed by the discipline of customers. In the last 3 years have been consistently values and average duration cashed receivables was 40 days. The average value of the repayment commitments stood at 12 days. Value assets turnover indicator signalled that by 2013, the company used effectively. Recently analysed 2014 was a decrease in turnover of total assets to 4.10, which could be due to investments in fixed assets and lower profits for the current year (see Table 2.).

Table 2. Development Activity indicators

Activity indicators	**2010**	**2011**	**2012**	**2013**	**2014**
Turnover period of stocks	0,08	0,17	0,13	0,15	0,14
Turnover period of receivables	101,01	92,83	42,86	34,78	40,38
Term repayment obligations	21,03	14,88	9,02	5,82	8,36
Total assets turnover	309,41	262,03	100,46	81,72	88,94
Asset turnover	1,18	1,39	3,63	4,47	4,10

Source: own processing

When modern financial analysis indicator EVA, we found that during the period under review a positive value for the enterprise. We create added value and profitable to invest (see Figure 3.).

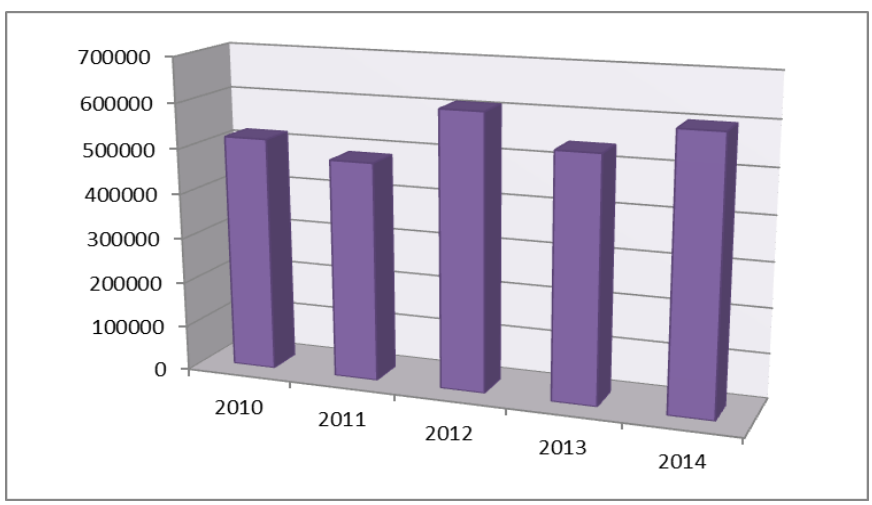

Figure 3. Development of EVA indicator
Source: own processing

When analysing the performance of the company we were interested in the implementation of non-financial indicators, where we survey, which provided primary data sources found that an entity applies strategic planning, motivation and commitment of the employees and benchmarking. An interesting fact for us was finding that, despite the excellent results achieved by the company, and is not implemented in the true sense of the BSC method (Balanced Scorecard). We therefore recommend the company clearly is a familiar

method, not only with the two perspectives (financial and staff), as has undoubtedly many advantages. The Balanced Scorecard captures the critical values of performance. The Balanced Scorecard enables financial and nonfinancial measures to be part of the information system for employees at all levels of the organization. Front line employees can understand the financial consequences from their decision and actions, and senior executives can understand the drivers of long-term financial success. Kaplan and Norton (1996) argue that multiple measures might function as the cornerstone for future success. Hoque et al. (2001) contend that the adoption of multiple measurement system is capable of providing signals and in motivating breakthrough improvements in critical activities.

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References

Gates, S. 1999. Aligning Strategic Performance Measures and Results. In: *The Conference Board*, New York, Vol. 8, No. 10-11, p. 40.

Gates, B. 1999. Business @ the Speed of Thought. *Business Strategy Review.* London: Business School.

Fabianová, K. 2016. Skúmanie finančných a nefinančných faktorov ovplyvňujúcich výkonnosť podniku. Diplomová práca. EU Brtislava, PhF Košice.

Hoqu, Z., Mia, L., Alam, M. 2001. Market competition, computer-aided manufacturing and use of multiple performance measures: an empirical study. In: *British Accounting Review*, No. 33, 23–45.

Hvastová, J. 2014. Komunikácia a finančná výkonnosť podniku. *Financie, účtovníctvo, dane 2014 so zameraním na súčasné problémy.* Nekonferenčný recenzovaný vedecký zborník, Bratislava: Ekonóm, pp. 96-108, CD-ROM. ISBN 978-80-225-3855-8.

Hvastová, J. 2015. Výkonnosť podniku v etickej perspektíve. *Financie, účtovníctvo dane 2015 so zameraním na súčasné problémy.* Recenzovaný zborník vedeckých prác. Košice: Podnikovohospodárska fakulta EU, pp. 52-60, CD-ROM. ISBN 978-80-225-4176-3.

Ittner, Ch. D., Larcker, D. F. 2013. Coming Up Short on Nonfinancial Performance Measurement. [on-line] https://hbr.org/2003/11/coming-up-short-on-nonfinancial-performance-measurement.

Ittner, Ch. D., Larcker, F. L. 2003. Coming Up Short on Nonfinancial Performance Measurement. In: *Harvard Business Review*, ISSN 1037–8500, Vol. 81, pp. 88-95.

Ittner, Ch. D., Larcker, D. F. 2000. Non-financial Performance Measures: What Works and What Doesn't. [on-line] http://knowledge.wharton.upenn.edu/article/non-financial-performance-measures-what-works-and-what-doesnt/.

Jurkovič, M., Sosedová, J. 2011. Alternatívy vnímania ekonomickej výkonnosti plavebných podnikov na Slovensku. [on-line] http://www.cutn.sk/Library/proceedings/mch_2011/editovane_prispevky/Jurkovi%C4%8DSosedov%C3%A1-218-227.pdf.

Horngren, C. T., Foster, G., Datar, S. M. 2002. *Cost Accounting: A Managerial Emphasis*. Prentice-Hall, USA.

Kaplan, R. S., Atkinson, A. A. 1998. *Advanced Management Accounting*. Prentice-Hall, USA.

Kaplan, R. S., Norton, D. P. 1996. Using the balanced scorecard as a strategic management systems. In: *Harvard Business Review*, No. 1-2, pp. 75–85.

Kislingerová, E., et al. 2010. *Manažerské finance*. Praha: C. H. Beck. ISBN 978-80-7400-194-9.

Šulák, M., Vacík, E. 2003. *Měření výkonnosti firem*. Plzeň: Západočeská univerzita. ISBN 80-7043-258-6.

Varcholová, T. a kol. 2007. *Meranie výkonnosti podnikov*. Bratislava: Ekonóm. ISBN 978-80-225-2421-6.

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Are business environment indices drivers of occurrence of business failures?

Matúš Mihalovič, Michal Stričík, Juraj Bencuľák

Abstract

The presented paper is concerned with the mutual relationship between the quality of business environment, represented by Global Competitiveness index (GCI) an Doing Business (DB) index rankings and occurrence of bankruptcies in the condition of Slovak republic economy. The purpose of paper is two-fold. Firstly, it aims to be description of examined relationships. Secondly, the attention is focused on the modelling such a relationship. From the methodological point of view, there was used cross-correlation product function, which is centered on the relationship between the mentioned variables with some time lags. Obtained results outlines the situation, in which GCI index is no table to in advance predict the increasing number of bankruptcies fillings in the following years. On the other hand, DB index exhibits the ability to prognosis the impeding increasing financial distress of firms ahead prior two years of its launch.

Keywords: bankruptcy, business environment, Doing Business, competitiveness.
JEL Code: E27, G17, G32, G33

1. Introduction

The enterprise presents a set of both tangible and intangible components of business acting as vivid system. Over the period that system have been evolving and changing. A life cycle of business operation includes also some downturn or depression as one out of the business life-cycle stages which enterprise might experience. A downturn is an indicator of necessary business transformation whose proper mastery may stimulate a further enterprise development in a positive direction. It is the subject of speculation discussing on the state of a global economic crisis since across a wideworld economic spectrum, there are various crisis concepts. However, we are guaranteed that the global financial crisis consequences have been persisting since 2008. Thus, markets are still concern about the additional crisis and so they sensitively respond on any changes. Economic crisis also test the enterprises resilience, and for many of them it results in the process of restructuring or bankruptcy.

Sedlák (2010) notes that the ultimate success of enterprise activities in each country depends on two various assumptions, including the objective and subjective one. The subjective business assumptions pose primarily the personal capabilities of entrepreneurs to carry out business itself. It encompasses the individual capabilities of personality as well as motivation and readiness to carry out relative business activities. On the contrary, the objective business assumptions are provided by the market economy system, which should stimulate the business development and allow taking the opportunity all who want to be in business. In this regard, the corresponding steady business environment has to be taken care of by the legislative authorities. Precisely, the objective business assumptions establish underlying factors generating a business environment of a given country.

From the spatial point of view, according to Synek (2010) a company is not isolated subject, but it is surrounded by the external environment. An environment here may be viewed as whatever beyond the imaginary business line forming economic and technical system. It is woth to mention that external enterprise is able to influence the company. However, this does not hold vice versa. Issues that company can affect fall

into the category of subjective business assumptions. This assertion is confirmed by the study of Hajkova, et al. (2006) claiming that, generally, the effect of environment on the business is considerable, whereas the possibility of business affecting its external environment is limited. Regarding the business environment, Aterido, et al. (2011) suggests that the essential elements of external business environment are considering the following: (i) geographical, (ii) social, (iii) political and legal, (iv) economical, (v) ecological, (vi) technological and (vii) cultural and historical.

Quality of business environment reflects to a great extent the level of economic, business and legal regulation and implementation of government tools with some lag, since the consequences of adopted actions do not exert immediately. Likewise, Kassay (2006) indicates the forces acting on economic environment. These includes the government interventions, which state apparatus and policy makers declared as the comprehensive set of economic government tools. The researchers as well as the practitioners must be caution in properly defining of the term business environment. The rationale for this claim is that occasionally the term business environment is ill-defined as the environment of business embodying both internal and external factors. Therefore, there is a need for correct definition. Certainly, it is a challenging task, if we take into account that the company is not isolated system. The proper definition of business environment is the essential presumption of the assessment of its quality. Generally, the quality of business environment is following to Petríková (2013) expressed through the variety of indicators, most commonly indexes, having different construction, as well as incident way of data acquisition. Applied indicators are of subjective or objective nature. It could be said, that objective indicator exhibits more accuracy compared to those of subjective and therefore it is recommended to use them. Naturally, it is required to admit the composite character of indices measures combining both objective and subjective indicators.

With regard to assessing indicators of business environment quality, the most famous and frequented one including worldwide evaluation are considered the Corruption Perception Index (CPI), Global Competitiveness Index (GCI), Doing Business (DB) or Index of economic freedom. Unlike the above noted indices, quality of business environment is evaluated also at the national level. Within the Slovak republic, the institution of Business alliance of Slovakia assesses the business environment condition in Slovakia on the yearly basis. Result of this assessing is the Business environment index, which is the mirror of the opinions, views and ideas of Slovak entrepreneurs. Results of Business environment index provide us with the evidence that improper government policy and economic regulation may be the major reason for companies' bankruptcy. These findings give rise to need for exploration of mutual relationships between the quality of business environment and the number of bankrupt companies. It has to be suggests that in the Slovak legal acts, there are defined the possible ways of the company discontinuation, e.g. entering into the restructuring process, file a bankruptcy petition or liquidation. We are focusing on the bankruptcy petition, since there are enough data available.

In the area of bankruptcy prediction models, the research dated back to Altman (1968) pioneering work using multiple discriminant analysis to predict failure of manufacture firms in United States. Since then, there has been utilized various prediction methods, for example logit and probit regression, decision trees, data envelopment analysis, rough sets, neural networks, support vector machines, genetic algorithms or ensemble and hybrid prediction models. To the best of our knowledge, in Slovakia there has been not developed comprehensive bankruptcy prediction model capable to in advance prognoses impeding financial distress of companies. The major complications are due to the missing datasets. In bankruptcy prediction, mostly accounting data are used. On the other hand, some studies, e.g. Nam et al. (2008) or Tinoco and Wilson (2013) indicate that involving macroeconomic variables, prediction model gains greater accuracy. Since indices assessing a business environment quality, our attention will be focusing primarily on macroeconomic variables.

The remainder of the paper is constructed as follows: the second section is of methodological and data summary. In the third section, there are presented the results of own research putting stress on the finding relation on bankruptcies occurrence and business environment index ranking. The last section provides us with the concluded remarks on examined issues.

2. Methodology and data

The main objective of presented paper is to evaluate the effect of business environment on the bankruptcy number in Slovak republic. In terms of methodology used, firstly it is needed to select a valid sample. The sample is formed explicitly Slovak companies, which are the subject of research assessment. Alike, the

important part of methodology is the selection of examined variables as a proxy for bankruptcy assessment. Quality of business environment is evaluated by the indices aforementioned in the earlier section. For the purposes of the research, we take out two frequented indices, specifically Global competitiveness Index (GCI) and Ease of Doing Business (DB), which we consider as representative of the quality of business environment.

GCI index is composed by the World economic forum on the yearly basis. In Slovak republic, Business alliance of Slovakia is the part of research team. A report has been arising by the fulfillment of questionnaires in each examined country. It reflects their perception of country, in which they are operating business. It is therefore a subjective evaluation process to what extent a country masters the worldwide economic competition. By Stričík and Meheš (2012), this report relates to twelve fields, including: public institutions, infrastructure, macroeconomic stability, population health and primary education, higher education and training, goods and services efficiency, efficiency of labour market, financial markets development, technological readiness, market size, development of firms processes and innovations. The second index that will be used is report Doing Business. This is an annual report of economic financial soundness built on detailed diagnostic of economic parts. When we take this index parallel to biologic viewpoint, it works as a measure of proteins and minerals in human blood. It seems to be less important from the overall view, but over the long run, this has essential impact on economic soundness, performance and growth. An empirical research of World Bank suggests that the effect of status enhancement has a direct positive impact on economic growth of a given country. DB index traces nine areas of business life from the starting business up to enforcing contracts and closing a business: Starting Business, Dealing with Construction Permits, Registry Property, Getting Credit, Protecting Investors, Paying Taxes, Trading across borders, Enforcing Contracts and Closing a Business.

As for the data used, these will be acquired from the varieties of resources. Data on indicator representing the quality of business environment will be extract from the annual report of Ease of Doing Business and Global Competitiveness Report over the period from 2007 to 2015, nine years overall. In analyzing development and number of bankruptcy cases, annual statistical reports of Ministry of justice of Slovak republic, will be utilized. The choice of examined period is not random, but is limited by the available statistical data on bankruptcies and restructuring. Maršíková (2015) states that bankruptcy is the manner of the failure solution resting on found lender receivables are paid from the monetize the proceeds, and so by the pro rata. Unsatisfied receivables or its parts, however, after closing bankruptcy proceedings do not disappear and lenders are entitled to recover them from the debtor. In this research, companies will be considered as bankrupt, if they filed a bankruptcy petition. Therefore, companies entering into restructuring process were excluded from the examined companies.

The underlying issue we concentrate attention on is the description and modelling a relationship between two time series (index of business environment and number of bankruptcies). In this investigating between two time series (y_t and x_t), series y_t can relate to previous values of series x_t. Just the cross-correlation function is helpful in identification of lags h of variable x, which may be the useful predictor of variable y_t. A cross-correlation function for the companies' sample is referred to as a set of correlations between x_{t+h} and y_t for h=0, ±1, ±2, ±3 etc. A negative value of h is correlation between variable x in the period before t and variable y in the period t. Let´s do example, if h=-2, cross-correlation function CCF expresses correlation between x_{t-2} and y_t. When one or more of x_{t+h} with negative value of h are the predictors of variable y_t, it would be said that x overtake y. On the contrary, if one or more of x_{t+h} with positive value of h are the predictors of variable y_t, it would be said that x lags y.

Cross-correlation function of two time series presents a correlation coefficient (product-moment correlation) and this is a function of lags among the two time series. Initially, it is useful to start with defining of cross-covariance function of time series. Consider on N pairs of observations of two time series u_t and x_t. Following the notation by Chatfield (2004), sample cross-covariation function of two time series (ccvf) take on the form:

$$c_{xy}(h) = \frac{1}{N}\sum_{t=1}^{N-h}(x_t - \bar{x})(y_{t+h} - \bar{y}) \; [h = 0,1, \dots, (N-1)] \quad (1)$$

$$c_{xy}(h) = \frac{1}{N}\sum_{t=1-h}^{N}(x_t - \bar{x})(y_{t+h} - \bar{y}) \; [h = -1,-2, \dots, -(N-1)] \quad (2)$$

where N denote the time series length, $\bar{x}$ and $\bar{y}$ sample means and h time lag. Sampled CCF and CCVF is diminished by the variance of two series:

$$r_{xy}(h) = \frac{c_{xy}(h)}{\sqrt{c_{xx}c_{yy}}} \quad (3)$$

where c_{xx} *and* c_{yy} are sample variances of x_t and y_t.

3. Empirical results

Empirical results are concentrated on the exploration of two different relationships. Firstly, the relation of bankruptcy occurrence and GCI ranking. Secondly, the relation of bankruptcy occurrence to DB ranking. However, before the examination of such a relationship, we take a look at development and emergence of bankruptcies petition in Slovak republic under period review.

3.1. Emergence of bankruptcies in Slovak republic

In the period under review, there were recorded an increasing trend of proposals number to file a bankruptcy petition, as well as overall number of declared bankruptcies. A summary statistics of bankruptcies is passed by the following Table 1.

Table1. Development of bankruptcy declaration in Slovak republic

Proposals of bankruptcy declaration						
Year		2011	2012	2013	2014	2015
Incoming proposals		1408	1251	1326	1388	1470
Proposal passed by	Debtor natural person	339	351	481	550	687
	Debtor legal person	672	445	379	360	294
	Liquidator in the name of debtor	151	103	117	77	93
	Creditor natural person	35	46	46	58	75
	Creditor legal person	172	259	263	310	273
	Several creditors	13	14	8	11	5
	Other subject	26	33	32	22	43
Matter of alignment	Rejection	497	211	220	231	195
	Launch a bankruptcy proceeding	870	966	1057	1099	1165
	otherwise	15	43	83	61	86
Discontinuation of bankruptcy proceeding from the reason	Proposal withdrawal	16	22	39	40	45
	Due payment	4	2	8	3	1
	Verification of solvency	2	0	10	10	9
	Lack of assets	255	261	282	177	183
	Restructuring permission	3	6	16	20	8
	Other reason	6	13	8	12	33
File a bankruptcy petition		414	463	585	682	762
Cancel of bankruptcy		189	190	202	264	329
Reason for cancelling	For lack of assets	101	77	72	86	102
	After completion of the final schedule	85	105	127	167	209
	Other reason	3	8	3	11	18

Source: own processing

A tendency of incoming proposals to file a bankruptcy has been increasing from the year of 2012. In 2012, it was observed the year-on-year fall in incoming proposals from 1408 to 1251. From this year, the number of incoming proposals has constantly increased and in 2015 accomplished the number of incoming proposals has achieved the historical number (1470). Out of these proposals, in the 79.25 % of cases, bankruptcy proceedings were launched and 13.47 % of proposals were rejected from the various reason. The remainder proposals were settled otherwise.

Almost 24 % (totaled 279 proceedings) out of the launched bankruptcies proceedings were discontinued in 2015 for the several reasons. The most common reason was the lack of debtor´s assets insufficient to pay court taxes and bankruptcy trustee´s compensation. The second most common reason of discontinuation of bankruptcy proceeding was the proposal withdrawal, which could be due to settlement out of the court, after which no longer has persisted reasons for proceeding continuation. Looking at the development of these two causes of bankruptcy proceeding discontinuation, in the period of years 2011-2015, the number of this process fell due to lacking assets in the favor of the proposals´ withdrawal. Not so frequently appeared we can

consider the due repayment to creditor, completion of the final schedule, restructuring permission or other, unspecified reason.

3.2. The impact of GCI index on bankruptcies occurrence

GCI index assesses the competitiveness of involving countries, its abilities attaining sustainable economic productivity, growth and prosperity. It is a composite index averaging the subindex values, which are denoted in report as twelve pillars of economic competitiveness. In this ranking, Slovak republic has become increasingly less competitive towards to other countries. The rationale for this assertion we sees in high level of corruption, inefficient government bodies, the high level of taxes and contributions, degree of regulation on labor markets and tax system or political instability, that also does not contribute to business climate enhancement in Slovakia.

We were running a quantitative evaluation of contingency of countries' GCI ranking and the number of bankruptcies. Particularly, we were interested in with what lag the occurrence of bankruptcies respond to the countries' competitiveness assessment.

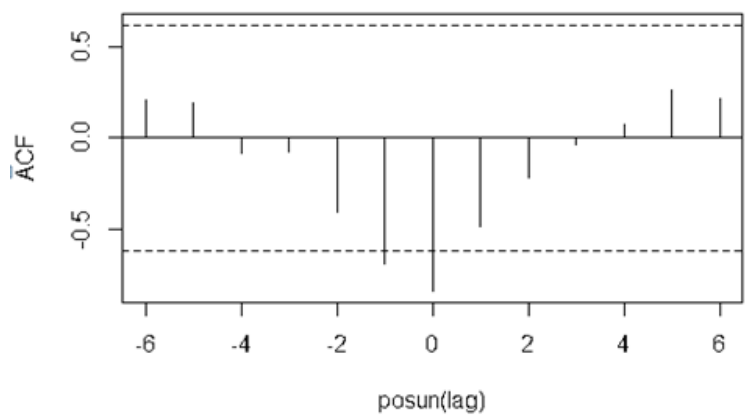

Figure 1. A cross-correlation function of bankruptcies and GCI ranking
Source: own processing in R software

Table 2. Correlation values with time lags

lag (h)	-6	-5	-4	-3	-2	-1	0
corr(x_{t+h}; y_t)	0.210	0.193	-0.082	-0.073	-0.409	-0.688	-0.842
lag (h)	0	1	2	3	4	5	6
corrr(x_{t+h}; y_t)	-0.842	-0.487	-0.218	-0.035	0.077	0.266	0.215

Source: own processing

In the table as well as figure, it is evident that the incident of bankruptcy in Slovakia most traces the ranking in the same year (without lag h=0) with correlation -0.842. Successively, with more distant years, a correlation has mitigated and thus, bankruptcies incident is not so much related to GCI ranking of country. It could be concluded that the bankruptcy incident is clearly linked to the level of competitiveness in the same year. This correlation, however, is negative, which gives rational explanation. It could be interpreted in the way that the less of country´s evaluation in GCI ranking (on the scale 0-7), the higher number of bankruptcies is declared in Slovakia. This incidence is less related to country´s competitiveness in the previous years, and so in increasing way (the more lag, the less impact). This fact can be also illustrated by the scatter plots.

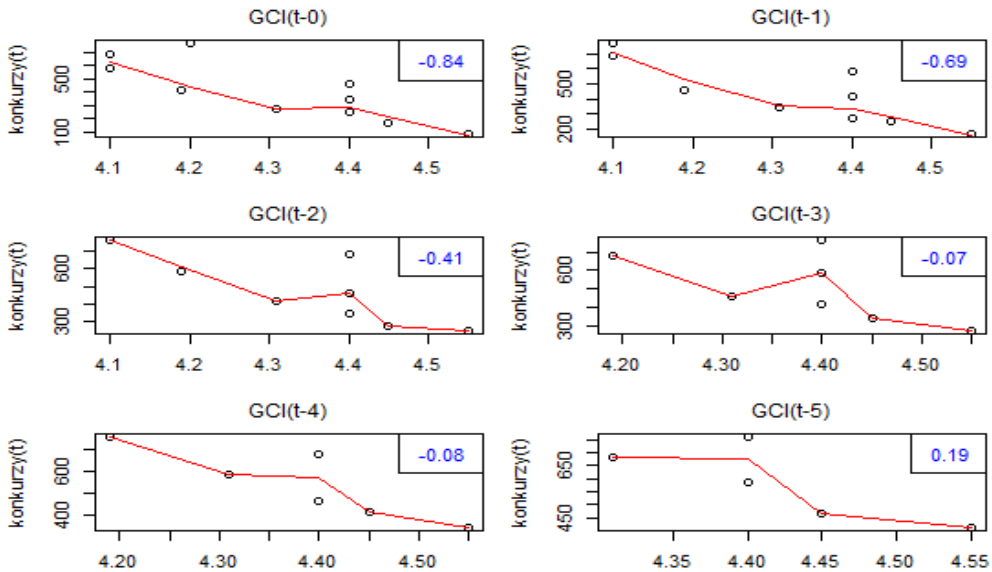

Figure 2 Scatter plots of examined relationships between GCI and bankruptcies
Source: own processing in R software

3.3. The impact of DB index on bankruptcies occurrence

From the global perspective, the most significant index assessing the quality of business environment worldwide is the index Ease of Doing Business, which is the result of the project of World bank´s analytics. In analyzing the status of Slovak republic in DB ranking, it has been observed the trend reversal, meaning that in the last two years was Slovak republic better values. In other words, Slovak republic has become more attractive to running a business. In 2015, Slovakia put on the 29. spot, which is the second best ranking within the Visegrad countries V4. It is useful tracing, whether indicators involving in DB index has an impact on bankruptcies number. Unless such an impact exists, it is important to find, with which lag this impact is acting.

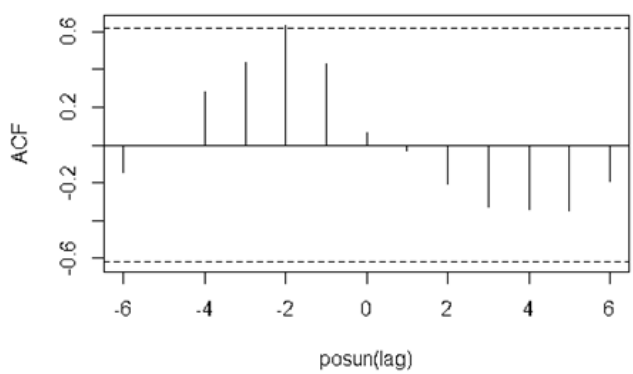

Figure 3. A cross-correlation function of bankruptcies and DB ranking
Source: own processing in R software

Table 3. Correlation values with time lags

lag (h)	-6	-5	-4	-3	-2	-1	0
corr(x_{t+h}; y_t)	-0.142	-0.005	0.278	0.439	0.635	0.430	0.066
lag (h)	0	1	2	3	4	5	6
corr(x_{t+h}; y_t)	0.066	-0.028	-0.206	-0.330	-0.340	-0.348	-0.189

Source: own processing

A significant correlation (it is more than ± 0.6) were recorded in the variables bankruptcies number and Slovak DB ranking two years back (lag h=2). This can be interpreted as country´s position in DB ranking will be reflected in the number of bankruptcies after two years. It may be related to the fact that the effects of some adopted measures and reforms do not exhibit promptly in the following year, but up to 2 years. For example, introduction of a new tax does not result in the way the company has sharply go bankrupt, but the declaration of bankruptcy or restructuring permission can proceeds gradually and carry out after two years. A correlation between the mentioned variables were positive, indicating that higher value of variables DB ranking (the higher value, the worse ranking) is accompanied by the higher number of declared bankruptcies. Bankruptcy incidence has a weaker response to DB tanking one year before (h=1). A summary of cross-correlation with lag between two time series is provided by the scatter plot:

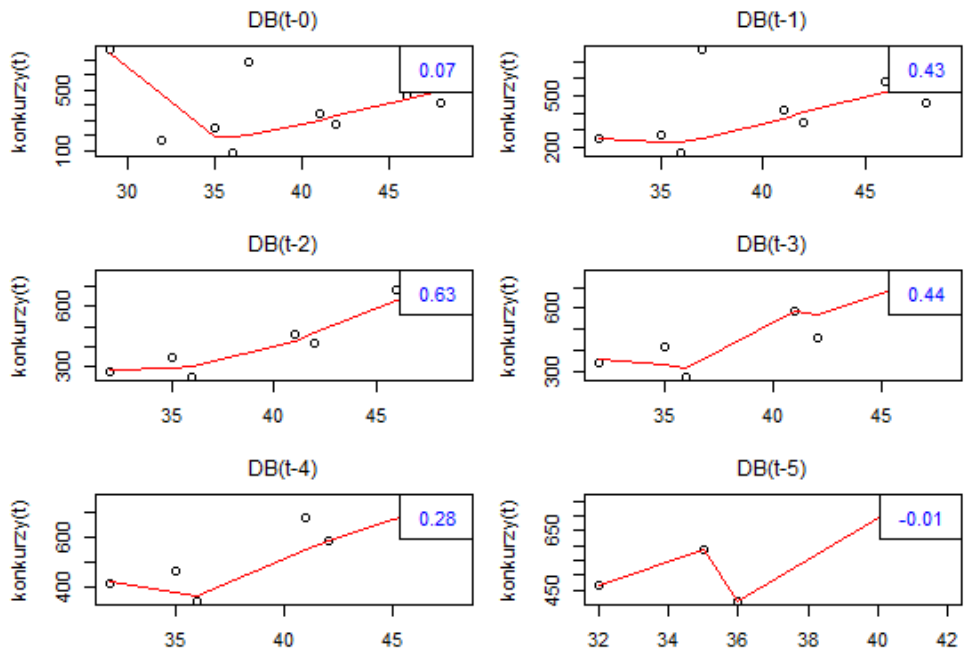

Figure 4. Scatter plots of examined relationships between GCI and bankruptcies
Source: own processing in R software

Likewise, from these scatter plots, it is obvious, that the „smoothest" curve is in case of time lags of index DB about two years. A certain contingency may be seen in the time lag h=3, albeit it is not so striking.

4. Conclusions

The purpose of this paper was to models the mutual relationship between bankruptcy occurrence and GCI and DB index rankings of Slovak republic over the period 2011-2015. A cross-correlation function was assessed for the year of 2015 and the corresponding previous years.

Values of GCI index are characterized by the statistical significant cross-correlation to bankruptcy number even though with the one year lag. In other words, GCI index evaluation deteriorating in a given year is accompanied by the higher number of bankruptcy number in the following year. From this standpoint, we can consider simply the worse value of GCI score as a leading indicator of the increasing bankruptcies number. DB index does not provide such a n information. As to the DB index, there were confirmed the correlation with bankruptcy number with the lag h= -2. So, if the Slovak republic ranking in DB index is increasing (it means that country ranks worse), it will manifest in bankruptcy incidence after 2 years. The reason we may find in that index DB assess several reforms, law´s novel, whose implementation and effect take on validity after approximately one year.

In assessing the relationships between the examined variables in the corresponding years, we have to be cautious and not to freely interchange the terms correlation and causality. The fact that among two variables there is a correlation does not right mean, that one variable is cause by other variable or vice versa.

A correlation only emphasizes the existence of relationship between them. We may not based on adopted values to prognoses what will happen in the future. We would to come under the extrapolation error of the relationship from the past to the future. A potential for an additional research, we see in the finding of relations among the bankruptcies occurrence and restructuring with the macroeconomic indicators, which make a significant contribution on business environment formation.

References

Altman, E. I. 2013. Predicting financial distress of companies: Revisiting the Z-Score and ZETA ® models. In: *Handbook of Research Methods and Applications in Empirical Finance*. Edward Elgar Publishing. ISBN 9780857936080.

Aterido, R., Hallward-Driemeier, M., Pagés, C. 2011. Big constraints to small firms' growth? Business environment and employment growth across firms. In: *Economic Development and Cultural Change*, Vol. 59, No. 3, 609-647.

Hajkova, D., Nicoletti, G., Vartia, L., Yoo, K. Y. 2006. *Taxation, business environment and FDI location in OECD countries.*

Chatfield, Ch. 2004. *The Analysis of Time Series: An Introduction*. 44 B/W Illustrations. ISBN 978-15-84883-17-3.

Kassay, Š. 2006. *Podnik a podnikanie-podnikateľské prostredie*. Bratislava: Veda. ISBN 80-224-0775-5.

Maršíková, J. 2015. *Insolvenčí řízení z pohledu dlužníka a veritele se vzory a judikatúrou.* Plzeň: Aleš Čeněk. ISBN 978-80-7380-568-5

Petríková, D. 2014. Zmeny v podnikateľskom prostredí In: *Transfér inovácií*. [online] https://www.sjf.tuke.sk/transferinovacii/pages/archiv/transfer/28-2013/28_2013.htm.

Sedlák, M., et al. 2010. *Podnikové hospodárstvo*. Bratislava: Iura Edition. ISBN:978-808-8078-317-3.

Stričík, M., Meheš, M. 2012. *Vybrané kapitoly z podnikania v malých a stredných podnikoch.* Košice: Ekonóm. ISBN 978-80-225-3403-1.

Synek, M., et al. 2010. *Podniková ekonomika*. Praha: C. H. Beck. ISBN 978-80-7400-336-3.

Tinoco, M. H., Wilson, N. 2013. Financial distress and bankruptcy prediction among listed companies using accounting, market and macroeconomic variables. In: *International Review of Financial Analysis*, Vol. 30, p. 394-419.

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Outsourcing Human Resource Functions

Cecília Olexová

Abstract

Increasingly, human resource (HR) functions are now routinely being purchased from external suppliers. Common activities of HR outsourcing are recruitment and selection of employees, HR administration, payroll or training. This is the reason why outsourcing of HR activities requires a considered, planned approach in a company. The paper presents reasons for HR outsourcing, benefits of HR outsourcing for a company, but also its potential risks. Usually, noncore activities are outsourced to save costs, to concentrate HR effort on strategic tasks in a company, or to obtain high quality of selected HR functions. On the other hand, HR outsourcing brings potential threats for a company, such as dependency on suppliers, leak of information, or unsatisfactory quality of services. Therefore, important issues of making decisions on outsourcing HR functions are also presented in the paper.

Keywords: HR functions, HR outsourcing, advantages, risks, decision
JEL Code: M55

1. Introduction

Outsourcing in the field of human resource (HR) management has become popular nowadays. In Slovakia, the most discussed activity of outsourcing is staffing, including temporary and contract workers in factories, as well as recruitment and selection of IT professionals. Other activities include mainly HR administrative functions, payroll processing and training. In general, the forthcoming focus of HR departments is probably on strategic decisions, with outsourced operational activities. Several studies confirmed the trend towards the HR outsourcing. According to Biro (2013), it is estimated that 50 percent of large companies outsource all or part of their HR needs. Cooke et al. (2005) presented the survey with the result that 97% of organizations utilized external providers to cover at least one HR function. The aim of the article is to describe the reasons for HR outsourcing, its advantages, potential risks, and to present important factors, which a company should consider when making HR outsourcing decision. The article is based on the literature review of HR outsourcing papers, including the results of relevant available surveys.

2. HR outsourcing – definition and practice

In general, outsourcing is the usage of external help to get resources, e.g. products, materials, human resources, etc.; activities, e. g. production, services, controlling; or processes (Vodáček, Vodáčková, 2006). Business process outsourcing (BPO) is defined by The Outsourcing Institute (2016) as "the contracting of a specific business operation or process, such as customer service, finance & accounting, HR, recruiting, payroll or any other non-IT business function, to a third-party service provider, typically for a non-core competency to a provider with more specialized expertise, allowing the customer organization to focus on their main business or cut costs and maintain their position in the marketplace".

The outsourcing of HR activities is defined as the practice of turning over to external providers all or part of an organization´s HR function (Adler, 2003). It is necessary to differentiate HR activities to core and subordinate. The core activities are considered to be the most important and therefore are provided by internal HR department or by managers. The subordinate activities can be outsourced, e. g. executive searching,

recruitment and pre-selection of employees, training, job evaluation, payroll administration, implementation of HR information system, etc. (Dvořáková, 2012). But, HR outsourcing is not restricted to traditional and transactional activities, e.g. payroll and benefits administration (Susomrith, Brown, 2013) and there are also organizations that outsource strategic and transformational HR activities (Gainey, Klaas, 2002).

In relation to outsourcing, the term offshoring refers to allocation and relocation of outsourced HR functions to another country. Call centers are typical examples for offshoring. Companies usually allocate these activities overseas where people carry out work on their behalf (Gontkovičová, Duľová Spišáková, 2016).

The HR function is well positioned to outsource some of its activities to external providers of such activities as training, recruitment, executive search, occupational health and safety services, employee welfare and counselling activities, payroll administration and legal advisory services. HR functions, which have been given responsibility for other miscellaneous activities such as catering, car, fleet management, facilities management and security (because there is nowhere else to put them), may gladly outsource them to specialist firms (Armstrong, 2006).

Berber, Slavić (2016) presented the practice of HR outsourcing in the area of compensation in countries of Europe, with special regard to EU countries in the comparison with the Republic of Serbia. Authors made statistical analysis of the data collected in the research period from 2008 until 2010. The number of companies from EU and Serbia involved in the research was 3845 (from Slovakia 225, the Czech Republic 54). According to the research results, companies use HR outsourcing for payroll, pension and benefits at low level. Outsourcing is used mainly for payroll and pension administrative, while benefits are outsourced in smaller percentage of companies in all countries. The authors explain, that "this is because benefits such flexible benefits, paternity leave, workplace child care, carrier break schemes, education break, cafeteria approach, etc. have great importance for employees and their motivation and satisfaction, so this can be a reason why many companies still do not use outsourcing for this special element of contemporary compensation package". The authors also underlined that "highly developed countries where are the headquarters of MNCs, use outsourcing more than countries that are in the early stages of economic development (like Bulgaria, Czech Republic, Estonia, Slovenia, Slovakia, often called Central Eastern European countries)".

3. Reasons for HR outsourcing, its benefits and risks

There are three main reasons for outsourcing of HR functions (Armstrong, 2006):

1. Cost saving – HR costs are reduced because the services are cheaper and the size of the function can be cut back.
2. Concentration of HR effort – members of the functions are not diverted from the key tasks that add value.
3. Obtaining expertise – know-how and experience that are unavailable in the organization can be purchased.

Biro (2013) presents five main reasons companies outsource HR activities, which are:

- Concentrating on core competencies.
- Saving money. It also allows organizations to hire world-class specialists they could never afford to bring on-board permanently.
- Improvement of compliance. There are a whole lot of regulations out there these days, concerning e. g. wrongful termination, safety violations, etc. In case of outsourcing, a company gets a compliance specialist.
- Improvement of recruitment.
- Providing access to the latest tools and technology. The most innovative HR-services supplier will be up on the very latest technology, including big-data mining, analytics, virtual workforce leadership, cloud technology and social media, and will know how to exploit them to meet an organization's specific needs.

Benefits of HR outsourcing include in reduced costs, access to expertise not available within HR, increased flexibility and speed of response, and free-ing-up HR focus on more value-adding activities (Armstrong, 2009). HR outsourcing is used also in case of occasional or short-term needs. According to Vodáček,

Vodáčková (2006), outsourcing can increase the flexibility in providing the resources, activities, and processes, increase the economy of usage of the resources, relocate the resources, etc.

The benefit of the HR outsourcing from the point of view of the efficiency of the time spent for the activities with higher value added is presented in Figure 1.

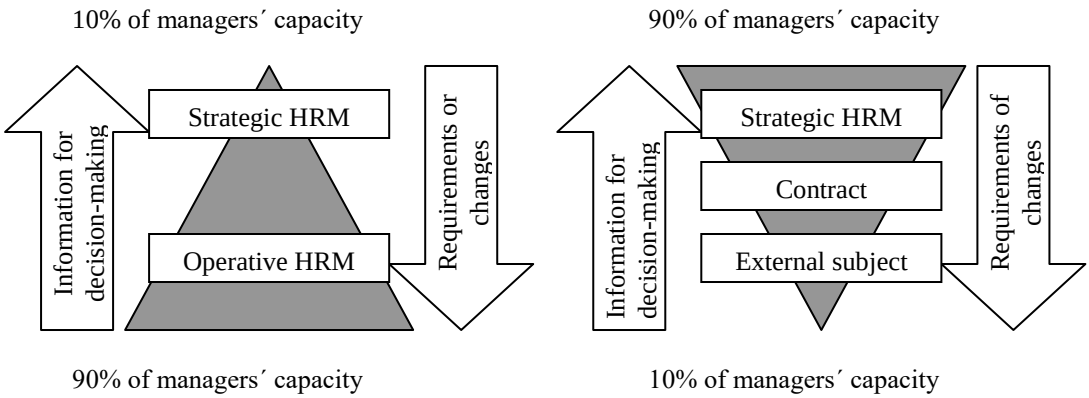

Figure 1. Benefits of HR outsourcing
Source: KOHOUTOVÁ, 2004.

In Figure 1 (left side), management of a company concentrates only 10 per cent of the capacity on key functions and 90 per cent on operative HRM. After outsourcing of operative problems, the company´s managers can focus on strategic functions of HRM (right side) with long-term perspective (90%).

Despite of much literature on HR outsourcing, the problem which HR functions have the potential to be outsourced and how this will impact HR labour costs remains contentious. Outsourcing may well be worthwhile if it is certain that it can deliver a better service at a lower cost (Armstrong, 2006). Abdul-Halim, Che-Ha, Ramayah (2016) examined the relationships among six types of HRM strategies with three categories of outsourcing HR activities to reduce HR labour costs. The data were gathered from a survey questionnaire of 232 manufacturing organizations of which 113 organizations engaged with HR outsourcing. The study showed that transactional and traditional HR functions had a significant relationship with a reduction in HR labour costs. Then, the cost efficiency has the influence on total performance of a company (Štofová, Szaryszová, 20016).

Outsourcing creates many benefits, but there are also disadvantages for companies. Companies can find themselves overly dependent on suppliers, and they can lose strength in strategically core competencies (Adler, 2003). Also, there is a potential risk of sensitive information leak or loss of know-how. The problem can occur in non-fulfilment of the expectation on quality of the services or reducing costs, in case of failure to find a right outsourcing provider. Additionally, a seemingly random policy of outsourcing can lead to lower employee morale and to a 'who next' atmosphere (Armstrong, 2006).

4. Making HR outsourcing decision

The decision to outsource has to be based on detailed analysis and benchmarking to establish how other organizations manage their HR activities. This will help to define the level of service required. It is necessary to decide which functions should be outsourced and exactly what such outsourcing is intended to achieve.

The questions to be answered include (Armstrong, 2006):

- Is the activity a core one or peripheral?
- How efficiently is it run at present?
- What contribution does it make to the qualitative and financial well-being of the organization?

Adler (2003) identifies six important factors after an extensive review of the literature, which a company should consider when making decision what and when to outsource:

1. Dependency risks. If a company has to adapt its operations to do business with a supplier, it might then find itself dependent on that vendor. However, if the supplier has to tailor its operations to the needs of a particular client, it could find itself dependent on that customer. In some circumstances, both parties are vulnerable to such risks; in other words, the dependency can be bilateral.
2. Spillover risks. Contracting with a supplier can expose a company to the possibility that confidential information might leak, perhaps even to competitors.
3. Trust. To protect against dependency and spillover risks, a company can rely on detailed legal contracts with vendors. But such documents are time-consuming and expensive to negotiate, and enforcement is uncertain and costly, thus discouraging outsourcing. Instead, outsourcing is greatly facilitated by trust between the two parties, particularly when both organizations are keen on maintaining their reputations as trustworthy partners.
4. Relative proficiency. Outsourcers can take advantage of economies of scale and scope by aggregating the needs of several clients. But companies need to examine their proficiency relative to that of vendors on a case-by-case basis. Particularly among large corporations that have sufficient scale, clients may be very efficient. Even then, though, a company might decide that the activity is not sufficiently strategic. Another consideration is whether the client organization is adept at managing suppliers — an issue that is often an unexpected sticking point.
5. Strategic capabilities. A company should not outsource any activity that directly contributes to its strategic, competitive advantage.
6. Commitment versus flexibility. Irreversible commitments (to a core activity, for instance) can be a powerful weapon for a company to signal to competitors its intent to defend its advantage. But strategic flexibility has considerable value, too.

The six factors (Adler, 2003) help explain why companies of different sizes tend to outsource different HR activities. For instance, small and midsize firms (as compared with large corporations) are considerably more likely to outsource payroll, because they lack the economies of scale to perform that function efficiently. Conversely, large companies are more likely to outsource benefits processing because they typically offer a broader range of benefits, which reduces the economies of scale for handling that activity in-house.

The mind map, showing the most important issues of making HR outsourcing decision, is in Figure 2.

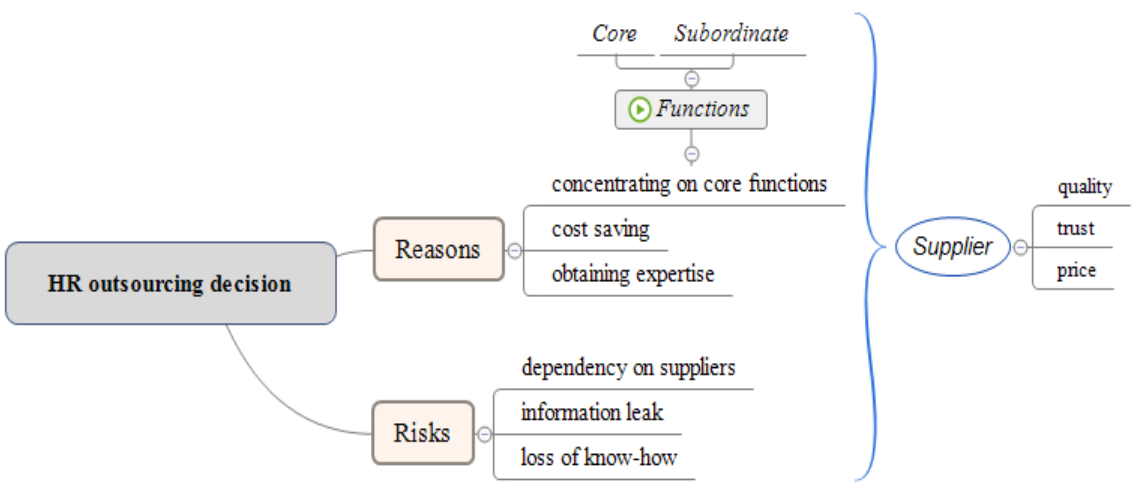

Figure 2. HR outsourcing decision – mind map

The HR outsourcing decisions begins with the dividing of activities on core and subordinate. Then, a company has to consider all the reasons and potential risks. Consequently, a selection of supplier is made according to its quality, trust and the price of the provided services.

4. Conclusion

The main issue in HR outsourcing is to decide which HR functions should be outsourced. Before, a company should distinguish the HR core and noncore functions. Many companies tend to outsource routine administrative HR activities, so their in-house HR staff can work on more strategic, core tasks. Also, some companies outsource HR activities in case they have a short-term need to get highly qualified and expertise performance of some special HR tasks. In the long term, companies outsource when they lack the economies of scale to perform HR functions efficiently. A company should evaluate the pros and cons of HR outsourcing, including the cost saving. The next important step is to select providers. The criteria should be defined, such as the quality, experience, trust and the price. Finally, it is necessary to consider the potential impact of HR outsourcing on the company´s performance, strategy, and competiveness.

References

Abdul-Halim, H., Che-Ha, N., Geare, A., Ramayah, T. 2016. The pursuit of HR outsourcing in an emerging economy: The effects of HRM strategy on HR labour costs. In *Canadian Journal of Administrative Sciences*. 2016, Vol. 33, no. 2, pp. 153-168. ISSN: 08250383, DOI: 10.1002/cjas.1370.

Adler, P. S. 2003. Making the HR Outsourcing Decision [online]. In *MIT Sloan Management Review*, 45, pp. 53-60. October 15, 2003. Fall 2003. [Citované Sept. 3, 2016]. Dostupné na internete: http://sloanreview.mit.edu/article/making-the-hr-outsourcing-decision/.

Armstrong, M. 2009. *Armstrong´s handbook of human resource management practice*. 11th ed. Kogan Page. ISBN 978-0-7494-5242-1.

Armstrong, M. 2006. *A handbook of human resource management practice*. 10th ed. Kogan Page Limited. ISBN 0-7494-4631-5.

Berber, N. – Slavić, A. 2016. Human Resource (HR) Outsourcing in European Compensation Management in the Light of CRANET Research. In *Acta Polytechnica Hungarica*. 2016, Vol. 13, No. 3. [Citované September 10, 2016]. Available at: <http://www.ef.uns.ac.rs/cranet/download/publikacije_EF-Su_2016/Acta_PH_Berber_Slavic_2016.pdf>.

Biro, M. M. 2013. Top 5 Reasons HR is On The Move [online]. In *Forbes*, Dec. 1, 2013 [September 4, 2016]. Available at: <http://www.forbes.com/sites/meghanbiro/2013/12/01/top-5-reasons-hr-is-on-the-move/#5c38ae3663b8>.

Cooke, F. L. – Shen, J. – McBride, A. 2005. Outsourcing HR as a competitive strategy? A literature review and an assessment of implications. In *Human Resource Management*. Vol. 44, no. 4, pp. 413-432.

Dvořáková, Z. et al. 2012. *Řízení lidských zdrojů*. Praha : C. H. Beck, 2012. 559 s. ISBN 978-80-7400-347-9.

Gainey, T. W. – Klaas, B. S. 2002. Outsourcing the training function: Results from the fields. In *Human Resource Planning*. Vol. 25, no. 1, pp. 16-22.

Gontkovičová, B. - Duľová Spišáková, E. 2016. Význam outsourcingu pre podnik a jeho využívanie v praxi. In *Manažment v teórii a praxi : online odborný časopis o nových trendoch v manažmente* [elektronický zdroj]. Košice : Katedra manažmentu PHF EU, 2016. ISSN 1336-7137, 2016, roč. 12, č. 3, s. 10-17 online. Dostupné na internete: < http://mtp.euke.sk/manazment-v-teorii-a-praxi-rocnik-12-2016-cislo-3/>.

Kohoutová, B. 2004. Outsourcovat lze vše, i lidské zdroje. In *Moderní řízení*, 2004, vol. 39, no. 6, pp. 10-12.

Susomrith, P. – Brown, A. 2013. Motivations for HR outsourcing in Australia. In *International Journal of Human Resource Management.* Vol. 4, no. 24, pp. 704-720.

Štofová, L., Szaryszová, P. 2016. Výkonnosť podniku ako dôsledok productivity a kvality výstupov. In *Manažment v teórii a praxi : online odborný časopis o nových trendoch v manažmente* [elektronický zdroj]. Košice : Katedra manažmentu PHF EU, 2016. ISSN 1336-7137, 2016, roč. 12, č. 3, s. 36-42 online. Dostupné na internete: < http://mtp.euke.sk/manazment-v-teorii-a-praxi-rocnik-12-2016-cislo-3/>.

The Outsourcing Institute, 2016. Business Process Outsourcing. Available at: <http://outsourcing.com/category/bpo/business-process-outsourcing/>.

Vodáček, L. – Vodáčková, O. 2006. *Moderní management v teorii a praxi*. Praha : Management Press, 2006. ISBN 80-7261-143-7.

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Analysis of the Retail Trends in Slovakia in Relation to the Global Trends

Katarína Petrovčiková

Abstract

Retailing as well as other areas in the economy has gone through different stages of its development. The modern era of retailing began at the time of the industrial revolution in the western countries. Globalization has left its footprint at the retail sector, too. The diminishing influence of borders, virtual world offering various options for the customers, those are the examples of the growing importance of understanding the new trends and inevitability to be able to adjust to them. The article's focus is aimed at the introduction of the trends in retailing in the world and at the description of the retail trends in Slovakia. The comparison between the global market trends and the current situation on the domestic market could reveal the opportunities as well as threats which are ahead of the Slovak retailers.

Keywords: retailing, globalization, retail trends.
JEL Code: F14, F18, F60

1. Introduction

Retailing is generally considered to be the economic sector which traditionally plays an important role in increasing the employment and the GDP of a state. Because this area of a business consists of large as well as small enterprises the attention focused at the retailing has become one of the priorities of national governments. In European Union where the unemployment still reaches its historical maximum levels, retailing is one of the sectors driven by individuals, small and medium size enterprises and therefore it is the sector whose support could lead to improved macroeconomic performance of the whole union.

The aim of this paper is to show the latest insight into trends in retailing in the world, Europe and Slovakia by reviewing the literature aimed at the newest tendencies in retailing and describing the tendencies in trade.

2. Retail trends and globalization literature review

Generally accepted definition of retailing is describing it as an activity whose primary focus is at buying and selling goods and services either to final consumers or the wholesalers. From this point of view there are many different market subjects participating at this activity. We distinguish two major types: B2C retailing (business to customer) and B2B retailing (business to business). B2C concentrates at the selling the goods and services without their influential change to the final consumers while B2B focuses not at the final consumers but those subjects on the market which are either using the bought goods for their own usage or sell them to other intermediaries or final consumers.

In recent decades we are facing the new phenomena: globalization. Globalization influences almost every aspect of our personal as well as professional life. Globalization could be described by its typical signs. There is no generally accepted definition of globalization. If we can call this era globalization, we can clearly see the diminishing importance of national borders, free transfer of capital among different countries, free movement of goods and services, even the free movement of the labor. Customers are being offered the same product with the same brand name in different countries all around the globe.

As a result, there are, among other sings, visible changes in consumption patterns. The globalization has directly influenced the retail sector.

Križan, et al. (2016) used the definition of internalization instead of globalization characterized by Dicken (1998) and explained it as a simple spread of economic activities crossing the national borders. Authors proposed that there were several internationalization phases in Slovakia after 1989. In Slovakia, there was almost no influence of international retail companies until the first half of 1990s. It only began to play major role during the next decade. They evaluated the internalization process using the entry of international companies into the Slovakia market as the indicator. The result of the internalization process in Slovakia was the massive increase of competition among retailers, domestic as well as foreign. The result of such a competition is a constant pressure on domestic retailers. If they want to establish their firm position on the market, it is necessary to cooperate with other retailers or to create various alliance that would help them to achieve this strong position.

On the other hand, Fletcher, et al. (2016) tried to investigate the effect of new trends accompanied with the globalization process on the high street retailers. They say that the current state of retailing is reshaping the high street. Consumers have moved to out-of-town parts and shopping centers during recent decades. This was the result of the convenience and choice which were not offered by the high street (high street = famous main street in the city center). As a result, many high streets have stood vacant, neglected and misunderstood by consumers, town planners, investors and retailers. They suggest that the future lies in integrating real and virtual ways of shopping and in creating both a social and sustainable high street and supply chain. Popupshop proposed and innovative “pop-up-shop” retail model which reverses the usual trend of high street brands moving from real to the virtual (“bricks and clicks” model) and instead proposes a physical, yet temporary, presence for pure-play virtual brands.

The management of such a supply chain becomes a key element for success in the future global era. In such a chain, the instore physical experience is a social one, echoing café format, where customers shop and catch up with friends and then they have their purchases delivered direct. The implications for business explain that understanding the social supply chain and its identifiably distinctive development in retail provides independent shops as well a traditional market, with the potential to apply innovative leverage to seduce provisions of key logistics services as well as to aid the removal of transportation barriers for shoppers and retail items in and out of the future city.

Another retail trends can be seen the research of Cristinel and Cerce (2015). This research has shown a favorable attitude toward setting inside the selling space clearly defined areas for exposing the products promoted online. Their study identified a fashion consumer behavior – informed by the virtual environment before entering the store and this indicates a possible innovation in fashion retail layouts in order to facilitate the finding of products already observed in the online environment and thus to save the consumer's time.

Cristache, et al. (2015) argued that in Romania the increased use of computers has led to increased and improved access to Internet. The infrastructure that has been created as a result of emergence and development of the Internet and electronic commerce has led to the creation of virtual markets of goods and services, to an improved payment system by reducing costs, to the development of after-sales services and direct marketing.7

Vosen and Schmidt (2011) showed in their study that for example such tools as Google Trends are promising source of data used to be able to forecast private consumption and its enormous potential to forecast consumer spending. This might be important for being able to predict the future volume of sales, to identify the customers' characteristic that are necessary for their segmentation etc. The correct information is the key to success for many enterprises.

3. The present retail volume in Slovakia and in the world

The new trends in retailing accompanied by the spread of new technologies used in buying and selling which are used by retailers and by the customers as well has led to the increased volume of retail turnover. Increased turnover can be seen regionally, when we talk about EU but also globally when we look at the world's figures. The global flows of merchandise are shown in the next table.

Table 1. Total merchandise trade by world, EU and Slovakia
Imports CIF, exports FOB and balance: million U.S. dollars

		2010	2011	2012	2013	2014	2015
World	I	15157516	18084002	18128884	18422338	18593360	16437144
	E	15106213	18031287	18080788	18466353	18648959	16500297
	BAL	-51303	-52715	-48096	44015	55598	63153
EU 28	I	5192789	6071644	5706031	5797465	5881886	5092177
	E	5064357	5930614	5682138	5873232	5987873	5231036
	BAL	-128432	-141030	-23893	75766	105987	138859
Slovakia	I	66110	81505	79077	83632	83500	74862
	E	64012	79011	79882	85244	85923	75406
	BAL	-2098	-2494	805	1612	2423	544

Source: www.un.org (where I= import, E= export, BAL = balance of payment)

The Table 1. compares the volume of merchandise trade by world, EU and Slovakia in million U. S. dollars. There are described the years from 2010 to 2015. The source is UN COMTRADE data which is comprising the trade activities of all the countries and regions in the world. According to these results we can see that the volume of the world trade in merchandise is rising. There is a fall in 2015. The same tendencies can be seen in the EU countries and in Slovakia as well. The positive trend is also the development of the balance in Slovakia. The reasons for this development might be the tips for further analysis. The source should be included under the heading and aligned to the center.

The trends described in the previous table might be influenced by the number of enterprises in the trade sector. The number of enterprises involved in trade is shown in the next table.

Table 2. Annual detailed enterprise statistics for trade by number of enterprises (NACE Rev. 2 G)

GEO/TIME	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
European Union (28 countries)	:	:	:	:	:	:	6 271 601	6 241 556	6 214 657	:
European Union (27 countries)	6 053 104	6 127 434	6 175 484	6 129 387	6 065 504	6 222 356	6 229 766	:	:	:
Czech Republic	205 087	202 074	204 167	209 140	220 286	231 934	246 280	248 104	244 747	242 804
Hungary	149 800	144 963	146 146	148 491	142 099	141 433	141 467	137 228	132 849	132 804
Poland	575 911	593 783	562 297	579 582	507 287	524 847	525 757	513 309	497 549	497 562
Slovakia	16 861	21 112	23 539	23 697	24 424	123 168	126 825	116 961	113 939	109 281

Source: http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do

The table shows the positive trend of the number of enterprises in trade. The data for the whole EU (first with 27 states and from 2011 with 28 states, after Croatia joined the EU) show that there is a slight increase in the number of companies involved in trade activities. Then we compared the data for the four states: Czech Republic, Hungary, Poland and Slovakia which are considered to be the states with the similar starting position after the collapse of their former socialist political systems in the late 1980s. The dramatic increase o enterprises in trade can be seen in Slovakia after 2009. This number almost tripled in 2010. And as we ca see this occurred only in Slovakia. The investigation what has caused such a dramatic increase could be the proposal for the next research. When we look at the EU the number of enterprises in trade is more than 6 million. This could imply the conclusion that companies in trade play an important role in EU in terms of GDP and the unemployment.

The Table 3. uses as an indicator index for corresponding period of previous year = 100 at constant price average in the year 2010. As we may see the indices show the general rise of the retail turnover for the retail sector. The most rapid growth can be seen in retail of ICT (information and communication technologies) in specialized stores an in retail in food, beverages and tobacco in specialized stores.

Table 3. Retail trade except for motor vehicles and motorcycles (turnover) for Slovakia

	2013	2014	2015
Months	1. - 12.	1. - 12.	1. - 12.
Retail trade, except of motor vehicles and motorcycles	100,1	103,6	101,7
RS in non-specialized stores	102,0	106,5	101,5
RS of food, beverages and tobacco in specialized stores	99,0	94,4	112,2
RS of automotive fuel in specialized stores	104,4	104,9	105,0
RS of ICT in specialized stores	99,7	102,0	117,1
RS of other household equipment in specialized stores	101,1	104,5	100,1
RS of cultural and recreation goods in specialized stores	98,2	96,0	104,4
RS of other goods in specialized stores	97,4	100,2	103,7
RS via stalls and markets	99,7	97,2	98,4
RS not in stores, stalls or markets	100,0	100,8	103,0

Source: http://datacube.statistics.sk/TM1Web/TM1WebLogin.aspx

4. Retail trends

According to Deloitte (2016) and based on their research there are the following trend facing retail in the near future:

- the subscription economy: the trend describes the changing attitude especially by younger shoppers toward renting clothes or other products rather than buying them,
- delivery: the crowdsourcing is making the delivery cheaper. Retailers are offering very fast delivery of the purchase products which has become one of the most important factors influencing the competition on the market. The sooner the customer gets the product, the better,
- personal commerce: the idea of building an experience around a shopper's tastes is becoming very important. People-centric retail models are emerging,
- social influence: there is a positive attitude toward offering goods directly through the social networks since they have reached a massive influence on the potential customer,
- TV shopping reinvented: the line between the huge media company and a huge retailer will be possibly blurred in the future. The role of TV is probably going to increase,
- internal re-organization: companies are starting to reorganize their companies' structure as a response toward the omnichannel retailing. They are designing the businesses around customer experience.

Besides the future trends which could affect the retail sector Deloitte has also pointed at the disruptive forces that could change the future of retail worldwide:

- Internet of Things: according to Deloitte almost 66% of customers share the idea that the IoT could make their lives much easier. So implementing the viral activities into the shopping process looks like a good investment for the future,
- virtual reality: could be used to introduce the customers with the new products, could lead the the creation of the virtual shops,
- robots: they are used throughout the retail supply chain. They are becoming more and more common,
- driverless vehicles,
- artificial intelligence.

5. Conclusion

The aim of this paper was to show the latest insight into trends in retailing in the world, Europe and Slovakia by reviewing the literature aimed at the newest tendencies in retailing and describing the tendencies in the retail turnover. The literature review has shown the latest trends in retailing. Globalization plays an important role in retailing nowadays. There not only international companies crossing national borders which are becoming less and less important but there are also unified products all around the globe. The consumers are changing the ways they shop and latest predictions explain that the retailers in order to be successful on the market need to adjust not only the marketing and selling strategies but also to create a unique shopping environment. The understanding the consumers' demand is the key to success. The positive trend can be seen

in the increased volume of retail turnover but the future performance of retailers lies in better understanding of their customers, ability to adjust to market changes and their flexibility on the market.

References

Cristache, S. E., Ciobotar, G. N., Kailani, C. 2015. New Trends in Commercial Technologies in Romania: Evolution of Electronic Commerce as Multichannel Retailing Instrument. In: *Economic Prospects in the Context of Growing Global and Regional Interdependencies. 22nd International Economic Conference of Sibiu 2015*, *IECS*, Sibiu, Romania, pp. 351-360.

Cristinel, V., Cerce, M. O. 2015. Impact of creating a positive experience when buying fashion products. In: *Amfiteatru Economic*, ISSN 2247–9104, Vol. 17, No. 39, p. 583–599.

Dicken, P. 1998. *Global Shift: Transforming the World Economy*. London: SAGE Publications. ISBN 1853963674.

Fletcher, G., Greenhill, A., Griffiths, M., McLean, R. 2016. The social supply chain and the future high street. In*: Supply Chain Management: An International Journal*, ISSN 1359-8546, Vol. 21, No. 1.

Križan F., Kita, P., Bilková, K., Sivicek, T. 2016. Transformation of Retailing in post-communist Slovakia in the Context of Globalization. In: *Ekonomie a management*, ISSN 1212-3609, Vol. 19, No. 1, pp. 148-164.

Vosen, S., Schmidt, T. 2011. Forecasting Private Consumption: Survey – Based Indicators vs. Google Trends. In: *Journal of Forecasting*, ISSN 1099-131X, Vol. 30, No. 6, pp. 565-578.

www2.deloitte.com/uk/en/pages/consumer-business/articles/retail-trends-2016.html

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The issue of innovation implementation on the example of RFID technology

Teresa Piecuch, Katarzyna Chudy-Laskowska, Krystyna Kmiotek

Abstract

The paper presents the problem of innovation implementation in contemporary Polish enterprises. It comprises the description of the most significant determinants contributing to the creation and implementation of innovations, as well as the most important barriers for this process. Theoretical considerations in the paper have been supported with authors' own research regarding the conditions for the implementation of innovative RFID technology, which is considered the innovation of the 21st century, as one of the most dynamically developing systems serving the automatic, radio identification of various types of objects.

Keywords: innovation, technical innovations, innovativeness, entrepreneurship, RFID

JEL Code: O32

1. Introduction

The percentage of the expenditure on research and development (R&D) in Poland is very small (only 0,87%), one of the smallest in Europe, much smaller than the European average (which in 2013 amounted to 2,02%) (eurofundsnews.eu…, 2015). The research of Polish Agency for Enterprise Development concerning the innovation potential of Polish enterprises and the data provided by Eurostat regarding the companies of the European Union reveal a very interesting (but simultaneously worrying) tendency within this scope. Namely, in 2010-2012 in the majority of European Union's countries a great number of entrepreneurs have suspended the innovative activity. In Poland in 2009-2011, 28% of the enterprises implemented innovations, in 2010-2013 – 23% (a decrease of 5%). The situation appears to be better in industrial enterprises, in which there was observed a slight increase in the percentage of innovative companies – 17, 7% in 2011, and 18,4% in 2013. The research indicates that the expenditure on investments rises in a small, yet strong group of Polish innovative enterprises (which enables them to compete also in the international area), in the remaining companies – it falls (Zadura-Lichota, 2015).

The above mentioned information proves low innovation capacity of contemporary Polish enterprises, which are treated as a driving force of economic development (Robertson, Sorbello, Unsworth, 2008). The process of innovation implementation is not easy, it requires expertise, considerable financial expenditure, involves a great risk, thus very few enterprises decide to make this step, and these which do, face numerous problems and barriers. However, innovation implementation provides a range of benefits; it is necessary if an enterprise wants to develop, generate profits, and if it wants to be competitive with other entities functioning on the global market. It was emphasised, among others, by M. E. Porter, who claimed that an enterprise gains competitive advantage owing to the capacity to be innovative, and the constant development of this ability, owing to which it is successful.

The paper concerns the issue of innovation implementation in enterprises. It constitutes a result of the analysis of the literature of the subject and authors' own research conducted within a scientific research:

'Synthesis of autonomous semi-passive transponder dedicated to operation in anticollision dynamic RFID systems', supported in part by the Polish National Centre for Research and Development (NCBR) under Grant No. PBS1/A3/3/2012. Owing to this research it was possible to identify the problems (including the major barriers) related to innovation implementation in contemporary Polish enterprises.

2. The role and significance of innovation in the functioning of contemporary enterprises

The meaning of the notion *innovation* is very broad. This term can be ascribed to: a new technique, technology, but also innovative organisational changes, marketing solutions or cultural values. However, most frequently, this term is applied in a sense of an object or an activity. The former denotes a newly implemented object (a material product or a process), and the latter – activities consisting in the implementation of something new. Innovations are particularly difficult to define, still vague. There are many controversies and myths about this notion, chiefly due to the fact that it is hard to unambiguously determine the degree of novelty as well as the reference point, or, for instance, who is to assess the degree of their novelty (as innovations can occur in various economic sectors) (Targalski, 2002).

In a narrow perspective, the term innovation can denote a new patentable invention introduced to production (Łunarski and Stadnicka, 2006). A broad perspective emphasises that an innovation is every novelty, every change bringing desired benefits to an organisation. These benefits can be of different types, not necessarily financial, however, in a long run, they should be of financial nature. The introduced changes should be justified as regards technology and economy, as well as tolerable risk of failure (Łunarski and Stadnicka, 2006). To understand the significance of innovation it is important to refer to a recommended publication concerning the subject – *Oslo Manual*, in which this notion denotes the implementation of a new or considerably improved product (an object or a service), a process, a new marketing or organizational methodology, new organisation of a workplace or relationships with the environment used in economic practice, the application of which will bring benefits (Oslo Manual…, 2005).

Undoubtedly, it is technological and economic aspect of innovation that is important, however, P. F. Drucker emphasised also its social dimension. In his opinion, it is not the most important that new innovative solutions generate profits on a global scale, but the atmosphere connected with innovation, the attitude of entrepreneurs and that they help one another, have certain expectations of each other, seek possibilities (and will) of introducing changes that are a source of innovation (Drucker, 1992). Such attitudes sooner or later will result in the implementation of new solutions.

Innovations govern economic development in contemporary, globalised world. They are a source of industrial development of societies, influence production modernisation, increase the competitiveness of regions. They also contribute to the solution of various development problems (Innovation for development…, 2012). In the turbulent conditions of external environment, lack of innovation implementation is more risky than the risk of implementing new ideas. New technologies enable far quicker, cheaper and better – in terms of the quality – production. In the business world, they are a key to boost profits and market share, an important tool for gaining competitive advantage. They constitute a source of entrepreneurship, a way to "refresh" and "renew" and to develop. Without innovations, enterprises very quickly become obsolete, fail to offer anything attractive, and as a consequence, they fall out of the market. Owing to innovation implementation, they introduce a certain element of uniqueness and novelty (necessary in a changing environment) and redefine the rudimental principles of functioning. Thus, innovations should become a fundamental element of the strategy of every enterprise that wants to develop.

3. Innovation implementation in enterprises

An enterprise implementing innovations (capable of creating them) is an innovative enterprise which should be characterised, inter alia, by the so-called "innovation dynamism", understood as the opening to all novelty, permanent search for new techniques, production methods and production organisation, new ideas and pursuit of their quick introduction into practice. It also concerns the improvement of the existing solutions, their adaptation in new areas, the overcoming of barriers and stereotypes, not avoiding changes but taking up risky challenges. The enterprises that implement innovations and present a positive attitude to innovation are called the companies that are (Szałkiewicz and Skonieczek, 2012):

- **innovatively active –** firms that run innovative activity regardless of whether it results in innovation implementation or not (i.e., inter alia, scientific, research, technological, organisational and financial activities);
- **innovative** – firms that implemented innovations (at least one) in certain, analysed period of time (most frequently 2-3 years).

The generation and implementation of innovation in enterprises involve a range of links fulfilling in this process various roles. J. Schumpeter emphasised the significance of (Korres et al., 2015):

- **inventors –** who, owing to their inventiveness leads to the invention of new solutions,
- **entrepreneurs –** who sell new ideas (developed by inventors) materialized in a new product (service) and makes profits on them,
- **capitalists –** who provide financial support for entrepreneurs and take the risk of failure that results from the implementation of a new investment project; a capitalist can be (but does not have to) an entrepreneur if they finance their business activity themselves,
- **managers –** who are not the owners of an enterprise, yet deal with their professional management, create proper organisational conditions for innovation creation and implementation.

The above mentioned elements should comprise also one more, very significant entity in the 'chain of an innovative process', namely employees, who, capable of creative activity and engaged in the grass-roots initiatives, are the ones who generate innovations. They constitute the first link of the chain. Properly motivated, supported by immediate supervisors, having the resources, and not encountering intraorganizational barriers, they are the ones who change the image of an enterprise into pro-innovative one.

E. Roger perceives innovations as changes, and the process of their implementation proceeds sequentially, at five stages, i.e.: knowledge, persuasion, decision, implementation and confirmation. Knowledge constitutes the starting point of the process; subsequently, a group that is engaged in the development of innovations and interested in their implementation convinces others (most frequently high-level management) as regards their rightness and application. They present the benefits and limitations connected with their implementation. These two stages determine the third – implementation, at which innovation is accepted (or rejected). The last phase consists in the evaluation, the confirmation of the rightness of its implementation, description of the benefits that accrue from the functioning of a particular innovation in practice (Ensminger et al., 2008).

Innovation implementation is not straightforward; it requires the fulfilment of a range of conditions that support this process. The research by the European Commission regarding the states of the European Union proved the significance, inter alia, of the following factors (Innovation Union…, 2014):

- **human resources** – an adequate number of employees having the knowledge and abilities useful in the process of innovation generation and implementation;
- **well-functioning, open research systems** – with particular regard to cooperation with external partners (also foreigners), which ensures a high quality of the research, and, as a consequence, results in the invention of new solutions;
- **financial resources** – internal and external, including the accessibility of venture capital, financing insecure innovative undertakings of a great growth potential;
- **intellectual assets** – these are intangible and legal assets possessed by a company, which indicate its level of innovativeness, e.g., patents, licences, etc.;
- **enterprise's investment activity –** comprising engagement in research and development activity, purchase of modern equipment, new machinery and appliances;
- **entrepreneurship –** including correlations between innovation and entrepreneurship, which is perceived as a source of innovation.

Each of the above mentioned factors can constitute a chance, but also a barrier for the creation and implementation of innovations. On this basis the European Commission assessed the level of innovation of enterprises in the member states of the European Union. After analysing the situation of Poland in the prepared ranking, it can be stated that a substantial majority of the above discussed factors constitute a barrier for the development of innovation. Detailed data concerning this matter are presented in table 1.

In the above mentioned report there have been distinguished four classes of states regarding the level of enterprise's innovation, namely the companies (Innovation Union…, 2014):

- Modest innovators,
- Moderate Innovators,
- Innovation Followers,

- Innovations Leaders.

According to the above classification, Poland belongs to the group of moderate level of innovation (along with, e.g.: Greece, Czech Republic, Hungary, Italy, Croatia), though it occupies the last position in this group. It is followed only by Romania, Latvia and Bulgaria. The leaders of innovation in EU, according to the above mentioned report, are: Sweden (first position), Germany and Finland.

Table 1. The criteria for innovation and the position of Polish enterprises in the ranking

Criterion	The position of Poland in the ranking	The last positions in the ranking	The leaders in the ranking
Human resources	**12/29**	• Malta • Portugal • Spain	• Sweden • Finland • Ireland
Research systems	**27/29**	• Latvia • Romania • Poland	• Denmark • Netherlands • Sweden
Financial resources	**16/29**	• Bulgaria • Greece • Romania	• Estonia • Finland • Sweden
Intellectual assets	**21/29**	• Romania • Greece • Croatia	• Denmark • Austria • Germany
Investment	**27/29**	• Bulgaria • Latvia • Poland	• Denmark • Luxemburg • Sweden
Entrepreneurship	**27/29**	• Bulgaria • Romania • Poland	• Denmark • Great Britain • Belgium

Source: Self-elaboration on the basis of: (Innovation Union..., 2014).

Innovation implementation requires the fulfilment of a range of conditions. It is emphasised in the literature that presently, in post-industrial era and knowledge economy, when knowledge acquisition and use becomes more and more significant, the companies that play a crucial role are not the ones that implement innovations but the ones capable of creating them, i.e., capable of conducting research that enable the invention of innovations. It gives an enterprise far greater possibility of gaining competitive advantage in a given area of the market for a long period of time. Thus, what is much more beneficial is the situation of the companies that have their own internal research and development sectors and which continuously conduct their own research that in the future can bring new solutions or contribute to the improvement of the techniques and technologies so far used. Owing to that, there is created a specific culture that facilitates innovation. In such a company innovations are promoted, and their implementation is supported at every stage of functioning of an enterprise, research work can be outsourced to external, professional institutes or purchased in a form of intangible and legal assets, for instance: patents, licences. However, it usually requires considerable financial outlays and close cooperation between the sectors of science and business, which erects additional barriers of various nature.

4. RFID as a technological innovation

RFID is an innovative technology consisting in automatic object identification on the basis of the information received, which takes place in a computer system by means of specialised electronic devices. Most vigorously it develops in Europe, Asia and the USA. In Poland its beginning is dated to approximately 2005. It is emphasised that the conditions for the recognition of something as an innovation are (Santarek and Gładysz):

- **an element of novelty** – at the level of an enterprise, region, state, world;
- **the implementation** – practical application;
- **the progress achieved** – technological, economic, organisational, social, etc.

RFID technology fulfils the above mentioned conditions for recognising a particular solution as an innovation – undoubtedly, it has an element of novelty since it replaces the so far used barcodes; it is more innovative, improved and capable of being further developed. The comparison of RFID and barcodes can lead

to the following conclusions (Jankowski-Mihułowicz, 2010):

- barcodes require direct visibility; it can be perceived as a drawback, but it is useful, when it is necessary to indicate precisely the object being identified; the operators of the reader can see the object and know which barcode they scan; RFID does not require direct visibility; it is an advantage in the systems that are designed to function automatically, without human involvement, e.g., luggage transport at the airport, document inventory; thus RFID can be applied where barcodes are unreadable;
- whereas only one barcode can be scanned in a given moment, in the case of RFID – according to a system used – a reader can read even a several hundred tags within a second;
- while a barcode printed on a product cannot be changed, some (though not all) information encoded in RFID tags can be modified; as much as 100000 operations can be recorded on a tag within 10 years of its use;
- the data in a barcode can be encrypted, yet it fails to prevent them from copying; RFID tags enable various types of data protection simultaneously;
- usually barcodes are cheaper than RFID transponder (printing); the cost of a tag can be far greater; very frequently the price constitutes the major barrier for the implementation of RFID in an enterprise;
- beside the fundamental requirement for the barcode to be visible and readable, there is actually no other factors limiting their use; RFID is influenced by numerous environmental conditions, including electromagnetic interference, neighbourhood of metals or liquids, humidity, icing (they are considered a disadvantage of this solution).

RFID is a technology that substitutes so-far commonly applied barcodes. However, it is more modern, has a range of new, unprecedented possibilities of application, for instance (RFID element biznesu…, 2014):

- there is no need for a direct contact between a reader and a tag; the readout and the record of information is possible in the conditions of a limited access to a tag, even access through other objects;
- simultaneous readout of many tags,
- possibility of multiple record and data addition later on,
- huge storage capacity – larger than in the case of barcode technology,
- possibility of recording data "on the fly",
- tags can be used many times,
- it does not require an operator – process automation,
- tags can be placed directly in a product or a package,
- capacity of working in difficult industrial conditions, where, for instance, there are: high dustiness, aggressive chemicals, frosted surfaces, etc.,
- high data safety – the data are not directly visible, and the access to the recorded information can be password protected,
- possibility of integration with the existing systems of automatic identification (barcodes).

RFID technology is a product innovation understood as a new, improved solution possible of being used in a production process. It is also a technological innovation, since it comprises new products and processes as well as significant changes within their scope, which are introduced purposely to gain strictly determined benefits. RFID has the features of innovation as (Baruk, 2006; Foresting Innovative Entrepreneurship…, 2012; Piecuch et al., 2014):

- it is an intentional and beneficial change of the present state, proposed by a human being,
- it is practically applied in a given enterprise for the first time since it is a new solution that has not yet been applied in such a version, it is not yet available on the market,
- its implementation results in: new products, processes, different work organisation, management methods, it facilitates the satisfaction of the present and the future needs of the economy, as well as the constantly growing demands of the market and clients,
- it is supposed to bring certain technological, economic and social benefits,
- it is a mean of achieving development (strategic) objectives of economic organisations,
- it becomes a force behind technological progress, improves the functioning of the processes in various types of units, increases productivity,
- it requires investment, for instance the purchase of fixed assets, a new technology,
- it aims to improve enterprise's operating results; it brings economic benefits, helps surpass the competition and improve enterprise's market position,

- it requires certain new knowledge (or new application of the present knowledge), e.g., technological, market, economic and socio-psychological knowledge; these activities always necessitates innovation effort, which radically differs from standard procedures,
- its implementation is connected to uncertainty as regards the future results.

The last requirement for the acknowledgement of a given solution as an innovation is the progress achieved in various dimensions – technological, economic, etc. It is possible owing to the above mentioned element of novelty and innovation included in FRID technology.

5. The determinants of innovation implementation in enterprises exemplified by RFID

5.1. The characteristics of the conducted research and a description of the surveyed enterprises

The research on which the present paper is based was conducted my means of a questionnaire in the period of November 2014 to February 2015. It was realised within the scope of the research project: 'Synthesis of autonomous semi-passive transponder dedicated to operation in anticollision dynamic RFID (*Radio Frequency IDentification*) systems', financed by the Polish National Centre for Research and Development.

The subject of the research was the innovative RFID technology, used in contemporary Polish enterprises of various industries. The target group comprised managers of top and medium-level of management, who make investment decisions concerning innovation implementation. The research aimed to recognise the possibilities of the implementation of RFID systems in Polish enterprises, and, subsequently, to assess the possibilities of the implementation of a transponder. There were prepared and distributed 500 copies of the questionnaire, 203 of which were returned. For the purpose of the research there were formulated the following research assumptions:

- a small percentage of enterprises implement innovations; few Polish companies use innovative RFID technology,
- the major barrier to the implementation and the use of RFID technology is a high price of a tag, hence great costs of its implementation and long payback period of this investment,
- innovations (including RFID) improve enterprise's competitive position on the market.

The research comprised the analysis of the situation of 203 companies of various size and industry. Their characteristics reads as follows:

- **type of enterprise –** a company – 65%, a partnership – 28%;
- **legal entity form –** limited liability partnership – 47%, joint-stock company – 18%, civil law partnership – 10%, registered partnership – 9%, professional partnership – 3%, limited partnership – 3%, limited joint-stock partnership – 2%;
- **type of business activity –** manufacture – 34%, trade – 28%, services – 23%, mixed – 14%;
- **industry sectors (selected) –** food – 12%, aviation, construction – 8% per each, automotive – 7%, mechanics – 4%, transport, clothing – 3% per each, electromechanical, IT, furniture, pharmaceutical, financial – 2% per each;
- **size of an enterprise –** large – 34%, medium, small – 26% per each, microenterprises – 14%;
- **the scope of activity –** international – 47%, local -19%, regional – 18%, national – 15%.

Taking into consideration the dominant features it can be stated that in the research the greater number of enterprises represented large companies, limited liability partnerships, and enterprises manufacturing in food industry of international scope of activity.

5.2. The problem of the implementation of RFID technology

The research that constitutes the subject of the present paper is based on the sampling of 203 enterprises. This group includes 126 innovative companies (62%), i.e., the ones that implemented at least one innovation in the last two years of their activity[*]. Basing on the analysis of the data regarding the surveyed innovative

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[*] By comparison – approximately 23% of Polish enterprises in total are innovative companies. Approximately as much as 64% of large companies deserve to be called innovative, as regards small firms – only 17% of them implement innovations – source: (Zadura-Lichota, 2015).

enterprises, it can be stated that the number of innovations implemented varies substantially – from one only (31%, i.e., one-third of the surveyed) to as much as 200 or 250 (in the case of 2% of the companies). The highest percentage of the surveyed enterprises implemented two or three innovations – 40%. On average, in the analysed period, the surveyed units implemented 5 innovations[†]. Most frequently it was the case of large companies from industrial sector operating at international level.

The representatives of the surveyed enterprises were asked about the implementation of the innovative RFID technology, constituting the subject of the research. It transpired that a significantly smaller number of them had this technology implemented in comparison to innovations in general. A version of this solution was applied in 41% of the companies. The majority (59%) of the enterprises implementing innovations had neither a version of RFID nor a substitute of this solution. RFID system was used for various purposes (68 various applications were indicated). Most frequently, the technology in question was used for:

- radio readout of water-meters,
- electronic identification of the authenticity of product security features,
- shipment delivery,
- working time identification,
- the identification of products and the measurement of their quality,
- railway transport,
- remote readout of data on a product,
- working time registration,
- shipment control and identification.

Innovation implementation is influenced by a range of factors (the surveyed units indicated 34 elements in total). The respondents evaluated them in the following way: lack of impact (0), small impact (1), medium impact (2), great impact (3). The factors that are most significant for the surveyed (starting from the greatest average impact) are:

- the improvement of the process of sale, storage, transport, etc. – 2,44,
- the cost of system implementation – 2,35,
- the quality of a tag (API) – 2,33,
- the price of a tag (API), 2,21,
- investment payback period – 2,19,
- the advantages of the RFID system – 2,18,
- the awareness of the benefits for a client (e.g., improvement of service quality) – 2,16,
- the limited number of errors in databases – 2,12,
- RFID's compatibility with other systems – 2,10.

The factors that are least significant comprise (presented from the lowest average achieved):

- the possibility of pressure measurement – 0,85,
- the possibility of vibration and stress measurement – 0,98,
- the possibility of gas identification – 0,98,
- the possibility of illumination measurement – 1,02,
- the possibility of measurement of other physical quantities – 1,10,
- the possibility of humidity measurement – 1,11,
- the possibility of temperature measurement – 1,14,
- predicted worries of the clients – 1,39,
- access to scientific, training and financial institutions – 1,42,
- lack of the need for the implementation – 1,46.

The factors that influence RFID implementation which are very significant for the surveyed companies were integrated with the data on the characteristics of a given entity (e.g., type of company, type of business activity, size of company, etc.) to determine whether there are any statistically important correlations between them. This analysis is comprised in table 2 (the numbers in bold and underlined constitute statistically

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[†] The asymmetry of the distribution of the number of implemented innovations in the research is right-skewed, which denotes that in the majority of the surveyed companies the number of the cases of implementation was lower than it is indicated by the average.

important correlations; the more the stars, the most significant the statistical correlations). It transpires that the tested factors are correlated to the greatest degree with the types of enterprises – in companies all of the surveyed elements had much higher values. However, the surveyed criteria were not correlated with the type of business activity.

Table 2. The selected factors influencing innovation implementation and the data on the characteristics of a given entity

Factors influencing the purchase and implementation of an RFID system	**Type of company**	**Type of activity**	**Size of company**	**Scope of activity**	**Period of functioning on the market**
The improvement of sale, storage and transport processes	**0,0275***	0,4610	0,2080	0,2606	0,7390
The cost of RFID implementation	0,1708	0,1105	0,3347	**0,0115***	**0,0348***
The quality of a tag (API)	**0,0001*****	0,1820	0,0807	0,1699	0,8684
The price of a tag	**0,0386***	0,3760	0,1362	0,4191	0,1452
Return on investment from RFID	0,1535	0,4463	0,0552	0,1781	0,3476
The advantages of RFID systems	**0, 0039****	0,1447	0,1254	0,0687	0,1623
The awareness of benefits for clients	**0,0269***	0,1629	0,9158	0,3024	0,1566
The possibility of wireless record of the data in the memory of a tag	**0,0051****	0,1846	0,3082	0,2377	0,0994
Limited number of mistakes in the databases	**0,0437***	0,3739	0,7484	**0,0179***	0,1188
The compatibility of RFID with other systems	**0,0003*****	0,4656	**0,0141***	**0,0320***	0,2149

Source: self-elaboration on the basis of the data conducted.

The enterprises implementing innovations (though not having RFID technology implemented), when enquired about the factors that can – in their case – influence the selection of a certain supplier of the system (if they take decision to implement one), indicated cooperation conditions (especially financial), supplier's credibility (their reputation, market condition, etc.) and service professionalism. The respondents found the possession of supplier's own research and development facilities the least important. This answer was indicated significantly fewer times (Figure 1.).

The respondents were also asked about the changes with which the implementation of innovative RFID technology in their enterprise would be connected. Five answers with the highest average comprise:

- it would require the development of a suitable way of communication – 3,04,
- it would require training for employees – 2,99,
- it would be a result of entrepreneurial behaviour of the management – 2,89,
- it is a necessity that ensues from the will to maintain a proper level of operational effectiveness – 2,87,
- it would require the verification of the competencies of some employees – 2,81.

The answers indicated least frequently include:

- misunderstandings and conflicts – 1,88,
- resistance to changes – 2,08,

- increase in remuneration – 2,16.

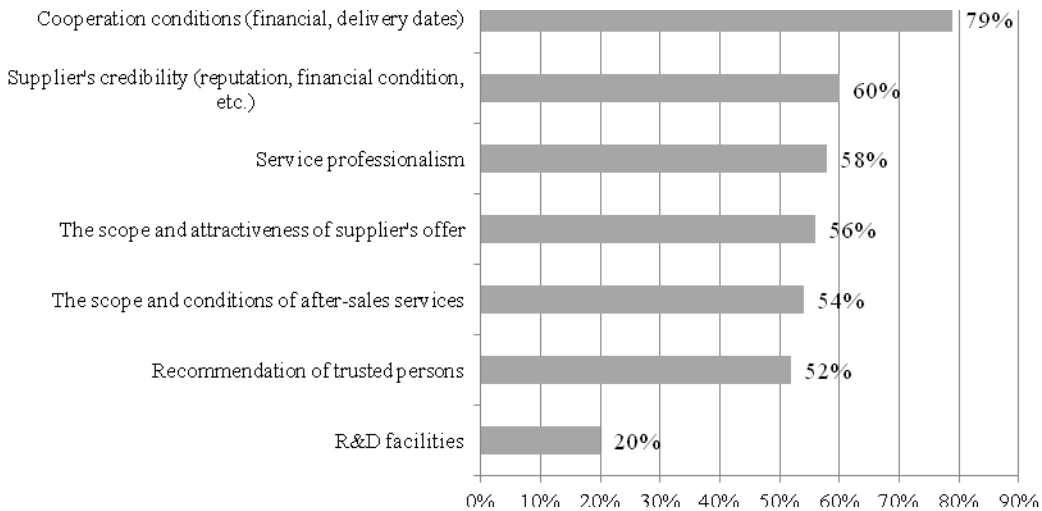

Figure 1. Factors that can influence the choice of an RFID supplier

Source: self-elaboration on the basis of the data conducted.

What transpired very interesting is the correlation between the consequences of the implementation of RFID technology and the data on the characteristics of a given entity (table 3). There were indicated only the elements that showed significant correlations with any feature describing the character of an enterprise, irrespective of the average data for particular features. For this purpose the Kruskal-Wallis ANOVA test was applied.

Table 3. The consequences of innovation implementation and the characteristics of the companies

The factors determining the implementation of an innovative RFID system with API	**Type of company**	**Type of activity**	**Size of company**	**Scope of activity**
It will lead to resistance to changes	p =,1946	**p =,0041**	p =,5910	p =,8573
It will contribute to remuneration increase	**p =,0327**	p =,1981	**p =,0247**	p =,7224
It will require the verification of the competencies of some employees	p =,2028	p =,1832	p =,4998	**p =,0030**
It can cause job rotation	p =,9862	p =,5038	p =,4748	**p =,0217**
It will require arrangements with various entities in an enterprise (e.g., trade unions)	p =,5176	**p =,0499**	p =,2466	p =,5597
It will require increased immaterial motivation	**p =,0273**	p =,1298	p =,3510	**p =,0481**

Source: self-elaboration on the basis of the data conducted.

While implementing innovations, every enterprise, which expend for this purpose a great amount of effort and money, expect in return certain benefits that improve enterprise's condition and strengthen its competitive advantage on the market. The managers/representatives of the surveyed companies enumerated in total as much as 28 benefits of various kinds (the evaluation of the factors is conducted by means of the following scale: 1 – no, 2 – rather no, 3 – rather yes, 4 – yes. Most frequently the attention was paid to:

- saving the realisation time of certain operations – 3,45,
- increase in the efficiency of control of stocktaking process – 3,39,
- possibility of multiple record of a great amount of information – 3,34,
- improvement of object transfer (e.g., goods, products, packages) – 3,30,
- the elimination of waste – 3,16,
- increase in client satisfaction – 3,13,
- improvement of sale processes – 3,07,

- increased security of shipments in a supply chain – 3,05,
- reduction of the cases of malpractice among employers – 3,05,
- facilitated settlement of accounts with suppliers and receivers – 3,04,
- increase in enterprise's competitiveness on the market – 3,02.

The lowest average was noted in the answers indicating the improvement of partner relationships with: stakeholders (1,81), competitors (2,30) and employees (2,52).

Innovation implementation does not proceed smoothly – quite contrarily, it encounters a range of barriers, which have to be overcome as they influence the effectiveness of the process. The surveyed enterprises indicated the following barriers to innovation faced in their own experience:

- unpredicted changes in the environment – 2,18,
- lack of financial resources – 2,13,
- high degree of the formalisation of activities – 2,11,
- lack of human resources (competent personnel) – 2,07,
- lack of material resources – 2,06,
- too low degree of the formalisation of activities – 1,94.

In spite of a range of problems hampering the process of innovation implementation, innovations should be introduced and used in practice as, actually, they bring much more benefits than the costs of overcoming the potential barriers would amount to. Innovation implementation is simply worthwhile.

6. Conclusion

The subject of the paper is the problem of innovation implementation in contemporary Polish enterprises. This issue appears to be very important as the level of their innovation is very low – small percentage of enterprises implement innovations and their research and development expenditure is also very low. The inclination regarding the innovation of Polish companies is distinctly negative – hence the significance of the papers concerning the determinants of innovation implementation in enterprises, which indicate the aspects important in the innovation ecosystem, the problems enterprises encounter while implementing innovations, and also the benefits that can ensue from their use.

Basing on the analysis of the literature of the subject as well as the research constituting the basis of the present paper, the following conclusions can be formulated:

- relatively large number of the surveyed enterprises implemented innovations (62%)[‡],
- significantly fewer of them had (used) a version of the innovative RFID technology (41%),
- it transpired that what constitutes the greatest barrier preventing an enterprise from innovation implementation (including RFID technology) are not insufficient financial resources (as it was hypothesised at the beginning of the research) but unpredicted changes in the environment, which make it impossible to effectively plan the investment activity; financial barrier, however, was ranked second,
- innovation implementation provides a range of benefits to an enterprise; according to the respondents the most important one was not the improvement of enterprise's competitive advantage on the market (as it was hypothesised at the beginning of the research), yet as much as 10 other elements – inter alia: saving the realisation time of certain operations, increase in the efficiency of control of the stocktaking process, possibility of multiple record of a great amount of information.

Despite numerous problems related to the implementation of innovations, their development should be supported. In the time of rapid technological changes it is even necessary. Innovations constitute a key to success, and their lack actually condemns enterprises to slow deterioration, declension of the ratios indicating the level of efficiency; it renders them impossible to change and to take advantage of new opportunities, which are equal to innovations.

[‡] By comparison – approximately 23% of Polish enterprises in total are innovative companies. Approximately as much as 64% of large companies deserve to be called innovative, as regards small firms – only 17% of them implement innovations – source: (Zadura-Lichota, 2015).

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References

Baruk, J. 2006. *Innowacje instrumentem zarządzania przedsiębiorstwem*, [in:] A. Kaleta, K. Moszkowicz, L. Woźniak (Ed.) *Przedsiębiorczość i innowacyjność. Wyzwania współczesności*, pp. 21-48. Wrocław: Wyd. AE we Wrocławiu. ISSN.

Drucker, P. F. 1991. *Innowacja i przedsiębiorczość. Praktyka i zasady*. Warszawa: Polskie Wydawnictwo Ekonomiczne. ISBN.

Ensminger, D. C., Surry, D. W. 2008. *Relative ranking of conditions that facilitate innovations implementation in the USA*, "Australasian Journal of Educational Technology", Vol. 24 (5), pp. 611-626. ISSN.

eurofundsnews.eu,/nauka-technologia/wydatki-na-br-w-polsce-wzrosly-i-siegnely-087-proc-pkb-w-2013-r-ale-i-tak-jestesmy-w-ogonie-ue/. (02.03.2015).

Innovation for Development. 2012. OECD, pp. 4-8.

Innovation Union. Scoreboard 2014. 2014. Belgium: European Commission, pp. 5-19.

Jankowski-Mihułowicz, P. 2010. *Field Conditions of Interrogation Zone in Anticollision Radio Frequency Identification Systems with Inductive Coupling*, [in:] C. Turcu (Ed.). *Radio Frequency Identification Fundamentals and Applications Bringing Research to Practice*. INTECH, pp. 1-26.

Korres, G. K., Papanis, E., Kokkinou, A., Giavrimis, P. *Measuring Entrepreneurship and Innovation Activities in U.E*. Source:www.academic.edu/960887/Measuring_and_Innovation_Activities_in_E.U. (04.03.2015).

Łunarski, J., Stadnicka, D. 2006. *Potencjał i procesy innowacyjne*, [in:] A. Kaleta, K. Moszkowicz, L. Woźniak (Ed.) *Przedsiębiorczość i innowacyjność. Wyzwania współczesności*, pp. 308-310. Wrocław: Wyd. AE we Wrocławiu. ISSN.

Oslo Manual. 2005. *Proposed Guidelines Collecting and Interpreting Technnological Innovation* Data. Paris: European Commission, pp. 31-43.

RFID…element biznesu XXI wieku. Source: http://www.skk.com.pl/pl/technologie/rfid. (03.08.2014).

Robetson, J., Sorbello, T., Unsworth, K. 2008. *Innovation implementation: the role of technology diffusion agencies*, "Journal of Technology Management & Innovation", Vol. 3, Issue 3, pp. 1-10.

Santarek, K., Gładysz, B. *Ocena strategiczna efektów wdrożenia FRID*. Source: http://www.ptzp.org.pl/files/konferencje/kzz/artyk_pdf_2014/T1/t1_191.pdf. (24.11.2014).

Szałkiewicz, W. K., Skonieczek, A. *Dynamiczny wskaźnik innowacyjności. Metoda badania innowacyjności*. Source: biznes-nauka.csd.edu.pl/pliki/Dynamicznywskaźnik.pdf, (06.11.2012).

Targalski, J. (Ed.). 1999. *Przedsiębiorczość i rozwój firmy*, Kraków: Wydawnictwo AE w Krakowie. ISBN.

Zadura-Lichota, P. (Ed.). 2015. *Innowacyjna przedsiębiorczość w Polsce. Odkryty i ukryty potencjał polskiej innowacyjności*, Warszawa: Wyd. Polskiej Agencji Rozwoju Przedsiębiorczości, pp. 5-7. ISBN.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Enabling Transformative Change Through Human Capital

Peter Poór

Abstract

Strategic Human Capital Management is concerned with managing the Human Assets of the organisation effectively towards the achievement of the organisation's mission. It comes down to whether top Management and the decision makers of the organisation consider the importance of Human Resources as an assess and therefore make the necessary investment in Human Assets to achieve its strategic objectives. The aim of this paper is to enable transformative changes in company through human capital.

Keywords: Human Capital Management, Transformative Change.
JEL Code: M1

1. Introduction

What are the normal strategic objectives of any commercial organisation today? Of course we can all argue that every organisation is different. Nevertheless we can quite clearly state, for commercial organisations, that profit is the driving force. Decisions are made to ensure that all activities of the organisation are managed to achieve this Profit objective.

However it can also be argued that profits are simply paper figures and can be inflated or manipulated by ingenious accounting methods. There is another school of thought which states that organisations belong to its shareholders. These shareholders have to be satisfied. How does one satisfy these shareholders? Shareholders are really concerned with cash through dividends payouts and of course the market value and the price of their shares if the decide to sell them. This approach essentially is concerned with share holder value.

We therefore have this situation where managers of the organisation must guide their Human Resources to achieve not only profits but shareholder value. Personnel in the organisation to ensure that the organisation achieves its strategic objectives that yield profits and shareholder value.

Staff within the organisation must feel that the belong and at the same time feel the need to make the organisation achieve its objectives.

The framework that dictates and helps us to understand Human Capital Management is for managers to consider both the internal and the external forces that influence or impact their decisions on Human Capital Management.

The internal forces are:

- Mission and Strategy
- The Organisation Structure
- Human Capital Management Practices and Policies

The External forces are:

- The Economy
- Political considerations including Regulations of Safety
- Social Forces – Diversity, Racism,
- Cultural

It is therefore apparent that the organisation's Human Resources Management practices and decisions is about best fit taking into consideration the internal and external forces.

Beer and Spector (1985) have stated a set of assumptions in helping us understand the meaning of Human Resource Management.

1. System wide interventions linking Human Resource Management (HRM) with strategic planning and cultural changes.
2. People as assets are capable of development.
3. Means of developing the coincidence of interests between different stakeholders.
4. Trust and collaboration within the organisation.
5. Open Channels of communication between all players within the organisation to build trust and commitment.
6. Setting goal orientation for all within the organisation.
7. Participation by all in making decisions concerning selection from variety of strategic and operational choices for the organisation.

2. Managing Diversity

Diversity in the workplace is a relevant and important part of Human Capital Management. With increasing globalization and movement of people for employment opportunities has resulted in a very diverse work force in many different industries.

Social changes too have played a role in ensuring that managers today must develop policies that recognizes race and gender issues. Managers must recognize the implement non discriminatory policies to ensure that they have a harmonious and effective work force.

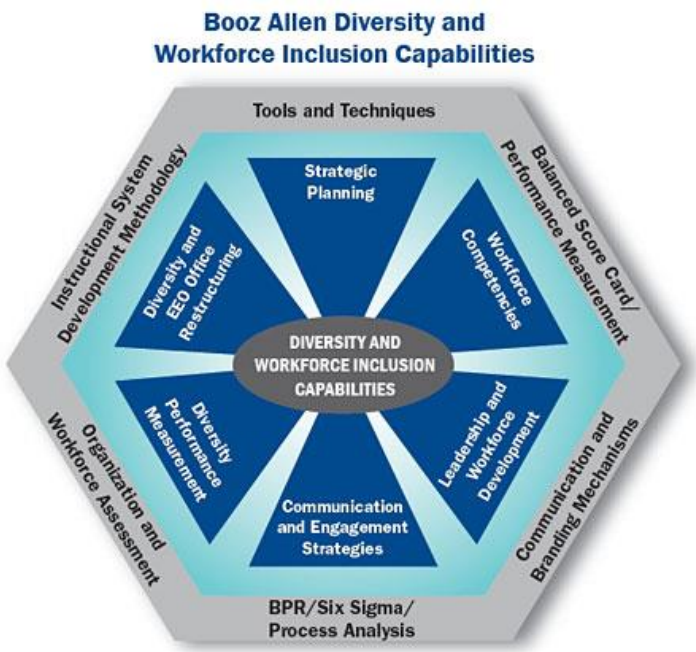

Figure 1. Diversity and Workforce Inclusion Capabilities
Source: http://www.boozallen.com/

Booz Allen's capabilities encompass six targeted areas:

- Strategic Planning
- Organization and Workforce Competencies
- Leadership and Workforce Development
- Communication and Engagement Strategies
- Diversity Performance Measurement
- Diversity and EEO Office Restructuring

Booz Allen tailors its approach to each client engagement. Whether we help clients develop a strategic plan for diversity, conduct a diversity workforce analysis, or assist in a full-scale design of a diversity or EEO program, Booz Allen brings to bear its unsurpassed understanding of critical issues and industry best practices. With a firm grounding in measurement and statistical techniques, we effectively design data collection and data analysis strategies. With our expertise in management and business analysis, we also help link EEO and diversity initiatives to organizational performance and the organization's bottom line.

3. Case study - Relationship between Employee performance to various different influences

An organization INDEPTH (an acronym that stands for International Demographic Evaluation of Population and their Health) is a non-Governmental Organization (NGO) that conduct longitudinal research based on Health and Demographic Surveillance System (HDSS) field sites in low- and middle-income countries (LMICs) to improve the lives of people in these countries by informing and influencing policy. In this organisation they provide robust answers to some of the most important questions in development

Through global network of HDSS field sites in Africa, Asia and Oceania and the Secretariat is sited in Accra, Ghana. They are capable of producing reliable longitudinal data not only about the lives of people in LMICs, but about the impact on those lives of development policies and programmes. At the Secretariat in Accra they serve as a Central point for our field centres and projects. From the initial stage to the end of the project, we are the mid-point. That is funding/financials, ensuring an agreement is reached between the Secretariat and the partners or members carrying out the project and Timelines for reporting back to the secretariat then the secretariat to the funder. For the work done in the secretariat, they use both employee policies and leadership and strategic direction of the organization. The employee policies usually are binding to employee of the organization to adhere to and ensure their behaviour and work attitudes are in line with that of the organization. The leadership and strategic direction holds for all projects and for most sections. For example, the section into Capacity Strengthening and Training is responsible in organizing training workshops for our Centres based on the sites. These people are not based in the secretariat but on the centres where they have their own employee policies binding them. What holds with such training workshops are the leadership and strategic directions of the organizations. Leadership determines in a meeting how training is planned. Strategies are put in place to run a given training workshop. Even with projects, are bounded by the leadership strategic directions.

A key factor in a Top management Team's ability to achieve both speed and quality is the use of real-time information (Eisenhardt, 1989). Managers take decisions based on reports subordinates have gathered on ground both internally and externally. Usually with type of job, research is key to the success of the network. They therefore collaborate with organizations interested in what they do and with a funders request in direction of work. In this light, though employee policies exist to guide, the Human Resource Section is responsible to ensure that all required processes for a project or collaboration has a Memorandum of Understanding signed and with all necessary resources provided. In carrying out these jobs, employee is now bounded by Leadership and strategic direction.

In view of the above, INDEPTH Network uses both their employee policies and leadership and strategic direction as an organization. A strategic plan is only a plan; an organization's actual strategies lie in the decisions and choices people make. (Beatty, 2010). That is what INDEPTH believes in, strategic planning by Top Management to effect on all projects and activities. INDEPTH's performance is one we can boast of such that funders are proud of us for meeting target lines and complete researches with quality data. Performance always hits the target mark and above due to the leadership strategic decisions.

4. Conclusion

The transformation change can bring on board new ideas and a sense of ownership on both parts - leaders and staff. This can result in to have a customer-centric approach as opposed to product-centric approach, increase deposit at low cost and also reduce the cost. Also, other "benefits" result from elimination of duplication and streamline expenses and finally give the company a new face.

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References

Beer, M., Spector, B., Lawrence, P. R., Quinn, D. M., Walton, R. E. 1987. *Managing human assets.* New York: The Free Press.

Eisenhardt, K. M. 1989. Making fast strategic decisions in high-velocity environments. In: *Academy of Management Journal*, No. 32, pp. 543–576.

Hayton, J. C. 2003. Strategic human capital management in SMEs: An empirical study of entrepreneurial performance. In: *Human Resources Management*, No. 42, pp. 375–391.

Cheryl, G., Özkan, G. F., Napoleon, K. 2011. Dynamic resource capabilities: Managing workforce knowledge with a technology upgrade. In: *Organization Science*, Vol.22, No. 6, pp. 1560-1578.

Lichtenstein, G. A., Lyons, T. S. The entrepreneurial development system: Transforming business talent and community economies. In: *Economic Development Quarterly*, Vol. 15, No. 1, pp. 3-20.

Naty, L., Self, K., Karnitz, J.2009. Developing a tool for systematic inclusion of non-academic factors in dental school admissions: towards building diversity in the dental workforce. In: *Journal of dental education*, Vol. 73, No. 12, pp. 1347-1352.

Suzanne, B., Dunphy, D., Griffiths, A. 2006. Enabling change for corporate sustainability: An integrated perspective. In: *Australasian Journal of Environmental Management*, Vol. 13, No.3, pp. 156-165.

Wright, P. M., McMahan, G. C. 2011. Exploring human capital: putting 'human' back into strategic human resource management. In: *Human Resource Management Journal*, Vol. 21, No. 2, pp. 93-104.

Garavan, T. N. 2007. A strategic perspective on human resource development. In: *Advances in Developing Human Resources*, Vol. 9, No. 1, pp. 11-30.

Zhu, W., Chew, I. K. H., Spangler, W. D. CEO transformational leadership and organizational outcomes: The mediating role of human–capital-enhancing human resource management. In: *The leadership quarterly*, Vol. 16, No. 1, pp. 39-52.

Subramaniam, M., and Youndt, M. A. 2005. The influence of intellectual capital on the types of innovative capabilities. In: *Academy of Management journal*, Vol. 48, No. 3, pp. 450-463.

Fikret, B. 2009. Evolution of co-management: role of knowledge generation, bridging organizations and social learning. In: *Journal of environmental management*, Vol. 90, No. 5, pp. 1692-1702.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Sales promotion of brand shoes business enterprise

Michal Pružinský, Martin Mucha, Ivana Medvecová

Abstract

The paper explores the promotion of sales of shoes in designer shops with outlets in several European countries, focusing on business unit in Slovakia. Through the data we expressed earnings for 1 day promotional terms and the number of pairs sold during one day. The data we have collected from the individual business units. Sales agents and dealers use a range of varied activities to attract the consumer. Promotions during low sales bring weaker results, therefore retailer concentrate business action to seasonal increase in demand. Evaluation of actions to promote the sale, we come to the order of the contribution of different shares for sale. We also intended to recommend improvements in market position, increase sales and measures marketing communications and customer relations.

Keywords: goods, promotion of sales, profit, marketing communication, consumer segment.
JEL Code: M210, M310, M 390

1. Introduction

The marketing mix should consist of the correct ratio of the individual components: product policy, price policy, distribution policy and communication policy. What mix the company chooses depends on business activities, an area in which business operate, an overall assessment of the internal and external environment of the company. According Hadadi & Almsafir (2014) the combination of elements that make up the marketing mix is changing and is different for each company. It reflects the goals of the company, its capabilities and capacities, as well as the impact of the external environment. Business will be successful only if all the instruments mix will act in mutual cooperation. Modern marketing requires more than produce and offer a product or service, and appreciate their customers make. Communication between businesses and customers a combination product market ensures promotion. Studied business distributes branded shoes and sells it in its branded stores. through retail. Since the foundation in 1996, the brand has established its sales business in five countries. Business network is made up of more than 150 stores in different cities of the Czech Republic, Poland, Hungary, Romania, Slovakia and Croatia. Brick and mortar stores and electronic sales offer a wide and constantly growing range of internationally recognized popular brands that represent the latest trends. Slovakia was the first store opened in 2007.

2. Marketing communication tools business enterprise with brand shoes

In branded sales company they use means of marketing communication, which is an important marketing tool. It aims to create with customers attitude to the product, which may lead to the purchase. (Salamatun & Dwiyantoro, 2014). Communication is based on the correct transfer information, marketing communication is the process by which the effective flow of information mediated by the stores selling the product, target market and the general public. (Szarková, et al., 2005). Marketing communication mix consists of tools: advertising, personal selling, sales promotion, public relations, direct marketing. Selection of the appropriate

instrument depends on the way we can create the best impression on the target consumer segment. The content of individual instruments are presented in Table 1.

Table 1. Communication tools of the marketing mix

Tool	Task
Advertising ➢ Media communication tool company with the general public with the aim of achieving business success directly to influence customer behavior	➢ Get the product / service among our customers. ➢ Distinguish him from the other bids, ➢ Expand knowledge of the customer's products / services ➢ Convince customers of the advantages of purchase
Personal sale ➢ Ancient art, which generates relationships based on professional sales, negotiations and marketing relationships	➢ Personal interaction. ➢ Effect of the human factor in the provision of products / services ➢ Participation of people who become part of the product / service, ➢ Self-realization of revenue of the company. The advantage is personal contact and strengthens customer relationships.
Sales Support ➢ Term for actions designed to encourage customers to test or use a particular product / service	➢ Stimulation through programs favoring loyal customers, promotional materials, with brochures, leaflets ... Focus on three target groups: customers, agents and employees first contact.
Public Relations ➢ Deliberate, planned and sustained effort to induce and maintain mutual understanding between businesses and the public	➢ Planned and took efforts for the purpose of obtaining and maintaining the reputation of the undertaking, ➢ Build and maintain the image. ➢ Support for other communication activities. ➢ Support positioning products / services Public relations tools: ➢ Publications, research, posters, ➢ Press Conference ➢ Exhibitions including presentations and lectures
Direct marketing ➢ System of immediate and interactive communication and distribution in order to provoke evaluable and measurable approach the target group	➢ Build long term relationships with customers Direct marketing as catalog sales, forwarding services, telemarketing and so on.

Source: Own development based on: Rostášová & Kremeňová, 2005

All sales points of commercial enterprise with brand shoes are supplied from a central warehouse which is located in Hungary. Goods are distributed to stores infrequently, usually every second to third Monday. Each supply is a different number of packages in which the box with pairs of shoes.

The most deliveries are made before the start of the season that is the end of summer. The goods for the season autumn / winter are complemented by more winter models in November. In early March come goods for the season spring / summer, which will be complemented by summer models beginning in June. At the turn of seasons all goods that are not sold in the previous period the stores send back to Hungary and goods are referred to as „end of season".

Transportation of goods is carried out by commercial distribution courier company UPS. Relocation of shoes between the sales in Slovakia is carried out for customers in packages that are referred to as „shop to shop". Distribution processes would speed up and would be more efficient by creation of one central warehouse for Slovakia.

According Ajagbe, Long and Solomon (2014) the aim of sales promotion is to encourage customers to try and use the product or service. Forms of sales promotion may be different - leaflets, brochures or loyalty programs. Branded business venture with shoes benefit from sales promotion newsletters / bulletins sent to customers on their e-mail addresses and inform them about news and events. Collection of these newsletters / bulletins is voluntary and therefore covers only a minimal part of customers. The motivation for choosing of these information collections is commercial material. (Yildirim & Aydin, 2012). It is kind of commercial undertakings offered the chance to win a discount on the purchase, or a new pair of shoes.

3. Results of the research enterprise sales business with brand shoes

Popular are the colorful weekend events with discounts on selected brands and engaging in actions whose logos we visualized on Figure 1. and 2. The actions had a very good response especially „OFFER -30% for the second pair“, which makes customers to apply a discount to couple any cheaper brand.

In Table 2. we reported data on promotions and calculations of their success, calculated based on the number of pairs of shoes sold in Slovakia, profit attributable to one day share and a number of pairs sold in one day of the event.

Figures 1, 2. Possible logos for sales promotion

Table 2. Selected actions and their success

Action title	Date	Number of shares sold in pairs within SR	Earnings per 1 day share [€]	The number of pairs sold in one day share [Pc]
Gold week	14.12.2015	373	33 924	498
	15.12.2015	399		
	16.12.2015	405		
	17.12.2015	502		
	18.12.2015	587		
	19.12.2015	598		
	20.12.2015	622		
Brand 1 Day	14.4.2016	287	30 393	440
	15.4.2016	365		
	16.4.2016	527		
	17.4.2016	580		
Super weekend	22.4.2016	359	31 495	483
	23.4.2016	488		
	24.4.2016	602		

Source: Own processing

Based on the data in Table 2. we show that the most successful action of selection was golden week, which lasted for seven days in the period before Christmas holliday season. During this action has been discounted 100 models of shoes for 30-50%. Appropriately selected period led to the fact that the event was a success, as reflected in revenues. On Figure 3. we visualized comparing the profits of selected promotional terms. Christmas holiday season is associated with the shares of gold a week. It was was significantly greatest motivation for buying consumers.

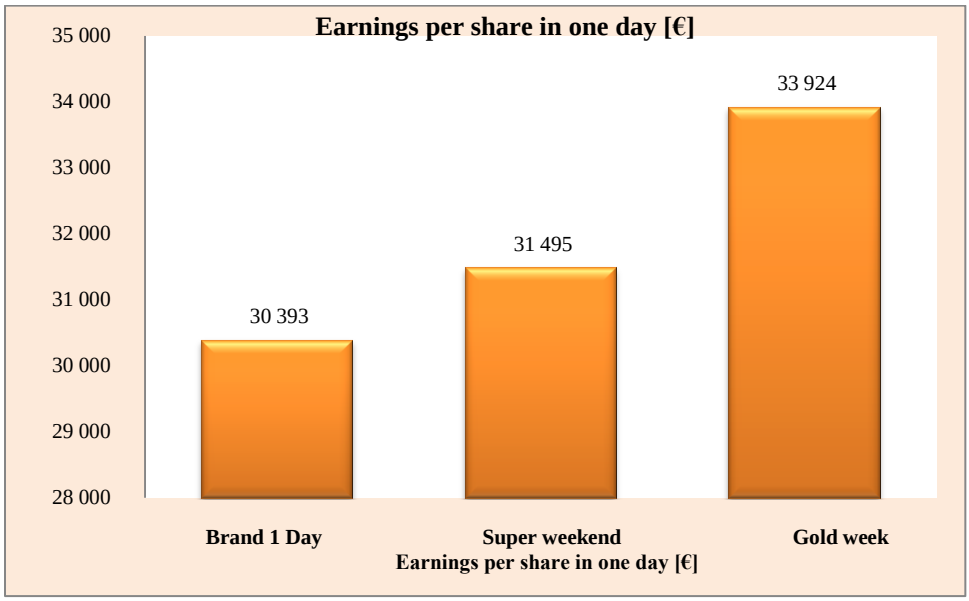

Figure 3. Earnings per share in one day
Source: own processing

Performance of golden week also confirmed by the data shown in Figure 4, which indicates the highest number of shoes sold in a single day of the event.

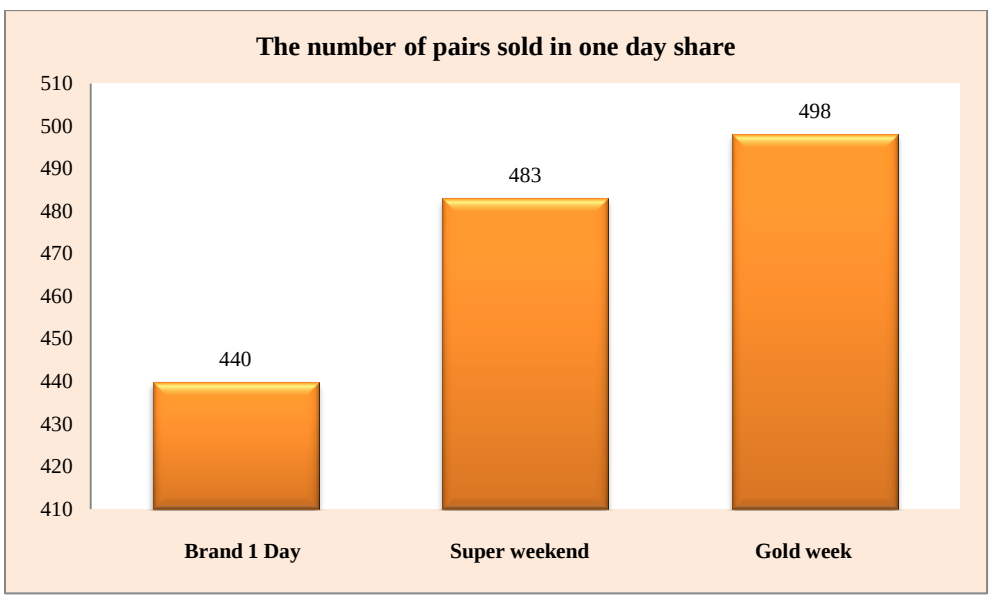

Figure 4. The number of shoes pairs sold on one day share
Source: own processing

In Figure 5, we visualized the development of the company's revenue for the period from January to April 2016. The chart shows growing trend in the development of sales and the obvious fluctuations in individual days of franking days ago correlated with wages in Slovakia.

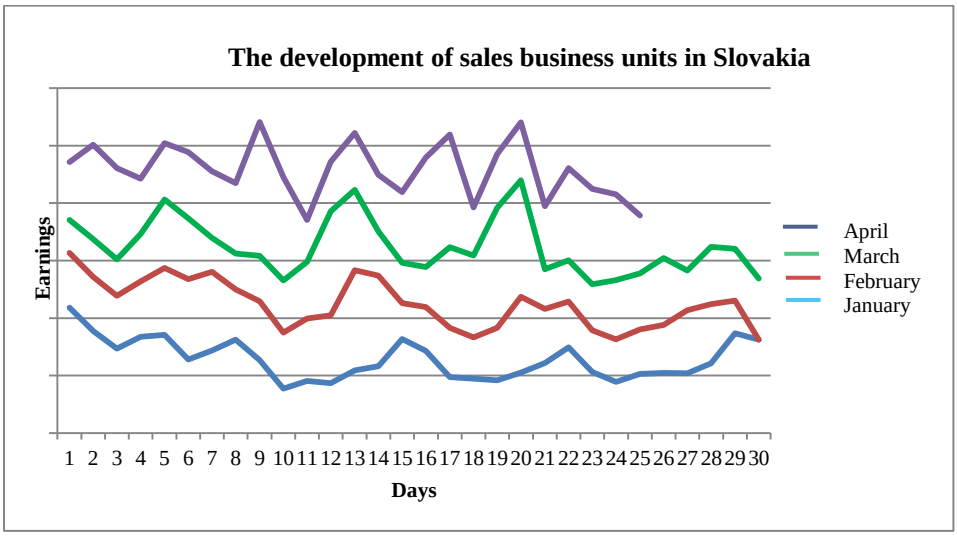

Figure 5. The development of sales operations
Source: own processing

4. Discussion and conclusion

A number of business enterprises with the same focus act currently on the market. Important competitors to the choosen business are CCC, Deichmann, Salamander and Reno. These companies offer a wide range of branded footwear, so it is important for a company under consideration to establish pricing policy to maintain a position in fierce competition. Marketing set goal - the survival of the situation of the market that is saturated. The customer therefore decides according to specific preferences and specific requests. The decisive criteria are the characteristics and especially price. For this reason, company monitors price relations in a competitive business, and according to them, moderates proooduct prices in order to attract customers.

Lucke and Heinze (2015) unnderline the significant factor is the cost performance of the business. Trade Company is a distributor of branded footwear that buys in wholesale. The price of goods is derived from the purchase price and margins, which makes secure profits. Also, the prices include the cost of renting premises for brick and mortar stores and salaries employees.

External factors include the nature of demand and the market, which defines the upper limit pricing (Rostášová & Kremeňová, 2005). The monopolistic competition is on the market for consumer goods, there are many sellers but also buyers. The dealer will therefore seek to acquire customers, especially through product prices and advertising. Among the external factors it includes the economic situation in the country. The economic crisis has given way to a more and more ordinary people are willing to pay more for quality and branded shoes. The company cooperates with show business famous people, who present a new collection of brands sold.

The company doesn't offer a loyalty program for regular customers, which can be considered a deficiency. Several customers when buying informed about such possibilities that other shoe stores generally offer. In the future, we recommend creating such a program, which would give regular customers feel that the company appreciates them and they are important to it.

Another proposal for the company is introducing discounts for students who hold International student Identity Card (ISIC) in as well as quantity discount when buying more than two pairs of shoes. Company also cooperate with the celebrities helping to increase sales and therefore recommend that company would continue to reach Slovak personalities of the entertainment industry (show business) for cooperation and promotion of brands, which the company sells.

The public relations effort perceives induce and maintain mutual understanding between businesses and the public through various publications, press conferences, exhibitions and lectures. Way of building the reputation of a business enterprise is not used, and therefore proposes to organize presentations, surveys that the public could submit a new collection of brand shoes, for example, charitable spirit.

Direct marketing includes catalog sales, telemarketing and mail order services. Office Shoes Sales Company offers the possibility to buy shoes through its own online store where you can find a wide selection of shoes and models that lack the capacity sold in our store. Shipping is on orders over € 20 free, but at high prices of branded shoes, we would propose postage altogether.

References

Ajagbe, M. A., Long, Ch. S., Solomon, O. 2014. The Impact of Sales Promotion and Product Branding on Company Performance: A Case Study of AIICO Insurance Nigerian PLCOriginal Research Article. In: *Procedia - Social and Behavioral Sciences*, ISSN 1877-0428, Vol. 2014, No. 129, pp. 164-171.

Blažková, M. 2005. *Jak využít internet v marketingu*. Praha: Grada Publishing. ISBN 80-247-1095-1.

Hadadi, K., Almsafir, M. K. 2014. The Impact of Online Advertising on Proton Sales among Expatriates in Malaysia. In: *Procedia - Social and Behavioral Sciences*, ISSN 1877-0428, Vol. 2014, No. 129, pp. 274-281.

Lucke, S., Heinze, J. 2015. The Role of Choice in Cause-related Marketing – investigating the Underlying Mechanisms of Cause and Product Involvement. In: *Procedia - Social and Behavioral Sciences*, ISSN 1877-0428, Vol. 2015, No. 213, pp. 647-653.

Rostášová, M., Kremeňová, I. 2005. *Marketing v službách. Algoritmy marketingových činností*. Žilina: Edis. ISBN 80-8070-355-8.

Salamatun, Z., T., Dwiyantoro, P. 2014. Commerce Systems and Distribution Pattern Commodities Principal and Featured A Case Study in Ciamis District, West Java Province, Indonesia. In: *Procedia - Social and Behavioral Sciences*, ISSN 1877-0428, Vol. 2014, No. 115, pp. 34-43.

Szarková, M., et al. 2005. *Komunikácia v marketingu*. Bratislava: Ekonóm. ISBN 80-225-2097-7.

Yildirim, Y., Aydin, O. 2012. Investigation of the Effects of discount Announcements on Consumers' Purchase decisions: A Case Study in Supermarket. In: *Procedia - Social and Behavioral Sciences*, ISSN 1877-0428, Vol. 2012, No. 62, pp. 1235-1244.

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MARKETING MANAGEMENT, TRADE, FINANCIAL AND SOCIAL ASPECTS OF BUSINESS
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Efficiency of small farms in the Slovak agriculture

Patrik Rovný

Abstract

The Rural Development Program of the Slovak Republic for years 2014-2020 is focused on problematic of small farmers, young farmers and family farmers. There is also created the Strategy for small farmers, young farmers and family farmers. The paper is based on data from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science. The aim of this paper is to calculate the minimum area of small farm, which will be self-sufficient for one average farm family in the Slovak Republic. The paper specifies farm size, which is the minimum area of agricultural land required for existing one farm respectively for one farm family. The data of the Slovak agriculture are analyzed by the basic statistical methods. In the paper there is used also the linear regression. This paper is created in the theoretical way. The model in this paper is based on the idea that the small farmer is engaged in the production of all basic commodities of plant and animal production.

Keywords: family farms, economical results, domestic expenditures,
JEL Code: *Q12*

1. Introduction

Agricultural land entrepreneurship belongs to the oldest economic sectors of every country. The Slovak Republic and its rural areas were for many years a typical agrarian country. Despite to the industrialization after 1950 agriculture remained its characteristic feature. Evidential sector organization of agricultural production was created as a result of manufacturing expansion. It was caused by industrialization process. It caused largely one-side orientation of rural regions towards the agricultural activities. In the current era of globalization, especially after the accession to the EU, the position of agriculture is changing especially in the trend of EU CAP reforms (Horská, et al., 2013).

The production efficiency is one of the key prerequisites for the competitiveness of enterprises in every business. The assessment of production efficiency in agriculture is limited by weather conditions and by large variability of farms not only within the member states but also among EU regions. Nevertheless, the identification of production efficiency and its main determinants can reveal the weaker regions and show ways how to improve their farming performance in new Common Agricultural Policy after 2013 (Horská & Berčík, 2014).

For most provided examples of quality costs, it is possible to use effective and efficient quality management system and in many cases completely to remove. Therefore, the organization should do a systematic and comprehensive financial analysis of various processes and departments in the organization, despite of the fact that prevention costs belong to the group of permanently increasing costs related to the quality. However, the recommendation for their sustained growth is still followed by a reduction of all unproductive expenditure in the company (Holota, et al., 2016)

Over the years, companies have started to recognize that they are responsible for their actions, A which has developed into having a positive impact on stakeholders, the environment and society (Nagyová, et al., 2013).

Generally expected outcome of economic growth is raising standard of living of the population in the Slovak Republic. Its measurement is based on the basic macroeconomic aggregates such as GDP growth and GDP per capita. Such indicators, despite their clearly accepted significance, have a number of limitations that

undermine their informational value. These indicators are the product of highly aggregated data. Therefore submitted paper focuses on the analysis of the income situation of the population. This approach allows to obtain objective indicators of the true state income differentiation, respectively income inequality in particular social groups. Society with substantial income differentiation is less resistant against various extreme impact of globalization. The analysis results show that in the years 2004–2011 the real income increased least in the group of self-employed persons by an average of 4.89% (k' = 1.0489), while in the group of pensioners, the real income increased by an average of 7.08 % (k' = 1.0708) (Kubicová, et al., 2013).

Before embarking on a discussion of the relation between farm size and "efficiency", we must note two caveats. First, in the presence of transactions costs, efficient farm size is not independent of household endowments of labor and capital. If labor supervision costs are sufficiently important that "labor autarky" is optimal, efficient farm size increases with the number of family members of working age. Likewise, in an Eswaran-Kotwal world, efficient farm size is dependent on the household's working capital endowment. So, strictly speaking, the following discussion is from the point of view of an idealized household with no capital endowment. Second, except where stated, we think of efficiency in terms of the maximum expected return to the house-hold, thus neglecting exogenous risk (Eastwood, et al., 2010).

2. Material and Methods

The material used in the paper are divided into primary and secondary sources. The primary sources are the data from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science and from it from Information lists of farmers for the years 2005-2012.

The secondary sources are databases of the Slovak Statistical Office and Eurostat from the years 2005-2012

The presented paper includes calculations which creates the model of four member family farm which has its expenses covered by their agricultural profit. We set that the family farm produces agricultural commodities for the sale and food for their own consumption. For this calculation we chose the most produced commodities as wheat, barley, corn and oil rape (typical for Slovak agrarian sector).

In this paper we calculate with these following indicators:

- the average consumption of commodities consumed by people (in kg.person-1.year-1),
- average yields of chosen commodities (in tones. ha-1),
- the size of agricultural land per one inhabitant (in ha.person-1),
- the utility of individual livestock species (in kg or in litters),
- The average daily weight gains of individual livestock species (in kg),
- Own costs of 100 feeding days (resp. own costs on 1 l of milk, resp. on 1000 feeding days),
- Feeding rations of individual livestock species,
- Average yields per hectare of commodities needed as feed for livestock.

These indicators we transform on calculation for one family farm.

3. Results and Discussion

The calculation of agricultural land needed for the primary crop production commodities which are necessary for human nutrition is indicated in table 1. In this calculation we used the values as: average consumption of those commodities based on the datas from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science. We used the average yields per one hectare of plant commodities for the years 2010-2012 and also we used data of economical costs for individual commodities.

Table 1. The calculation of acreage and own costs per 1 unit of plant commodities based on average consumption per 1 inhabitant in Slovakia

Plant commodities	Consumption in kg. 1 inhabitant^{-1}	Average yield 2010-2014 in t.ha^{-1}	Area of agricultural land in m^2 .1 person^{-1}	Own costs in v Euro. 1 person^{-1}
wheat	108.00	4.51	239.47	15.39
barley	23.99	3.91	61.62	4.21
rye	6.75	2.79	24.19	1.51
corn	54.50	7.31	74.56	8.58
rapeseed	51.16	2.62	196.02	25.19

sunflower	2.77	2.51	11.94	0.98
peas	0.82	1.91	4.29	0.45
potato	45.00	15.74	28.59	10.06
sugar beet	226.00	61.21	37.36	7.70
fruit	53.00	9.65	54.92	31.54
vegetables	101.50	12.11	85.15	5.03
grapes	16.20	3.91	41.43	7.61
TOTAL			859.54	118.23

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2015, own calculation

From the table 1. we can see that plant commodities needed to cover basic human nutrition needs required area of agricultural land in the volume of 0,0859 ha and for its production family farm needs 118,23 Euro to cover expenses related to their cultivation. In these costs are included the costs of seeds, fertilizers, protective equipment, depreciation of machinery and other direct costs based on the methodology of calculating from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science related to own costs of individual commodities of crop production.

Table 2 shows the calculation of acreage and production costs for animal commodities on the basis of average consumption per capita in the Slovak Republic. Calculation was based on the following indicators:

- Average consumption of analysed commodity per 1 inhabitant per 1 year,
- Utilization of individual livestock species,
- The average daily weight gains of individual livestock species,
- Own costs of 100 feeding days (resp. own costs on 1 l of milk, resp. on 1000 feeding days),
- Feeding rations of individual livestock species,
- Average yields per hectare of commodities needed as feed for livestock.

Table 2. The calculation of acreage and own costs per unit of animal commodities based on average consumption per 1 inhabitant in Slovakia

	Consumption in kg. inhabitant^{-1}	**Area of agricultural land in m^2 .person^{-1}**	**Own costs in v Euro. person^{-1}**
milk	160.0	392.54	62.58
beef	4.3	178.65	24.52
pork	33.8	432.54	61.24
poultry meat	19.9	189.54	24.23
eggs	207.0	65.44	14.19
TOTAL		1258.71	186.76

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2015, own calculation

From then table 2. we can see the volume of animal commodities as meat, milk and eggs which are necessary to cover basic human nutrition needs. The required area of agricultural land is in amount of 0.126 hectares and expenses represents the number 186.76 Euro. In these costs are included the costs as feed and bedding, medicine and disinfectant materials, depreciation of machinery and other direct costs based on the methodology of calculating from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science related to own costs of individual commodities of animal production.

Table 3. Calculation of acreage and own costs per unit of plant and animal commodities based on the average consumption per 1 household in SR

	Area of agricultural land in m^2 .person^{-1}	**Own costs in v Euro. person^{-1}**
Plant commodities	859.54	118.27
Animal commodities	1 258.71	186.76
TOTAL (1 unit)	2 118,25	305.03
TOTAL (household = 4 persons)	8 473.00	1 220.12

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2014, own calculation

Table 3. represents the calculation of acreage and own costs per unit of plant and animal commodities based on the average consumption per 1 inhabitant in the Slovak Republic conditions. It shows also the total amount of land for one household (family) and own costs calculated per 1 household. From the calculations we can see that one average household in Slovakia with 4 members for covering their human nutrition needs 0.847 hectares of agricultural land. Costs for plant crops respectively for livestock are totally in amount of 1 220.12 Euro.

To calculate the area of agricultural land to cover its costs for the production of basic commodities, to cover the costs of livestock breeding and to cover basic household expenses without food expenditure, there were selected as benefiting the following commodities: wheat, barley, grain maize and rapeseed.

For the calculation of the profit we used data of the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, where we got the average values of the profit and national subsidies per 1 ha of agricultural land for the period of 5 years.

For calculation of the area of agricultural land we used the four most growing crops on arable land in the Slovak Republic as wheat, barley, grain maize and rape seed.

From the Table 4. we can see commodities which have the highest average profit per 1 ha of agricultural land. Reached grain maize (185.65 Euro.ha^{-1} of agricultural land). Mentioned commodities had also the highest.

Table 4. Development of profits after tax excluding subsidies and subsidies for the individual selected commodities (Euro.ha^{-1})

Wheat	**Profit after tax**	**Subsidies**	**Barley**	**Profit after tax**	**Subsidies**
2009	- 82.31	144.93	2009	- 27.93	113.41
2010	79.75	141.92	2010	- 40.62	90.29
2011	187.56	140.42	2011	172.89	133.30
2012	44.78	175.79	2012	53.22	157.25
2013	82.85	179.82	2013	65.35	159.29
Average	62.53	156.58	Average	44.58	130.71

Grain maize	**Profit after tax**	**Subsidies**	**Rapeseed**	**Profit after tax**	**Subsidies**
2009	56.47	194.33	2009	9.95	223.01
2010	121.72	116.39	2010	129.15	213.88
2011	265.54	161.53	2011	361.16	244.86
2012	279.31	207.54	2012	70.74	290.53
2013	205.22	208.35	2013	268.22	159.25
Average	185.65	177.63	**Average**	167.84	226.31

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2015, own calculation

For the results mentioned above we calculated total household expenditures per year without food consumptions because food will be produced as its own costs and will be subsequently consumed by households. To the expenditures were involved also own expenses for production of its own products as the basis for life and indispensable commodities in terms of their average annual consumption in Slovakia.

Table 5. Calculation of the expenditure necessary for the basic functioning of households (in Euro)

	Expenditures for 1 person	**Expenditures for 4 persons**
Household expenditures	7 545.52	30 182.08
Expenditures on food and non-alcoholic beverages	1 386.07	5 544.29
Household expenditures without expenditure on food and non-alcoholic beverages	6 159.45	24 637.79
Cover its costs for commodities	308.78	1 235.12
Expenditures TOTAL	6 468.23	25 872.91

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2014, own calculation

The household expenditures for agricultural activity which must be covered from profit n amount of 25 872.91 Euro per 1 year (Table 5). For the calculation of agricultural land area to cover household expenditures by 4 basic and economically most interesting commodities were already above mentioned (wheat, barley, grain maize and rapeseed). Reason for selection these 4 commodities is the fact that in terms of crop rotation is not suitable to cultivate in the same area the same crop every year. In the Table 6 we can see the area of individual crops analysed above together with the amount of income to cover all expenses listed in Table 5.

Tab. 6 Calculation acreage of agricultural land to cover all household expenses (Euro, ha)

	Profit after tax from 1 hectare	**Subsidies per 1 hectare**	**Income from 1 ha of the agricultural land**	**Acreage in ha**	**TOTOAL income**
Wheat	62.53	156.58	219.11	22.46	4 921.74
Barley	44.58	130.71	175.29	22.46	3 937.44
Grain maize	185.65	177.63	363.28	22.46	8 160.15
Rapeseed	167.84	226.31	394.15	22.46	8 853.57
TOTAL	460.60	691.23	1151.83	89.85	25 872.91

Source: the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science, 2015, own calculation

From the Table 6. is we can see that household (family) composed from 4 members needs to cover their costs acreage of 89.85 hectares of arable land. From this point if there will be more acreage households would produce a profit. It is possible therefore economically define that the calculated area is a turning point. This calculated acreage does not include area of agricultural land required for the production of basic commodities - crops necessary for human nutrition calculated on the basis of average consumption per person per year.

Area of agricultural land required for cultivation and animal husbandry required for household food production is in amount of 0.847 ha. We added this above calculated amount to the value of acreage shown in Table 5. The final value of agricultural land required for the life of a household with 4 members is in amount of 90.697 hectares.

Calculated acreage is a turning point when the household does not create a profit but only covers all its expenses necessary for life. By increasing of this acreage will automatically increase the gain but only in respect of mentioned structure of crops. It should be noted that in terms of different crop structure will be achieved different results of profit or loss. It is because the main factor except of yield there is price for which farmers are able to realize their production.

On the other hand there exists the basic problem in Slovakia as is discussed in previous chapters. It is the fact that there are very few farms which their products process into the final products respectively semi-finished products. These final products or semi-finished products have a higher added value and farmers are benefiting from its own production.

In this case for evaluation of production would be needed lower area of agricultural land to ensure basic expenses. Article deals with purely agricultural primary production. There is not analysed processing of agricultural commodities.

4. Conclusion

The Rural Development Program of the Slovak Republic for years 2014-2020 is focused on problematic of small farmers, young farmers and family farmers. There is also created the Strategy for small farmers, young farmers and family farmers. The paper is based on data from the Research Institute of Agricultural and Food Economics of the Slovak Republic of the National Agricultural and Food Science. The aim of this paper is to calculate the minimum area of small farm, which will be self-sufficient for one average farm family in the Slovak Republic. Average farm family represents farm with four members of family. The model of small family farm has plant and animal production. The paper specifies farm size, which is the minimum area of agricultural land required for existing one farm respectively for one farm family. The data of the Slovak agriculture are analyzed by the basic statistical methods. In the paper there is used also the linear regression. This paper is created in the theoretical way. The model in this paper is based on the idea that the small farmer

is engaged in the production of all basic commodities of plant and animal production. The model is based on idea on household expenditures per year without food expenditures, because the food expenditures will be produced on farm and will be consumed by the members of family. The Slovak average family expenditures are in volume of 25 872.91 Euro per year and they have to be covered by farming revenues. The average family farm has to have minimum 89.85 hectares of arable land for covering family expenditures. In this area volume is not included area of agricultural land required for the production of basic commodities - crops needed for human nutrition of average consumption per person per year. The volume of agricultural area for planting and livestock feeding for production of family food is in the volume of 0.847 hectares. The final size of agricultural land required for the family farm with 4 members is in the volume of 90.697 hectares.

References

Eastwood, R., Lipton, M., Newell A. 2010. *Farm Size*. *Handbook of Agricultural Economics*. Burlington: Academic Press. ISBN 978-0-444-51874-3.

Holota, T., Hrubec, J., Kotus, M., Holienčinová, M., Čapošová, E. 2016. The management of quality costs analysis model. In: *Serbian journal of management*, ISSN 1452-4864, Vol. 11, No. 1, pp. 119-127.

Horská, E., Berčík, J. 2014. The influence of light on consumer behavior at the food market. In: *Journal of food products marketing*, ISSN 1045-4446, 1540-4102, Vol. 20, No. 4, pp. 429-440.

Horská, E., Szafrańska, M., Matysik-Pejas, R. 2013. Knowledge and financial skills as the factors determining the financial exclusion process of rural dwellers in Poland. In: *Agricultural economics*, ISSN 0139-570X, Vol. 59, No. 1, pp. 29-37.

Kubicová, Ľ., Nagyová, Ľ., Kádeková, Z. 2013. Comparison and modeling of households food expenditures in Slovakia with regard to the economic status and job position of the head of household. In: *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, ISSN 1211-8516, Vol. 61, No. 7, pp. 2377-2384.

Nagyová, Ľ., Stávková, J., Kádeková, Z. 2013. Income disparities and their impact on the level and development of food expenditures of households in Slovakia. In: *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, ISSN 1211-8516, Vol. 61, No. 7, pp. 2569-2575.

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Use of the results of financial analysis in business management

Martina Sabolová, Mariana Ivaničková

Abstract

The aim of this paper is to assess the financial health of selected company based on financial analysis for a given period of time (2010-2014) and predict the development of the company in the future. The assessment of the financial health through financial analysis in the current unstable economic environment is very important. In fact, it helps prevent the wrong economic decisions and implement only those solutions that are effective for the company and benefits. Financial analysis is a method of evaluating financial management company focused on identifying problems and above all value the processes that take place in the company. It constitutes an indispensable part of financial management and decision making, especially due to the fact that the outcomes serve as the basis for many management decisions. The main contribution in this area is the comparison of individual indicators in time and space, as isolated values do not have sufficient explanatory power and can thus lead to possible misunderstanding.

Keywords: financial health, financial analysis, company.
JEL Code: JEL G00, JEL M21

1. Introduction

Financial analysis by Kislingerová (2010) is an activity whose aim is to recognize and then comprehensively assess the financial situation of the company. It follows the development of the situation in the past, using, for example. Horizontal and vertical analysis ratios and it evaluates the current situation and forecast the future development on the basis of bankruptcy and creditworthy models. The results of the financial analysis are crucial to the decision-making process in all financial areas of the company. Financial analysis is used by Kislingerová and Hnilica (2008) to assess the financial situation of the analyzed company and provides important information for future management decisions. It is thus an important tool in financial management. It brings conclusions about the overall financial and economic situation of the company, according to which managers can make decisions.

To assess the financial situation of the company we will use the analysis of the ratio indicators as indicators of liquidity, activity, profitability and debt. The results of these indicators we will quantify not only for the analyzed company HEDOSTAV but also to selected competitors in order to get an objective view of the situation in that a related business environment.

The role of the economic-financial analysis is to identify factors that are of varying intensity participated in the creation current economic and financial situation of enterprise. Financial situation of enterprise sometimes referred to as "the financial health of the enterprise." Financial analysis is an essential resource for assessment of the economic processes of the enterprise and simultaneously creates a presumption of sound financial decision-making in the future (Nižníková, et al., 2015).

The term financial health indicates the company's ability to maintain a balance of changing ambient conditions and also in relation to all who are involved in the business. We are talking about the financial health of the company, if the company maintains its own existence and is able to assess the invested capital to the extent that is required by shareholders (Feranecová & Sabolová, 2015).

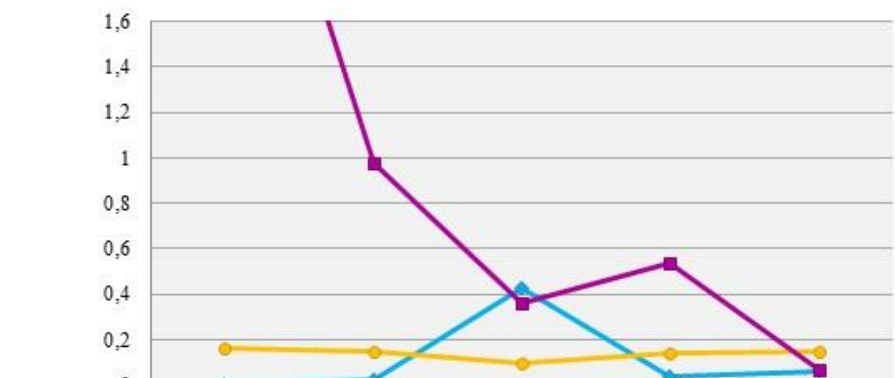
2. Analysis of the ratio indicators

For a better assessment of the financial analysis of the selected company, we decided to compare the results of individual indicators and the competitors of the company. Obtained in this way realistic view on the company in its business environment. Selection of suitable competitors was done in consultation with the company HEDOSTAV and based on the definition of basic features that are consistent with the company we analyzed. Based on the consultations we have chosen two competing companies THterm, Ltd. and LH Real, Ltd., both of which operate in Košice.

2.1. Liquidity ratio indicators

Input parameters for the calculation of the quick ratio are current financial assets and current liabilities. The following figure No.1 reports the value of the calculation of quick ratio of HEDOSTAV for comparison, and the other two competitors.

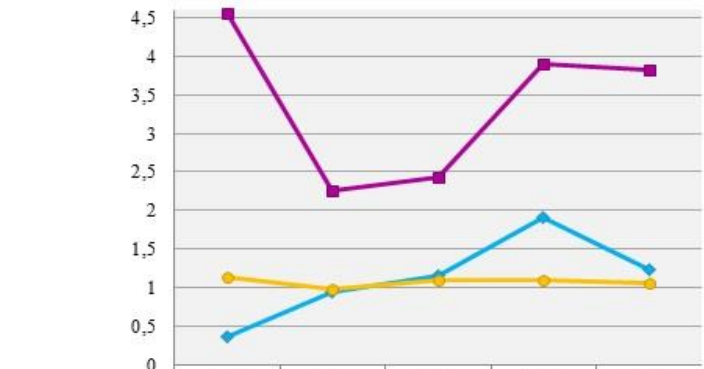
We can also see that the lowest figures are company HEDOSTAV in 2010 and the level of 0,003. On average, however, it reaches a value of 0,11. The highest value reached 3,02 LH REAL in 2010, and the average for the whole period amounts to 0,99. Most evenly company development achieves quick ratio THterm whose average value is 0,14. All these companies exceed the recommended interval from 0,2 to 0,6, but close to it, the company has THterm, which is critical to quick ratio most liquid. company HEDOSTAV is a close second second.



	2010	2011	2012	2013	2014
Hedostav	0	0,02	0,43	0,04	0,06
TH Term	0,16	0,15	0,1	0,14	0,15
LH Real	3,02	0,98	0,36	0,54	0,07

Figure 1. Intercompany comparison Quick ratio in the period 2010-2014
Source: Own processing based on data from company accounts

Total liquidity of HEDOSTAV had course during the period shown in the figure below 2. To the optimum interval variable from 2,0 to 2,5 approximates company only in 2013, but during the entire period not to comply with it. The lowest figures are company in 2010. In 2011 there was an increase in value of nearly 160%, even though inventories decreased by 78%, but also fell in current liabilities by 52% and increased in short-term financial assets by up to 263%. Until 2013, the total liquidity degrees and adjust the fall in 2014 by 35%. This decline was mainly due to increase in short-term liabilities.



	2010	2011	2012	2013	2014
HEDOSTAV	0,36	0,94	1,15	1,91	1,24
THterm	1,13	0,98	1,1	1,09	1,06
LH Real	4,55	2,25	2,43	3,9	3,83

Figure 2. Intercompany comparison of total liquidity in the period 2010-2014
Source: Own processing based on data from company accounts

Figure 2. shows that the highest value achieved total liquidity company LH REAL during the period, the most in 2010. Average level is 3,39. Company THterm has steady development of the indicator over the period, whose average value is 1,07. Analyzed company HEDOSTAV is on average 1,12 value of total liquidity. None of the companies falls short of average total liquidity at recommended intervals from 2.0 to 2,5. The closest to optimal interval indicator has company HEDOSTAV that is missing 0,87 to achieve optimal, and thus achieves the best average total liquidity.

2.2. Activity indicators

Using indicators of activity we assessed the extent to which the company and its competitors are active, i.e. how to effectively manage its assets. Calculation of the variable inventory turnover time we get the number of days for which stocks in the company turnover. In other words, the number of days of their receipt at the warehouse until they are consumed or sold, i.e. their conversion to sales. The number of days of inventory turnover in the company HEDOSTAV and competitive companies for the period we can see in Figure No. 3.

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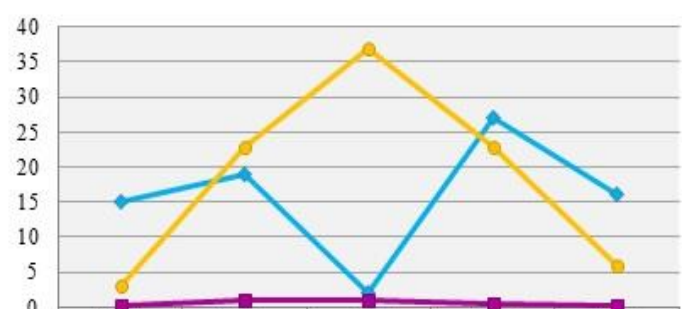


	2010	2011	2012	2013	2014
HEDISTAV	15	19	2	27	16
THterm	3	23	37	23	6
LH REAL	0,2	1	1	0,5	0,3

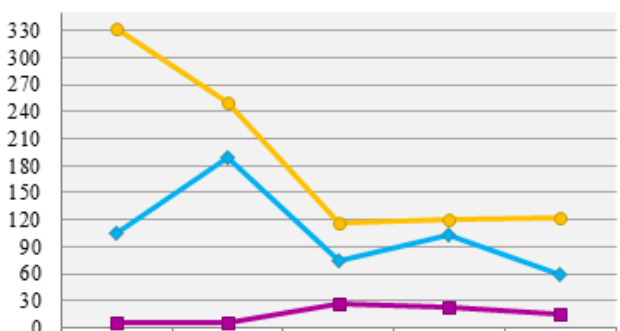
Figure 3. Intercompany comparison of inventory turnover time in the period 2010-2014
Source: Own processing based on data from company accounts

The value of the indicator is in the company ranging from 2 to 27 days. At this indicator is better lower value because the company is able to quickly supply generally known as flip. We see that the lowest and therefore best value two days reached the company in 2012. The average stock value this year was the lowest for the whole period (1 732 euros). Revenues, however, reached the second highest value analysis processing (almost 259 000 euros). The following year company manages with stocks inefficient, because the time of turnover increased to 27 days. This leads to a sharp increase in the average stock by up to 560% and sales declined by 41%. The average number of days that were needed for the turnover of stocks throughout the period analyzed was 16, this means that the company on average every 16 days to transform the stock sales.

Intercompany comparison shows that the best value and most effective working with his company stocks LH reality that the average value of inventory turnover time was a half day (0,5). Least effective was the company THterm in 2012, which lasted 37 days Inventory turnover. The company achieved during the reporting period, the average value of 18 days. As for the whole intercompany assessment, quickly and efficiently stocks from applying in the company HEDOSTAV since reaching the lowest average value of 16 days. The average number of days that were needed for the turnover of stocks throughout the period analyzed was 16, this means that the company on average every 16 days to transform the stock sales.

The indicator repayment obligations, we evaluated the payment behavior undertaking and its competitors. At the time of repayment obligations is not given specific optimal value or the interval, but the number of days of repayment should not be less than the turnover time of receivables that the company did not cause stagnation of cash flows. Higher number of days for company is better because the longer it draws on so called trade credit. On the other hand, for breaches of maturities may damage its reputation. Graphically demonstrates the development of the repayment obligations in the company HEDOSTAV in Figure No. 4, highlights the fluctuating development, as well as at the time of receivables turnover. The highest number of days of repayment accrued to the enterprise in 2011 and this 190 days. The reason was the increase in average short-term trade payables by 21% and reduced costs by 33%. This year was therefore the worst payment behavior during the entire period. However, when compared with the time of receivables turnover for the same period (115 days), there was no reduction in the level of consolidation of economic relations company. The following year there was a decrease to the level of 74 days, causing a reduction in the amount of commitments to 21% and increase costs by more than 100%.

Best payment company behavior reached in 2014, 59 days. It is caused by not only the increase in costs of more than 473,000 euros, represented in 331%, but the growth of commitments that was lower than at cost and represent 223 000 EUR, i.e. 174%. Company with the best payment behavior during the reporting period was the company LH reality that the highest value repayment obligations period was 26 days in 2012. The lowest value not only within the company but also in comparison with the competition reached in 2010 and 2011, during which paid off company its obligations for 5 days. The company with the worst payment behavior was company THterm whose average repayment obligations period has reached 189 days, which means that it took more than six months, if there are payment commitments. Company HEDOSTAV to the average 106 days to get second place in payment discipline.



	2010	2011	2012	2013	2014
HEDOSTAV	105	190	74	104	59
THterm	333	251	117	121	122
LH REAL	5	5	26	23	16

Figure 4. Intercompany comparison period of repayment obligations for the period 2010-2014
Source: Own processing based on data from company accounts

2.3. Profitability indicators

By profitability indicators we evaluated the profitability of sales, total assets and equity and the company HEDOSTAV for comparison and his competitors. It was the calculation of the percentage of profits that companies brought monitored items. Indicator return on sales (ROS) assesses what percentage of profit we have gained through sales. The calculation of the indicator, we implemented and the resulting value was recorded in Table 1.

Table 1. The calculation of the profitability of sales in the period 2010-2014

Spoločnosť	2010	2011	2012	2013	2014
HEDOSTAV	-40,41%	-4,33%	-2,91%	-0,09%	1,93%
THterm	2,04%	0,55%	0,67%	0,51%	0,42%
LH REAL	19,66%	14,82%	17,09%	9,80%	15,92%

Source: Own processing based on data from company accounts

Development of the indicator in the company HEDOSTAV is not favorable, as in almost the whole period amounted to negative indicator. Positive values reached in 2014, which is not very positive, because it can be interpreted as 1 euro sales this year brought profit of 19 cents. The negative development was mainly due to the profit or loss that was in the period 2010-2013 is negative. The greatest loss company reached in 2010 with a height of 87 414 euros. The cause of this loss of an amount for depreciation and provisions for fixed assets in the amount of 78 269 euros and amount of other financial expenses in the amount of 13 165 euros. Significant improvement occurred in the following year when depreciation and impairment losses declined to the level of 4 860 euros (almost 94%) due to the reduction of provisions for tangible fixed assets. Likewise fell sharply and the other financial costs to the level of 2 839 euros, t. j. of 78%. Thanks to these effects, while company at a loss in 2011, but it was at 4 367 euros, which is a decrease of 95%. In subsequent years, we see a rising trend indicator average of 2%. In 2014 company achieved profit after tax in the amount of 13 521 euros and sales value of 701 680 euros, the best results were those items for the whole projection period.

When comparing the company with its competitors HEDOSTAV we found that sales bring the greatest value of profits in company LH REAL. In the whole the reporting period shall be maintained in the range between 19% and 9%. Euro sales in this company brought for the whole period an average of 15 cents of profit, i.e. their value was of 15%. Company THterm reaches a steady state an average of 1%, this means that the euro revenues earned him an average of one cent of profit. At least a viable company in terms of sales was just company HEDOSTAV because his average euro sales did not produce a profit, but a loss of 9 cents.

Based on the formula for calculating return on equity, we evaluated how earnings after tax (EAT) provide the capital that the company entered into the shareholders. Based on the calculations, we came to the results shown in Table 2.

Table 2. The calculation of return on equity in the period 2010-2014

Spoločnosť	2010	2011	2012	2013	2014
HEDOSTAV	149,40%	-68,89%	-31,20%	-0,28%	11,72%
THterm	54,04%	36,17%	32,86%	24,30%	17,22%
LH REAL	19,06%	11,35%	92,48%	28,81%	29,93%

Source: Own processing based on data from company accounts

Company HEDOSTAV reached the highest positive value in 2010, in the year in which the profitability of sales and total assets reached the lowest value of company. The reason to 149% profitability was negative equity -58 510 euros, according to the statement which caused the balance sheet losses from previous years - 18 651 euros Profit for the period after tax (EAT) - 87 414 euros. In 2011 there was an increase in equity on a positive value 6 339 euros, but the value of EAT was negative (- 4 367 euros), so euro equity resulting in loss of 68 cents. The negative value of the indicator in the 2012 and 2013 were a consequence of a negative value EAT, but nevertheless values soared an average of 27%, and finally reached a positive value in 2014. This

year brought euro gain on equity of almost 12 cents. It happened due to the amount EAT, which was the highest for the period 13 521 euros and likewise also due to high equity value 115 395 euros, which thus increased due to the formation of other capital funds.

Comparing the companies we conclude that companies with the highest average return on equity was the company LH REAL, namely 36%, which means that one euro of equity brought on average during the reporting years the company profit 36 cents. Equity compared to company average HEDOSTAV was higher by almost 167 000 euros and EAT of 71 400 euros. The company with the second best return on equity was company THterm, which is the first in the sequence varies by only 3%. Company HEDOSTAV has over the company's average equity decreased by 3,700 euros and the average EAT dropped by nearly 30,000 euros. The worst average value of the indicator reached us analyzed company by 12%.

2.4. Debt ratios

Using the debt indicators, we analyzed the composition of the company's capital, ie the structure and the ratio of equity and loan capital. In quantifying the degree of indebtedness we evaluated the percentage of foreign capital in the company. In other words, what percentage of the total capital comes from foreign sources. Calculation was performed for the entire period analyzed in the company HEDOSTAV well as its competitors, and the results are shown in Figure No. 6.

Graphical representation of the degree of indebtedness of the company HEDOSTAV (Figure No. 5) we are united for greater explanatory power to the indicator of financial autonomy, as their mutual sum equal to 100%.

In 2010, the company reached an extremely high debt because of the higher ratio of borrowed funds 149 443 Euros and the total capital of 90 942 euros. This imbalance has caused the already mentioned value minus equity. Between 2013 and 2014, while the value of the indicator was below 70%, but the average rate for these years 65% leverage ratio is acceptable.

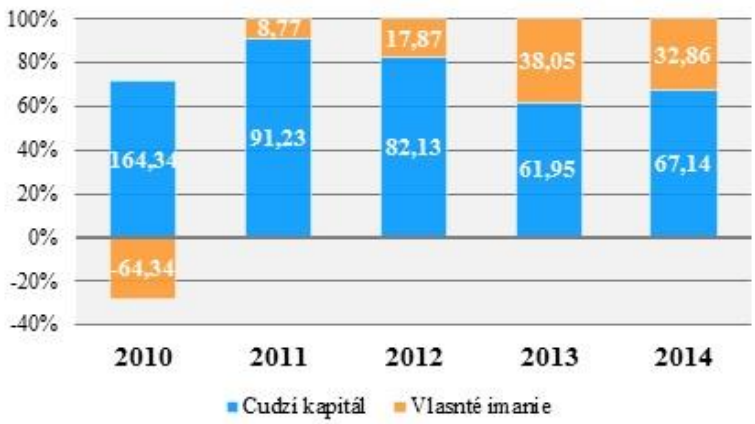
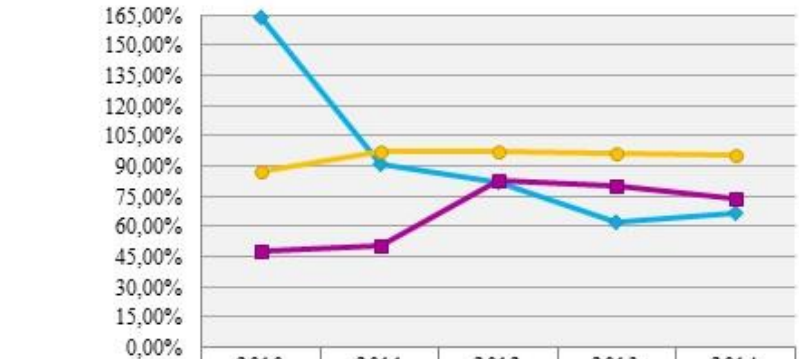


Figure 5. Funding structure of company HEDOSTAV
Source: Own processing based on data from company accounts

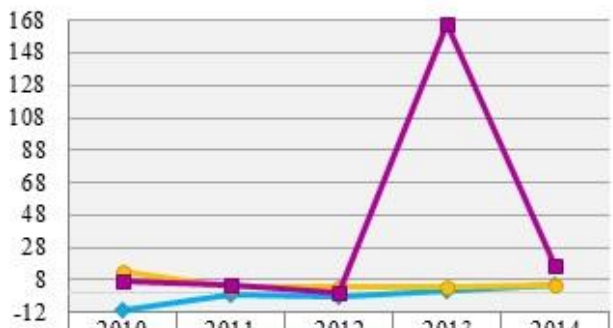
When compared to the competition, we see that the company THterm exceeds the recommended value of 70% and shows high leverage ratio during the period, an average of 95%, which puts him in the company with the highest share of foreign capital from the firm concerned. The average level of debt at 67% of LH REAL is the best average value of all companies because it is closest to the optimum ratio of 70%. The second most heavily indebted company is a company HEDOSTAV whose average value is 93%.



	2010	2011	2012	2013	2014
HEDOSTAV	164,34%	91,23%	82,13%	61,95%	67,14%
TH Term	86,98%	97,46%	97,60%	96,30%	95,86%
LH Term	47,83%	50,84%	82,75%	80,29%	73,94%

Figure 6. Intercompany comparison of the degree of indebtedness in the period 2010-2014
Source: Own processing based on data from company accounts

The indicator that assesses the interest coverage we quantify how many times exceeds earnings (EBIT) interest expense, which represents the price of borrowed funds (bank loans). Using the calculations we have received the data shown in Figure 7. for individual companies and for the period.



	2010	2011	2012	2013	2014
HEDOSTAV	-11,19	-0,57	-2,24	1,1	4,4
TH Term	13,83	3,35	3,36	3,6	4,83
LH Real	6,75	5,12	0	165,27	16,93

Figure 7. Intercompany comparison cover of interest during the period 2010-2014
Source: Own processing based on data from company accounts

Company HEDOSTAV drew throughout the period short-term bank loans in 2012, 2013 and 2014 drew in addition, long-term bank loans. Due to negative value economic result (EBIT) achieved in the first three years of the analysed period, the interest coverage indicator negative. The value of the interest on bank loans has since 2010 decreasing. Since 2010, when their height was running at 7 159 euros declined to 4 937 in 2014, representing a decrease of 31%. In this year company achieved the best value of the indicator, which means that the EBIT able to cover interest expense quadrupled. Compared with the previous year, in 2013 there was a fourfold increase in interest coverage, which had a value of 1,10 which meant that the entire results of operations could EBIT mainly just to cover the interest expense.

In evaluating the interest coverage competitors of the company HEDOSTAV we see that companies are able to cover its interest expense. The exception is LH REAL, which in 2012 did not draw any loans and thus the value of zero interest expense. In the next period, the sharp rise in the ratio to the level of 165, the highest value for the period. The average value of the indicator of the company's 38,82. The average value of THterm

interest coverage stood at 5,80. Worst average result achieved our company HEDOSTAV -1,70, which means that for the period could, on average, its results of operations to cover interest payable on bank loans.

3. Conclusion

The concept of financial health refers to the ability of the company to maintain a balance to changing environmental conditions and also in relation to all who are involved in the business. We are talking about the financial health of the company if the company maintains its own existence and is able to assess the invested capital to the extent that is required by shareholders. The results of the financial analysis differ in companies of different industries, because companies have different assets and financial structure, and also the different structure of profit (Feranecová, et al., 2016).

The evaluation and the management of company's performance are usually based on analysis of all relevant processes conducted within and outside of the company (Tkáč, Delina & Sabolová, 2016).

Companies which want to improve their own competitiveness must be able to adapt to rapidly changing market environment and technological progress. Globalizing markets of individual countries, working free trade, make the competition more intense, what make the need for producing quality products and services so obvious. In current highly competitive environment, it is important that each business identify a set of key indicators that reflect its performance (Sabolová & Tkáč, 2015).

By analyzing various degrees of liquidity company HEDOSTAV, Ltd. we concluded that the company has some difficulties in the repaying their liabilities, respectively in the solvency. Company performs worst at the ready liquidity due to low short-term funds in particular the bank accounts of the company, except in 2012, during the entire period. In terms of liquidity of first instance considered insolvent company. Despite the significantly increased value of inventories in the last two years of the review period, it failed to meet the optimal company value overall liquidity. Nevertheless, we do not consider venture in terms of third degree of liquidity for insolvent because of dwarfed by the sum of short-term funds, short-term receivables and inventory value of current liabilities over the last three years of analysis. Proposed action: An increase in short-term funds in bank accounts, collection of short-term receivables and short-term loan drawdown. As well as a reduction short-term debt in particular, other current liabilities arising on penalties for late payment.

When evaluating the company's activities, i.e. efficient use of company assets HEDOSTAV, Ltd. we concluded that the company effectively manages its property, although experts do not specifically recommended value. Inventory turnover reached during the analysis period, the average is 16 days, which shows the effective management of stocks, the decoupling of excessive inventory levels, and hence, the funds owned by the company. By analyzing the repayment obligations, we found that the company complies with the rule that the period of repayment should not exceed the time of reimbursement claims during the entire period.

Quantified selected indicators of profitability, we must mention that the company has significant shortcomings profitability. Positive profitability of the indicators achieved the profitability of the entire reporting period only in 2014. Negative results indicators ROS and ROE caused the greatest extent negative economic result as a negative difference of income and expenses between 2010 and 2013. Despite the positive result only in the last year analyzed have recorded throughout the period increasing trend of individual indicators of profitability, and therefore we can say that while maintaining the trend without unexpected negative fluctuations in the business will achieve in the future getting better results. Company should nevertheless focus besides increasing the revenue by optimizing their costs. Proposed measures: Increase the value of sales by attracting more contracts through tenders, tender or tenders. Reducing costs by reducing other costs to the financial and economic activity, especially the cost of maintenance of bank accounts and the reduction of material shortages.

The results obtained by calculation of debt indicators show a majority share of foreign capital in the structure of corporate financing. To the recommended ratio of 70% foreign sources for 30% of the equity, the company came closest in 2013 and 2014. For the whole period from 2010 to 2014, the ratio was closer each year to the recommended optimum. Indicator insolvency reveals that business except for 2013 amounted primary insolvency. This resulted in a higher proportion of short-term debt compared to short-term receivables. Company appears from the perspective of insolvency insolvent, but taking into account the good results of current liquidity, we would not characterize the company as insolvent.

References

Altman, E., Hotchkiss, E. 2006. *Corporate financial distress and bankruptcy: predict and avoid bankruptcy, analyze and invest in distressed debt*. Hoboken, N. J.: Wiley. ISBN 04-7169-189-5.

Carton, R., Hofer, Ch. 2006. *Measuring Organizational Performance*. *Metrics for Entrepreneurship and Strategic Management Research*. Northampton: Edward Elgar Publishing Limited. ISBN 978-18-454-2620-0.

Feranecová, A., Sabolová, M. 2015. Utilization discriminant analysis to predicting financial situation companies in the automotive industry. In: *SGEM 2015: Political sciences, law, finance, economics and tourism*, Vol II: finance, economics & tourism. Albena, Bulgaria, pp. 541-548. ISSN 2367-5659.

Feranecová, A., et al. 2016. Cluster analysis of automotive industry companies. In: *Actual Problems of Economics*, ISSN 1993-6788, Vol. 182, No. 8, pp. 95-102.

Kislingerová, E., Hnilica, J. 2008. *Finanční analýza – krok za krokem*. Praha: C. H. Beck. ISBN 978-80-7179-713-5.

Kislingerová, E., et al. 2010. *Manažerské finance*. Praha: C. H. Beck. ISBN 978-80-7400-194-9.

Lau C. H., Sholihin, M. 2005. Financial and non-financial performance measures: How do they affect job satisfaction? In: *The British Accounting Reviewer*, ISSN 0890-8389, Vol. 37, pp. 389-413.

Nižniková, Z., Feranecová, A., Sabolová, M., Stašková, S. 2015. Enterprise valuation by using EVA method in Slovakia. In: *Conference: Era of Science Diplomacy: Implications for Economics, Business, Management and Related Disciplines* (EDAMBA 2015). Bratislava, Slovakia, pp. 654-660. ISBN 978-80-225-4200-5.

Sabolová, M., Tkáč, M. 2015. Characterization of procurement process in the construction company. In: *Investment Management and Financial Innovations*, ISSN 1810-4967, Vol. 12, No. 4, pp. 166-170.

Tkáč, M., Delina, R., Sabolová, M. 2016. Analysis of Request for Proposals in Construction Industry. In: *Quality Innovation Prosperity*, ISSN 1335-1745, Vol. 20, No. 1.

Vlachynský, K., et al. 2006. *Podnikové financie*. Bratislava: Iura Edition. ISBN 80-8078-029-3.

Zalai, K., et al. 2013. *Finančno-ekonomická analýza podniku*. Bratislava: Sprint. ISBN 978-80-89393-80-0.

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Perception and Evaluation of Brand Meaning among Children and Adolescents

Vladislav Shchekoldin, Marina Tsoi

Abstract
Global brands are powerful means of influence on consumers; they communicate ideas which are offered by producers of goods and marketers and reflect the general state of the market they operate on. Children and teenagers are susceptible to the influence of numerous marketing and advertising incentives, and, when growing up, they become full-fledged consumers, retaining the shopping habits and preferences acquired in childhood. In the paper the different approaches to estimate of youths' brand meaning are analyzed and the hierarchical structure of factors influencing the brand meaning is formed. A broad-scale research of Novosibirsk comprehensive secondary school students on fast-food brands has been conducted. Factor's hierarchical structure is evaluated with AHP-Saaty's method, and the most significant factors are revealed. The survey data allowed postulating the model for describing brand meaning among children in terms of brand awareness, brand logo recognition, and consumer impression of brand advertising.

Keywords: brand, perception, brand meaning, brand magament, children marketing, analytic hierarchy process
JEL Code: M31, M39

1. Introduction

Brands can impact the changes taking place on the market, as well as the state of society, specifically, the consumer behavior of the particular market. In turn, homogenous customer groups are spontaneously born within society, and these groups being characterized by relatively similar response to market trends and marketing incentives employed.

One of the most important indicators determining response of these groups is consumer behavior: some consumers prefer traditional goods and services while others would be delighted to try something entirely new, which, with the lapse of time, is destined to become fashionable and popular. Children and teenagers may serve as an example of such target group. They are an attractive, progressive, and profitable audience and, in addition, are evolving as consumers: they start making purchases paying their pocket money, influencing their parents' consumer decisions, and, finally, when growing up, become consumers in their own right and frequently remain loyal to the brands which have been built in their conscience in one way or another since their childhood.

When working with the children target audience, marketers make use of the fact that children reply more readily and positively than adults tired of advertisement to marketing incentives and may be more satisfied not with the quality of the product consumed, but with its brand. Therefore, it is important to adequately estimate the brand meaning of top-selling brands by children not only in terms of increase in sales promotion and sales productivity, but also from the point of view of bringing up socially-adapted members of society able to correctly determine the utility of and need for corresponding goods and services.

2. Brand's role in marketing theory

Studies of brand equity have been the top most priority directions of marketing practice ever since their advent in the eighties of the XX century. Brand concept is one of the marketing policy's key notions of the

majority of different businesses since the availability of a strong brand allows gaining competitive advantages, retain consumer's loyalty, secure profit markup, and facilitate promotion of new goods produced under this brand.

In marketing theory a brand is regarded as a wide range of different attributes and properties of the trade name which has a certain value for consumers (Armstrong and Kotler, 2005). In particular, one can single out the following constituent parts of the brand concept: a product or service itself with all its attributes; a set of characteristics, expectations, and associations perceived by the user and assigned by him/her to the product; definite values and properties of the brand which its authors endow it with; identification of the specific group of users (Aaker, 1991; Keller, 1993).

At the same time in practice each brand possesses certain attributes, including functional and/or emotional associations ascribed to the brand by real and potential consumers. Brand attributes can be both positive and negative, and of different purchasing power and importance to market segments.

Brands are developed as a result of joint efforts of producers – brand owners, their partners, and consumers. Besides, branding is characterized by a different extent of participants' involvement in the overall process: while consumers complete building the brand image, participation of the producers and its partners in establishing the brand value is based on profound and thorough research in market trends, revealing characteristics of market demands, as well as consumers' special needs and preferences (Hayes et al., 2006).

It is important to realize that consumers themselves would behave differently towards the brands represented on the market. For example, certain consumer groups may permanently retain their buying habits and attitude towards the brands over a sufficiently long period of time whereas other groups, such as children and teenagers, can change their preferences rather fast and, at times, quite drastically, when growing up. Thus, it is important for both producers and retailers to carefully follow up changes in preferences like these for the purpose of retaining and expanding their market share.

3. Children like brand consumers: modern investigations in the field

In spite of the widespread interest in the subject area, currently, only a minor part of the research results published is devoted to investigating children and teenager audience as consumers and the influence the brands exert on them. The importance of children target group has been investigated by various specialists. For example, McNeal (1992) ascertained that in the early nineties of XX century only in the USA children's pocket expenses totaled over $36 billion annually. In addition to that, parents, under the influence of their children, expend more than $300 billion on different goods, starting with cereals and including household appliances. In the UK, at the lowest estimate, direct expenses of the children target group are valued at more than £40 billion annually (Ross and Harradine, 2004). Practically, in Russia, studies of this type have not been conducted. However, according to the Discovery Research Group (www.drgroup.ru), children's product market capacity totaled over 500 billion rubles in 2013, which shows strong constant growth with the annual increase by 15-17%.

In accordance with a number of studies of children as consumers (McNeal, 1992; Achenreiner and John, 2003; etc.), it has been revealed that their purchasing power is formed by the age of five. Besides, a child of seven can adequately perceive money as a necessary condition for buying goods, and by attaining the age of nine the majority of children become self-sufficient consumers. In turn, McNeal (1992), Robinson et al. (2007) and others have ascertained that approximately from the age of six children are able to understand an extent of the advertising incentive to make a purchase and are aware that some advertisements contain exaggeration and deception, which leads to taking a more critical attitude towards advertisement and demonstrating an ability to sort out the information being obtained.

More often than not, young consumers are subjected to brand advertising impact as regards food and clothing, these being the most affordable and attractive goods. Any child deals with products of this type practically on the daily basis and thus from the early childhood has had a certain attitude towards one or another brand. For instance, Young and Claessen (1998) carried out a research on thirty types of products such as ice-cream, crisps, cola, chocolate, bread and cereals, etc. which showed that the level of recognizing the products among groups of children aged 7-8 and 12-13 increases with age and is in direct relationship with frequency of consuming the goods. In particular the younger group demonstrated the highest level of cereal brand recognition (96%), the senior – of chips (100%). It turned out that children belonging to both age groups poorly classify products on the healthy/unhealthy scale, which testifies to the effect that they do not give thought to the matter and choose products due to regularity of purchases and brand recognition.

At the same time, Robinson, et al. (2007) ascertained that by the age of two, children have the impression of certain brands, by six they are able to recognize familiar brands, packages, logos, as well as symbols, and connect them with the products (McNeal, 1992), especially in case bright colors, drawings, and images of well-known characters are part of the brand (Roberto et al., 2010). Furthermore, Ross and Harradine (2004) noted that currently a real lowering of age standard is taking place and children are involved as equal right participants in the customer buying process from an increasingly young age. When they reach a mature age, a reverse situation is being observed in the majority of cases – as a result of accumulation of first-hand experience in interacting with brands, the degree of brand logo recognition by consumer is decreasing.

Though children start recognizing brands from an early age, the effect of branding on children's preferences as regards foodstuff is rarely studied in controlled laboratory conditions. One can mention the research conducted by Robinson et al. (2007) on the influence of McDonald's logo placed on a fast food package (as a matter of fact, it didn't have anything to do with this brand) on preschool-age children. It turned out that the food offered in the McDonald's brand package aroused greater enthusiasm of the respondents in comparison with the unidentified product, the results being approximately the same both relative to French fries and hamburgers, as well as to fresh carrot which is not included in the range of food offered by McDonald's.

Carrying out similar research, Roberto et al. (2010) found out that children like better (or it seems more attractive for them) packaged snacks and cereals with pictures of popular cartoon characters than without these images irrespective of whether the products are healthier or sweeter. Another situation is cited as an example by Achenreiner and John (2003). It is based on studying brand preferences by eight-, twelve-, and sixteen-year old children who were offered to evaluate an advertised product (in all cases the product being identical) with a familiar or very popular brand name (Nike, Levi's), or less popular (Kmart). It was found out that with age children are able to recognize logos on the basis of interaction with brand images, product impression formation by its owners, and identification with the product.

At the same time, there exists an inverse trend: while accumulating personal experience in interacting with brands one may observe a certain lowering of visualization in the children's perception (Ross and Harradine, 2004). Therefore, when studying brand visualization, it is important to distinguish between two ways of its fixing in the consumers' consciousness: using a logo and by way of a well-known visual image.

What's more, in comparison with adult consumers, for children and teenagers brands acquire another value. When children at the age of eight/nine deal with brands, they have in mind definite physical characteristics of products, their design, communications, and not an abstract value or brand image. This peculiarity is retained, as a rule till children reach the age of 12-13. Unlike the adults, young consumers mostly use their senses (eyesight, touch, hearing, sensation, and taste) in order to perceive the essence of what is implied by the term "brand", i.e. they visualize it.

Also of interest is that Achenreiner and John (2003) found out that "children are able to recognize a brand as a product element so they must be able to think about the brand name at an abstract level, connecting the brand name to non-observable features or associations such as quality, prestige, or trends". Another major point of view on brand meaning research is studying young consumer response to different elements of advertisements, e. g. availability of credence claims and warning messages; using memorizable images attracting attention (vampire images), etc.

It should be noted that there are several reasons for explaining the necessity to study children's brand meaning of different brands and their characteristics. Besides, the following should be taken into consideration: firstly, the majority of such studies were carried out in the USA and European countries and an insufficient number in Russia and other CIS countries (Ross and Harradine, 2004; Roberto et al., 2010). Secondly, definite consumers' cultural differences and differences in mentality do not allow applying the achieved research results everywhere thus necessitating further study in order to compare the revealed peculiarities of brand meaning among children as consumers.

Also, it is important to keep in mind another aspect of conducting similar research in Russia. As of today, they are carried out, as a rule, for commercial purposes only since neither the state nor the majority of public bodies is interested in these and/or is not sufficiently qualified. Almost the only example of this kind is the project New Generation having been implemented in Russia on a regular basis since 1998 by an international company Sinovate Comcon for the purpose of studying children and teenagers as consumers, as well as their parents' consumer behavior (eng.synovate.ru). The project has been sponsored by 200 renowned companies, among these being such brand names as Coca Cola, Chupa Choops, Gloria Jeans, etc.

4. Detection and evaluation of factors influencing the estimate of brand meaning by the children target audience

Currently, a wide variety of different approaches to evaluation of brand meaning among consumers is suggested. As a rule, the approaches include definitions of factors given in one form or another which influence brand assessment being made by a target group.

The key notion of the customer-based brand equity is brand knowledge (Keller, 1993). Brand knowledge implies understanding the brand as the result of marketing activity and consumer experience in interacting with it, which represents thoughts, senses, and images that the consumers relate to the product. In the capacity of other indicators characterizing brand meaning, it is conventional to single out associations and brand image (Aaker, 1991; Keller, 1993), brand awareness (Keller, 1993), and brand subjective assessment (Batey, 2008).

Munoz и Kumar (2004) suggested developing a brand assessment system on the basis of three complex characteristics: perception, behavioral, and financial metrics. Perception metrics define the extent of consumer brand recognition, understanding its preferences and gained benefits of purchasing it, and an opportunity to choose it, that is, the metrics assess consumer behavior before purchasing branded goods. Behavioral metrics reflect aspects of consumer behavior after purchasing goods (customers' satisfaction, retention, share of wallet, etc.) which are shown by the brand preference, rebuys, retaining loyalty, and willingness to recommend the favorite brand to other people. With the help of financial metrics, market brand competitiveness, and economic and financial outcomes of brand-building activity (for instance, the market share, brand development index, and distribution level) are assessed and defined.

Generalizing the above, let us note that to assess the brand meaning, a lot of different factors are applied. Therefore, in order to correctly interpret them, it is necessary to select only the most significant factors. One of the ways to do it is to refer to factor analysis (Shchekoldin et al., 2015). It permits singling out the so-called latent factors defining the behavior of the factors of interest by way of studying the combination of initial factors on the basis of determining equivalence classes. The application of the factor analysis allowed revealing actual reasons behind the consumer behavior characterized by latent factors. Factor analysis could cause quite a number of difficulties, first of all, those related to the interpretability of the factors singled out. In particular, in the study, some homogeneity classes were not correctly interpreted, which was explained by an insufficient level of identifiability of the results obtained.

In the current research we decided to switch to another method of brand meaning assessment. The method is based on application of the expert judgments and Analytic Hierarchy Process (AHP), devised by Saaty (1980), as well as, which is of no small importance, on the application of the basic model of consumer behavior suggested by Kotler (Armstrong and Kotler, 2005). In accordance with the model, incentive marketing factors and other external stimuli penetrate the "black box" of consumer's consciousness and evoke certain responses.

The purpose of developing the methodology consists in building a hierarchical structure to be used for assessing brand meaning among children and teenagers on the basis of which it is possible to identify an appropriate regression model. The model will allow ranking the factors which influence brand meaning among children, as well as predicting their behavior with changing the factor values (for instance, with age). While extracting the factors, research results obtained by Teichert et al. (2015) were applied. It had been proposed a well-composed system of factors which formed the basis of the built hierarchical structure. The structure includes the following factors: X_1 – brand awareness; X_2 – brand logo recognition; X_3 – consumer impression of brand advertising.

Brand awareness X_1 may be considered as an ability of a consumer to identify the trademark within the particular product category to the extent sufficient for making a purchase (Keller, 1993). A consumer may be considered to be aware of the brand in case he/she is able to recall the particular brand without any hints, that is, when only a brand product category is indicated, or in case he/she can recall the brand when shown a list of several trademarks of the same product category.

In accordance with the Kotler consumer behavior model (2005), factor X_1 is defined as the total previous experience in consumer behavior and marketing incentives perceived by the consumer. So, the values of factor X_1 can be formed as a joint influence of the following factors: X_{11} – brand familiarity; X_{12} – brand recognition; X_{13} – brand's past purchase or use.

Brand familiarity reflects the brand-related experiences accumulated by the consumer (Hayes et al., 2006). Increased brand familiarity may be due to exposure to the brand in advertisements or in a store, recognition of the brand name, and prior purchase and/or usage of the brand (Batey, 2008). Brand recognition means relates

to consumers' ability to confirm prior exposure to the brand when given the brand as a cue. The brand's past purchase or use is usually employed with the view of revealing the extent of regularity of consumer using the brand product (Keller, 1993).

The extent of brand logo recognition X_2 is visualization of the brand logo by consumers which has been placed directly on the brand product or advertising materials (Keller, 1993). Besides, it is important to distinguish between the two notions – trademark and logo which have similar contents and a great number of distinctions. The difference is that a trademark can be represented by any geometric figure or another symbol while a logo more often than not includes the company name and brand name (Armstrong and Kotler, 2005). The values of factor X_2 can be generated as the total influence of the following factors: X_{21} – brand logo emotional perception; X_{22} – brand logo attractiveness; X_{23} – brand logo approval.

Factor X_3 (consumer impression of brand advertising) is largely defined by a total influence of marketing incentives on the consumer behavior, as well as by a number of psychological features of this influence (the so-called "emotional component"). According to Feltham (1999), this factor represents a set of the following factors: 1) "ethos": persuasive appeals that concentrate rather on the source than on the message; 2) "logos": information about a concept which a consumer forms from belief; 3) "pathos": emotional/affective appeal.

It was decided to form the following factors within the framework of a hierarchical structure being built: X_{31} – advertising ethos as persuasiveness of the brand advertising which was shown to the respondents; X_{32} – (advertisement) information value; X_{33} – advertising logos as brand advertising argumentativeness; X_{34} – advertising pathos as emotional perception of advertising; In turn, X_{31} and X_{34} are of hierarchical structure also (Feltham, 1999), namely: X_{311} – advertising plausibility; X_{312} – advertising credibility; X_{313} – advertising reliability; X_{331} – advertising validity; X_{332} – advertising consistency; X_{341} – emotional response to advertising; X_{342} – motivation to purchase; X_{343} – advertising targeting.

The objective of this research is to construct a model of brand meaning where attitudes towards the brand are defined by a set of the above-mentioned factors. Herewith, the output factors Y itself (attitudes towards the brand) is also of hierarchical structure specified by second-level factors: Y_1 – brand subjective assessment; Y_2 – brand attractiveness; Y_3 – brand acceptance.

The "attitudes towards brand" components may be interpreted as follows. The brand subjective assessment (Y_1) reflects the extent of correspondence of the set of characteristics and properties of goods to the consumer needs and expectations, which is considered as one of the associations that consumers relate to the brand (Keller, 1993). Brand attractiveness (Y_2) has an obvious impact on a brand's success. More precisely, it can build a close relationship with customers' potential decisions (Hayes et al., 2006). The consumers' perceptions of the brand's attractiveness appear to influence the closeness of this relationship to some extent, in particular the impact of brand attractiveness on attitudes towards advertisements and purchase intention. Brand acceptance (Y_3) exists as soon as consumers consider a specific brand as an alternative and find it acceptable among similar products. The brand complies at least with the minimum expectations desired of the product (Aaker, 1991).

Thus, in the paper, the brand meaning is determined by how the brand is perceived by the children and adolescents at a conscious level and how the brand resonates with them at a semi- or subconscious level (Teichert et al., 2015).

The values of three basic factors X_1, X_2 and X_3 cannot be assessed only on the basis of the results of answering one question included in the questionnaire (for instance, "indicate the extent of your brand awareness") due to the high generality. The latter means that there is a necessity of building a certain hierarchical structure describing the process of forming the factor values.

5. Research location and goods for study

When conducting research on brand meaning among youth audience it is important to realize that it may significantly vary with changing the type and characteristics of the appropriate goods. Besides, it is necessary to figure out that the goods offered to children are, as a rule, characterized by: high degree of turnover, e.g. steady demand products (fast food, soft drinks, chewing gum, snacks, etc.) or shopping goods (clothing, footwear, accessories, gadgets, widgets, etc.) ; compliance with recent trends of teenage fashion; high degree of ergonomics, which assumes its usability; flexible pricing policy with the view of being affordable to all consumer groups present on the market.

As a rule, manufacturers when trying to gain the affection of the children and teenage audience, resort to aggressive marketing policy frequently exceeding the limits of moral standards and social norms. Specifically,

promoting goods intended for young consumers can cause such problems as potentially harmful advertising effect on child psychology, setting unhealthy behavioral patterns and imposing certain consumer behavioral models which can undermine the child health in whole.

Currently in Russia there are about 30 million children (Russian Federation citizens under 17), which comprises more than 20% of the whole population (Russian Federation State Statistics Service, www.gks.ru). In accordance with the data of the State Statistics Service for Novosibirsk region, in Novosibirsk, one of the largest Russian Federation cities, at the beginning of 2015, about 18.2% of the whole population of the city (which is approximately 288 thousand people) were comprised of children (Territorial Body of the State Statistics Service for Novosibirsk region, www.novosibstat.ru). The distinction of this indicator of Novosibirsk as a Siberian city from the Russian Federation average is explained by the fact in the regions with more severe weather conditions the number of children in families is, on average, less than in the regions with milder and warmer climate. The dominating religious beliefs which influence the process of fostering family values may be another factor of a similar situation arising.

Novosibirsk is the third largest city of the Russian Federation with population of 1.584 million as of 2015 (according Russian Federation Federal State Statistics Service). In our opinion the city may be regarded as an appropriate model for studying young consumer behavior both from the regional point of view and for describing the situation in the country in whole. It may be considered as quite typical with the exception of Moscow and St. Petersburg which are distinctly different in the salary level and living standards.

Currently a lot of global and local brands hold the public catering market in Novosibirsk, among these Burger King, Carl's Jr., KFC, Subway, as well as the developing local brands Uncle Dener, Kroshka-Kartoshka, Russian Pancakes, Teremok, etc. In 2014 McDonald's has opened its first restaurant in Novosibirsk, and is going to open some more eating facilities up to the end of 2017.

6. Research design and sampling

Since 2012, a joint project of the Chair of Marketing and Innovation, University of Hamburg and Novosibirsk State Technical University in the area of studying children's consumer behavior is being carried out under the supervision of the authors of the article. Later, the research concept and research design have been adapted to the Russian version of this study by the collaborative efforts of German and Russian scientists. Besides, the Russian team under the supervision of Prof. M. Tsoy and Prof. V. Shchekoldin has made a modification in the appropriate questionnaires and selected relevant and adequately interpreted terminology originally used in Russia. It is due to the fact that direct translation of the German version of questionnaires could give rise not only to an ambiguity about understanding questions and multiple-choice answers, but also, in some cases, respondents' misunderstanding or incomprehension of the real content (Teichert et al., 2015). Within the framework of the ongoing research, in 2014-2015 in Novosibirsk schools, the research team supervised by the authors conducted a survey of children aged 11 to 18 years old. The survey suggested the children express their attitudes in connection with fast-food items on the basis of logos and custom tailored advertising images, among fast-food brands. A similar approach to the study of the brand meaning is recommended by Achenreiner and John (2003).Self-reporting questionnaires containing 21 questions, as regards perception of the brands offered and their characteristics were circulated; herewith, the Likert scale of importance and semantic differential were used for measuring behavioral and emotional responses.

To select the respondents, the idea of multilevel cluster sample has been implemented: at the first stage, Novosibirsk schools participating in the research were defined at random, at the second one; classes (from fifth to eleventh grade, ages 11-18) were selected in the random way. Distribution of the sample target audience by the ages is shown in Table1.

Table1. Distribution of the surveyed target audience by age

Ages	Number of respondents, people	Share, %
11-12	208	31,9
13-15	228	34,9
16-18	217	33,2
Total	653	100

Source: Own research

Consequently, 653 school students of secondary general education institutions have been surveyed.

7. The estimation of hierarchical structure elements

The values of three basic factors X_1, X_2 and X_3 cannot be assessed only on the basis of the results of answering one question included in the questionnaire (for instance, "Indicate the extent of your brand awareness") due to the high generality. The latter means that there is a necessity of building a certain hierarchical structure describing the process of forming the factor values. The Saaty Analytic Hierarchy Process appears to be a natural way to build such a structure.

As was mentioned before we are going to use Saaty's AHP for estimation of hierarchical structure elements. AHP is a structured process decomposing complex multivariate assessments by revealing and testing a hierarchical problem structure. Weighting information is derived as a result. AHP disentangles complex assessments via matrix algebra and, thus, provides a robust basis for obtaining reliable answers from experts. It has been widely used in industry, medicine, scientific research, management, marketing and other fields due to its universality and relative simplicity (Saaty, 1980). The main idea of Saaty's approach consisted in the usage of pairwise comparison.

When making paired comparisons an expert may express judgments about relative importance of factors (say, A and B) in compliance with the following scale:

1. Factors A and B are of equal importance – on the Saaty scale, notation 1:1 corresponds to this judgment.
2. Factor A is of some more importance than factor B – on the Saaty scale 3:1.
3. Factor A is of more importance than factor B – on the Saaty scale 5:1.
4. Factor A is of much more importance than factor B – on the Saaty scale 7:1.
5. Factor A completely prevails factor B – on the Saaty scale 9:1.

If an expert is unable to definitely decide between the adjacent versions of the judgments, (for instance, he has doubts if factor A is of a some more importance or just of more importance than factor B), which is probable when making qualitative comparisons, one should use the Saaty scale intermediate values such as 2:1, 4:1, etc.

Let us consider an example of calculating values of relative importance (weighting coefficients) for hierarchical structure factors. An expert is suggested evaluating the pairwise importance of factors X_{21} – brand logo emotional perception; X_{22} – brand logo attractiveness; X_{23} – brand logo approval when assessing the factor value X_2 (brand logo recognition). In the case under consideration, an expert made the following judgments and marked the values corresponding to them on the Saaty scale:

1. X_{21}:X_{22} = 4:1, that is, an expert has doubts whether the brand logo emotional perception is of the some more importance as the brand logo attractiveness in terms of the complex factor "brand logo recognition" or more important than the latter.
2. X_{21}:X_{23} = 1:1, that is, according to an expert, brand logo emotional perception is of equal importance with the brand logo approval.
3. X_{22}:X_{23} = 1:1, that is, an expert assumes that brand logo attractiveness is of equal importance with the brand logo approval.

Then, in compliance with the Saaty method, in order to calculate the weights of factors X_{21}, X_{22} and X_{23}, a pairwise comparison matrix is composed in the form

$$M = \begin{pmatrix} 1 & 4 & 1 \\ \frac{1}{4} & 1 & 1 \\ 1 & 1 & 1 \end{pmatrix}.$$

Calculating the eigenvector of the matrix corresponding to its maximum eigenvalue and normalizing it, we obtain the factor weight vector (Saaty, 1980), namely $w = (0,49 \quad 0,20 \quad 0,31)^T$. Now, the factor values X_2 may be calculated as a linear combination of the second-level factor values:

$$X_2 = 0,49X_{21} + 0,20X_{22} + 0,31X_{23}.$$

The resemble technique was used for survey results processing on the basis of questionnaires received. It allowed evaluating 653 pairwise comparison matrixes. Due to the fact that each respondent presented his/her own opinion the matrix content appeared to be significantly different. To provide the sustainability of hierarchical structure elements' estimates and their independence of the outliers (the values of expert

judgments which are radically different from the mean of the population) the survey results were averaged with median value (Shchekoldin et al., 2015).

The final form of the structure is shown in Fig. 1.

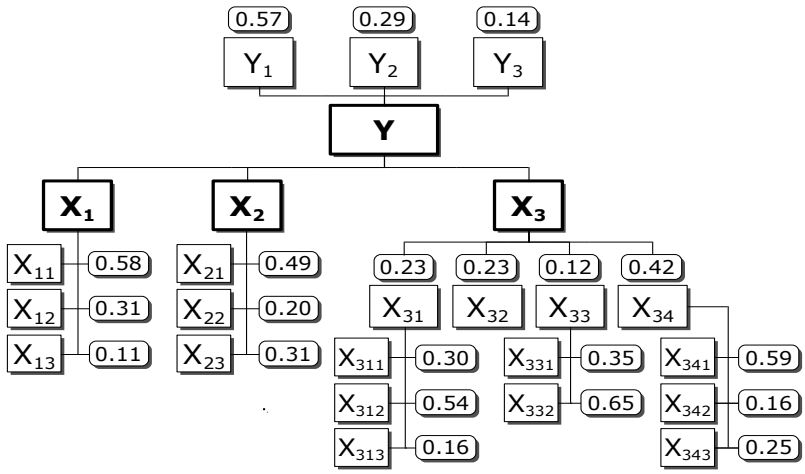

Figure 1. Factors structure for brand meaning estimation
Source: Own research

The values expressed by numerical indices represent the importance of each of the structure element for the factor higher in the hierarchy. Consequently, a hierarchical structure aimed for constructing a model of children's brand meaning has been built.

8. Discussion and Conclusion

The estimates of the hierarchical structure elements have allowed us to compare their influence on the values of more general characteristics. For example, for the brand awareness it is the brand familiarity which is accumulated almost 60% of the whole importance of the factor. The influence of brand recognition on the brand awareness is twice less and the brand's past purchase or use is 6 times less. Thus for children and adolescents the brand awareness is more important than the past experience of interaction with the brand.

For the factor X_2 more than fifty percent of the importance regards to brand logo emotional perception, 20% to brand logo attractiveness, and 30% to brand logo approval. So for the young consumers the emotional interaction with the brand becomes the crucial fact. The advertising ethos appeared to be the most greatly influenced by the advertising credibility (54%), therefore the ads credibility plays an essential role for customers in the brand's presentation. For the advertising logos as brand advertising argumentativeness the most significant element is the brand advertising consistency, which twice more important than the advertising validity. So the coherence of the whole brand's elements prevails over the brand validity.

Finally the factor X_{34} (advertising pathos) most influenced by the emotional response to advertising (60%), which could be explained by the fact that the initial reaction to the brand of children and adolescents is emotional.

The study of brand meaning among children and teenagers appears rather important both from the point of view of producers interested in the increase of sales productivity and institutions involved in developing and regulating policy in the spheres of education, public health, commerce, and social security. Besides the interests of children themselves as consumers should be taken in consideration. Most of all they are susceptible to the influence of numerous marketing and advertising incentives, and, when growing up, they become full-fledged consumers, retaining the shopping habits and preferences acquired in childhood.

The current research indicates that the strongest influence on the brand meaning is exerted by such factor as advertising pathos, its main components being advertising credibility and emotional response, which assumes extensive use of bright colored packing, popular licensed cartoon characters, toys in fast food meals, etc. for advertising. The above advertises not only the fast food and the appropriate brand, but forms, in a

certain way, children's and teenage life style which is inseparably connected with the fast food consumption.

The problems under study in the paper do not cover the entire subject matter since of serious interest is not only research on fast food brand meaning among children, but also examining a lot of other items of production, as well as diagnosing problems and reasons which exert a substantial influence on forming these perceptions with changing the logo, advertising factors, as well as the use of health warnings and credence claims.

References

Aaker, D. 1991. Managing Brand Equity: Capitalizing on the Value of a Brand Name. New York: Free Press.

Achenreiner G. B. and John D. R. 2003. "The Meaning of Brand Names to Children: A Develop-mental Investigation", Journal of Consumer Psychology, Vol. 13., No.3, pp. 205-219.

Armstrong G., Kotler P. 2005. Marketing: An Introduce. Pearson Education Inc., Upper Saddle River, New Jersey.

Batey M. 2008, Brand meaning. Taylor & Fransis Group, New York: Routledge.

Feltham, T. 1999. Judgment of ads viewer judgment of ads: the persuasive disclosure inventory, in Bearden, W.O. and Netemeyer, R. G. (Ed.), Handbook of marketing scales: Multi-item measures for marketing and consumer behavior research. 2nd ed., Newbury Park, CA: Sage Publication, pp. 289-290.

Hayes J., Alford B., Silver L., York R. 2006. Looks Matter in Developing Consumer-Brand Relationships. Journal of Product and Brand Management, Vol. 15(5), P. 306-315.

Keller, K. 1993. Conceptualizing, Measuring, Managing Customer Based Brand Equity. Journal of Marketing, 57(1), P. 1-22.

McNeal J. 1992. Kids as Consumers: A Handbook of Marketing to Children. New York: Lexington Books.

Munoz T., Kumar S. 2004. Brand Metrics: Gauging and Linking Brands with Business Performance. Journal of Brand Management Vol. 11, No.5, P. 381-387.

Roberto C., Baik J., Harris J., Brownell K. 2010. Influence of Licensed Characters on Children's Taste and Snack Preferences. Pediatrics; Vol.126, No.1. P. 88-93.

Robinson T., Borzekowski D., Matheson D., Kraeme H. 2007. Effects of Fast Food Branding on Young Children's Taste Preferences. Arch Pediatric Adolescent Med., No.8, P.792-797.

Ross J., Harradine R. 2004. I'm not wearing that! Branding and young children. Journal of Fashion Marketing and Management, Vol.8, No.1, P. 11-26.

Rubin R. 1974. The effects of cognitive development on children's responses to television advertising. Journal of Business Research, No.2, P. 409-419.

Saaty T. 1980. The Analytic Hierarchy Process. McGraw Hill International, New York.

Shchekoldin V., Timofeev V., Faddeenkov A. 2015. Econometrics. 2nd ed. URAIT, Moscow. (in Russian)

Teichert T., Effertz T., Tsoi M., Shchekoldin V. 2015. Predicting brand perception for fast food market entry. Theoretical Economics Letters. T.5, Vol.6, P. 697-712.

Young, B., Claessen, M. 1998. Children's Categorization of Foods, London: The Food Advertising Unit, The Advertising Association.

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Transfer evaluation in terms of taxation of incomes

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Abstract

Transfer evaluation is a process, how to set a price in transactions - for example at transfer of goods or at delivering services or loan and so on - among dependent persons for tax reasons so that they correspond with terms of independent relationship. A main characteristic of independent of a business relationship is, that subjects follow their own aims a priorities, which means, that their aim is to reach maximum profit for them. Dependent persons follow mainly common aim and try to reach maximum profit for a group, and a consequence can be unfair allocation of a profit and moving a bigger part of the gain to the country with more advantageous tax burden. Tax authorities realize that and they accept regulations in terms of transfer evaluation and maximize an effort of their enforceability. The aim of this paper is to review practical application of the transfer evaluation based on theoretical knowledge of this problem in terms of multinational companies including of determination transfer prices.

Keywords: transfer evaluation, tax, transaction.
JEL Code: K 34, G 30

1. Introduction

We can meet with transfer pricing as a conceptual category in various levels of tax law. The final mark „transfer pricing“ can be identified in law sources in their formal and material expression, as well as in results of activities of international organizations and the European Union. Transfer pricing is also often interest of the science of tax law in an international context, that works further with this term. Based on outputs of scientific activities, it is possible to define this term and offer its definition.

2. Transfer pricing as a term

Levey and Wrappe (2009) understand transfer pricing as a pricing of transactions among linked persons, those object are goods, services, intangible property, rents or loans. In term of their explanation, transfer price is a determinant of total profit distribution in a group of linked persons. By a price of transactions in a group, M. Bronson focuses on this problem. He describes, that a price has an influence on taxable income of subjects and is effective tax rate in consolidated group. He names these internal prices in the group as transfer prices.

In wider concept, we can find a definition of transfer pricing, which contains pricing of goods, services, assets and technological inputs, managerial skills, financial services and shared supporting services, if they are a subject of transfers among associated persons, or foreign dependent persons. Into this definition are included even transfers among elements of the same foreign dependent person.

Doernberg describes a transfer pricing as a pricing in the group and he understands it as a summary of activities connected with transfer transactions. Business understanding of a transfer pricing is mentioned in another scientific publications, which miss explicit definition of this term.

We understand transfer pricing as a summary of activities made by dependent persons, whose aim is fixing the price in their common qualified transfers. A subject of these transactions could be tangible and intangible property, services, loans and rents. Based on this definition of transfer pricing, we can say, that its basic determinants are a determination of criterias of a dependence of subjects and specialty every single types of

transfers. Activities that create contents of transfer pricing participate in creation of a group social-economics relationships that become tax-law relationships by its regulation of tax law.

3. Model of transfer pricing

We can find in a literature beside terms of transfer pricing and low of transfer pricing with a term such as regime of transfer pricing. We can define this term category as an expression of contentual side of norms of transfer pricing, whose subject is transfer pricing. As there are some differences in a law modification of transfer pricing problem in domestic law norms and as there is an existence of different concepts of law modification of transfer pricing on international level, we can see a lot of different ways to law regulation of transfer pricing and a lot of different ways of transfer pricing. There will be a law way of transfer pricing in every single case.

Considering an approach of states to a law regulation of transfer pricing in the group of dependent persons, we can distinguish two basic modes of internal law modification in a worldwide point of view. Both approaches offer method of the profit distribution realized in the group among the tax jurisdiction of every single state. The first one is a regulation of the pricing these transfers by a complex group of law norms based on an exercitation of principle of independent relationship. A dominant role in the enforcement of this principle has the OECD that affects fundamentally not only law regulations its member states, but also becomes a model for a law regulation of transfer pricing in a worldwide point of view. The second approach to transfer pricing in the group of foreign dependent persons is a profit distribution of the group among states by applying established formula. This approach, unlike the principle of an independent relationship, does not bargain on prices of transfers in the group, but the profit distribution is made by a formula with predefined variables. The application of this formula is used for example for reasons of profit distribution among states of USA, but it became also the base for a proposal of a guideline of EU about common consolidated corporate tax base. As the Slovak Republic is a member of the OECD and EU member state, too, author Kočíš offers analysis of basic aspects of both approaches enforced in a relationship in the group of dependent persons.

4. A principle of and independent relationship

A basic and starting principle of the international community in defining rules of transfer pricing is a principle of the independent relationship, whose first formulations is possible to discover in an activity of the League of Nations in the 30s of the last century and was enshrined in the art. 9 of the OECD Model convention of 1977, dealing with the double taxation. A principle of the independent relationship was later reflected in the first formalized expression of transfer pricing rules issued in 1979 in the OECD report titled Transfer Pricing and Multinational Enterprises and became consistently present in the actions of the International community of states in regulating of transfer pricing problems.

Taking a principle of the independent relationship, it is possible to watch in terms of the law of the Slovak Republic since its inception in correspondence of original law of taxes expressed in § 17 paragraph 5. Law of income tax and explicit mention of the need its application is enshrined in § 18 Law of income tax. A subject of the next chapter is more detailed analysis of the Slovak lawful regulation in transfer pricing. At this point, it is confined to approach basic aspects of functionality of independent relationship principle in the context of defined research plan of publication.

The basis of the independent relationship principle is based on the requirement, that conditions of trading and financial relationships among dependent persons would not be different from conditions, that were agreed among independent subjects. This request can be inferred from the fact, that the aim of the group dependent persons is to maximalize the profit from the point of view group as a whole. It is possible to suppose the risk of effort to maximalize the profit at group level even if the profit of dependent persons would be lower. A progress of tax law in the Slovak Republic came to the implementation of independent relationship principle among dependent persons, where cross-border element is missing. As the aim of this publication is the problem of international double taxation and tax evasion, we focus on the problem of transfers among foreign dependent persons and we focus only secondarily on Slovak dependent persons in this publication.

In case, that terms of trade and financial relationships among dependent persons are different from terms, that would be agreed among independent subjects, all profits, that was not made due to existence these different terms, should be included in the profits of that enterprise and tax. This principle of independent relationship explains an effort to adjust the profit international groups according to terms, that would be

applied among independent persons. A principle of the independent relationship does not consider members of the multinational group as an integral part of one cohenent company, but as individual operating unit.

Although a principle of the independent relationship presents a dominant standard of rules of the transfer pricing at level of OECD and at national law regulations, it is possible to note more objections against its application. In the literature, there is possible to identify a huge amount of authors tend to have a need of the replacing this generally well-established principle of alternative way, such as the formula for division of profit, within the group of dependent persons. M. Hammer emphasize in the application analysis of the principle of the independent relationship mainly problems arising due to the absence of comparable transactions. He consideres this as a result of rising incidence of new technological products and services, increasing use of licensed law relationships and transfers of technologies and overall increase in the world trade. C. E. McLure emphasize in connection with weaknesses of application of the principle of the independent relationships a need to take account on the mutual economic dependence of the components of the group, risk of the manipulation and a transfer of profits to the countries with a low tax burden, as well as specifics of an e-commerce, where current ways of transfer pricing could not be sufficient.

Despite a huge critisicm of the principle of the independent relationship, i tis not a subject of the reservation, but several authors prefer a need for abidance on its implementation. J. Owens suggests on the long history of application of the principle of the independent relationship, as well as its ability to adapt to the new conditions, that happened during its history. He expresses his belief in the ability of adaptation in the future and considers proposals to abandon the further application the principle of the independent relationship as premature. The OECD and its member states confirm despite the existence of multiple objections to the application of independent relationship the recency of rejecting any theroretical alternatives at this question. They mainly emphasize a theoretical consistency od application of the principle of the independent relationship and its ability to come close to terms on open market at transfers in the group of dependent persons. According to OECD, leaving this principle would threat international consensus in this area, resulting in the risk of double taxation.

As it will be shown later, a discussion of the need to replace the principle of the independent relationship by the alternative way to transfer pricing is not the main interest of this publication. We consider mitigated absences of this principle at solving our research focused on law regulations of transfer pricing in terms of national law acts.

5. Alternative way to a transfer pricing

The most important alternative to a principle of the independent relationship is previously mentioned concept of a profit distribution of a group of foreign dependent persons through a preddefined formula. Although a recent development has not reached yet a stage of a general acceptence of a need to change the application of the principle of the independent relationship, a mention of this alternative concept is especially in a view of a development at EU level. A formula for a profit distribution of a foreign dependent persons became one of the basic premises of the published proposal about a common consolidated corporate tax base.

In terms of the focus of this publication, one of the most important consequences of published proposal should be an elimination of transfer pricing problem in the EU area and an elimination of double taxation and tax evasion related to this tax problem. A tax consolidation would result in the vision on the foreign dependent persons as a single tax aspect. Internal transfers among group members would be irrelevant for tax purposes. It would contribute to the simplification of the tax-law regulation at EU level. It is necessary to focus these aspects despite this potentional impact of the proposed directive:

- A proposal of the directive provides an opportunity for choice for concerned subjects at the applying of tax consolidation. The consolidation concerns only the parts of the group, that are qualified according to set criterias. Transfer pricing will be actual in the future.
- In the case of this tax consolidation in EU, this would have no impact on foreign persons, that are not included in the personal scope of this proposed directive. The right of transfer pricing would remain important subject of states´ interest and included tax subjects.
- Another argument is, that not certain future of published proposed directive. A disapproval of some EU Member States could cause a keeping the law regulation of transfer pricing in its current form.

As was mentioned previously, suggested proposal of the directive makes a problem of transfer pricing easier, but not eliminate it completely. Problem areas of law standards remain valid and their solution

demands unchanged attention at the level of national law regulations, as well as international and European context. A problem of common consolidated corporate tax base is not in our primary attention.

6. Ways of transfer pricing research

Before analysis of chosen law aspects of transfer pricing, we offer researches of this tax law before an analysis of this tax law. At transfer pricing, we consider it necessary to highlight several its characteristics that actively participate in its research and have an impact on the results of this research. In our opinion, this is specialties in transfer pricing and differentiate this specific area from the research different law disciplines and from tax-law issues. We distinguish ways of researches of transfer pricing law in these basic areas:

- A multilateral nature of transfer pricing.
- A multidisciplinary nature of transfer pricing.
- A dynamic nature of transfer pricing.
- A specific nature of law sources.
- Levels of transfer pricing research.
- Transfer pricing in the context of a science of tax law.

An impact of the economic aspects on the law regulation of transfer pricing can be also seen in economical conceptual categories that takes over transfer pricing law and continue working with it. In this context, we can talk about specific law language, which is based on economical conditionality of transfer pricing problem. This fact is the most clear in the term „transfer pricing“ as it was defined in the introduction. Besides it, we can observe frequent using of the term „transaction“ as controlled and uncontrolled transaction, internal comparable transaction and external comparable transaction. There are terms such as „a method of transfer pricing“ and „an indicator of profitability“, that complete a specific language of transfer pricing law and are closer discussed in a separate part of this publication. This publication in using these terms is based on OECD directive about transfer pricing and methodical directive of financial directorate of the Slovak Republic to the application of transfer pricing methods.

7. Conclusion

All of methods at transfer pricing can be applied at work on a specific multinational company. We can determine, which method of transfer pricing is the most suitable for a multinational company. The biggest problem of transfer pricing from a methodological point of view is to gain comparable independent datas. A principle of this independent relationship is based on a comparison of terms, that are agreed in transactions among foreign dependent persons with terms, that were agreed with . We can state in the conclusion, that it is very complicated to find a comparable transaction. At comparing of transactions, it is necessary to consider these factors: characteristics of assets or services, loss of previous years, performed function and risks, contractual terms, business strategy NNS, an economical environment and so on.

References

Bettendorf, L., Devereux, M. P., Van Der Horst, A., Loretz, S., De Mooij, R. A. 2010. CorporateTaxHarmonization In TheEU. In: *Economics, Econometrics and Finance: Economics and Econometrics Enironmental Science: Management, Monitoring, Policy and Law*, ISSN 0266-4658.

Carroll, B. M. 1934. Allocation of Business Income: The Draft Convention of the League of Nations. In: *Columbia Law Review*, ISSN 0010-1958, Vol. 34, No. 3.

Jagodzinski, A. 2006. *The Visegrad Group – A Central European Constellation*. Bratislava: International Visegrad Fund, ISBN 80-969464-7-1.

Levey, M. M., Wrappec, C. S. 2009. Transfer Pricing: Rules, Compliance and Controversy. *CCH and Wolters Kluwer business*. ISBN 10:0808021664.

Nerudová, D. 2008. Possible ways of corporate tax base harmonization in the European Union. In: *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, ISSN 1211-8516, Vol. 56, No. 3, pp. 139-146.

OECD. 2010. *OECD Transfer Pricing Guidelines for Multinational Enterprisesand Tax Administrations*. OECD Publishing. ISBN 978-92-64-09018.

Rajnoha, R., et al. 2014. Globalizácia a transferové oceňovanie výkonov v nadnárodných spoločnostiach na Slovensku a v krajinách OECD – analytická štúdia a rozhodovací model pre voľbu optimálnej metódy. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 62, No. 6, pp. 609-630.

Rehátková, A., et al. 2009. Pricnípy, pravidlá, metódy a dokumentácia transferového oceňovania. Princípy a pravidlá transferového oceňovania. In: *Manažment, mzdy, právo a financie*, ISSN 1335-9568, Vol. 16, No. 9, pp. 140-150.

Rehátková, A., et al. 2009. Pricnípy, pravidlá, metódy a dokumentácia transferového oceňovania. Metódy transferového oceňovania. In: *Manažment, mzdy, právo a financie,* ISSN 1335-9568, Vol.16, No.10, pp. 138-150.

Rehátková, A., et al. 2009. Pricnípy, pravidlá, metódy a dokumentácia transferového oceňovania. Dokumentácia transferového oceňovania. In: *Manažment, mzdy, právo a financie*, ISSN 1335-9568, Vol. 16, No. 11-12, pp. 241-246.

Schultzová, A., et al. 2009. *Daňovníctvo, daňová teória a politika*. Bratislava: Iura Edition. ISBN 978-80-8078-264-1.

Suhányiová, A., Korečko, J. 2014. Analysis of Tax Systems In Slovakia, Hungary and Czech Republic and the Tax Harmonization in European Union. In: *Journal of Applied EconomicSciences*, ISSN 1843-6110, Vol. 9, No. 2 (28), pp. 299–314.

Surugiu, M., Surugiu, C. 2012. Tax Competition, Harmonization and development: Challenges and Consequences. In: *Argumenta Oeconomica*, ISSN 1233-5835, No. 1 (28), pp. 139 – 154.

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The Concept of Multi-Level Marketing

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Abstract

The paper deals with the issue of network marketing. It discusses the historical aspects of its origin and briefly characterizes its development. Article refers to systems, e.g. Ponzi scheme that exploited the idea of network marketing and negatively affected its expansion. The examples shown how network marketing could be used in business. Article also discuss the ethical level of the use of network marketing in business.

Keywords: network marketing, distributor, ethics, business
JEL Code: M31

1. Introduction

Numerous companies, number of which continues to grow, nowadays offer their services via direct selling. This is done through the so called multi-level marketing, network marketing, etc. It poses an advantage compared to manufacturers selling their products through market chains oftentimes without an insight into the products' use and functionality. Multi-level marketing is practiced under the heading of World Federation of Direct Sales Association (WFDSA) and widespread to such an extent nowadays, that a number of universities offer education in this field (Kiyosaki, 2013).

In summary, network marketing is a $114 billion business industry. It has grown by 91% in the last ten years. Over 60 million people worldwide, including 15 million Americans, are involved in Network Marketing. Common sense suggest that this is the business model of the 21st century. So why is this business model of the 21st century? Former KFC, FedEx and American Airlines owner Frank Maguire holds the opinion, that the greater is the mistrust towards the conventional advertising tools, the more is the modern trade dependant on effective customer reference marketing. Even though there were several pioneers in this field, including among others the Kleeneze company founded in Great Britain which introduced the first network marketing programme in Europe, it is the USA which is considered the country where network marketing was born. Elements of network marketing can be traced back to the end of the 19th and the beginning of the 20th century USA.

In 1920s, during the prohibition times, production and sale of alcohol was banned. Nevertheless, the law was being violated, and the organizers of alcohol distribution came up with the idea of rewarding smugglers which was based not only on the volumes of the smuggled alcohol, but also on the number of those introduced in the network. This idea laid the foundation of what we now know as multi-level marketing and brought about a new direction in the world trade (Ludbrook, 2009).

The first successful company to emerge on the market in 1940 with the binary system, thus implementing the system of MLM in their enterprise, was California Vitamins. Binary system represented freedom for the company's clients in creating their own structure of employees and gaining their own share of the company revenue. Five years later, California Vitamins introduced the product called Nutrilite to the market, which became a revolutionary nutrition supplement.

In 1956, Shaklee came to understand reasons leading people to prefer purchases made at organized sessions rather than in shopping centers. At the time, the Shaklee company sold vitamins in market chains

with little success. This led Shaklee to search for methods of increasing sales figures. They realized that direct selling has its potential in the form of recommendation either generally among the public or among friends based on good experience with products, which stands for the best form of advertising of a company. Richard DeVos founded the AMWAY company in 1959 on the basis of multi-level marketing, the company which remains successful to this day with the annual turnover of $11.8 billion.

Even though between 1975-1979 the AMWAY company, together with AVON, faced accusations of breaking the Federal Trade Commission anti pyramid scheme act, however the four year lawsuit ended with the verdict that AMWAY and AVON are not breaking the law and the application of multilevel marketing strategy by these companies is a legal way of distribution and sale of their products. The trial was followed by a massive spread of MLM. During the years 1980 - 1989, several well-known companies such as HERBALIFE or MARY KAY were founded.

In 1991, Bert Rosenbloom researched the field of methods used for selling various products and came to the finding that the popularity of direct selling is increasing compared to the traditional sale. One of the popular methods for direct selling and product presentation ever since the beginning of MLM is so called party selling (in private), organized by the client for his or her friends and rewarded by the salesperson during the presentation of the company itself and its products. In 1993, this method contributed 21.4% of the direct selling revenues, according to DSO (Direct Selling Organization). This kind of sale involves inviting the client's friends to their house (typically two or three married couples). The salesperson gives a presentation comprising of several parts. This begins by creating a relaxed atmosphere e.g. by playing games with prizes for the participants.

The spread of multi-level marketing to the Central and South America reflected the natural expansion of American companies. Millions of people joined these companies in Brasil, Argentina etc.

Following the success in the Great Britain in 1970s and 80s, MLM companies further focused on the German market and subsequently entered other western markets. Following the end of the Cold War, companies spread to Eastern Europe (Hungary, Poland, Czech Republic and Slovakia), and eventually, late 1990s brought about the introduction of MLM companies to Russian market where this kind of enterprise was joined by over 1.5 million people over the course of three years. Each country adopted network marketing in its own specific European way. Some networks grew relatively fast and numerous companies scored amazing success in a relatively short time. Other markets required MLM companies to adapt to the local conditions significantly, due to strict legal systems, various directives, but most of all due to the prejudice against new forms of businesses.

The region of Asia became the global example of success. MLM companies established a strong position on the markets of Japan, Taiwan, Australia, New Zealand and expanded further to South Korea, Hong Kong, Malaysia, Thailand, Philippines and Indonesia. It was no earlier than during the first decade of the 21st century when MLM companies enter markets of China and India. Following the initial success, these two countries are believed to witness the phase of immense growth. Asian markets account for rapid development of this kind of entrepreneurship as it relates to the Asian culture and the results continue to amaze. Thousands of local businesses adopted MLM to sell every product imaginable.

Figures of global revenues of MLM companies follow the increasing popularity of this kind of business accordingly. In 2010, global revenues cited $146 billion, which is $33 billion less than in 2013. Asia saw an increase of 12.6%, America an increase of 5.7% and revenues in Europe increased by 2.9%.

Two greatest cosmetics companies in the world, Avon and Mary Kay, rely on multi-level marketing. Among other well-known direct selling businesses incorporated within WFDSA there are Amway, Young Living, or Oriflame. The USA, China and Japan represent countries which are the most welcoming to this form of entrepreneurship. In the USA alone, revenues from direct selling reached $32 billion.

European Union statistics for direct selling cite the figure of 13 million people involved in direct selling, of which 145,000 are active in Slovakia. Revenues of direct selling companies in Slovakia in 2013 totaled €110 million.

In the present era of information technologies it is vital to explain the advantages of one's product in order to be successful, regardless of what is being sold. A businnes that stays close to the customer and systematically educates and trains them in more efficient ways of using the product is always better off. Approximately 80% of today's computers', tablets' and smartphones' capacity fail to find use as the public lacks knowledge on how to use them. If we consider the possibility that these appliances were sold via MLM networks and distributors gradually introduced this potential to a client and educated them on their effective use, a company would gain a loyal customer. It can be assumed that MLM will by all means represent the basis for the business of the future.

2. Pyramid schemes vs Network Marketing

Multi-level marketing offers a good start for future success. A number of ideas describing multipurpose businesses are pushed forward, i.e. the possibility for an individual to join a MLM company with little of investments. As long as he or she becomes active, pursues own education in the field and has no fear to discuss the gained experience with marketing, products, or services and gradually meets the set conditions of the marketing plan reward system, they may freely develop their business activities withing the MLM system 0. Working hours in MLM systems are flexible, each salesperson works and sets their pace individually, which provides for the pursue of one's individual goals. As this kind of business offers the opportunity to schedule one's own working hours, it brings about the advantage of working in one's most convenient time. The reward does not depend on the number of worked hours, instead it is determined by the efficiency of the sale. MLM companies are an opportunity for people working actively and able to renown themselves instead of fighting for a customer among each other, those who cooperate and work as a team. Paul Zane Pilzer, an economist, furthermore stated: "It is a remarkable point about MLM, that there is no other way to advance one's career other than proving as trustworthy and helpful to others, whether a client or another distributor". According to Buffett (2006), reasons behind the success and rapid development of MLM lie in three key points, i.e. oral presentation, low financial risk - high profitability and no experience is required.

Pyramid schemes do not represent any novel phenomenon, and discredit MLM in the eyes of public to a certain extent. Pyramid schemes aim to generate quick profit for a few individuals at the expense of a greater number of the involved others. These business models masks themselves to camouflage their principle. The basic specific feature of pyramid schemes is that the offered products have no actual value, or are offered at prices significantly different than prices of similar available products.

Brochures, handbooks and special trainings promising to teach how to gain new members of addresses might provide an example. A person becomes a part of a pyramid scheme by purchasing this product. The only method to gain the promised profit is to recruit other people interested in the "product" (Blažek, 2006). Basic features of a pyramid scheme are:

- Proclaimed rapid and effortless profit increase.
- Little or virtually no information about the company which offers the product, obtaining further information is conditioned by joining the scheme.
- There is no offered product, or it is of a low quality at significantly higher price compared to similar products at the market. It is also typical that there is too little information on the product available.
- The future profit depends vastly on benefits for hiring new members or sold products.

Pyramid schemes work on the principle of "pharaoh" sitting at the top of the pyramid of investors who pay enrollment or licensing fees for being members of the project and the access to goods or services which were created for the sake of the scheme. Their part is to keep bringing new investments into the scam, the more investors are lured to join, the more the scheme resembles a pyramid.

Theoretically speaking, it can be assumed that all investors' investment/profit ratio should be even, however this works differently in a pyramid scheme. Those at the bottom collect massive revenues from members at lower levels of the pyramid. Those at the bottom part always generate loss regardless of the size of the pyramid. It is a well known fact that the number of members at the lowest level is always greater than the number of members at all the higher levels combined. Considering the condition that each level requires to recruit six new members, the proportion of those who make profit to those who make loss is 5:1. This implies that the investments of 84% of the involved members do not return. The scheme is sooner or later bound to fail due to the lack of new investments, which the pharaoh is well aware of and lets the entire pyramid collapse. This leaves the pharaoh with all the invested money, leaving nothing (or worthless products or services) for investors. There are mathematical boundaries of pyramid schemes based exclusively on the recruitment of new members, in contrast with MLM companies offering actual and valuable products or services. The means of making profit in a pyramid scheme is therefore to expand the system by hiring new members. In the system of MLM, consultants profit from selling quality products and services of the company, gaining skills with the products or services and sharing the experience with their use, which addresses other potential customers or future consultants. The equal opportunity for everyone to benefit through own business activities distinguishes MLM from a pyramid scheme.

3. Examples of Multi Level Marketing Application in Businesses

It is necessary to realize, that all successful MLM companies build their growth and progress on a product that is interesting for customers and meets their requirements and expectations. Emphasis is put on a range of quality products which is constantly improved or extended. A number of MLM companies employ science

and research platforms to develop new quality products which are manufactured by cutting-edge technologies to deliver top quality production. For instance, Dr. Nona International, Ltd., is a company with a marketing strategy relying on MLM, founded in 1994 and specializing on development, production and distribution of dietary supplements and cosmetics using minerals from the Dead Sea. Bio-Organic Mineral Complex is a core ingredient of their products, which is at the same time the company's know-how. The company is officially represented in over 20 countries across the globe and their products are enjoyed by more than 20 million people.

Companies such as Mary Kay or Oriflame offer other examples of MLM. The Mary Kay company was established in 1963 and their cosmetic products are sold in over 35 countries through more than 3.5 million independent cosmetic counselors reaching a total annual turnover of 4 billion dollars. Oriflame is an international company relying on direct distribution in the field of cosmetics. Founded in 1967 in Sweden, their products are now available in more than 60 countries. A wide range of natural and innovative beauty products is sold worldwide by nearly 3.6 million independent counselors. The annual turnover of the company reaches over €1.5 billion. Similarly, Amway started in 1959 with an assortment of high quality eco-friendly nutrition, beauty and household products. Today, this company sells in 80 countries. The list of other successful MLM companies goes on and on. Direct distribution system is not limited to nutrition supplements, cosmetics, household products or cooking utensils, but also expands to fields such as online business, insurance or finance business, IT, advertisement and other fields. The essence of success of every MLM company, regardless of their line of business, is a quality product.

MLM companies' marketing approach to the customer offers everybody a choice whether to remain a consumer of the products at retail prices, or decide to enroll and become a member of a MLM company entitled to benefits guaranteed by the marketing plan. Marketing plans of MLM businesses are a set of principles, which allow the registered members to gradually access higher discounts on company's products and increase personal earnings by building and expanding one's own network of customers. Each enrolled member chooses the pace of their business activities based on his or her own opportunities and capabilities. One can become a privileged customer or independent distributor of a MLM company by filling in a form or signing a distributor agreement, usually for an enrollment fee. There is a number of ways to deliver the agreement, whether personally, via mail, sponsor, or online. Enrollment is typically confirmed by assigning an ID to a new distributor by the company. Along with an ID card, new business partners are provided with a "starter kit" including information and promotion materials or a product sample. After entering personal data into a database, a newly registered member can purchase the company's products for reduced prices and pursue further discounts, offer the products to potential clients and extend the business network with new members, for whom he or she represents an enroller - so called sponsor, resulting in further benefits. Typically, MLM companies offer a range of starter kits providing various levels of benefits available when a person becomes enrolled. For instance, registration and a single purchase at Dr. Nona company for at least 100 volume units allows new members to a 20% discount, a purchase resulting in over 700 volume unit will grant 33% discount, and buying products totaling 3,000 units qualifies a member to a 40% discount on all future purchases without any binding regulations. Considering another example of a MLM company, such as the company named doTerra which deals in both blends and pure essential oils (together with a range of products based on essential oils) designed for body care or healthy lifestyle, we come across a similar choice of enrollment options for those interested in joining the business. The company offers a variety of starter kits including comparably higher discounts for freshly enrolled distributors compared to those offered by Dr. Nona company, however these are conditioned by regular monthly purchases by distributors. Failing to follow the monthly purchase pace results in the loss of eligibility for higher discounts and the distributor drops to 25% rate. Possibilities and methods of becoming an enrolled member of a MLM company are typically described by a marketing plan which strictly specifies them. A new member usually aims to select those which fit his or her expectations and options.

Becoming a member of MLM business through the enrollment process means becoming a part of the sponsor's network. Sponsor, a person who enrolled the new distributor as a part of his or her network, should inform about and present the company's products as well as their marketing plan benefits. This is typically done via various promotions, meetings, trainings, workshops etc. It is up to each new member whether they want to become an active part of a MLM company, or just enjoy the advantages of reduced prices. These may range between 10-50%, depending on given MLM company and their marketing plan. Should the newly enrolled member decide for regular orders, or expand his or her network by enrolling new customers or business partners, further possibilities and benefits provided by the marketing plan open up.

3.1 Marketing plans and their options

Marketing plans of MLM businesses, provided that specific requirements are met, offer a whole variety of benefits for their partners. Various discount levels depending on retail prices of products or services creating profit when the deal is made with an end user is a standard part of MLM companies' marketing plans. Further income may flow from differing discounts among individual members of a distributor's network, company bonuses for achieving a higher rank or meeting certain requirements, additional bonuses from various motivational tools, various awards, monthly promotions, gifts etc. (Chaudhari & Gokhale, 2008). Examples of marketing plan features are described below.

Retail profit

Discounts on products and services granted by becoming a member of a MLM company may be used for personal purposes as well as for business activities when buying at discounted wholesale prices and selling for retail prices. Figures 1. and 2. demonstrate achieving greater discount rates and bonuses either by becoming enrolled and purchasing the starter kit, or obtaining basic discounts on products and services and accessing further discounts or bonuses with new orders.

Figure 1. Loyalty rewards program for regularly placed monthly orders for product purchase, as a standard practice of the doTerra company.

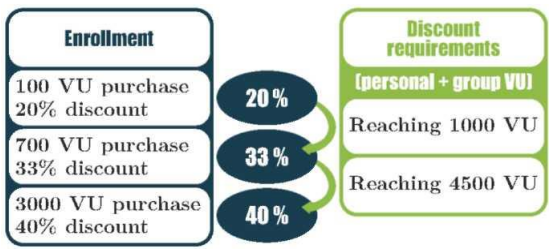

Figure 2. An example of achieving a discount directly (enrollment) and gradually in Dr. Nona company.

Climbing up the discount ladder may be conditioned by e.g. reaching the minimal number of collected points (which is product-specific), or the amount of money spent on orders which qualifies a member for a higher discount rate until the highest possible rate is achieved. For instance, becoming eligible for bonuses offered by do Terra (Figure1.) in addition to the initial 25% discount granted upon enrollment is conditioned by joining a loyalty program and committing to regular monthly orders. It follows that the greater the discount a distributor is granted, the greater the provisions from retail sale. Based on their marketing plan, some MLM companies require their distributors to meet certain criteria in order to keep at a discount level, while other companies grant individual discount rates for an unlimited period of time without the necessity to meet any requirements.

Bonuses issued for purchases in one's own development group

These represent provisions for the sponsor upon the enrollment of a new distributor in the form of the difference between the enroller's and enrollee's discount rates entitlement. This applies as long as the recruited member stays below the discount rate of the sponsor (Figure 3.).

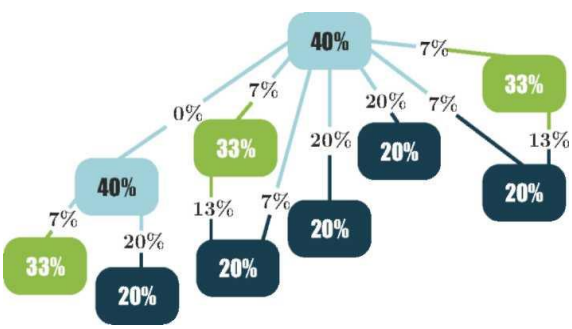

Figure 3. Example of sharing provisions for purchases by distributors in one's own network.

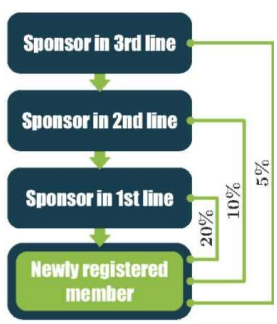

Figure 4. Example of a table of commissions specifying bonuses for sponsor lines upon enrollment of a new member.

Another instance would be receiving provisions (commissions) coming from each of the new recruit's placed order (and depending on its volume) to those in the sponsor line above the new recruit (Figure 4.). However, the applicability of this is usually limited to specified time periods.

Receiving Monthly Bonuses

Numerous MLM businesses employ the tool of monthly rewards for their active members following their rank, which typically requires certain results to be retained, together with meeting the requirements for respective bonuses. This represents a powerful motivation tool for MLM companies used to encourage distributors to maintain and expand their business network. Figures 5. and 6. present examples of career growth and levels of distributors' involvement in turnover within networks.

Paid as title	Consultant	Manager	Director	Executive	Elite	Premier
Monthly PV	50	100	100	100	100	100
Monthly GV	*	500	1000	2000	3000	5000
Qualified legs	*	*	*	*	*	2
Leg requirements	*	*	*	*	*	Execut.
Level 1	2%	2%	2%	2%	2%	2%
Level 2		3%	3%	3%	3%	3%
Level 3			5%	5%	5%	5%
Level 4				5%	5%	5%
Level 5					6%	6%
Level 6						6%
3% infinity performance pools (paid monthly on total company volume)						
Performance Pool shares: Earn additional shares for each new personally enrolled Elite (Leadership performance Pool or Premier)						* of shares

Figure 5. Example of bonuses awarded according to the achieved rank in the doTerra company

Paid as title	Director	Group Director	Leader Director	Master Director	Amber Director	Silver Director
Monthly PV	100	100	100	100	100	100
Monthly GrV	1500	1500	1500	1500	1500	1500
Monthly GV	*	5000	15000	25000	35000	50000
Qualified legs	*	2	3	4	5	6
Leg requirements	*	Director	Director	Director	Director	Director
Level 1	8%	8%	8%	8%	8%	8%
Level 2	6%	6%	6%	6%	6%	6%
Level 3	4%	4%	4%	4%	4%	4%
Level 4	2%	2%	2%	2%	2%	2%
Level 5		2%	2%	2%	2%	2%
Level 6			0.5%	1%	1%	1%
Level 7					0.5%	1%

Figure 6. Example of bonuses awarded according to the achieved rank in the Dr. Nona company

Accumulating One's Points

Many companies choose to quantify their products (services) in points, which helps with understanding marketing plans, eliminates the influence of financial market, allows for worldwide entrepreneurship regardless of currencies etc.

MLM companies distinguish between personal and group volume (measured in points or units). Personal volume represents the quantity of a distributor's own purchase, and group volume can be seen as the sum of points accumulated within his or her business network. The points are usually summed up for respective months and bonuses are therefore received on a monthly basis as well. It is possible to come across a situation when a group of distributors who achieved certain rank (i.e. maximum discount level) separates from the network of a distributor. Those who rank below a distributor (qualified for a lower discount) represent his or her development group. Each distributor from this development group eventually ought to achieve a rank excluding him or her (and their group) from the network. Distributor does not "lose" this network - reaching a certain amount of group volume entitles him or her for bonuses reaching into various depths of network levels according to the marketing plan (Figure 7.).

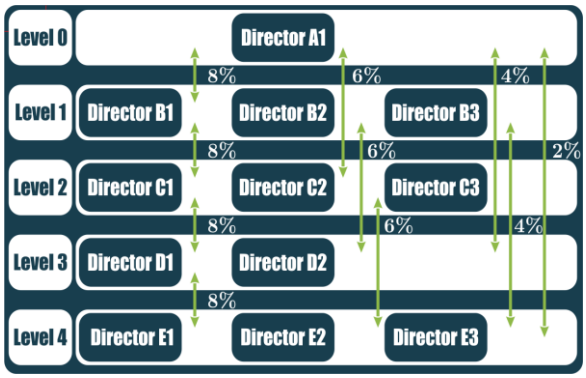

Figure 7. Example of qualifying for a bonus for development groups separated from a distributor's network

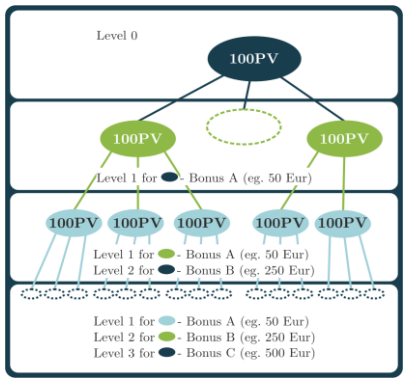

Figure 8. Example of requirements for a bonus for activities of distributors within a network (the conditions to quality for Bonus A, B and C

Other MLM companies may award bonuses reflecting the degree of distributors' activity within the network and conditioned by a minimum turnover on individual levels. For example, a minimum monthly purchase for a distributor is 100 personal points to qualify for a bonus. In case that his or her other three distributors in the first line meet this condition and 600 points are collected (together with points from remaining first line distributors), the zeroth line distributor qualifies for a bonus of e.g €50. Should the first line distributors succeed in collecting 600 points, they as well qualify for this €50 bonus, and their zeroth line distributor thus qualifies for a €250 bonus. Similarly, if the second line distributors manage to get the €50 bonus, this means a €250 bonus for every first line distributor and ultimately a €1500 bonus for a zeroth line distributor (Figure 8.). To receive such bonus again, a zeroth line distributor needs other three distributors within his or her line who would meet the requirements again to repeat the whole process.

Additional Bonuses

Besides regular monthly provisions, rewards and bonuses, MLM companies typically offer various kinds of additional bonuses ranging from monthly discounts and gifts to long-term programs for all enrolled members regardless of their status. Conditions and details of a distributor's participation should be an inseparable part of the marketing plan.

Motivational programs of MLM business may be of short-term or long-term nature. Short-term programs usually aim to support lower rank distributors and working distributors. These can come as various bonuses for e.g achieving a certain group turnover, or managing to achieve it in shorter time. Also, a product of the month received for free may be a reward for placing an order before a certain day of the month, or a benefit received for fulfilling a commitment of monthly order volume. An MLM company may also, for example, regularly select a product of the month and apply an extra discount for its purchase on the top of already granted discounts, offer more attractive conditions of enrollment, award bonuses for distributors who manage to expand their networks by a specified number etc.

Within long-term motivational programs, such as "Computer Bonus Program", "Car Bonus Program" or "Housing Bonus Program", distributors who meet conditions of the program collect bonus points for their account. Upon reaching the designed number of points, an MLM company offers the distributor the deserved bonus as a reward for his or her work and loyalty.

Rules for Receiving Bonuses

Distributors receive bonuses in accordance with rules specified by a marketing plan. These typically include the following:

- Bonuses are paid to enrolled members, who met the respective requirements for purchase volume for given month.
- Further condition to receive the total of rewards (bonuses) for distributors of higher ranks, is to meet the respective requirements for purchase volume as well as qualify with the amount of group turnover (personal volume + group volume).
- Other rewards (bonuses) are issued provided that individual programs' criteria are met.
- Bonuses are typically received with each accounting period, i.e each month
- Bonuses are issued by the company, or its regional affiliate under which a distributor enrolled.
- Basis for bonuses are tax documents stating sums in €, with or without VAT depending on whether a distributor is a tax payer.
- Bonuses are issued on the basis of specified documents, according to the laws of the country.

3.2 Ethical Code of MLM Companies

Ethical code sets rules of conduct for enrolled members while promoting or selling the company's products. It aims to enhance the level of service and the quality of satisfying customers' requirements and expectations, and to protect the customers' and distributors' interest. Following the code also de996, fines acceptable behavior towards competitors within the free market (DeGeorge, 1982, Hanuláková, 1996, Remišová, 1997).

Advertising and promotion ethics:

- it is unacceptable to provide false or deceptive information on the products and engage in fraudulent practices,
- it is unacceptable to misuse customer's age, health, enthusiasm or a lack of customer's knowledge for one's own profit,

- it is unacceptable to force customer into purchasing a product or service,
- it is not allowed to invade customer's privacy, contact customer in inappropriate time, or otherwise violate privacy,
- it is a distributor's obligation to inform customer accurately on effects and the use of products and on possibilities of returning them,
- it is a distributor's obligation to provide his or her contact information for possible complaints or additional information,
- it is a distributor's obligation to deliver the ordered goods on the arranged date,
- it is a distributor's obligation to behave properly, politely, and approach customers' issues in a sensitive way.

Ethics of providing information to potential enrollee:

- it is a distributor's obligation to provide correct information on advantages and disadvantages of the selected way of enrolling,
- it is a distributor's obligation to inform potential enrollees on the rights and responsibilities resulting from Enrolling and Marketing Plan,
- it is a distributor's obligation to inform potential enrollees about the legal environment in the country regulating business activities,
- it is a distributor's obligation to guide the enrolled person, help with their tasks and develop their knowledge and skills,
- it is unacceptable for a distributor to provide misleading or false information about products' effects, methods of earning money and its amounts and the Marketing Plan,
- it is unacceptable to mislead potential enrollees and engage in unfair practices to enroll a new member,
- it is unacceptable to offer enrollment to an already enrolled person under any circumstances.

Competition ethics:

- it is unacceptable to speak negatively of the competitors' products, marketing plans, or business practices,
- in case of comparing products, it is not allowed to provide misleading or deceptive,
- it is necessary to follow the rules of fair competition.

Ethical code is an MLM company's internal regulation. The ultimate penalty for its violation is canceling a distributor's membership without the possibility to enroll again. Any compensations or bonuses are also voided as soon as a membership is canceled. Activities of enrolled members related to the use, promotion and sale of MLM companies' products are to comply with laws and binding directives of the country, and distributors are fully responsible for their actions.

4. Conclusion

The network sales system has its own history and an increasing number of companies, which operate in different market fields, currently use it. One reason is development of information technologies that enable products online sale and that provide tools for the creation and development of networks while learning online distributors at individual levels. Company strategy in terms of its own business and sales model, which should meet the needs of company itself and also accommodate the needs of distributors and create conditions for their work to satisfy the needs and requirements of customers, remains crucial. An important condition for successful business in network marketing is the application of ethical principles. As an examples, companies doTerra and Dr. Nona and its application of the instruments of network marketing on ethical principles in relation not only to customers but also to company staff are reported in the article.

References

Blažek, B. 2006. *Zvrácená pyramida: Sociálně-ekologická studie konfliktu mezi pyramidovým schématem a občanskou společnosti / Twisted pyramid: Socio-ecological study of the conflict between a pyramid scheme and civil society.* Praha: Knižnice sociologických aktualit. ISBN 8086429-54-7.

Buffett, M. 2006. *The Tao of Warren Buffett: Warren Buf-fett's words of wisdom: quotations and interpretations to help guide you to billionaire wealth and enlightened business management.* New York: Scribner. ISBN 9781416541325.

DeGeorge, R. T. 1982. *Business Ethics.* New York: Macmillan Publishing Company.

Hanuláková, E. 1996. *Etika v marketing / Ethics in Marketing*. Bratislava: Eurounion. ISBN 80-85568-56-X.
Chaudhari, Ch. G., Gokhale, N. 2008. *Marketing Management.* Pune: Nirali Prakashan. ISBN 978-8185790961.
Kiyosaki, R. 2013. *The business of the 21st century.* Lake Dallas: Success Partners, Tex. ISBN 978-19-3594-439-3.
Ludbrook, E. 2009. *Confidence: Why direct sales/network marketing is booming again and what it means for you.* Auckland: Success Institute. ISBN 978-0958291323.
Remišová, A. 1997. *Podnikateľská etika: úvod do problematiky / Business ethics: introduction to the issue.* Bratislava: Ekonóm. ISBN 80-225-0831-4.

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The graduates of Slovak universities with economic specialization in the labor market

Michal Stričík, Bohuslava Mihalčová

Abstract

Human Resources with material, financial and information resources are fundamental resources of the company. It is very important how these resources are used by organizations as well as the whole country. In the long term high youth unemployment negatively affects the economy. The main objective of this paper is to assess the current status of graduates of Slovak universities with economic specialization in the labour market and suggest possible changes in their education to increase them into the labour market.

Keywords: Labor, Labor market, Labor office, Unemployment, Universities' graduates.
JEL Code: M54, J64

1. Introduction

Any type of organization needs people motivated and educated. Human potential is the need to constantly develop, reward, educate and motivate. The human resources of the company are a key factor of success because it may constitute a competitive advantage to the organization. Human resources can be defined as company employees that in the organizations are available (Dictionary, 2009). Human Resources with material, financial and information resources are fundamental resources of the company (Bašistová & Olexová, 2012). It is very important how these resources are used by organizations as well as the whole country. In the long term high youth unemployment negatively affects the economy. A negative high unemployment among graduates is their motivation for leaving to work abroad. Significant impact one employment of graduates has an educational level of the workforce, the level of the business environment and economic growth (Buchtová, et al., 2013). An important factor in the functioning of any modern and advanced society, as well as its economy is the share of population with tertiary education. Over the last 20 years, the number of tertiary educated residents by almost 100%. The overall level is closely linked to productivity, innovation capacity and technological maturity, and characterizes the level of development and knowledge. It should be noted that in comparison with developed countries of the European Union are undergraduates in Slovakia is still low and their employability in each country affected by the overall situation of the economy and the market state. On the other hand, in countries where a high proportion of college graduates are applying for places that require lower qualification requirements and for a good foothold in the labour market it ceases to be a university degree sufficient condition. This situation often occurs when the structure of education and programs do not respond to the demands of the labour market and the economy flexible.

The European Union proposes a framework and procedures that promote the growth of youth employment (Grandtnerová, 2014). European support for the employment of university graduates currently stands on these pillars:

- A system of guarantees for young people,
- Initiatives to foster youth employment,

- Quality internships,
- Labour mobility.

2. Materials and Methods

Higher education in our society is seen as one of the key societal investment in the future of individuals and of society itself. This investment should be reflected in increasing productivity in the economy and consequently contribute to the overall economic growth of the country. The problem becomes just the opposite phenomenon. Instead of increasing employment update inapplicable university graduates in the labor market.

The object of the examination of our contribution is the labour market in Slovakia in terms of the structure of education. As part of the investigation we focused mainly on the labour market, graduates with an economic focus in the years 2006 to 2015. The main objective of this paper is to assess the current status of graduates of Slovak universities with economic specialization in the labour market and suggest possible changes in their education to increase them into the labour market.

The study analyses the issue of development of the number of students in colleges and graduates enforcement in the labour market on the basis of available statistical data (from the school of statistics and statistics on employment and unemployment). Important source of information was the analysis and evaluation of job boards survey of published economic - managerial positions. With particular regard to four job boards: Profesia.sk, ISTP.sk, zoznam.sk and Job.sk. The information from these portals helps us to determine the requirements imposed on candidates and graduates of universities deal with management. From statistical methods in the calculations we used the median at work, the arithmetic mean and the standard deviation.

3. Results and Discussion

Currently studying at the university is very popular and studying at the universities in economics is very attractive for students. Nevertheless, the problem remains the fact that not everyone is able after graduation to find work immediately.

Table 1. Number of graduates of 1st and 2nd degree at the universities with economic focus

Year	Graduates of 1st and 2nd degree		
	Full time	**External form**	**Overall**
2006	3 213	3 465	6 678
2007	3 965	3 720	7 685
2008	7 080	5 294	12 374
2009	9 072	5 606	14 678
2010	9 130	5 047	14 177
2011	9 300	5 649	14 949
2012	8 618	4 582	13 200
2013	8 081	4 430	12 511
2014	7 891	4 231	12 122
2015	7 236	3 647	10 883
Median	7 986	4 506	12 443
Average	7 359	4 567	11 926
Standard deviation	2 135,13	810,99	2 800,77

Source: Processed by www.uips.sk

There are according to Portal 26 faculties of 18 thin universities in Slovakia whose mission is to provide professional and high quality education in the field of economic sciences and provide training for university educated economists in the first, second or third level of education in full-time or part-time study.

Based on the results of the Profesia company, there is 38, 46% interest in the graduates of faculties from economics by the employer. Development of graduate from business schools focus from 2006 to 2011 is shown in Table 1. After this year, we register a slight decrease each year. From 2011 to 2015 the number of graduates dropped by 27%. The largest standard deviations in the number of university graduates are in full time versus external university graduates.

Given the particular form of the study, dominated are graduates of full-time study. The highest daily number of graduates was in 2011 and form this year their number is lower. In conclusion we can say that the

development of graduates in full and external form study was in the period 2006 - 2015 alike.

The unemployment of graduates studied 1st and 2nd degree at universities of economic specialization in the Slovak Republic and individual regions in Slovakia is shown in Table 2.

Table 2. Unemployed graduates of 1st and 2nd degree at the universities with economic focus

Year	Slovak Republic	Region							
		BA	TT	TN	NR	ZA	BB	PO	KE
2006	537	38	49	69	66	49	51	101	113
2007	558	39	50	52	63	61	57	119	117
2008	630	54	50	97	52	69	55	139	114
2009	1 534	152	121	223	176	200	136	322	234
2010	1 615	160	107	242	199	170	140	354	243
2011	1 705	163	134	235	209	184	168	336	276
2012	1 618	159	120	233	194	185	148	337	251
2013	1 852	193	153	246	259	258	182	322	242
2014	2 020	190	164	298	268	266	202	351	281
2015	1 684	195	142	194	249	248	161	292	203

Source: Processed by www.upsvar.sk

Graduates unemployment from 2006 to 2015 increased by 217%. By regions most unemployed graduates are in Prešov and Košice regions, while the smallest unemployment is in Bratislava.

Table 3. A comparison of all university graduates with an economic focus with unemployed graduates

Year	All graduates	Unemployed graduates
2006	6 678	537
2007	7 685	558
2008	12 374	630
2009	14 678	1 534
2010	14 177	1 615
2011	14 949	1 705
2012	13 200	1 618
2013	12 511	1 852
2014	12 122	2 020
2015	10 883	1 684

Source: Processed by www.uips.sk a www.upsvar.sk

According to economic crisis unemployment from 2009 to 2014 grew every year, but in 2015 there was a decrease again (see Table 3.).

Requirements from the employer continue to grow. This is because the current dynamic times, develops not only politics, but also the corporate culture itself. They are interested in every detail, every article that fits right into the vision and conception of the whole organization. On the other hand, the cost of adoption, training, and trained staff to include a new business relationships are so high that the organization has in the selection procedures do everything to the applicant was the most appropriate.

In the context of our findings when analysing advertisements and description, they are considered by the appropriate economic education for a candidate who:

- Has completed a Master / Engineer of education in the field,
- Command of English letters and speech plus the added value of increasing knowledge of at least one other foreign language,
- Minimum of two years' experience,
- Comfortable working with MS Office and SAP and has experience with other expertise,
- Communication (negotiation, bargaining skills), scheduling (time management) skills and independence, flexibility, team spirit and analytical thinking.

Based on the development of unemployment and the requirements of practice we consider important following proposals for possible changes in education graduates with an economic focus to increase their application in the labour market:

- Increase labour market cooperation with universities,
- Draw attention to the correlation between the educational system and the formation of competencies graduates,

- Ensure synergy of education and practice in relation to long-term sustainable development of graduates.

For the application of the graduates in the workplace it is an important cooperation of companies and universities, because it increases the employment of university graduates and the amount of their income.

4. Conclusion

The total number of registered unemployed is the percentage of unemployed university students low. The share of graduates with economic focus is on the total number of graduates on average 20%, which means that there is high interest in the economic union. At the economic universities studied for the last 10 years more daily in comparison with part-time students. Unemployment of university graduates with an economic focus of grade 1 and 2 was in 2015 for the last three years of the period the lowest Based on our findings, we can conclude that for the graduates with economic education, they must first have graduation degree in, command of English letters and speech with a welcome knowledge of at least one other foreign language, two years' experience, feel comfortable working with MS Office and SAP, then characteristics of him communication, planning skills and independence, flexibility, team spirit and analytical thinking. In this context, for greater participation of graduates in the labour market is the most important cooperation between the labour market and universities. Higher education institutions should prepare graduates who will be able to be applied in the work environment after graduation and should therefore be adapted to market needs.

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References

Bašistová, A., Olexová, C. 2012. *Organizačná kultúra ako nástroj riadenia ľudských zdrojov*. Bratislava: Ekonóm. ISBN 978-80-225-3482-6.
Buchtová, B., Šmajs, J., Boleloucký, Z. 2013. *Nezaměstnanost*. Praha: Grada Publishing. ISBN 978-80-247-4282-3.
Dictionary of Human Resources and Personnel Management. London: A & C Black. ISBN 978-0-7136-8142-0.
Grandtnerová, L. 2014. *Podpora zamestnanosti pre mladých ľudí*. [on-line] www.ceit./IVPR/NSZ/nsz_10.pdf.
http://www.profesia.sk/
Štatistický úrad Slovenskej republiky. [on-line] www.statistics.sk.
Tkáč, M. 2001. *Štatistické riadenie kvality*. Bratislava: Ekonóm. ISBN 80 225-0145-X.
Ústav informácií a prognóz školstva [on-line] www.uips.sk.
Úrad práce, sociálnych vecí a rodiny [on-line] www.upsvar.sk.
Vysoké školy v SR [on-line] https://www.minedu.sk/vysoke-skoly-v-sr.
Zákon o vysokých školách. Zákon č. 131/2002 Z. z.

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Concept of customer satisfaction within the structural equation modeling - measurement part

Petr Suchánek, Maria Králová

Abstract

The subject of the article is an evaluation of a measurement model as a part of research into customer satisfaction. First, based on the literature, latent factors of customer satisfaction were identified, and then observable manifest variables were designed, by means of which it would be possible to measure these latent factors. The selected variables were then transferred to questions in a questionnaire, and the answers of respondents (customers of randomly selected food businesses) were used to assess the suitability of the proposed observable variables in measuring the factors of satisfaction. It was shown that the questions designed are good representatives of latent factors of satisfaction and constitute an appropriate basis for structural models of customer satisfaction.

Keywords: customer satisfaction, structural equation modeling, confirmatory factor analysis, food industry enterprises.
JEL Code: M31, C3, L66

1. Introduction

The subject of the article is research into customer satisfaction with regard to the evaluation of the measurement part of Structural Equation Models (SEM) of satisfaction. The factors of satisfaction that are cited in literature are theoretical constructs that cannot be observed directly, only by means of observable and measurable variables that they represent in some way. If the relations between the factors of satisfaction are to be modelled relevantly, it is necessary to work with the appropriate manifest (i.e. observed) variables that serve a function of unobservable factors. The aim of this article is to assess how well the below-mentioned and frequently cited in literature factors of satisfaction are represented by the manifest variables. To be more precise, whether the theoretical constructs (factors of satisfaction) predict well the correlation structure between observable variables (the questionnaire questions). In this section, there is a list and a description of the factors of satisfaction with which the authors intend to work in the follow-up research, which is in accordance with previous studies. In section 2 there is an overview and description of the related manifest variables.

'The literature identifies two types of satisfactions: transactional and overall (or cumulative) satisfaction' (Spitery & Dion, 2004). Transactional customer satisfaction can be defined as the evaluation of a specific accomplished purchase. Transaction satisfaction is concerned with new customers who are focused on other attributes than customers with repeated experience with the product (Wangenheim, 2003). Cumulative customer satisfaction may conversely be defined as the overall purchasing experience, i.e. as general satisfaction. Cumulative satisfaction can be understood as a long-term, based on repeated purchases and overall customer experience with the product. The nature of this research implies that the main research objective was *overall satisfaction*.

Consumer loyalty is defined as the willingness of consumers to buy a product from the same manufacturer, regardless of outside factors that might lead consumers to change the product or producer (e.g. marketing), (Li et al., 2012). More specifically, consumer loyalty can be defined as an attitude and behaviour, i.e. a two-dimensional variable (Rai & Medha, 2013). In our research, with respect to a comprehensive approach to the

variable and to increase its predictive power, we decided to examine both of the dimensions together.

'Image refers to the brand name and the kind of associations customers get from the product/company' (Andreassen & Lindestad, 1998). Furthermore, *'*a brand is the product or service of a particular supplier, which is differentiated by its name and presentation' (Tepeci, 1999). Image can thus be deduced from the brand (product or business) and can be understood as the name of the product or company in connection with colours, symbols, words and slogans typical of this product (or company). However, image defined as thus can be very difficult to measure directly. This therefore suggests the option of indirect measurement, comparing the above parameters with competing products. We chose this approach (i.e. comparing with competitors) in our research (see Table 1). However, a drawback of this approach is that the concept of image is also connected to the competitiveness of the company, which means a variable conceived in this way is better understood as a variable of company competitiveness.

'Customer satisfaction with a company's products or services is often seen as the key to a company's success and long-term competitiveness' (Henning-Thurau & Klee, 1997). Company competitiveness is thus very closely related to customer satisfaction. Therefore, it is possible to examine image in the context of the competitiveness of company. In addition, customer satisfaction is connected to the fact of whether the customer actually purchases the product, as customers purchase a product by comparing the values of different (competing) products (Dubrovski, 2001). This corresponds to the concept of overall satisfaction and is, therefore, in line with our understanding of customer satisfaction research.

Customer expectations play an important role in customer food assessment (Cardelli, 1995). Customer expectations are closely related to the perceived quality of the product. Research has confirmed that the various expectations affect the assessment of the quality of food products (see e.g. Tuorila et al., 1994). These studies are based on the confirmation and disconfirmation of expectations approach (Yuksel & Rimmington, 1998), which is focused on the evaluation of the product with regard to previous expectations. This is problematic, because experience with the product itself can alter the anticipated expectation (Gilbert, et al., 2004). With regard to the cumulative concept of customer satisfaction and a focus on repeated purchases, customer expectations can be understood as a variable that is formed also on the basis of previous experience with the product and its purchase. Therefore, we decided to understand customer expectations as the result of various factors (including the perceived quality of the product).

Perceived quality can be defined as 'the customer's perception of the overall quality or superiority of the product or service with respect to its intended purpose, relative to the alternatives' (Aaker, 1991). In terms of the quality of food, it is understood as good nutritional, microbiological and textural quality (Cardell, 1995). Textural quality actually includes mechanical, geometrical and surface characteristics of the product perceptible by means of mechanical, tactile, or visual and auditory receptors. Quality thus defined can also be considered as sensorial (Cardell, 1995). However, within the perceived quality of the product it is not possible to restrict the definition to sensorial attributes, it needs to be widened to include safety, utility, cost, and so on (Cardell, 1995).

'Customer *perceived value* can be defined as the result of a personal comparison between perceived overall benefits and the perceived sacrifices or costs paid by the customer' (Zeithaml, 1988). 'A customer's perceived value represents an overall mental evaluation of a particular good or service' (Yang, Peterson, 2004). The survey shows that perceived customer value can be measured as the relationship between price and quality, or rather it is possible to trade off between quality and price (i.e. to associate a certain level of quality with a certain cost). This approach was also used in our research.

2. Methodology

The Structural Equation Models (SEM), which model the relationship between latent variables (constructs), includes the measurement part, which models the relationship between latent factors and manifest variables. In the research, manifest variables were represented by scaled questions in a questionnaire. The respondents were a randomly selected representative sample of 1,530 adult residents of the Czech Republic. The question scale ranged from 1 to 10, where a higher value indicated a better assessment of the company. Thus, by the means of the questionnaire, 102 companies were evaluated. More specifically, the companies were from the sector of manufacturing food and beverage products, which manufacture products for everyday consumption (and which are well-known among consumers). Each company was represented by one product. The criterion for the selection of companies, of which there were 4,255 in this sector according to the Albertina database, was the availability of a balance sheet and a profit and loss statement (which is

important information for further research). The exact wording of the questions (manifest variables) including the specification of the names corresponding to the variables is shown in Table 1.

Unlike Exploratory Factor Analysis (EFA), which tries to identify a possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome, Confirmatory Factor Analysis (CFA) allows one to assess whether a relationship exists between the observed variables and their underlying latent constructs. In other words, CFA tests whether the hypothesized measurement model yields a variance-covariance matrix similar to the sample variance-covariance matrix.

Table 1. The questionnaire questions according to the individual variables

Variable	**Questionnaire**
IMAGE 1	How do you assess the image of the product with respect to its brand (tradition, reputation, prestige) in comparison with the competition? *significantly worse x significantly better*
IMAGE 2	How do you assess the image of the product with respect to its overall quality (i.e. nutritional value, taste, composition, appearance or packaging, etc.) in comparison with the competition? *significantly worse x significantly better*
IMAGE 3	How do you assess the image of the product considering its price in comparison with the competition? How prestigious (good) do you consider the product? *price is significantly higher x price is significantly lower*
IMAGE 4	How do you assess the image of the product with regard to the level of marketing communication (interest, how memorable, the intensity of advertising, sales promotion, etc.) which relates to the product in comparison with the competition? *significantly worse than the competition, I do not know any advertising, sales promotion, etc. x significantly better than the competition, advertising is funny, etc*.
CUSTOMER EXPECTATION 1	To what extent does the product meet your needs and requirements? *does not satisfy them at all x fully meets them*
CUSTOMER EXPECTATION 2	To what extent is the quality of the product stable over the period you have known it compared with your expectations of the characteristics of the product (i.e. no changes in taste, appearance, composition, nutritional value, etc.)? *product is every time different x product is always exactly the same*
CUSTOMER EXPECTATION 3	To what extent does the product meet your expectations (needs and requirements) in comparison with the promises (product information, advertising, etc.)? *does not satisfy them at all x fully meets them*
CUSTOMER EXPECTATION 4	How do you evaluate the product in comparison with the expectation that you always have before its purchase and consumption? *product is always significantly worse x product is always significantly better*
PERCEIVED QUALITY 1	How do you assess the quality of the product with regard to its taste? *very low x very high*
PERCEIVED QUALITY 2	How do you assess the quality of the product with respect to its composition (raw materials, including their origin, content ratio of components, etc.)? *very low x very high*
PERCEIVED QUALITY 3	How do you assess the quality of the product with respect to its appearance? *very low x very high*
PERCEIVED QUALITY 4	How do you assess the quality of the product with respect to its nutritional value (especially in terms of functionality - energy, health, sweetness, refreshment, etc.)? *very low x very high*
PERCEIVED QUALITY 5	How do you assess the overall quality (the overall assessment of its taste, composition, nutritional value, freshness, durability, appearance, smell, or packaging, etc.) of the product? *very low x very high*
PERCEIVED VALUE 1	Compared with the price of the product (the price you usually pay) do you assess its overall quality as: *the price is significantly higher than its quality x for its quality it could be significantly more expensive*
PERCEIVED VALUE 2	Compared with the price of the product (the price you usually pay) do you assess the taste, composition, appearance and smell of the product, i.e. the product's features, as: *the price is significantly higher than its quality x for its quality it could be significantly more expensive*
PERCEIVED VALUE 3	Compared with the price of the product (the price you usually pay) do you assess the functionality of the product (i.e. the fulfilling of those functions that you expect from the product, e.g. how it satisfies the appetite, tastes , refreshes, etc.) as: *the price is significantly higher than its quality x for its quality it could be significantly more expensive*
PERCEIVED VALUE 4	Evaluate the cost of getting the a product (in acquiring or 'hunting for it , its storage, disposal and price) in comparison with its durability, expiry date, use, freshness: *the costs are significantly higher x durability, expiry date, use, freshness, etc. is significantly higher*
PERCEIVED VALUE 5	Evaluate the overall quality of the product, i.e. the features and functionality in comparison with the overall costs of the product (including product price, storage costs, disposal, time-related costs, e.g., to opening or closing of the packaging, the time cost related to 'hunting' for the product that is not always available, etc.) *the overall costs are significantly higher x the overall quality is significantly higher*
CUSTOMER SATISFACTION 1	How generally satisfied are you with the product? *Not at all x completely*
CUSTOMER SATISFACTION 2	How much does your overall satisfaction with the product correspond with your expectations

	(the expected satisfaction)? *the reality is worse than my expectations x reality is better than my expectations*
CUSTOMER SATISFACTION 3	What is your overall satisfaction with the evaluated product compared to the ideal product? *extremely low x extremely high*
CUSTOMER LOYALTY 2	How often do you buy a similar product from another manufacturer? *often - I do not care which manufacturer I buy the product from x never - I buy the product only from this particular manufacturer*
CUSTOMER LOYALTY 3	If there are several very similar products on offer, at a very similar price, do you always choose the evaluated product? *certainly not - I do not mind, I decide according to the best offer x definitely yes – I always choose the evaluated product – it is the best*
CUSTOMER LOYALTY 4	If the price of the product increased (by up to 50% of the current price), would the amount/ number of the product you purchase be likely to: *significantly decrease x remain the same*
CUSTOMER LOYALTY 5	Do you or would you recommend the product to your friends, family or other customers? *certainly not - it is better not to recommend the product x definitely yes – I often recommend the product / it is worth more people knowing about it*

Source: Autors

Within the measurement part of SEM, there was a CFA carried out with the manifest variables from Table 1, which should have proven that in the background of individual groups of manifest variables are the actual factors of satisfaction from section 1. The expected relationship between the measurement variables and their corresponding hypothesized factors is expressed by a numbered variable name according to the hypothesized factor in the background. This means that for a group of manifest variables that are, except for the number, of the same name, it is assumed there is a common underlying factor. The measurement model parameters were estimated using the maximum likelihood method software R version 3.3.1 with lavaan package.

3. Model Construction

The initial measurement model and the final measurement model presented below differ slightly. Therefore, only the final model is presented, showing the differences with the initial model. The final model was specified as follows:

1. The impact of various examined factors on the manifest variables:
   • *Expectation factor* has an influence on the manifest variables: CUSTOMER_EXPECTATION1; CUSTOMER_EXPECTATION2; CUSTOMER_EXPECTATION3 and CUSTOMER_EXPECTATION4
   • *Quality factor* has an influence on the manifest variables: PERCEIVED_QUALITY1; PERCEIVED_QUALITY2; PERCEIVED_QUALITY3; PERCEIVED_QUALITY4; PERCEIVED_QUALITY5
   • *Value factor* has an influence on the manifest variables: PERCEIVED_VALUE1; PERCEIVED_VALUE2; PERCEIVED_VALUE3; PERCEIVED_VALUE4; PERCEIVED_VALUE5; IMAGE3 (IMAGE3 is added to the original model)
   • *Satisfaction factor* has an influence on the manifest variables: CUSTOMER_SATISFACTION1; CUSTOMER_SATISFACTION2; CUSTOMER_SATISFACTION3
   • *Loyalty factor* has an influence on the manifest variables: CUSTOMER_LOYALTY2; CUSTOMER_LOYALTY3; CUSTOMER_LOYALTY4; CUSTOMER_LOYALTY5
   • *Image factor* has an influence on the manifest variables: IMAGE1; IMAGE2; IMAGE3; IMAGE4
   The model assumes covariance between each pair of latent factors of satisfaction
2. In addition, the final model (unlike the original) specifies the covariance between
   • IMAGE1 and IMAGE4
   • PERCEIVED_QUALITY2 and PERCEIVED_QUALITY4
   • PERCEIVED_QUALITY3 and IMAGE1
3. The model reveals the measurement errors of manifest variables.

The model was derived for standardized variables during parameterization, where, within the group of manifest variables with one underlying factor, there is one factor loading constrained to equal 1.

4. Results

The parameters of the final model specified in section 3 were estimated using the maximum likelihood method. Table 2 shows only the estimates of the load factor (column Estimate) corresponding to the individual manifest variables. All these factor loadings are statistically significant (except for Image3 in the context of the latent variable *Image*), and, above all, they all have the same sign (again except for the insignificant Image3). This is a very important result because it allows for unambiguous interpretation of underlying factors. The higher the value of each significant manifest variable, the higher the value of an adequate underlying factor. For example, if with the factor *Expectation,* some of the estimates of loads were positive and other negative, then the factor Expectation would affect the appropriate manifest variables in various directions. However, this would lead to ambiguous interpretation of the value of this factor, as we assumed with all the manifest variables in section 2 that higher numbers would indicate a better company assessment. However, as all the estimates of loadings are positive, the higher latent factor of Expectation means a better assessment of the company in the field of Customer expectation.

In order to save space, we do not present the estimates of other parameters of the model, because once again they were unambiguous. All covariance between latent factors appeared statistically significant. This can be interpreted to mean, at least, that all of these latent factors (Expectation, ..., Image) are, together in pairs, significantly related. In further research into the structural part of SEM models, it would be possible, based on the literature, to hypothesize and test the causal relationships between these latent factors.

The covariance between the selected manifest variables, referred to in point number 2 in the previous section, has also been statistically significant – i.e. these pairs of questions in the questionnaire are strongly related. What is especially interesting is the relationship between Perceived quality and Image. Future structural models could test whether there is a causal influence of Image on Perceived Quality.

Table 2. Odhady factor loadings in measurement model

Group factor / Factor	Shortcut	Estimate	Std.Err	Z-value	P(>|z|)	Std.lv	Std.all
Customer Expectation							
Customer Expectation1	CE1	1.000				0.773	0.907
Customer Expectation2	CE2	0.908	0.058	15.598	0.000	0.702	0.918
Customer Expectation3	CE3	0.904	0.053	16.977	0.000	0.699	0.944
Customer Expectation4	CE4	0.776	0.049	15.711	0.000	0.600	0.920
Perceived Quality							
Perceived Quality1	PQ1	1.000				0.666	0.930
Perceived Quality2	PQ2	0.997	0.062	16.057	0.000	0.664	0.902
Perceived Quality3	PQ3	0.901	0.069	13.037	0.000	0.600	0.836
Perceived Quality4	PQ4	1.021	0.085	11.984	0.000	0.679	0.807
Perceived Quality5	PQ5	1.038	0.053	19.747	0.000	0.691	0.955
Perceived Value							
Perceived Value1	PV1	1.000				0.540	0.909
Perceived Value2	PV2	0.997	0.064	15.593	0.000	0.538	0.920
Perceived Value3	PV3	0.953	0.067	14.137	0.000	0.515	0.887
Perceived Value4	PV4	0.985	0.079	12.422	0.000	0.532	0.840
Perceived Value5	PV5	0.902	0.064	14.040	0.000	0.487	0.885
Image3	IM3	0.923	0.136	6.764	0.000	0.498	0.763
Customer Satisfaction							
Customer Satisfaction1	CS1	1.000				0.707	0.973
Customer Satisfaction2	CS2	0.819	0.043	19.057	0.000	0.579	0.906
Customer Satisfaction3	CS3	1.001	0.038	26.323	0.000	0.708	0.959
Customer Loyalty							
Customer Loyalty2	CL2	1.000				0.738	0.664
Customer Loyalty3	CL3	1.360	0.168	8.087	0.000	1.004	0.912
Customer Loyalty4	CL4	0.560	0.117	4.808	0.000	0.413	0.505
Customer Loyalty5	CL5	1.108	0.136	8.172	0.000	0.817	0.925
Image							
Image1	IM1	1.000				0.795	0.868
Image2	IM2	0.985	0.062	15.862	0.000	0.783	1.000
Image3	IM3	-0.028	0.087	-0.319	0.749	-0.022	-0.034
Image4	IM4	0.848	0.065	13.055	0.000	0.674	0.722

Source: Autors

The overall model fit assessed on the basis of fit indices allows for the interpretation that the proposed measurement model is in acceptable agreement with the data. The Comparative Fit Index (CFI) = 0.901, which exceeds the recommended value of 0.90 (the ideal or maximum value is 1) and the Tucker-Lewis Index (TLI) = 0.884, which falls only slightly short of the recommended threshold value of 0.9 (the ideal value is again1). A graphical representation of the measurement model is shown in Figure 1.

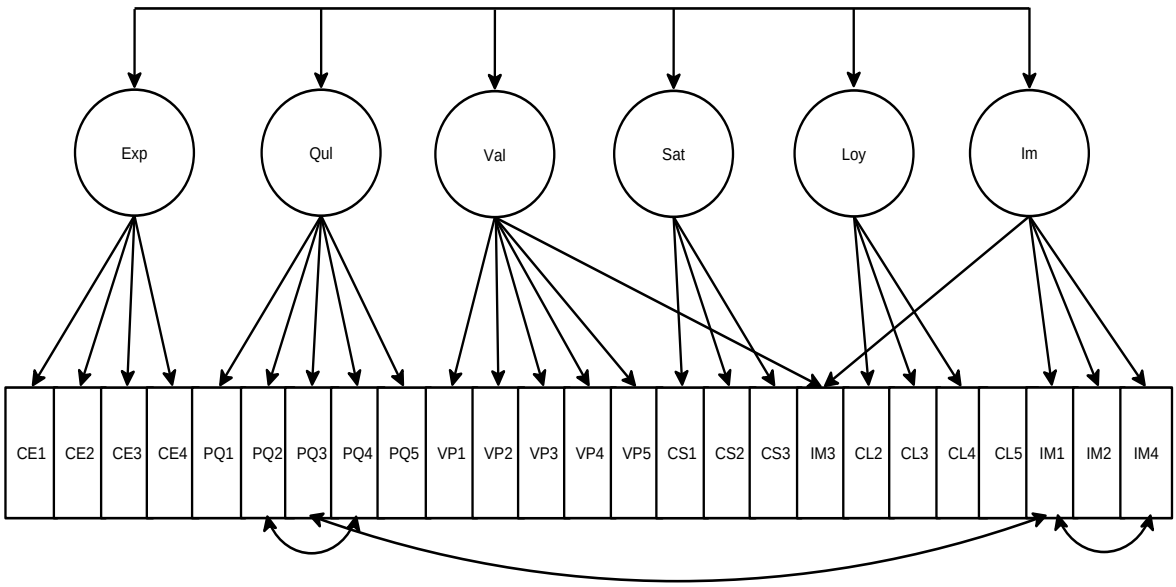

Figure 1. Final measurement model
Source: Autors

5. Conclusion

The aim of the article was to determine whether the model and its latent factors of satisfaction (theoretical constructs) predict well the correlation structure between the manifest variables (observable questions in the questionnaire). In other words, it aimed to find out whether the questionnaire can be seen as an appropriate representative of the unobservable factors of satisfaction. Given the results in section 4, it can be concluded that the choice of questions in the questionnaire was useful in the sense that it substitutes well for the unobservable factors of customer satisfaction. In addition, the estimated parameters of load factors allow for an unambiguous interpretation of the value of underlying factors. This finding is very important and useful for the future development of a subsequent structural model describing the hypothesized causal relationships between latent factors of satisfaction. With regard to the measurement model confirming a significant correlation between factors of satisfaction, it can be expected that structural models can confirm some causal relationships.

References

Aaker, D. A. 1991. *Managing Brand Equity*. San Francisco: Free Press.

Andreassen, T. W., Lindestad, B. 1998. The effect of corporate image in the formation of customer loyalty. In: *Journal of Service Research*, Vol. 1, No. 1, pp. 82-92.

Cardello, A. V. 1995. Food quality: relativity, context and consumer expectations. In: *Food quality and preference*, Vol. 6, No. 3, pp. 163-170.

Dubrovski, D. 2001. The role of customer satisfaction in achieving business excellence. In: *Total quality management*, Vol. 12, No. 7-8, pp. 920-925.

Fornell, C., Johnson, M. D., Anderson, E. W., Cha, J., Bryant, B. E. 1996. The American customer satisfaction index: nature, purpose, and findings. In: *The Journal of Marketing*, Vol. 60, No. 4, pp. 7-18.

Gilbert, G. R., Veloutsou, C., Goode, M. M., Moutinho, L. 2004. Measuring customer satisfaction in the fast food industry: a cross-national approach. In: *Journal of Services Marketing*, Vol. 18, No. 5, pp. 371-383.

Henning-Thurau, T., Klee, A. 1997. The impact of customer satisfaction and relationship quality on customer retention: a critical reassessment and model development. In: *Psychology and Marketing*, Vol. 14, No. 8, pp. 737–764.

Li, M. L., Green, R. D., Farazmand, F. A., Grodzki, E. 2012. Customer loyalty: Influences on three types of retail stores' shoppers. In: *International Journal of Management and Marketing Research*, Vol. 5, No. 1, pp. 1-19.

Rai, A. K., Medha, S. 2013. The antecedents of customer loyalty: An empirical investigation in life insurance context. In: *Journal of Competitiveness*, Vol. 5, No. 2, pp. 139-163.

Spiteri, J. M., Dion, P. A. 2004. Customer value, overall satisfaction, end-user loyalty, and market performance in detail intensive industries. In: *Industrial Marketing Management*, Vol. 33, No. 8, pp. 675-687.

Tepeci, M. 1999. Increasing brand loyalty in the hospitality industry. In: *International Journal of Contemporary Hospitality Management*, Vol. 11, No. 5, pp. 223-230.

Tuorila, H., Cardello, A. V., Lesher, L. L. 1994. Antecedents and consequences of expectations related to fat-free and regular-fat foods. In: *Appetite*, Vol. 23, No. 3, pp. 247-263.

Türkyilmaz, A., Özkan, C. 2007. Development of a customer satisfaction index model: An application to the Turkish mobile phone sector. In: *Industrial Management & Data Systems*, Vol. 107, No. 5, pp. 672-687.

Wangenheim, F. 2003. Situational characteristics as moderators of the satisfaction-loyalty link: an investigation in a business-to-business context. In: *Journal of Consumer Satisfaction Dissatisfaction and Complaining Behavior*, Vol. 16, pp. 145-156.

Yang, Z., Peterson, R. T. 2004. Customer perceived value, satisfaction, and loyalty: The role of switching costs. In: *Psychology & Marketing*, Vol. 21, No. 10, pp. 799-822.

Yuksel, M., Rimmington, M. 1998. Customer-satisfaction measurement. In: *Cornell Hotel & Restaurant Administration Quarterly*, Vol. 39, No. 6, pp. 60-71.

Zeithaml, V. A. 1988. Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. In: *Journal of Marketing*, Vol. 52, No. 3, pp. 2-22.

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The Economic Benefits of Using the Flight Simulator for Pilots Training

Stanislav Szabo, Iveta Vajdová

Abstract

The article concerns the economic efficiency of flight simulators in pilots training. The paper is specifically dedicated to the acquisition and operating costs of flight simulators and aircraft. Based on their comparison is evaluating the economic efficiency of flight simulator in various stages of pilot training. The emphasis is mainly on the financial cost saving using the flight simulator within the permitted timeframe. The article states the indicative price comparison in the permitted number of hours for different levels of training in a simulator.

Keywords: Flight simulator, economic efficiency, acquisition costs, operating costs.
JEL Code: R4, R49

1. Introduction

In the past, the training of airline pilots discussed the possibility of using secondary devices that could be used in basic training outside the aircraft. Not only training would be cheaper but practice some manoeuvres would be safer. Following this request arose flight simulators. Simulators can be classified into different categories, and worldwide there are more than thirty classification category simulators (Eryilmaz, et al., 2014). For simplicity is divided and labelled individual types of the following: If the simulator marked by letters, as simulators for C level, it is a moving and very expensive simulator, if the simulator has a numerical designation as simulators Level 5, is a stationary simulator which is more affordable than the first version. Increasing the number or letter has also increased the sophistication of the device (Weiss, 2015).

Not only in the field of aviation, the workers face with mental workload, which can be described as a factor which represents the sum of all assessable influences of work, working conditions and working environment operating on cognitive, sensory and emotional processes of man. (Johnson, et al., 2015; Regula, et al., 2014) These are the factors that affect workers and induce a state of increased psychological stress and burden psycho physiological functions. Training of personnel plays an important role in enhancing aviation safety since the human factor is the most critical factor not only in the field of aviation (Krueger, et al., 2015; Bureš, et al., 2015).

Pilot training is expensive and a lot of applicants for a pilot license this training financed by external sources such as loans. Reduce the total cost in training for applicants by using flight simulators is acceptable choice. Reducing the cost of flight training, and the associated reduction in the economic burden on the pilot-student may also have a positive impact on its performance and personal well in training. Flight simulators are currently its legislative position in the training of pilots but their inclusion in the initial training is minimal. Although, the purchase and operation of these devices is not negligible financial item, this is a significantly lower cost than in the case of aircraft.

The term efficiency understand the relative quantity that describes the ratio between the output (such as revenue, profit, cash flow) and input, such as capital, labor, the total cost (Szabo & Gavurová, 2011; Szabo, et al., 2013; Podoľáková & Mihalčová, 2014). In our case we will be dealing with the economic efficiency of

flight simulators for training pilots. Economic efficiency of simulators will be evaluated by comparing the costs of flight hours on a real aircraft compared to the cost per flight hour to flight simulators.

2. Acquisition costs and costs of flight hours on flight simulators commonly used for pilots training

In training pilots to obtain licenses PPL (A) is usually used simulators FNPT II, which are relatively inexpensive and meet the requirements for private pilot license and commercial pilot license. To obtain modular licenses such as IR / SE or IR / ME are already using complex simulators for which is the acquisition price, operating costs and costs of flight hours significantly higher. Economically most exacting are simulators of large transport aircraft for Type rating such as Boeing or Airbus - A full motion simulators.

The following table shows the acquisition cost of selected types of simulators, and there is mention the price per flight hour on that simulator, too. From the perspective of operating expenses it is mainly the cost of energy, software updates, fees for obtaining and subsequently extended license, fees for the checks required parameters of simulators, routine repairs and maintenance and so on. Purchase price and operating costs vary depending on whether it is the certified or uncertified simulator. The uncertified simulator is not possible to officially carry out pilot training, which was counted to the required number of flight hours of training. Acquisition costs changes based on whether that company buys a new or used simulator, and also on the specific parameters of that type. Cost per flight hour for applicants depends on according to the current offer of specific companies and therefore Table 1 provides approximate prices of flight hours and acquisition costs.

Table1. Acquisition costs of flight simulators and flight hour price

Simulator	Acquisition costs	Flight hour price
FNPT II	65 - 100 000€	75€
ATR 42/72	unavailable	330€
FTD I/II, Boeing 737 - Fixed Based Simulator	1 - 1,5 mil. €	100€
Full Flight Simulator Boeing 737	7,1 mil.€	310€
Cessna Citation C525A	700 000€ (new/certified)	625€ for MCC

Source: AOPA 2016, CATC Prague, F-Air

3. The economic cost of the acquisition and use of aircraft

Use of aircraft in real operation in the training of pilots is clearly a necessary matter. Whereas it is pilot - student thoroughly familiar with the environment of the aircraft and its individual parameters are unthinkable to allow a purely training in theory or only on flight simulator. From the economic perspective, the pilot training on aircraft in real operation is really expensive and after completion of the entire training and obtaining a license ATPL (A) costs about 40 000€. Another problem that arises for the "fresh" pilot is type rating which is from a cost perspective not much cheaper affair. In order to train pilots to obtain necessary licenses, it is obligating to flight schools have the necessary types of aircraft, which provides training. That is why sometimes happens that a flight schools provides only certain types of qualifications.

3.1. Aircraft operating costs

Aircraft operating costs consist of fixed and variable costs. Between fixed costs are allocated costs for:

- Salaries of staff and training
- Parking - hangar
- Insurance fees
- Subscription to the basic aircraft maintenance
- License fees.

Among the variable costs we are allocated in particular:

- Fuel costs
- The cost of maintaining physical and moral wear of airframe and other parts of aircraft
- Work and spare parts
- Restoration of the engine and more.

4. Economic benefits of a simulator in aviation training

Pilot training and obtaining the necessary licenses nowadays is economically very difficult. Currently it is possible to save at least a portion of the costs using a flight simulator. It is evident that flight simulators have disadvantages compared to aircraft especially in terms of the psyche of the pilot, but on the other hand, it is possible to practice the unforeseen events without risk of danger.

Flight simulators are used for training of personnel in order to reduce financial burden and increasing safety in an unusual and emergency training situations. Aviation Schools tend to vote mostly for training flight simulators type FNTP II and FTD, as these are not that expensive to procure and meet all legal and technical requirements for the training of flight personnel.

In terms of economic efficiency, the flight simulator for certification beginners pilots get not used in particularly large extent, it is referred to as an additional tool. In comparison of flight hours for flight simulator type FNPT II with the price of flight hours on the aircraft used in stated type of training are comparable costs, and therefore unambiguously students obtaining for training on a aircraft. Effectiveness would be also showed up on the greater extent of flight hours, in this type of training. Because in the training of PPL (A) can be applied to only 5 hours of flight simulator is not a big saving funds by use of simulators compared to the total cost of training.

Table 2. shows a comparison of the prices per flight hour to flight simulators and aircraft for training beginners pilots.

Table 2. Comparison prices per flight hour for aircraft and flight simulator for training the PPL (A)

Simulator/ Aircraft	**Price per flight hour**	**Price per 5 flight hours**	**Saved funds Simulator - Aircraft**
Simulator FNPT II	75€	375€	-
Cessna C152	95€	475€	100€
Cessna 172 RG	210€	1050€	675€
Beechcraft BE58	360€	1800€	1425€

Source: F-Air, Tomáško & Vágner, 2014

Whereas in training CPL (A) using the same aircraft, and therefore the most suitable simulators for the training is again simulator FNPT II as replacement aircraft for training CPL (A) again is not economical particularly effective compared with the cost of all training (Table 3.).

Table 3. Comparison prices per flight hour for aircraft and flight simulator for training the CPL (A)

Simulator/ Aircraft	**Price per flight hour**	**Price per 10 flight hours**	**Saved funds Simulator - Aircraft**
Simulator FNPT II	75€ - 95€	750€ - 950€	-
Cessna 172 RG	210€	2100€	1150€ - 1350€
Diamond DA40	225€	2250€	1300€ - 1500€
Zlín ZL42	125€	1250€	300€ - 500€

Source: F-Air, Tomáško & Vágner, 2014

Economic effectiveness of flight simulators is thus proving to the training of ATPL(A) which is considerably higher flight hours, and also with module training IR / SEP, IR / MEP (Table 4. and 5.) where is the simulator a part of a training and allowable flight hours on these devices is significantly higher.

Table 4. Comparison prices per flight hour for aircraft and flight simulator for training IR/SEP

Simulator/ Aircraft	**Price per flight hour**	**Price per 35 flight hours**	**Saved funds Simulator - Aircraft**
Simulator FNPT II	75€ - 95€	2 625€ - 3 325€	-
Cessna 172 RG	210€	7 350€	4 025€ - 4 725€
Diamond DA40	225€	7 875€	4 550€ - 5 250€

Source: F-Air, Tomáško & Vágner, 2014

Table 5. Comparison prices per flight hour for aircraft and flight simulator for training IR/MEP

Simulator/ Aircraft	**Price per flight hour**	**Price per 40 flight hours**	**Saved funds Simulator - Aircraft**
Simulator FNPT II	75€ - 95€	3 000 - 3 800€	-
Diamond Twinstar DA 42	440€	17 600€	13 800€ - 14 600€
Piper PA-34-220T Seneca V	304€	12 160€	8 360€ - 9 160€
Tecman P2006 T	262€	10 480€	6 680€ - 7 480€

Source: F-Air, Tomáško & Vágner, 2014

Economic efficiency of simulators is demonstrated in MCC training and type rating (Table 6.), too. With the most significant economic contribution of simulator is in training for large transport aircraft and its simulators where the permitted number of flight hours on the simulator is 100 (Table 7.).

Table 6. Comparison prices per flight hour for aircraft and flight simulator for MCC training

Simulator/ Aircraft	**Price per flight hour**	**Price per 20 flight hours**	**Saved funds Simulator - Aircraft**
FFS Simulator Cessna Citation C525A	625€	12 500€	-
Cessna Citation C525A	2 150€	43 000€	30 500€
FFS Simulator ATR 42/72	330€	6 600€	-
ATR 42/72	2 850€	57 000€	50 400€

Source: F-Air, CATC Prague, Tomáško & Vágner, 2014

Table 7. Comparison prices per flight hour for aircraft and flight simulator for type rating

Simulator/ Aircraft	**Price per flight hour**	**Price per 100 flight hours**	**Saved funds Simulator - Aircraft**
FFS simulator Boeiing 737	310€ - 680€	31 000€ - 68 000€	-
Boeing 737	4 100€	410 000€	342 000€ - 379 000€

Source: F-Air, CATC Prague, Tomáško & Vágner, 2014

Based on the above comparison, we can see that the cost of flight training clearly smaller by using flight simulator for training. Even a basic training to obtain a license PPL (A) and CPL (A) may a simulator save hundreds to thousands of Euros. As these licenses are low allowed number of lessons on the simulator, 5-10 hours, saving funds is not as substantial as in the example of modular training or in the type rating. Several thousands to hundred thousand saving can be seen in the use of FFS simulators such as the Boeing 737 simulator which costs are only 8-16% of the cost when compared to flight hours on the aircraft. From a financing perspective, pilot training many applicants used loans and credits and each saved euro is important for candidates, which is why even in the initial training of the use of simulators in the view of economic cost justified.

5. Conclusion

Operating cost flight simulators are estimated at 5-20% in comparison with the cost of the aircraft. Many studies have shown that the skills acquired in an environment of full flight simulators can be also successfully used in the aircraft. Use of simulators for training reduces the duration of the flight. In a recent study, the median of the cost for the aircraft and simulators estimated at 8%. Available sources show that simulators are cost effective for initial flight training as well as maintenance. Students are trained on simulators just as they trained in the actual aircraft equipment, with lower acquisition costs and use. Simulators are nowadays a good investment. The cost of procurement can be written off within one to four years. The effectiveness of simulators are mostly measured as the ratio of hours performed to flight simulators and aircraft.

References

AOPA. *Efficiency Buy or rent.* [on-line] http://www.aopa.org/News-and-Video/All-News/2013/May/1/Efficiency-Buy-or-rent.

Bureš, R., Němec, V., Szabo, S. 2015. Multi-Engine Training manual. In: *Proceedings of 19th International Scientific Conference Transport Means*. Kaunas: Technologija, Vol. 2, pp. 583-586.

Eryilmaz, U., et al. 2014. A novel classification method for driving simulators based on existing flight simulator classification standards. In: *Transportation Research Part C-Emerging Technologies*. Vol. 42, pp. 132-146.

Johnson, M. K., et al. 2015. Probe-Independent EEG Assessment of Mental Workload in Pilots. In: *7th International IEEE EMBS Conference on Neural Engineering*, pp. 581-584.

Krueger, J. K., Suchan, B. 2015. Humans Are Still the Critical Factor in Aviation Security. In: *Aerospace Medicine and Human Performance*, Vol. 86, No. 10, pp. 915-917.

Podoľaková, I., Mihalčová, B. 2014. Economic Efficiency of Selected Air Traffic. In: *Naše more : znanstveno-stručni časopis za more i pomorstvo*, Vol. 61, No. 1-2, pp. 36-39. [on-line] http://hrcak.srce.hr/ index.php?show=clanak&id_clanak_jezik=179833.

Regula, M., et al. 2014. Study of heart rate as the main stress indicator in aircraft pilots. In: *Proceedings of the 16th International Conference on Mechatronics (MECHATRONIKA 2014), pp.* 639-643.

Szabo, S., Dorcak, P., Ferencz, V. 2013. The Significance of Global Market Data for Smart E-procurement processes. In: *IDIMT-2013: Information Technology Hunam Values, Innovation and Economy*, Vol. 42, pp. 217-224.

Szabo, S., Gavurová, B. 2011. Vplyv vývoja svetovej ekonomiky na rozvoj leteckej dopravy. In: *Zborník medzinárodnej vedeckej konferencie: Aeronautika 2011,* Košice: TUKE, pp. 1-6, ISBN 978-80-553-0758-9.

Tomáško, R., Vágner, J. 2014. Ekonomické prínosy využitia simulátorov v leteckom výcviku. In: *III. Vedecká konferencia doktorandov*, LF TUKE, pp. 1-8.

Weiss, V. 2015. Flight Simulator Training: Cutting Costs and Improving Skills. [on-line] http://www.upperlimitaviation.edu/flightsimulator-training-cutting-costs-and-improving-skills/

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Labour migrations of Podkarpackie Voivodeship inhabitants – the problem outline

Andrzej Szromnik, Elżbieta Wolanin-Jarosz

Abstract

The aim of the elaboration is the preliminary recognition and presentation of the problem concerning labour migrations in Podkarpackie Voivodeship and introductory assessment of a given phenomenon in the researched region. The article has theoretically-empirical character. The empirical part is based on the secondary data analysis and the direct research.The results of the presented research incline to formulate some meaningful conclusions. Generally, the Podkarpackie Voivodeship belongs to the area of Poland where considerable intensification of migration processes appear, mainly the external – labour migration. When it comes to migration directions, the most frequently chosen country by the Podkarpackie inhabitants was The United Kingdom (mainly England). The main crucial motive of foreign migrations was '"the desire to improve one`s own financial situation". The significant percentage of the respondents has no intention to come back to their homeland – „want to settle down in the emigration country".

Keywords: labour migrations, podkarpackie region, field research
JEL Code: E; M

1. Introduction

A migration phenomenon is inseparable element of the globalized economy. Migration decisions result from different political, economic, social or family conditions. Labour migrations have dominated for the last few years. Their aim is to improve one`s own and family members` lives situation. Labour migrations are largely determined by the following factors: differentiated living standards of people in the whole world scale (the most frequently measured by the PKP *per capita* level), the amount of remuneration, the size of the unemployment rate, the improvement of the development perspectives, the easiness and speed of moving from one place to another. These migrations create certain opportunities and dangers from the point of view of individuals and the whole economy as well.

The area of Poland, where there is a considerable intensity of migration processes is Podkarpackie Voivodeship. Difficult situation on the labour market, high unemployment, the lowest salary gross in the country, low level of socio-economic development of the province are the most important conditionings of the international migrations. The special social group, which the migration problem concerns, are young people.

The aim of this elaboration is recognition of the international migrations problematic aspects – the economic ones of the Podkarpackie Voivodeship inhabitants and the preliminary assessment of the researched phenomenon. The article has a theoretically- empirical character. The migration essence, their types and conditionings on the basis of the subject literature have been discussed in the theoretical part. However, the empirical one is based on the analysis of the secondary data and direct research conducted by the present publication authors.

2. Labour migrations – features, forms and conditionings

The migration processes are the subject of research conducted within many scientific disciplines. Migrations are analyzed from the geographical, demographical, sociological, political or economic perspective. In each discipline, in which the migrations research is carried out, characteristic definitions of this phenomenon are created for it.

From the geographers point of view, who are interested in the description of the features of certain localizations, including the population living there, migration means any kind of movement from one place to another. In demography, migrations are the most frequently defined as changes of permanent or temporary place of residence (Holzer 1999). In turn, in the sociological aspect, migration is perceived as a natural part of a man`s way of life (Lee 1966). Migrations, in the political aspect, are defined as the population movement between the international legal entities, which are countries. Whereas, on the grounds of economics, the migration term is considered in micro- or macroscale. Depending on the analysis level, migration processes are analyzed from the point of view of the unit or the whole economy. In the microeconomic perspective migration is perceived as *the investment increasing productivity of human resources* (Sjastaad 1962). The researched subject is, in this case, a unit which, by calculating benefits and loses resulting from migration, aims at maximizing the profit. In the macroeconomic aspect, migration is treated as the flow of production factor. Human migrations, except perceiving them in the mobility of production factors categories, are presented in the works of foreign trade theoreticians (m.in. Obstfeld and Rogoff 2002) as an answer to differentiation of payment schemes and the way of their alignment.

The most frequently appearing criteria of migration division in the subject literature are: the area, which is connected to moving from one place to another (including administrative borders) (Duszczyk 2012; Orłowska 2013).

I. Taking into consideration the area where the migrations take place, they can be divided into internal and external ones[*].

According to the definition accepted by the Central Statistical office (GUS 2014), collecting data for the needs of the European Statistical Office (Eurostat), internal migrations are understood as "the changes of permanent (or temporary) residence, consisting in crossing the administrative border of the commune in order to settle down permanently (or temporarily) and reregistration of residence from temporary to permanent in a given town or city if the previous place of permanent residence was in a different commune. In case of the urban-rural commune, migration is also the change of a dwelling place between the urban areas and rural communes." (GUS 2014). In turn, Małachowski (2010), by defining the internal migrations as the ones occurring on the border of one country, indicates their directions: from the village to the city, from the city to the village, from the village to the village and from the city to the city.

External (international) migrations are, according to the definition of the Central Statistical Office (GUS in Polish), *the population movement is connected to the change of the country of living* (GUS 2015). Holzer (1999). However, he defines international migration as the population migratory movement, which results in crossing a border of the country and the aim of leaving the place is the place of residence change. Including the term permanent place of residence criterion in the definition of the international migration leads to the exclusion of short- term trips from the analyses. Thus, there are often more liberal definitions of external migrations in the subject literature. One of them is for example the definition suggested by Jaźwińska, Łukowski and Okólski (1997), according to which, the international migration is defined as *going abroad in different than tourist an holiday purposes no matter how long the stay abroad lasts* (Szczygielska 2013). Six main international migration forms can be differentiated in the subject literature: emigration, immigration, re-emigration, repatriation, deportation and exile.

The most common forms of migration, among the above mentioned ones, are emigration and immigration. Arrangements concerning the definition of these phenomena create similar doubts, as in case of defining the term of *external migration*. However, definitions often used by the Central Statistical Office (GUS in Polish) often appear in the subject literature. According to them emigration is defined as going abroad in order to settle down (to live permanently) or for a temporary residence. Nevertheless, immigration is the arrival from abroad in order to settle down (permanent residence) or stay temporarily (GUS 2015).

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[*] External migrations are also called foreign or international ones.

Including the criterion concerning the length of the residence change period, migration is also divided into long-term and short-term periods. This criterion is crucial in order to differentiate migration from going on holiday (Kaczmarczyk 2005). According to The Central Statistical Office (GUS in Polish) short-term migrations are the ones which last form 1 to 3 months. A long-term migration takes place when a given person is registered abroad as a permanent resident (no matter how long they are going to stay) for at least 12 months.

Another migration division – according to their causes, is one of the most important and the most frequently discussed in the subject literature classification of this phenomenon. The attempts of understanding the reasons of human migrations have been researched by the migration processes researchers. The migration causes can be narrowed to two presumptions that are economic and non-economic (Deszczyński, 2008). In the group of non-economic presumptions the ones for political, family or religious purposes can be above all differentiated. Thus, due to the going abroad cause criterion, the most frequently distinguished are economic, family, political and religious migrations.

Economic migrations (often defined as labour) are caused by desire to earn more money and improve the migrant`s living conditions. The population flow in employment purposes between different regions/countries result from varied level of economic development of these places. Most migration flows, which have been observed in the world so far, belong to this category. As Deszczyński (2008) notices, the economic reasons are one of the oldest presumptions of migration. Desire to improve one`s own living conditions is also one of the most frequent motives of the contemporary migrations. Migrations from new to old member states of the European Union, as well as going to the USA are mainly dictated by economic reasons. Zientara (2012) pays attention to the fact that even though the reasons of many migration flows can be initially bereft of economic profit, finally have economic character.

Family migrations, which aim is to start or join families are often connected to the economic foundation migrations. His type of migration appears in the situation, when one member of a family emigrated earlier and then was joined by their family. A specific form of family migration is a conjugal migration, which takes place when two people who come from different places, get married and live together (OrłowskA, 2013).

On the other hand, political migrations are usually the effect of wars or political parties fights (for example the cold war). These kinds of migrations take place when a given country allows the people, looking for shelter against different forms of discrimination, in a another country, but also as help for domestic wars or political unrests victims.

Another kind of migration, which can be mentioned in the classification, including the departure causes, are migrations, which have religious background. As part of religion based migrations, self-imposed and compulsory changes of the place of residence, can be distinguished. The first form of population flow is caused by the willingness of being among the followers of a given religion, in the place of worship. Their aim is to ensure safety of the faith confession and worship. Compulsory change of place of residence within religion based migrations results from the fact that the followers of other religions, in a given country, are haunted or forced to take a different faith (Małachowski, 2010).

3. Podkarpackie Voivodeship specifics

Podkarpackie Voivodeship is situated in the south-east of Poland, near the Ukrainian border, which is, at the same time, the external border of the European Union. The part of border between Slovakia and Poland is the internal border of the European Union. Considerable part of both lengths of the border is difficult to protect. It is so called a green border, which goes through the mountainous, forested or scarcely populated area. From the historical point of view Podkarpackie Voivodeship is part of so called Eastern borderlands. This area is characterized by strong and usually positively perceived cultural, ethnic and family connections with the neighboring regions in the Ukraine, Slovakia or further: in Hungary, the Czech Republic, Romania and Moldavia.

In everyday life, the borderland heritage simplifies (locally required) small border traffic (MGR in Polish), which is, however, regulated by the rules imposed mainly under the influence of external factors. Consequently, for example, by allowing on the population and goods flow from the Ukraine and to the Ukraine within the MGR, which have stimulating influence on the local economic situation on the Podkarpackie Voivodeship territory, it collides with the restrictive Shengen border management requirements. In turn, supported by the union regulations, invisibility of the border between Poland and Slovakia, which goes on the Podkarpackie Voivodeship territory, improves the cooperation of Polish and Slovakian schools

and universities as part of trans frontier Carpatian Euroregion. On the other hand, it simplifies the activities of organized criminal groups, among others, the ones who smuggle migrants from the east and South to the European Union.

In respect of the standard rates used in the comparative characterization of the regions, Podkarpackie Voivodeship is not in the lead, neither in comparison to other European Union regions, nor in comparison to most of Polish voivodeships. It covers the area of 17 844 km^2, which is 5,6% of Poland`s surface, giving it the eleventh position among sixteen voivodeships [Wolanin-Jarosz, 2015]. Density of population is 119 people/1 km^2, what classifies Podkarpackie in the category of the regions less than averagely densely populated [US 2016]. It should also be taken into consideration that a significant part of this voivodeship area, including mainly Bieszczady mountains, is scarcely populated and it is still depopulating (for example bieszczadzki district 19 people/ 1 km², and leski district 32 people per 1 km² Wolanin-Jarosz 2015). Officially, the voivodeship population is a bit over two million, which, however, does not totally include real trends embracing labour migrations on the mass scale to other regions of the country or abroad – mainly to Ireland, great Britain or Norway.

The area of the voivodeship is covered by relatively dense settling network, but the towns, which create, in administrative terms, 1551 smallest administrative units of Poland, 159 communes, 21 rural districts and 4 borough districts[†]. Even though the capital of voivodeship, Rzeszów city (with about 200 thousand inhabitants), has been developing quite dynamically for the last few years, it is aspiring to the metropolitan city that has a national rank now. It should be added that most of average and small urban centers of the region lost many vital service functions or economic ones in the result of the constitutional transformation, initiated in 1989. Sealing the eastern border, connected to the accession of Poland to the European Union, has not always had beneficial influence on their development.

As far as demography is concerned, the number of births is decreasing visibly and the average lifespan is lengthening, which results in the general decrease of the population number and aging of the society, like in the whole Europe. It is worth mentioning that 19953 live births were noted in Podkarpackie Voivodeship in 2014, i.e. 2,1% (420 births) fewer than in the previous year and 2037 births fewer than in 2010 [Statistical Office 2016]. The birth rate in 2014 was 9,4‰ (in the country 9,7‰) and in comparison to the year 2013 it decreased 0,2 p. prom. Moreover, negative changes evidencing that the population is aging, can be observed in Podkarpackie Voivodeship. There are fewer and fewer children and teenagers (0-17) in the general number of the voivodeship population. The number of people at the post-production age (men aged 65 and older and women aged 60 and older) is increasing at the same time. The percentage of people at the pre-production age (younger than 18) lowered from 19,1% in 2013 to 18,8% in 2014 r. At the same time, the number of people at the post-production age increased – from 17,2% to 17,7% [Eurostat 2016]. The number of population at the production age decreased – from 63,7% in 2013 to 63,5% in 2014. Even though, in comparison to other voivodeships, Podkarpackie is included to the demographically young regions. Statistically speaking, it has the longest lifespan in the country (82,8 in 2014), which is connected to the relatively high rate of subjectively noticeable life quality, good health and psychophysical condition of the elderly people who live there[‡].

Incredibly crucial factor, as far as demography is taken into consideration, is human migration, which has a meaningful influence on the number of people living in a certain place. migration of population. A negative net-migration has been observed for many years. As a result of migration, the population number decreased from 2249 in 2014, what for every 1000 inhabitants is minus 1,1 (in the country – minus 0,4 - Eurostat 2016). It means that in one year, the amount of people registered out of permanent residence exceeded the number of the registered ones for the permanent residence in this period. In 2014, in Podkarpackie Voivodeship, 19,0 thousand people (727 arrived from different countries, one year earlier 669) i.e. 704 fewer than in 2013, registered for permanent residence. The overspill was 21,3 thousand people, i.e. 1557 fewer than in 2013. 1035 of the inhabitants (463 more than in 2013 - US 2016) registered out of the permanent residence to live abroad.

It is also worth mentioning the factors like: PKB (GDP- gross domestic product) per capita (30587 zł), unemployment rate (13,8 %), activity rate (54,1%), employment rate (46,7%) average monthly income per person in households (1053,zł) or the average monthly salary gross (3266,17 zł - US 2016). Their values for

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[†] The bulletin edited by the podkarpackie voivodeship management includes the data, Pokarpackie voivodeship development strategy for the years 2007-2020 Actualisation 2015, Rzeszów, August 2015

[‡] Ibidem

2014 prove that, Podkarpackie is not a very attractive region for a permanent residence. Moreover, weak dynamics of economic growth and the economic structure confirm this thesis.

All in all, Podkarpackie Voivodeship is characterized by weak dynamics of economic development, ambiguous socio-demographic trends, but strong landscape and cultural values.

4. Labour migrations of the Podkarpackie inhabitants in the light of the empirical research – the main directions, motives and results of the departures

The present chapter consists of two parts. The first one presents the secondary research results (the Central Statistical Office (GUS) research[§]) concerning the problem of external (labour) migrations of the Podkarpackie province inhabitants (Statistical Office, 2014).

However, the analyses concerning the chosen issues form the conducted direct research – pilotage, under the main topic "Polish labour emigrants in Great Britain - socio-economic conditions, the departure and stay motives".

4.1 Migration directions, the main reasons, the number of emigrants, their characteristics – the secondary data analysis

The presented analysis results are based on the research conducted by the Central Statistical Office (GUS in Polish) in 2011 within the National Census of Population and Housing [US, 2014]. They concern international migrations and include information about the structure of the emigrating population of Podkarpackie according to gender, marital status and education level. The data about external migration directions, mobility causes and migration plans have also been presented.

In the beginning, it is worth mentioning that the results of the conducted for many years research, confirmed the observed increase of the number of Polish people who live abroad. They showed that at the time of list of 178,6 thousand people who have permanent residence in Podkarpackie Voivodeship, were more than 3 months abroad. It means that in average, 84 out of 1000 voivodeship inhabitants were temporarily abroad. Over 78% of emigrants (about 140 thousands) were in a different country for 12 months or longer – they were the long-term emigrants [US 2014]. The rest - almost 39 thousand people are short-term emigrants, which means they were aboard from 3 to 12 months.

There were not many women among the emigrants (50,9%), but their percentage was smaller than in 2002 (52,6%)[**]. However, the percentage of people, who lived in the cities before the departure increased – it was over 47%, which means it was higher than the average percentage of the voivodeship population living in the cities (41,4% US 2014). This fact indicates that the city inhabitants are more prone to change the place of living. The biggest number of people staying abroad, lived in the stalowowolski (14 000), mielecki (13 000), Rzeszów (12 000) and sanocki (11 000) districts by the departure.

Among the emigrants at the age of 15 and older, over 46% were married people. There were many single people – almost 38% of the inhabitants staying abroad longer than 3 months. The percentage of single people crossing the border, from Podkarpackie Voivodeship, was higher than in all voivodeships. The conclusion can be drawn that the people, who had not started a family yet, more often decided to change the place of living rather than the ones who had already started a family.

When it comes to the education level, it turns out that 2/3 of emigrants at the age of 13 and older had at least secondary education (over 19% higher, 42% secondary). However, every fourth person had vocational education.

It results from the research [US 2014] that the voivodeship inhabitants emigrated to all continents, but they chose the European countries the most frequently (75% of all people emigrating from the Podkarpackie region). Definitely the most frequently chosen place was the United Kingdom, where 29% (89% of these people went to England) of all emigrants from the discussed Voivodeship chose to go. Significant percentage of people went to France (9,3%), Italy (8,2%) and Germany (6,4%). Another continent, which is still being

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[§] The research was conducted by the GUS (CSO) within the census in 2011r.

[**] According to the research carried out by the GUS (CSO) as part of the census in 2002r

willingly chosen by the Podkarpackie inhabitants was North America, where almost 23% of the emigrants from the discussed area decided to go.

The research results, carried out by the GUS (Central Statistical Office), define the reasons why people from Podkarpackie Voivodeship choose to emigrate [US 2014].

As the data in the table 1 indicates, the most frequent reason of leaving the country was "going to work". That is why more than 75% of the emigrants left the country. It was observed that the emigration motives connected to work were varied as they depended on gender. Almost 83% of men and 67% of women left their home soil because they wanted to work. What is more, the countryside inhabitants left Podkarpackie to work (78%) more often than townspeople (72%).

Table 1
The reasons of emigration for temporary residence, for longer than 3 months according to the gender, age and place of living of the Podkarpackie inhabitants

Emigration reasons	In total			City	Country
	in total	men	women	in total	in total
In total	100%	100%	100%	100%	100%
Work	75,5%	82,8%	66.9%	71,8%	78,2%
Education	4,2%	2,6%	6,1%	5,3%	3,3%
Family matters	15,2%	10,5%	20,3%	16,0%	14,4%
Other	5,2%	4,0%	6,6%	6,8%	3,9%

The source: own elaboration based on: foreign and internal migrations of Podkarpackie Voivodeship inhabitants, the Statistical Office in Rzeszów, Rzeszów 2014

The migrations caused by family matters is the second reason for leaving the home soil. Over 15% of the people decided to do so. Differently than in case of work, the family matters were more frequently the reason to leave for women (21%) than for men (11%). More inhabitants of the city (16%) than inhabitants of the countryside (14%) emigrated for this reason.

4.2 Motives and circumstances of the departure and living conditions of the emigrants in England – the direct data analysis

The analyses presented below are based on the research conducted in England, on the sample of 161 respondents (pilot survey) - of the Podkarpackie Voivodeship inhabitants, who emigrated to London, Liverpool and Manchester for the period longer than 3 months. The research period included October and November 2015. The questionnaire method was used to collect the data. A survey questionnaire including 17 questions, appropriate to the researched subject, was used as a measuring tool.

As far as the characteristics of the respondents are concerned, it should be mentioned that from the group of the 161 questioned people, 58% were women (93 people) and 42% men (68 people). The vast majority were young people - about 62% (99 people) of the respondents were people aged from 20 to 29, and people who were 30 to 39 years old were 31% (50 people). What is more, about 60% were people with secondary education (including 51 women and 39 men), and 35% with higher education (including 43 women, 13 men). The respondents with basic or vocational education belonged to the smallest group, only 15 people.

The respondents answered, among others, the question concerning the factors and circumstances, which made them go abroad (figure 1).

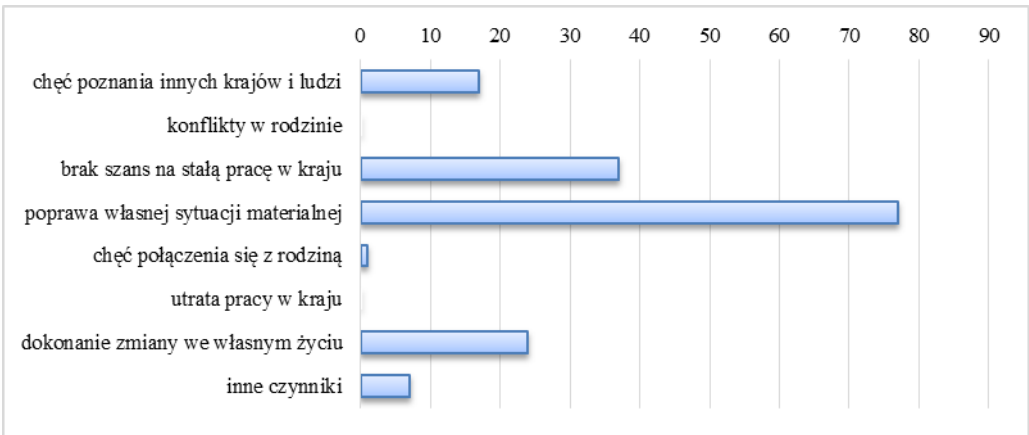

Figure 1. Which factors - circumstances decided about the fact that you went abroad?
The source: own elaboration*

*The drawing description:
chęć poznania innych krajów i ludzi – the desire to meet other people and see different countries
konflikty w rodzinie – family conflicts
brak szans na stałą pracę w kraju – lack of opportunity to find a permanent job in the country
poprawa własnej sytuacj materialnej- the improvement of living conditions
chęć połączenia się z rodziną – the desire to live with one`s family
utrata pracy w kraju – the job loss in the country
dokonanie zmiany we własnym życiu – changing one`s life
inne czynnki – other factors

The juxtaposition of the most frequently chosen reasons, for which Polish people went to England, is incredibly interesting. Almost 50% of the respondents said that the most frequent reason for leaving Poland had been the improvement of their financial situation. The second reason was the lack of possibility to find a permanent job in the homeland. Another motive was the desire to change one`s life and meeting a different nationalities. Nobody of the respondents left the country because of family conflicts or job loss.

Taking into consideration the definition of the main source of the respondents` income in the country, it turns out that almost 76,4% of the people questioned made a living only from a current, permanent job (figure 2). About 10% opened their business activities in England. 6% of the respondents went to England on holidays in order to earn some more money by doing seasonal work. These decisions were made because, in Poland, the salary is much lower than abroad for doing the same job. Picking up fruit and vegetables, working with flowers and on the building site, can be included to the most popular seasonal kinds of work.

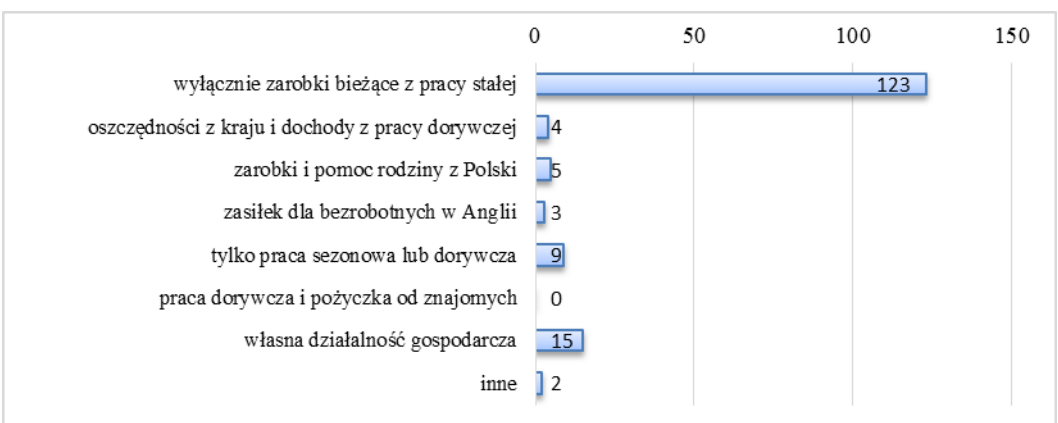

Figure 2 What is your main source of income in England?
The source: own elaboration*

*The drawing description:
wyłącznie zarobki bieżące z pracy stałej – exceptionally current salary form a permanent job
oszczędności z kraju i dochody z pracy dorywczej – savings for the country and income from odd jobs

zarobki i pomoc rodziny z Polski – earnings and help from a family from Poland
zasiłek dla bezrobotnych w Anglii – unemployment benefit in England
tylko praca sezonowa lub dorywcza – only seasonal work and odd jobs
praca dorywcza i pożyczka od znajomych – odd jobs and a loan from friends
własna działalność gospodarcza- one`s own business activity
inne - other

The respondents also answered the question concerning the assessment of their economic security (stability) in the country of emigration (figure 3). 7 – point Likert scale was used for this purpose, where 1 – meant "no, my economic situation is definitely unstable", and 7 – "yes, my economic situation is definitely stable". It turns out that 34% of the people assessed their safety on the level of 5 points, which means that they felt safe and economically stabilized in a foreign country. Exclusively 54% of the respondents claimed that the sense of security of over 5 points can be given to life abroad. By weighting average in all answered questions, it turned out that the average was on the level of 5,6%. It means that Polish people are not afraid of the danger coming from the economic conditions of the country.

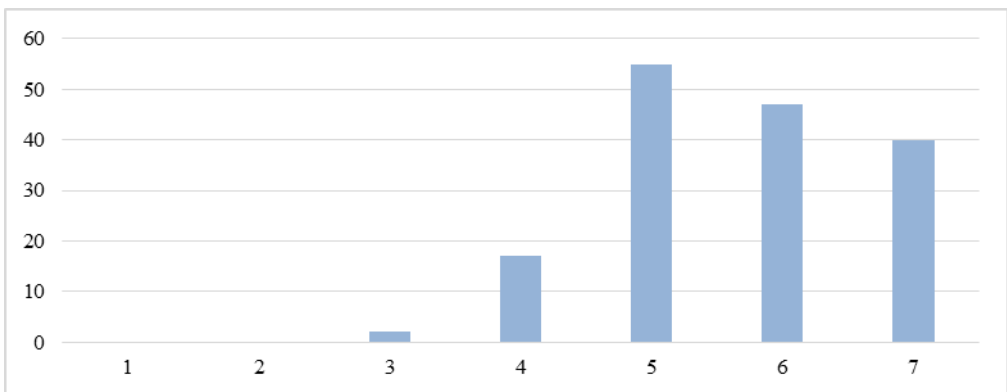

Figure 3 How do you assess your economic security (stability) in England?
The source: own elaboration

The results of the questionnaires also show the respondent' plans connected to their further stay in England (figure 4). It turns out that 40% of the people questioned do not intend to come back to their homeland - "want to settle down in England". 23% of the respondents want to come back to Poland. Almost the same number of people want to find a job for a longer period of time in Great Britain. There are also people who plan to leave England to a different country (8%). It is also worth mentioning that the respondents often answered that they "wanted to change their current job to the one adequate to their education".

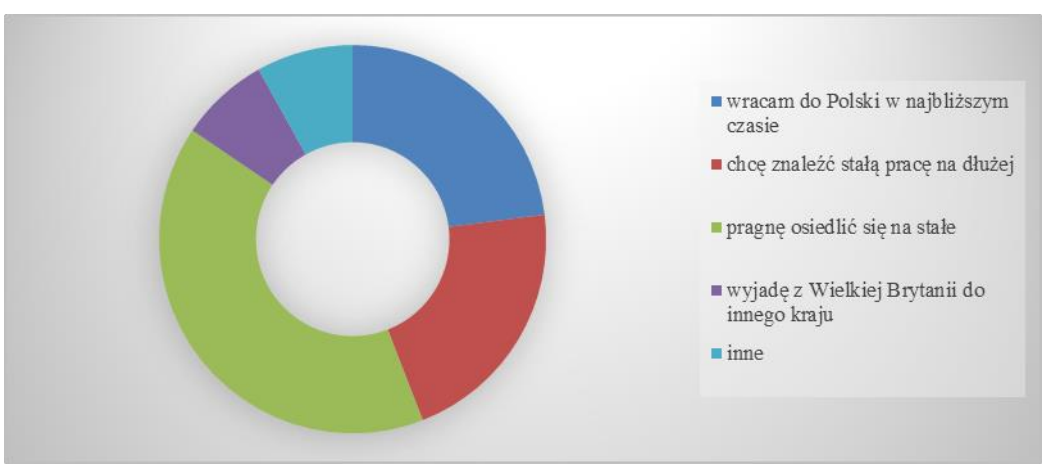

Figure 4 What plans do you connect with further stay in England?
The source: own elaboration*

*The drawing description:
dark blue – I am coming back to Poland in the near future
red – I want to find a permanent job for a longer period of time
green – I want to settle down
purple – I will leave Great Britain and go to a different country
light blue - other

5. Conclusions

Summing up the presented research results, it should be stressed that Podkarpackie Voivodeship belongs to the area of Poland where considerable intensification of migration processes appear. Difficult situation on the job market, high unemployment, the lowest gross salary in the country and low level of socio-economic development are the most important conditionings of foreign migrations (mainly long-term ones), especially the ones which have earning character. Young, highly qualified people, are the important social group which the problem of migration concerns. When it comes to migration directions, the most frequently chosen country by the Podkarpackie inhabitants was The United Kingdom (mainly England). It results from the presented research that the most important foreign migrations motive was the desire to improve the financial situation, in other words economic (earning) factor. Defining the main source of the respondents` maintenance in the emigration country, it turns out that the biggest percentage of the people leaving the country, made a living from the current salaries – from a permanent job. Moreover, most of the respondents claimed that their economic situation on the emigration is definitely stable. The questionnaires results also show the respondents` plans connected to their further stay in England. It turns out that over 40% of the people questioned have no intentions to come back to their homeland – 'want to settle down in Great Britain".

References

Deszczyński P. 2008. *Migracje zewnętrzne a bezpieczeństwo gospodarcze państw (External migrations and economic safety of the countries),* w: Kacprzak L. Knopek J., *Bezpieczeństwo państw a procesy migracyjne (Safety of the countries and migration processes).*, The Higher Sate Vocational School Publishing (PWSZ), Piła, ss. 93-108

Duszczyk M. 2012. *Polska polityka imigracyjna a rynek pracy (Polish immigration policy and a job market)*, The Institute of Social Policy Faculty of Journalism and Political Science, the University of Warsaw,

Eurostat. 2016. *Migration and migrant population statistics Information*, http://ec.europa.eu/eurostat/statistics-explained/index.php/Migration_and_migrant_population_statistics, [access: 20.09. 2016]

GUS, 2015, *Rocznik demograficzny (Demographical market) 2015*, Dmochowska H. (red.), Central Statistical Office), Warsaw,

Holzer J. 1999. *Demografia (Demography),* Polish Economic Publishing, Warsaw

Jaźwińska E., Łukowski W., Okólski M. 1997. *Przyczyny i konsekwencje emigracji z Polski (Causes and consequences of immigration from Poland). Wstępne wyniki badań w czterech regionach za pomocą podejścia etnosondażowego (The preliminary resarch results in four regions woth the use of etno survey approach),* The Institute of Social Studies UW, Warsaw

Kaczmarczyk P. 2005. *Migracje zarobkowe Polaków w dobie przemian (Labour migrations of Polish people in the era of changes),* Warsaw University Publishings, Warsaw

Lee E. S. 1966. *A Theory of Migration*, Demography, Vol. 3(1)

Małachowski W. 2010. *Migracje we współczesnym świecie. Implikacje dla Polski (Migrations in the contemporary world. Implications for Poland),* Printing House The Warsaw School of Economics in Warsaw, Warsaw

Obstfeld M., Rogoff K. 2002. *Foundations of International Macroeconomics*, Cambridge/London: MIT Press

Orłowska R. 2013. U*warunkowania i skutki rozwoju migracji ekonomicznych w Unii Europejskiej w świetle wybranych teorii migracji międzynarodowych (Conditionings and effects of economic migrations development in the European Union in the light of the chosen international migration theories) ,* The University of Gdańsk Publishing, Gdańsk

Sjaastad L.A. 1962. *The costs and returns of human migration,* w: Journal of Political, No. 70,

The development strategy of Podkarpackie Voivodeship for the years 2007-2020. Actualisation 2015, Rzeszów

Szczygielska I. 2013. *Migracje zarobkowe kobiet i ich wpływ na funkcjonowanie rodziny (Women` s labour migrations and their influence on functioning of the family) ,* Wydawnictwo Uniwersytetu Warszawskiego, Warszawa

Statistical Office in Rzeszów, 2016, Stan, ruch naturalny i migracje ludności w woj. podkarpackim w 2014r (The state, natural movement and human migrations in the podkarpackie voivodeship in 2014), *http://rzeszow.stat.gov.pl* [the reading date: 13.08.2016]

Statistical Office. 2014. Migracje zagraniczne i wewnętrzne województwa podkarpackiego (Foreign and internal migrations of the podkarpackie voivodeship , Rzeszów

Zientara P. 2012. *Międzynarodowe migracje o charakterze ekonomicznym: przyczyny mechanizmy konsekwencje (Inrernational economic migrations: causes, mechanisms, consequences,* The University of Gdańsk Publishing, Gdańsk.

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National culture in ICT adoption: case of online shopping in the Czech Republic and Slovakia

Radoslav Škapa, Mark Ratilla

Abstract

The article investigates national culture as a factor in the process of adoption and usage of information and communication technologies on an example of internet shopping. On data gathered from young generation (university students), the analyses addressed three working hypotheses about differences caused by cultural differences in Czech and Slovaks. Despite rejection of the hypothesis, some of the presented calculations suggested that culture might influence the shopping by impacting social influence and individuals` intuitiveness/subjectivity in decision making; leaving room for further studies on this topic.

Keywords: online shopping, national culture, comparison, survey, generation Y, ICT.
JEL Code: M310, O330

1. Introduction

The introduction of internet shopping 20 years ago has been an important incentive for buying behavior research. The new technology – the Internet – altered the retail industry as a whole by providing the customers/consumers with another marketing channel. Despite several similarities of the internet/online shopping to traditional catalog shopping, which is the closest form of distance selling, the Internet disposes of some unique features, which appeal to the customers/consumers. It is the specificities of online shopping that alter the traditional models of buying behavior.

The aim of the article is to extend the current body of knowledge about factors, barriers, and effects of online shopping that has been accumulated over 20 years by analyzing the role of national culture in case of Czech and Slovak consumers. In broader context, the text speaks analyses the role if national culture in the adoption of information and communication technologies (ICT).

2. Shopping in the online environment – the factors

Several studies have uncovered, examined and analyzed the factors affecting consumers' adoption to electronic shopping. In the retailers' standpoint, it is essential to discover and understand these factors to be able to craft more effective and efficient marketing strategies that will surely meet customers' needs and wants. Basically, two general groups of factors (the one relates to the *computer* and the other to *human)* influence online shopping via the attitude to web site and its flow (i.e. indirectly) (Hausman & Siekpe 2009). After series of reviews on past researches, various factors are finally classified into main categories: web site characteristics, consumer characteristics, and product characteristics offered in the web site.

Each category consists of multiple factors: In case of web site characteristics, most relevant features and attributes that are able to stimulate purchase intention and subsequently to generate actual online purchase include perceived ease of use, perceived usefulness, firm's reputation, privacy, trust, reliability and functionality (Lee, et al., 2011).

The consumer characteristics relevant to online shopping are similar to those one identified in context of the brick and mortar shopping - they range from personal, cultural, social to psychological factors. E.g. gender differences were addressed in context of shopping of apparel (Hui & Wan, 2007), personal income (Soopramanien & Robertson, 2007), or personality traits (Cowart & Goldsmith, 2007).

Intentions to shop online also depend on the type of product being offered by the e-retailer in the web site. E. g. product or service that can be evaluated before purchase more easily (search goods) are more appropriate for online selling than experience goods (Moon, Chadee & Tikoo, 2008). The link to factor of trust was addressed in study of Wakefield, et al. (2004): Offering well-known and respected products in the web site pose a strong influence on building consumer trust as this create positive outlook to the online vendor

As the analysis focuses on effects of national culture predominantly, a reader is advised to find further information about the other factors in the articles cited above.

2.1. National culture as a factor of shopping behavior in the online environment

Buying intention and behavior is not just about intrinsic dispositions, but it is also constituted of internalized cultural values and norms and external contextual factors (Overby, Woodruff & Gardial, 2005). In this vein, many studies were conducted to examine the influences of national culture; however, because of its complexity, researchers made use of contemporary frameworks that facilitate them in synthetizing, conceptualizing and operationalizing their cross-cultural research process.

Among others, it is the Hofstede's framework that has been used by researchers to understand the different layers of culture and how it affects an individual's behavior. It takes into account six dimensions of cultural variation: individualism/collectivism, power distance, masculinity/femininity, long-term orientation, uncertainty avoidance, and indulgence (Hofstede, 2003).

To illustrate the Hofstede Model (Figure 1.), comparison between Czech Republic and Slovak Republic was generated. Despite geographical proximity, it shows that there is significant cultural variations between the two countries.

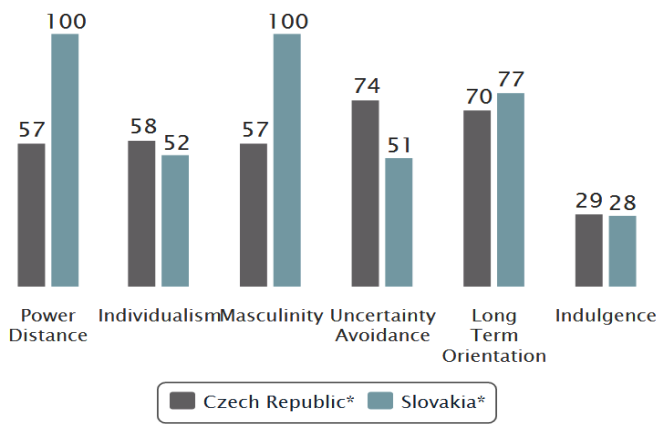

Figure 1. Cultural comparison
Source: Hofstede institute based on external research data

Starting with power distance, Slovaks scored relatively higher, which means that the country itself has a hierarchical society (e.g. reflecting inequalities, centralization, autocrat, subordinates follow) and that people accept hierarchical order. Moving to individualism, both countries scored similarly in this dimension. The higher score in masculinity means that the Slovak society is more driven by competition, achievement and success where people are decisive, assertive, emphasize equity, competition and live in order to work. On the other hand, with regards to uncertainty avoidance, it shows that Czech Republic stresses a relatively higher importance of avoiding uncertainty (by maintaining rigid codes of belief for instance) as compared to the Slovaks. Both countries exhibit a pragmatic culture, in which truth can be changed according to the conditions and situations. People are characterized by perseverance in achieving results rather than by achieving short term goals. Finally, very low indulgence means that both countries lean to cynicism and pessimism, not empathizing leisure time.

Given the cultural variations in three out of six dimensions as discussed above, the question is if there is a link between national culture and online buying behavior among consumers in Czech and Slovak republics.

2.2. Development of research hypothesis

The data collated by Hofstede Centre (Figure 1.) show difference in dimensions of masculinity, power distance, and uncertainty avoidance. So, the following text makes implications for online shopping in the two countries.

Power distance as a factor of consumer behavior is rather neglected in the literature. In one of a few studies on this topic, the power distance was tested as a moderator of relationship between social influence and online shopping intention, but the moderating role of power distance was supported only partially (Pavlou & Chai 2002). With the respect to limited validity, we propose the hypothesis as follows:

H1: *In comparison, Slovaks tend to be more influenced by their superiors' ideas and opinions prior making a purchase decision than Czechs.*

Lower masculinity affects behavior in a way that these cultures are more subjective and intuitive and they acquire opinion first from other people prior to their purchase. They also value emotional connections and relations (Baksh, 2012), which implies the hypothesis:

H2: *Czechs are more subjective and intuitive in making online purchase as compared to Slovaks.*

Societies with high uncertainly avoidance have well established rules, regulations or laws and intolerant to unorthodox behavior and ideas. Surprisingly, uncertainty avoidance has positive effect to internet shopping adoption and diffusion levels (Wen Gong, 2009). Park and Jun (2003) shows that Koreans, who tend to have high uncertainty avoidance, still tend to purchase online given the privacy and security risks that they are facing. This exist because of the fact that shopping sites in Korea are linked to trusted big shopping malls which reduce risk and uncertainty perception among consumers. Though internet shopping holds ambiguity and uncertainty, this burden can be overcame by appropriate information technology (Wen Gong, 2009).

H3: *Czech perceived high risks in online shopping and places strong emphasis of reducing these as compared to Slovaks.*

2.3. Online shopping in Czechia and Slovakia

An academic research on online shopping in the both countries is relatively scarce. However, according to GFK study motivational factors in traditional and online shopping are very similar, as identified in the cross-country research («Press release» 2016); therefore the findings in a another Czech/Slovak comparison study about shopping (not limited to online one) is of relevance here: Young people in both countries share attitudes to shopping. The only difference is in that young Czechs perceive themselves to be excellent shoppers and put more stress on retailer brands, whereas Slovaks accentuate branded products less (Klapilová & Krbová, 2016).

3. Data collection and empirical findings

This study employed quantitative research design applying descriptive and inferential statistics. The primary data were gathered through structured questionnaire, which adapted questions from many research papers, which are not listed here due to the limit of text length. The following data were collected from respondents: demographic profile, including online shopping experience and motivation; web site and product characteristics, consumer characteristics, and product characteristics. The importance of various factors influencing online shopping adoption was assessed by scales ranging from 1 (extremely unimportant) to 5 (extremely important).

The selection of respondents was largely based on the accessibility or convenience on the part of the researchers. In other words, this comparative study uses data from non-probability sampling. The electronic questionnaire was sent to the students of the Faculty of economics and administration, Masaryk University (FEA MU) in the period of January to March 2016. Around 2000 Czech and Slovak students from the FEA MU were contacted to participate in the survey. However, only 365 students responded and completed the questionnaire. Thus, the response rate reached 18 per cent, which is within common limits for electronically distributed surveys. The description of final sample is presented in Table 1.

Data that were analyzed in SPSS software.

Table 1. Sample structure

Nationality	**Gender**		**Total**	**How often do you use Internet for Shopping?**				**Total**
	Male	**Female**		**Rarely**	**Sometimes**	**Often**	**Very Often**	
Czech	116	171	287	65	131	75	16	287
	40.4%	59.6%	100.0%	22.6%	45.6%	26.1%	5.6%	100.0%
Slovak	37	41	78	15	36	22	5	78
	47.4%	52.6%	100.0%	19.2%	46.2%	28.2%	6.4%	100.0%
Total	153	212	365	80	167	97	21	365
	41.9%	58.1%	100.0%	21.9%	45.8%	26.6%	5.8%	100,0%

Source: own calculation

3.1. Statistical results

Hypothesis 1 was addresses in question "*When making an online purchase, to what extant influence the following items (factors) your purchase decision (1 for not at all – 5 very much)*". The presented results are limited to an item "*Opinions and experiences of my family, relatives, friends and peer groups*". Because of ordinal nature of the variable, the non-parametric test of Mann-Whitney was applied first. Its results rejected the idea about differences (U = 4419, p = .172), however more detailed analysis revealed that there is a difference in the choice of *very much* influence (no. 5 – see table 2). An adjusted residuum of 2.3 indicates a statistical significant difference, which reflects that high impact is admitted by 23 % Slovaks, but it is 11% in Czechs only. In other words, the H1 is not rejected, but the support is weak.

Table 2. Impact of opinions and experiences of my family, relatives, friends and peer groups

Nationality		Not at all (1)	2	3	4	5 (Very Much)	Total
Czech	% within Nationality	6.70%	19.70%	29.00%	33.70%	10.90%	193
	Adjusted Residual	0.3	0.4	0.6	0.7	-2.3	
Slovak	% within Nationality	5.80%	17.30%	25.00%	28.80%	23.10%	52
	Adjusted Residual	-0.3	-0.4	-0.6	-0.7	2.3	
Total	% within Nationality	6.50%	19.20%	28.20%	32.70%	13.50%	245

Source: own calculation

The intuitiveness and subjectivity (hypothesis H2) was tested by the same procedures: Mann-Whitney test rejected the idea of the difference (U = 4352.5, p = .118), but the cross tabulation showed slight difference based on adjusted residuals - Personal intuitiveness and subjectivity is slightly more intensive as expressed by percentages for option 3 a 5 in Table 3. Thus, H2 is rejected and data suggested that in reality the relationship might be opposite – Slovaks admit intuitiveness and subjectivity to play higher role in their shopping.

Table 3. Impact of personal intuitiveness and subjectivity

Nationality		Not at all (1)	2	3	4	5 (Very Much)	Total
Czech	% within Nationality	2.10%	6.20%	19.20%	44.60%	28.00%	193
	Adjusted Residual	0.1	-0.9	2.3	0	-1.5	
Slovak	% within Nationality	1.90%	9.60%	5.80%	44.20%	38.50%	52
	Adjusted Residual	-0.1	0.9	-2.3	0	1.5	
Total	% within Nationality	2.00%	6.90%	16.30%	44.50%	30.20%	245

Finally, both Mann-Whitney test H3 (U = 4796,5, p = .615) and cross tables rejected the H3. Both nationalities approach the risks associated with online shopping similarly (the tabulation was omitted to save space).

4. Conclusion

The article attempted to identify the way and intensity of national culture as a factor in the process of adoption and usage of information and communication technologies; internet shopping, more specifically.

The Czech and Slovak republics were chosen for this comparative study, due to similarity in their technological infrastructures. On the other hand, their national cultures show lots of similarities and closeness; however as documented by data collated by the Hofstede`s Institute, the cultures are not identical: the remarkable difference is in power distance, masculinity and to the lesser extent in uncertainty avoidance. On data gathered from young generation (university students), the analyses rejected three working hypotheses

about differences caused by cultural differences in the three dimensions. The rejection is not absolute as some of the presented calculations suggested that culture might influence the shopping by impacting social influence and individuals` intuitiveness/subjectivity in decision making.

The validity of the above conclusion is restricted by two main reasons: both the sample size and sampling is far from ideal for drawing general implications. First, the representatives of Slovaks were contacted among the Slovak students studying in the Czech Republic: even a relatively short time that they spent outside Slovakia could result in altering believes and values that form their culture. Second, the whole study speaks about students' perceptions, not about all age categories of online shoppers. In the Slovak environment, a remarkable difference in attitude and adoption of online shopping was identified between young (generation Y) and older generation (middle-aged and older): younger people are more informed and confident about online environment, which results in more frequent online shopping (Kopanicová & Klepochová, 2016). As there is no indication that this would differ in Czechs, it is rational to expect that the similar analysis conducted on sample of middle aged and older population would lead to different results.

To conclude, the two research directions to call for are: to conduct a comparative study that would include other generations too and to compare other countries of less similar cultures (using Hofstede's dimensions or other models).

References

Baksh, S. 2012. Impact Of Gender On Consumer Purchase Behaviour. In: *Abhinav-National Monthly Refereed Journal Of Research In Commerce & Management*, ISSN 2277-1166, Vol. 1, No. 2, pp. 77-84.

Cowart, K. O., Goldsmith, R. E. 2007. The influence of consumer decision-making styles on online apparel consumption by college students. In: *International Journal of Consumer Studies*, ISSN 1470-6431, Vol. 31, No. 6, pp. 639-647.

Hausman, A. V., Siekpe, J. S. 2009. The effect of web interface features on consumer online purchase intentions. In: *Journal of Business Research*, ISSN 0148-2963, Vol. 62, No. 1, pp. 5-13.

Hofstede, G. 2003. *Culture's Consequences: Comparing Values, Behaviours, Institutions and Organizations Across Nations*. Thousand Oaks: SAGE Publications, Inc. ISBN 978-0-8039-7324-4.

Hui, T. K., Wan, D. 2007. Factors affecting Internet shopping behaviour in Singapore: gender and educational issues. In: *International Journal of Consumer Studies*, ISSN 1470-6431, Vol. 31, No. 3, pp. 310-316.

Jumin Lee, Do.Hyung Park, Ingoo Han. 2011. The different effects of online consumer reviews on consumers' purchase intentions depending on trust in online shopping malls: An advertising perspective. In: *Internet Research*, ISSN 1066-2243, Vol. 21, No. 2, pp. 187-206.

Klapilová Krbová, P. 2016. Shopping Behaviour of Generation Y: A Comparison of Czech Republic and Slovakia. In: *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, ISSN 1211-8516., Vol. 64, No. 2, pp. 617-626.

Kopanicová, J., Klepochová, D. 2016. Consumers in New Millennium: Attitudes towards Adoption of New Technologies in Purchasing Process. In: *Studia Commercialia Bratislavensia*, ISSN 1337-7493, Vol. 9, No. 33, pp. 65-74.

Moon, J., Chadee, D., Tikoo, S. 2008. Culture, product type, and price influences on consumer purchase intention to buy personalized products online. In: *Journal of Business Research*, ISSN 0148-2963. Vol. 61, No. 1, pp. 31-39.

Overby, J. W., Woodruff, R. B., Gardial, S. F. 2005. The influence of culture upon consumers' desired value perceptions: A research agenda. In: *Marketing Theory*, ISSN 1470-5931, 1741-301X, Vol. 5, No. 2, pp. 139-163.

Pavlou, P. A., Chai, L. 2002. What Drives Electronic Commerce Across Cultures? A Cross-Cultural Empirical Investigation Of The Theory Of Planned Behavior. In: JECR. *Journal of Electronic Commerce Research*, Vol. 3, No. 4.

Press release. 2016. [on-line] http://www.gfk.com/cz/insights/press-release/stret-distribucnich-kanalu-motivace-k-nakupum-na-internetu-a-nakupum-v-kamennych-obchodech-se-od-sebe-nelisi-tolik-jak-bychom-si-mohli-myslet/.

Soopramanien, D. G. R., Robertson, A. 2007. Adoption and usage of online shopping: An empirical analysis of the characteristics of «buyers» «browsers» and «non-internet shoppers». In: *Journal of Retailing and Consumer Services*, ISSN 0969-6989, Vol. 14, No. 1, pp. 73-82.

Wakefield, R. L., Stocks, M. H., Wilder, W. M. 2004. The Role of Web Site Characteristics in Initial Trust Formation. In: *Journal of Computer Information Systems*, ISSN 0887-4417, Vol. 45, No. 1, pp. 94-103.

Wen G. 2009. National culture and global diffusion of business to consumer ecommerce. In: *Cross Cultural Management: An International Journal*, ISSN 1352-7606, Vol. 16, No. 1, pp. 83-101.

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Possibilities of increasing the environmental-energy efficiency in the automotive industry

Lenka Štofová, Petra Szaryszová

Abstract

The paper is focused on the design of model, which identifies the different aspects of the measurement of business performance towards sustainable deployment of green technologies introduction. Based on current literature review were parameters of green technology divided into the five business characteristics using BSC methodology. The study uses management tools to support decision making of the company in the integration of non-parametric method DEA. BSC-DEA model is applicable method for measuring the relative effectiveness of a selected set of measures, input and output parameters of companies in the automotive industry. The results of the research confirms the possibility of measuring corporate "green" efficiency in relation to other companies in the sector and thus to understand the impact of their business operations and green initiatives on the four dimensions of BSC, which is the aim of this paper in terms of solution the project of young scientists no. I-16-104-00 1.

Keywords: Concept. Model. Balanced Scorecard. Data Envelopment Analysis. Green Technology. Effectiveness
JEL Code: O32, O33, O44

1. Introduction

Sustainable development is one of the fundamental objectives of the European Union. Considering the global shortage of natural resources, the principle of "less is more" has become a major challenge for producers and consumers. To tackle this challenge the EU has introduced a range of policies and initiatives that focus on sustainable consumption and production. They should improve the overall environmental characteristics of products throughout their entire life cycle, stimulating demand for better products and production technologies and to help consumers to decide on the basis of the necessary information.

In July 2008 the Commission presented a package of measures and proposals on Sustainable Consumption and Production and Sustainable Industrial Policy (SCP/SIP) (COM (2008) 0397), aimed at improving the environmental performance of products throughout their entire life cycle, raise consumer awareness and demand for sustainable goods and sustainable production technologies, to support innovation in EU industry and to deal with international issues. These proposals complement the current EU policies, such as the Integrated Product Policy (IPP), which first introduced the official Life-cycle Thinking (LCT) in European policies, as well as of the policies are based. LCT aim is to identify opportunities to improve the goods and services which would reduce environmental impact and resource use at all stages of the life cycle of a particular product or service (materials / supply chains / use of the product / the end of life: effects of disposal and the possibilities for reuse or recycling).

The Sustainable Consumption and Production Action Plan (SCP AP) led to initiatives in the following areas: broadening the scope of the Ecodesign Directive, revision of the Ecolabel Regulation, the revision of EMAS, regulations on Green Public Procurement (GPP), Environment and Resource Efficiency Plan (EREP) and Eco-innovation Action Plan (EcoAP). These tools are an integral part of the renewed EU Sustainable Development Strategy (EU SDS). As a result of its revision in 2009 has been strengthen the long-term commitment of the EU to tackle the challenges of sustainable development and at the same time it recognized the importance of strengthening cooperation with partners outside the EU, for example through the UN Marrakech Process.

2. Eco-innovation Action Plan

Eco-innovation Action Plan (EcoAP) adopted by the Commission in December 2011, followed the Environmental Technologies Action Plan (ETAP) (COM (2004) 0038) and was based on his experiences. The aim of ETAP was to support the development and use of environmental technologies and improve European competitiveness in this field. EcoAP is primarily linked to the Innovation Union flagship initiative under the Europe 2020 strategy. Its aim is to extend the policy focus on innovation in green technologies and eco-innovation and highlight the role of environmental policy as a factor of economic growth. It also addresses the specific obstacles and opportunities for eco-innovations, especially those that are not subject of the general policies on innovation. EcoAP is the general policy framework that can be financed from various sources. In the years 2014 to 2020 will be the main source of finance The EU Framework Programme for Research and Innovation – Horizon 2020. Other sources include European structural and investment funds (ESIFs) such as the European Regional Development Fund (ERDF), the LIFE programme for the Environment and Climate Action, Competitiveness of Enterprises and SMEs (COSME) and the Common Agricultural Policy (CAP). A large part of the funds that will benefit businesses focusing on eco-innovation will come from the new financial instruments developed by the Commission with the aim to provide them with a debt and equity instrument.

2.1. The concept of Green Growth and Green Economy

For a successful transition to Green Growth it is also important in fostering innovation. The concept of Green Growth originated in Asia and the Pacific, in contrast to the concept of Green Economy coming from Europe. At the 5th Ministerial Conference on Environment and Development, held in 2005 in Seoul, the 52 government officials from the Asia and the Pacific region agreed on active approach in promoting sustainable development embarking on a path of Green Growth. This regional initiative was later expanded and has become a key towards achieving sustainable development and the Millennium Development Goals (MDGs) such as:

Monitoring progress towards Green Growth is based on a set of indicators that describe and track changes in (Enviroportál, 2016):

- Productivity of the utilization of environmental goods and natural resources,
- The natural resource base,
- Environmental dimensions of quality of life,
- Policy responses and economic measures.

In the energy sector they were identified four main areas in achieving Green Growth (OECD, 2011):

- Spending funds to eliminate the damage caused by improper use of energy and natural resources,
- Innovation implementation leading to the achievement of environmental and economic goals.
- Mutual complementarity environmental goals with increasing productivity,
- Development of new markets and industries.

To achieve Green Growth in the energy sector is advisable to adopt following measures (OECD, 2011):

- Rational use of resources, to the exclusion of inefficient subsidies supporting fossil fuels,
- Correct setting price signals to include negative externalities,
- Creating a market and setting the appropriate regulatory frameworks,
- Radically improving Energy Efficiency (EE),
- Strengthening innovation – especially green technologies using Renewable Energy Sources (RES) and increasing EE.

In the interest of sustainability is necessary transformation of the current industry, which implies a shift of attention from the end of production processes associated with pollution control, at their beginning. The main effort in the industry should focus on innovation implementation, especially eco-innovation, as innovation contributing to the reduction of negative impacts on the environment. Eco-innovation should be focused on (OECD, 2011):

- Production technology and related activities by promoting and selling products with incorporated environmental aspects,
- The final product – its parameters complying with the environmental criteria.

On the effective implementation of eco-innovation in the industry is needed following support:

- Research by public finances,
- Trade and international cooperation,
- The transition of SMEs towards Green Growth,
- Changes in behavioral models of consumers.

Currently, there are many concepts and frameworks to measure business performance. According to Beamon (1999), financial indicators are themselves insufficient and therefore the focus is on non-financial indicators, such as the Balanced Scorecard (BSC), which is at least criticized and the most widely accepted method. However, the authors point to the practical difficulties involved in implementing BSC (Shaw et al., 2010).

2.2. Evaluation of Eco-efficiency results of automotive suppliers

Although BSC has not parameters for assessing the environmental impact of enterprise can be innovative integrated BSC framework used to measure green initiatives across the entire enterprise value chain.

In the BSC, depending on the nature of the industry, there are a number of indicators that can be classified among four perspectives BSC and measured in terms of the best business practices or standards, using different mathematical models of business. DEA modelling facilitates the identification and measurement of the relative effectiveness of specific parameters respectively Decision-Making Units (DMU) within assessing the effectiveness and the subsequent performance of the BSC method.

Richards (2003) states that the DEA modelling can be used to objectively determine the indicators of various aspects of BSC (by integrating the BSC and DEA methodologies). This paper clearly considers only indicators of green technologies / practices under these four main perspectives of BSC in the selection of the index, and employed four main contracts extended indexes that may be available for the selection.

3. Eco-efficiency of green technologies in automotive industry

Environmental issues have typically for enterprises the strategic importance as it affects the image of the enterprise, profitability, competitiveness, markets and products, which will affect their economic survival (Mundaca et al., 2016).

The performance of Slovakia in the field of the environment is consistent with the EU average, despite the limited access to public support to make better use of resources (less than half the EU average) or for the provision of environmental goods and services (only slightly more than half the EU average). Slovak SMEs will more likely compared with their European enterprises adopt measures to be more environmentally friendly (only one in twenty SMEs does not take any steps), and to specialize in the field of "green" markets (each fourth SME), although their share on the development of innovation with environmental benefits remains relatively low. In the policy field was in January 2013 adopted the State aid scheme for improving energy efficiency in production and consumption, and to introduce the use of advanced energy technologies (SBA 2013).

Measuring the impact on the environment both inside as well as within internationalization is challenging given the multifaceted nature of non-standardized data, poor technological integration, geographic and cultural differences, differences in organizational policy, the lack of agreed measures or misunderstood business needs (Yang et al., 2016).

Diversity of measures and the level of performance depends largely on the nature of the various strategic business units. A study by Melnyk et al. (2003) and Darnall (2006) are therefore focused exclusively on the

Environmental Management System (EMS) and not on the Performance Management System in general. Several studies, however, also focused on calculating the interdependence between EMS and financial performance of the enterprise (Melnyk et al., 2003; Darnall, 2006; Montabon et al., 2007).

Wagner (2007) argues that the integration of EMS and financial performance has the potential to create the conditions for maintaining and improving their economic performance, apply in international competition and to meet the requirements of sustainable business development.

3.1. Methodology of the Eco-efficiency BSC-DEA analysis

Each company has different values in their business goals. Data Envelopment Analysis (DEA), authorize to include in the models also variables, which in the short term are not under the influence the DMU (for example environmental factors). To monitor the environmental impact, we have used data of enterprises from the class SK NACE 29.10.0 Motor Vehicle Production). There were analyzed the indicators of environmental behavior and to monitor the efficiency of energy were used energy performance indicators. In the enterprises are this types of indicators processed and evaluated as environmental aspects and impacts.

Collection of data on energy consumption of individual production and non-production objects in the area, evaluating the EE of vehicle production, deployment of plans and to progressively reduction of energy consumption, application and evaluation of energy efficiency measures. Within enterprises there were excluded variables that acquire negative input, respectively output variables, as in this case do not meet the conditions necessary for the evaluation of the effectiveness of DEA (no negative and non-zero values of output or input). Some of the selected parameters have a negative impact on the efficiency and thus it is suitably referred to as inputs to be reduced. The enterprises analyze all of their activities which may have an impact on the environment, i.e. energy and water consumption, waste generation and waste water, emissions, planning the new technologies, activities of external enterprises or employee training. In Table 1 authors lists examples of selected aspects of the analyzed enterprises. Based on the evaluation of the individual aspects and their environmental impacts are then defined environmental objectives.

Organizational Units (OUs) are aware of their significant environmental aspects. Aspects are evaluated primarily for those units that operate facilities with the highest impact on the environment. Other OUs are focused on the aspect that is the most important (eg. Department of Personnel care monitors important aspect of transport because they provide contractual services), while the aspect of the environment has an impact on the environment and changing the state of the environment (Wong et al., 2016; Nunes et al., 2016; Leal-Millan et al., 2016)

Within this methodology are identified measurable and immeasurable environmental aspects. Quantitative measurement of quantifiable aspects such as waste, waste water, emissions, energy consumption, noise and so on. is carried out in accordance with the requirements of legislation. Measurable aspects such as waste, waste water, emissions, energy consumption and heat are usually evaluated annually based on measurable data such as waste production in the selected organization unit. There are precisely evaluated defined quantity of substances and thus proceed according to strictly defined rules of methodology for various measurable aspects. Therefore are considered environmental indicators. Assessment of immeasurable aspects includes for example design and planning of facilities relevant environmentally, groundwater monitoring, monitoring of old loads, hazardous work, cleaning companies in the halls etc. Based on the calculation and assessment of pre-defined data is then prepared important aspects evaluation – environmental aspects are classified in three degrees of significance. For better orientation is the outcome of this assessment the table.

Thus sees each OU assessed in enterprises how significantly affects of its operations on the environment. OU evaluated on the basis of aspects can decide whether it wants to take for its rated aspects and objectives. It is important that the process should ran in accordance with applicable laws, internal regulations and aware of the operation and documented tracking of their environmental impacts.

Through the method of BSC-DEA were evaluated data from 2015, which has brought to enterprises in the automotive industry, the following results.

Table1. Environmental relevance and the major values by BSC-DEA

Inputs					**Outputs**		
		Customer perspective	**Finance perspective**	**The perspective of learning and growth**	**Internal processes perspective**	**Environmental perspective**	
	Score	*Production of aggregates, transmissions and vehicles*	*Increasing the market value (EVA)*	*Training to ensure effective implementation and improvement of environmental management system activities*	*Reducing the number of used technologies*	*Production emission of waste gases*	*CO_2 emissions*
DMU 1	0.87	7.70	12.80	9.70	-21.64	-16.36	-24.04
DMU 2	0.64	12.80	18.40	13.00	-22.95	-12.42	-27.48
DMU 3	0.77	9.70	25.60	11.20	-27.08	-16.80	-29.70

Source: Authors

CO_2 emissions as the most important aspect of the environment represent the need of reduction for enterprises by more than 24 %. For that reason were integrated into the certified Environmental Management System requirements of the Energy Management System. This is the factor, which represents a driving force and support for leading operations within the strategy of EMS. Reducing the number of used machines as an aspect of internal processes perspective is using the BSC-DEA recommended to reduce by 21 %, representing the second largest business importance. Within this framework, companies seeking to participate in the strategy Think Blue. By constantly improving painting processes for replacing the BAT technology are reduced discoloration spray mist. They are made with water-based paints and varnishes with an extremely small proportion of solvents. Emissions of volatile organic compounds, as well as the volume of wastewater and the discharge limits shall be subject to regular review. The main advantage of the innovative painting process 2010 (while maintaining quality) is that it has been left out one colour filling layer. The function of the filler is integrated into the base paint. Reduction of the whole process of applying filler is important mainly because it reduces the incidence of hazardous waste. This also means a reduction in vehicle weight of 0.5 kg.

The model constructed on the principle of integration of BSC-DEA in this case described as the most effective unit DMU 1, which comes closest to the boundaries of the production unit. Within several studies is an appropriate instrument to support the solution of important processes in this sector by providing tools to manage them with greater efficiency and better decision-making, reduction of costs and improvement of processes quality and environmental performance system for solving analytical tasks in the field of Business Intelligence (Olexová, 2014).

4. Conclusion

The study of knowledge in the field of integrated performance evaluation led us to conclude that the performance of the sector level can be assessed by the ability of the industry to create added value and profit on the basis of efficiency of business inputs and outputs. Enterprise development is conditioned by efficiency gains. It can be ensured in different ways. In terms of the DEA, model of the integrated quality management generalizes standard processing of inputs and outputs classification into subgroups (BSC perspectives). In terms of the BSC, this model of the integrated quality management can design for enterprises in the network of automotive suppliers a new approach to performance evaluation by using quantitative analysis that combines measures under the various perspectives into a single value. Such an assessment can be considered as holistic financial as well as non-financial, short-term or long-term view of the business. Creating a model in the form of integration methods BSC and DEA is also a modern means of assessing the business performance, which is based on the fact that by the classification of indicators is enterprise able to

determine the relationship of strategic planning. The results of this study may lead enterprises in the automotive industry to planning, implementation and measurement of green initiatives across the enterprise organizational context.

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References

Beamon, B. M. 1999. Measuring Supply Chain Performance. In *International Journal of Operations & Production Management.* Vol. 19, No. 3, pp. 275-292.

Darnall, N. 2006. Why Firms Mandate ISO 14001 Certification. In *Business and Society*. Vol. 45, No. 3, pp. 354-381.

Enviroportál. 2016. *Green growth and TUR.* [cit. 2016.08.11] Available at:<https://www.enviroportal.sk/environmentalne-temy/starostlivost-o-zp/zeleny-rast/zeleny-rast-a-tur>.

Leal-Millan, A., Luis Roldan, J., Leal-Rodriguez, A. L., et al. 2016. IT and relationship learning in networks as drivers of green innovation and customer capital: evidence from the automobile sector. In: *Journal of knowledge Management*. Volume: 20 Issue: 3. Pages: 444-464 Published: 2016. ISSN: 1367-3270.

Liu, Y., Srai, J. S., Evans, S. 2016. Environmental management: the role of supply chain capabilities in the auto sector. In *Supply chain Management – An International Journal.* Volume: 21 Issue: 1 Pages: 1-19. Published: 2016. ISSN: 1359-8546.

Melnyk, S. A., Srouf, R. P, Calantone, R 2003. Assessing The Impact of Environmental Management Systems on Corporate and Environmental Performance. In *Journal of Operations Management*. Vol. 21, No. 3, pp. 329-351.

Mundaca, L., Neij, L., Markandya, A., et al. 2016. *Towards a Green Energy Economy?* Assessing policy choices, strategies and transitional pathways. In *Applied Energy*. Volume: 179 Pages: 1283-1292 Published: OCT 1 2016. DOI: 10.1016/j.apenergy.2016.08.086. ISSN: 0306-2619.

Nunes, B., Bennett, D., Shaw, D. 2016. In *Technology analysis & Strategic Management*. Volume: 28 Issue: 1 Pages: 24-39 Published: JAN 2 2016. ISSN: 0953-7325.

OECD, 2011. Fostering Innovation for Green Growth. In *OECD Green Growth Studies*. OECD, 2011. 130 pp.

Olexová, C. 2014. Business intelligence adoption: A case study in the retail chain In: *WSEAS Transactions on Business and Economics*. Publisher: World Scientific and Engineering Academy and Society. Vol. 11 (1), pp. 95-106. ISSN: 1109-9526.

Richards, R. C. 2003. Setting Benchmarks and Evaluating Balanced Scorecards with Data Envelopment Analysis. In *International Benchmarking Journal*. Vol. 10, No. 5, pp. 62-86.

SBA, 2013. *Prehľad základných skutočností o SBA 2013 — Slovensko.* file:///C:/Users/Spravca/Downloads/SBA%20Factsheet%202013.pdf

Shaw, S., Grant, D. B., Mangan, J. 2010. Developing Environmental Supply Chain Performance Measures . In *Benchmarking: An International Journal*. Vol. 17, No. 3, pp. 320-339.

Stoerring, D. 2016. *Sustainable consumption and production.* Facts Sheets on the European Union. [cit. 2016.08.16] Available at:<http://www.europarl.europa.eu/atyourservice/sk/displayFtu.html?ftuId=FTU_5.4.7.html>.

Wong, V. W., Tung, S. C. 2016. Overview of automotive engine friction and reduction trends-effects of surface, material, and lubricant-additive technologies. In *Friction*. Volume: 4. Issue: 1. Pages: 1-28. Published: MAR 2016. DOI: 10.1007/s40544-016-0107-9. ISSN: 2223-7690.

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Entrepreneurship in small and medium enterprises in Slovakia: evaluation the business environment and assessment criteria

Elena Šúbertová

Abstract

The business environment is the basis for long-term development of the business activities of enterprises, to increase the performance of the national economy and people's living standards. Evaluation of the quality of the business environment is carried out in several ways. At the international level, it is devoted to these issues in particular the World Bank and the World Economic Forum. Business Alliance of Slovakia is dedicated to evaluating the quality of the business environment in Slovakia. Although the evaluation criteria are various, the biggest problem with doing business in Slovakia from the view of external environment is traditionally considered corruption, high tax burden and bureaucracy. Managers view as the greatest threat to the business environment, poor law enforcement, education, poor infrastructure, and quality of unstable and non-transparent tax laws and contribution system (including tax increases). It is therefore necessary to work systematically on the part of business support organizations.

Keywords: business environment, quality, assessment criteria, evaluation, results.
JEL Code: M21, M13, P52

1. Introduction

The business environment consists of a set of subsystems merging into a single system in the context of implementing the business activities of businesses entities. Each of the subsystem can be broken further down into more detailed and / or complementary subsystems.

The business environment is the basis for long-term development of the business activities of enterprises, to increase the performance of the national economy and living standards. The quality of the business environment is a determining element in the development of the business sector in Slovakia.

There are various organizations in the world that are evaluating and ranking countries based on their business environment. Among the biggest ones belong World Economic Forum and World Bank. There are many agencies in the Slovak Republic among the two biggest ones belong Business Alliance of Slovak Republic and Slovak Business Agency. Their focus is on evaluation of business environment, but their cooperation is not strong enough to guarantee a significant positive changes for businesses.

2. Theoretical aspects and results

Evaluation processes fulfil important function in study of business conditions in general and in business environment in particular. Following are some of the most relevant research results on the topic, dealing specifically with situation in Slovakia and abroad.

Many authors showed (Csikósová, et al., 2015) that economic changes are influenced by the mechanisms to improve economic conditions for international business.

Quantitative financial analysis of small and medium food enterprises in a developing country were gathered by other authors (Mura, et al., 2015).

The impact of Financial Crisis of small and medium sized companies was analyzed by many Slovak and foreign authors (Koráb & Poměnková, 2014; Lalinský, 2016; Šúbertová & Kinčáková, 2014).

Impact of trade liberalization in entrepreneurial decisions was also studied by foreign authors (Erokhin et al., 2014). The authors considered main approaches of how the state support is implemented by developed and developing countries.

Several authors provided characteristics of some aspects of business environment in Baltic States and Poland (Ginevičius, et al., 2006).

Key determinants of entrepreneurial activity by senior entrepreneurs studied collective of authors (Červený, et al., 2016).

The role of labor force for development of business conditions and for economic growth of branch structure were in Slovak articles (Havierniková, 2014; Kalusová, 2014; Tóth, 2015).

All authors explained that good business environment is important for long-term development of the business activities of enterprises and results in the increase of the economic results.

2.1 Structure of the business environment

The business environment is highly differentiated and is divided into subsystems. Each of the subsystems can be broken down into more detailed and / or complementary subsystems.

Table 1. Structure of the business environment

Business Environment	**Subsystems**
External environment (macro environment)	macroeconomic policy political environment legislative environment social and cultural environment
Interactive environment (micro environment)	shareholders creditors local authorities unions consulting organization
Industry environment	competitors potential competitors suppliers (sellers) customers (buyers) substitution industries
Internal environment	resources skills possibilities

Source: own processing

External conditions are difficult to be directly influenced by individual companies. On the other hand it is much easier for small and medium size enterprises to implement changes in the internal environment, such as substitution of resources (exchange technology, manually change - human labor for work machinery and equipment), retraining courses for employees, change of logistics, etc. This allows a positive trend in the company.

2.2 The assessment of the business environment

Evaluation of the quality of the business environment is carried out in several ways. At the international level, it is devoted to these topics in particular the World Bank and the World Economic Forum. Slovakia is dedicated to evaluating the quality of the business environment mainly by the Business Alliance of Slovakia (BAS). More detailed overview is in Table 2.

Table 2. Evaluation of the quality of the business environment in the Slovak Republic through selected operators and evaluation systems

Indicator	Evaluating subject/ system
Global Competitiveness Index (GCI)	World Economic Forum (WEF) evaluates 12 of the principal points. In 2010 compared the 139 countries (Slovakia was on the 60th place) in 2015 was SR on 65th place out of 138 countries in the world. WEF evaluates the quality of the business environment in the world one time per year. For more details visit The Global Competitiveness report; http://reports.weforum.org/global-competitiveness-report-2015-2016/
Quality index of business environment	The World Bank evaluates 10 main indicators. In 2010 compared 183 countries (Slovakia was on the 41st place), and in 2016 from 189 countries reached 29th place. WB evaluates the quality of the business environment in the world, once per year, for more detail visit World Bank - Doing Business, http://www.doingbusiness.org/rankings
Business environment index	Business Alliance of Slovakia, takes into account three main evaluation criteria with a scale: 40%: 40%: 20%, over 10 items, assesses the quality of the business environment in SR only, and quarterly. For more details visit: www.alianciapas.sk
Quality of business environment	Slovak Business Agency (SBA) assesses the situation continuously. First time published in 2010, complex material for NADSME company Hayek Consulting, Ltd. "Report on the quality of the business environment in the regions of the Slovak Republic". The report assesses the quality of the business environment by regions of SR on the basis of sixteen major groups of indicators and a number of specific absolute and relative indicators, collected from about 3,000 respondents. All indicators are listed in the report the minimum and maximum value in the region.

Source: own processing

In addition to the above, there are other international organizations and agencies that are evaluating and comparting the quality of the business environment.

World Bank carried out an assessment of the quality of the business environment at the international level in its Doing Business Report. For the year 2016 evaluated a total of 189 countries. Overall, examined 10 parameters (starting a business, territorial proceedings and building permits, access to electricity, registering property, access to credit resources and the protection of investors, tax burden, international trade, law enforcement and liquidation of a company), by which can be assessed degree of regulation and bureaucracy over the entire life cycle of small and medium-sized enterprises, each indicator has the same weight. In the years 2015/16, Slovakia ranked 29th before Czech Republic and Hungary.

Slovakia under the criteria of "business start-up" had an improvement certainly also due to the existence of one-stop centers, property registration and operation of "cadaster portal" that moved Slovakia to better rung compared to other comparable countries. The best values were indicators of registering property and international trade, while the worst rated were: protecting minority investors, building permits and law enforcement.

Renowned magazine Forbes ranked Slovakia at the 35th place in its ranking of "best countries for business" in the evaluation of 144 countries in the world based on statistics of the World Bank, Transparency International and the World Economic Forum. The aim of the rankings was to compare the quality of business environment between countries and consequently determine the order of each country. The criterion was 11 headline indicators as property rights, taxation, levels of corruption and bureaucracy, investment protection, stock market, innovation and technological environment. Best rating received Denmark, especially in terms of personal and financial freedom, a very low level of corruption or highly transparent and effective regulation by the state, followed by countries such as New Zealand, Norway, Ireland, Sweden, Finland, Canada, Singapore, the Netherlands and Great Britain.

Swiss Institute for Management Development (Institute for Management Development) in cooperation with the Slovak F. A. Hayek Foundation in Bratislava and 54 other organizations from around the world, published in the 2015 World Competitiveness Yearbook economies (World Competitiveness Yearbook - WCY). Among the 61 evaluated countries, Slovakia is the 46th most competitive economy. Index reflects the quality of the business environment compares and evaluates 342 different criteria, which are grouped in four core areas - economic development, government efficiency, business efficiency and infrastructure. The biggest challenges for the growth of Slovakia's competitiveness, according to the yearbook high rates of taxation on labor and income decreasing productivity, lack of reform in the area of budgetary expenditure, the high level of corruption and links between various state institutions Absent government's effort to improve competitiveness to attract foreign investment and high level of public debt.

2.3 Evaluation of the business environment by major international organizations

World Economic Forum report is monitoring position of competitiveness (GCI). Slovakia is lagging the most in the innovation and quality of public institutions. From the table below we can see that Slovakia has improved by thirteen positions since its evaluation in 2013 when it reached historically the worst 78th place. However, from the 37th place in the world, which has been in the times of economic reforms in 2006, is still very far away. This year, it got to 65th place. Compared to last year this is offset by two positions up. Nevertheless, the Slovak Republic continues to be one of the worst countries to do business in the EU. Behind Slovak Republic are just Greece, Cyprus, Croatia and Hungary by falling six places to 69th place.

Table 3. Assessment of the business environment in Slovakia by the WEF for the years 1997 to 2016

Year	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Ranking	35	48	45	38	40	49	43	43	41	37	41	46	47	60	69	71	78	75	67	65

Source: WEF, Global Competitiveness Report 2016-2017

According to Kremský from Business Alliance of Slovakia (BAS), "Evaluation Slovakia has improved only slightly in technological readiness and innovation in other areas virtually stagnated. The shift in position is therefore only slight due to the deterioration of other countries, "BAS is a partner institution of the World Economic Forum, and so it was involved in collecting statements of survey participants." Entrepreneurs in Slovakia most value the level of health and primary education (6 out of 7 points), as well as the macroeconomic environment, and technological readiness. The worst in their opinion is the quality of public institutions (3 of 7 points), and slightly more was given for the level of innovation.

Table 4. The most problematic factors for doing business according to the WEF in Slovakia in the year 2016

Indicator	Negative factors 2016
Corruption	19,2
Tax rates	17,2
Inefficient government bureaucracy	14,8
Tax Regulation	10,8
Restrictive labor regulation	8,9
Inadequately educated workforce	7,4
Policy instability	5,6
Inadequately supply of infrastructure	5,3
Insufficient capacity of innovation	4,7

Source: World Economic Forum (WEF), 2016,
http://reports.weforum.org/global-competitiveness-index/country-profiles/#economy=SVK, own calculations

More than 130 survey participants considered the biggest problem of doing business in Slovakia traditionally corruption, its perception was even increased to almost 20 percent. Right after was tax burden, which received amount over 17 percent, inefficiency and bureaucracy of government was just under 15 percent. "We need to look forward to a small improvement, but 65th place in the world is certainly not a position with which Slovakia should be satisfied," said Kremský. "For better management of the country and creation of business environment as a country we have the potential to reach at least the level of the Czech Republic, which has moved to the 31st place." In the fight against clientelism, functioning of justice, or the burden on national regulation is Slovakia according to its own top managers still in the last ten ranking among 138 countries of the world.

Table 5. Global Competiveness Index (GCI) for years 2015 and 2016 for selected countries

Country	GCI 2015	GCI 2016	Change 2016-2015 - Decrease + Growth
Switzerland	1	1	0
Singapore	2	2	0
USA	3	3	0
Germany	4	5	(-1)
Czech Republic	31	31	0
Poland	41	36	+ 5
Slovakia	**67**	**65**	**+ 2**
Hungary	63	69	(-6)

Source: World Economic Forum (WEF), 2016, own calculations

This year, the WEF ranked in the assessment 138 countries from all continents. In the composition of top ten countries hasn't changed much compared to last year. The majority prevail countries of the European economy and at the top for the eighth consecutive year remained Switzerland. Singapore maintained its second place and the United States also defended their third place. The biggest climber in the top ten is the United Kingdom, the Netherlands which continues to climb up and have reached already the fourth place. Drop two places on the other hand recorded Japan (8), Hong Kong (9) and Finland have continued the descent to tenth place. For other countries, it should be noted significant jump of New Zealand (13) and Austria (19). Czech Republic after last year's jump maintained its 31st place in the world. The rapid progress upward continues for Poland (the 36th) India, Malta, Mexico and Georgia.

On the contrary, plunged down was reported for Portugal, Turkey, Romania, and Hungary as mentioned before. Competitiveness Index informs about prospects for the country to achieve sustainable economic growth in the medium term. Annually evaluates the quality of public institutions, government policies and other factors that determine the productivity levels of prosperity in all countries.

The Global Competitiveness Report notes that economic openness to global trade in goods and services in all parts of the world has been decreasing for ten consecutive years. This compromises the ability of countries to grow and benefit from innovation because innovation depends on the openness of markets.

Table 6. Assessment of global competitiveness of Slovakia by individual groups of indicators according to the World Economic Forum in 2016

Evaluation Group – pillar (number of indicators)	Score - by average point 2015	Score - by average point 2016	Rank 2015	Rank 2016	Change 2016-2015 (- positive change)
1. Institutions	3,4	3,5	104	102	(-2)
2. Infrastructure	4,3	4,2	57	61	4
3. Macroeconomic environment	5,2	5,3	41	37	(-4)
4. Health and primary education	6,0	6,0	50	55	5
5. Higher education	4,6	4,5	47	47	0
6. Good market efficiency	4,4	4,5	53	54	1
7. Labor market efficiency	3,9	4,0	100	93	(-7)
8. Financial market development	4,4	4,6	35	33	(-2)
9. Technological readiness	4,6	4,8	44	44	0
10. Market size	4,0	4,0	62	61	(-1)
11. Business sophistication	4,1	4,1	57	55	(-2)
12. Innovations	3,3	3,3	66	68	2
Summary	4,2	4,3	67	65	2

Source: World Economic Forum (WEF), 2016, own calculations

2.4 Evaluation the business environment by the major Slovak organizations

The level of quality of business environment in Slovakia since 2001, is monitored and evaluated on a quarterly basis through the Business Environment Index (BEI) Business Alliance of Slovakia (BAS). Using this index, it is possible to monitor not only the overall development of the business environment, but also partial movements in the quality of its individual components. Development of the business environment in Slovakia according to Alliance (2016) entrepreneurs view negatively the current business environment and value of the index reached 55.2 points. Unsatisfactory evaluations are due to on-going problems in the judiciary system (weak law enforcement and justice system malfunction) and bureaucracy. These areas are among the businesses in the long term the most criticized. Dissatisfaction is mainly due to the duration of the proceedings in individual court cases and doubtful impartiality of judiciary system. The second largest decrease was recorded for equality before the law. This was affected by several publicized scandals, especially in the pre-election period, how they were addressed, of course the existing bureaucracy and delays in proceedings. On the contrary, positively was evaluated the access to financial resources, mainly due to low interest rates. The second item was the most growing relationship with the environment, which is included in the category of firms to influence the quality of the business environment. Entrepreneurs also positively evaluated was the investment and technological development, the level of infrastructure, information openness, and predictability and stability of prices (low inflation).

Business Alliance of Slovakia created an evaluation "Superindex", which is composed of data of four prestigious international rankings - World Economic Forum (WEF), World Bank (WB), the Heritage Foundation and Transparency International. The weighting of each evaluation index is: Doing business 30%, the Index of Economic Freedom 30%, the Index of Global competitiveness, and 30% Corruption Perception Index of 10%. The goal of the index is a comprehensive monitoring and evaluation of variations in the quality of Slovak business environment, such as approaching the top 5 countries with the best business environment in the world. Benchmark index is 100 points, and this figure reflects an average score of five countries with the best business environment in the world.

The business environment in Slovakia, according to this a comprehensive evaluation within 10 year horizon is improving, but the quality of the Slovak business environment still significantly lags behind countries with the most favorable business environment in the world.

Business Alliance of Slovakia (BAS) is also involved in the project Competitive Regions 21, in which comprehensively analyses the competitive advantages and disadvantages of all Slovak districts. The main outcome of the project is the Regional Business Environment Index (RBEI), which reflects the overall quality of business conditions in the district. Its creation was motivated by the lack of tools that would allow efficient comparison of individual districts. Its output is a comprehensive model and is calculated for each district on the basis of available data and the data obtained from the honest survey of business executives. The survey respondents' answers to questions about satisfaction with business conditions and forces of competitive environment in their particular district town. As part of the satisfaction with the business environment it is further evaluated business background, the environment for business, conditions of employment in the city, the functionality of local government offices, bureaucracy and obstacles to entrepreneurship (Business Alliance of Slovakia 2010, Slovak Business Agency 2010, Business Alliance of Slovakia 2012). The best assessment has been received for all Bratislava districts I-V, Trnava and Senec. In these districts, the highest rating recorded is a cornerstone of economic output, technology and education. Poor evaluation results were received in all pillars, but especially in the pillars of technology and education.

2.5 Other evaluations the business environment in Slovakia

In the context of allegations of foreign literature shows that rapidly growing firms are created as start-ups. Presented is a research of “Slovak start up ecosystem survey” conducted by KPMG in 2016. The sample of respondents included representatives of start-ups, investors, corporations, public administration institutions and so-called Start-up spaces (incubators, etc.). According to the survey last year increased the number of investments in start-ups by 77% of its investors. Four out of ten respondents from the ranks of investors also claimed that they have already invested in Slovak start-ups more than one million euros. Last year increased the number of employees to 56% from total respondents. Over the next 12 months Slovak start-ups plan to increase the number of employees by 90% and increase their turnover by 55%. Increased support for start-up ecosystem in the latest KPMG survey showed not only investors, but also public sector organizations. Investors in the case of considering investments in start-up priority value quality team, followed by the properties of the product / service and business potential. Results of the survey on the perception of the business environment in Slovakia by 156 top representatives of companies operated by the consulting firm PWC in collaboration with Forbes magazine in 2016 showed that the greatest threat to the business environment perceived was by the respondents poor law enforcement, quality education, instability and confusing tax and social contribution system (including tax increases) and poor infrastructure.

3. Conclusion

The business environment consists of a set of subsystems merging into a single system in the context of implementing the business activities of businesses entities. Each country is being evaluated on international level to provide feedback for governments and comparison for business investors. One of the major evaluating organizations is the World Economic Forum. The WEF assesses the competitiveness of countries on the basis of available statistical data and Global Executive Opinion Survey which reflects the views of managers. The WEF reported as the biggest competitive disadvantage for Slovakia its high degree of clienteles’ in the country. Among the most referred issues of competitive advantages of Slovak economy according to the report on the competitiveness of the economy are: openness of foreign-owned enterprises, low tariff barriers, low risk of terrorism, openness to foreign investment, import of new technologies to Slovakia, low interest

rate changes, the legislation supporting inflow of investment capital but also a high correlation between the level of wages and labor productivity. Over all Slovakia ranked as 65th out of 138 countries. Compared to the assessment made last year Slovakia has improved by 8 rungs. On the other hand, from the European community countries Slovakia is in the last ten countries.

Another major organization, the World Bank, ranked Slovakia in its Quality of business environment report as 29th out of 189 countries. According to this report Slovakia has the best trading across border environment, fast property registration and operation of "cadastre portal", but on the other hand the worse parameters reached in protecting minority investors, issuing building permits and law enforcement.

Among the major domestic organizations who evaluate business environment in Slovakia is Business Alliance of Slovakia, which prepares quarterly Regional Business Environment Index. This is a satisfaction of business managers' survey, which evaluates business conditions and forces of competitive environment in their particular region. Another evaluation is prepared by Slovak Business Agency which implements global economic monitoring, in cooperation with the Comenius University of Bratislava. According to their research of business activity of established entrepreneurs in Slovakia is below 5 year average. Entrepreneurial activity is constrained by the high tax burden, administrative complexity, unpredictable legislation and poor law enforcement. Of all the surveys can be concluded that there is a need for more consistent entrepreneurship education business ethics and financial literacy.

References

Červený, J., Pilková A., Rehák J. 2016. Senior Entrepreneurship in European Context: Key Determinants of Entrepreneurial Activity. In: *Ekonomický časopis,* ISSN 0013-3035, Vol. 64, No. 2, p. 99.

Csikósová, A., Mihalčová, B., Antošová, M. 2015. International business. Ostrava: VŠB Ostrava - Technical University of Ostrava. ISBN 978-80-248-3737-6.

Ginevičius R., Butkevičius, A., Podvezko V. 2006. Complex Evaluation of Economic Development of the Baltic States and Poland. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 54, No. 9, p. 918.

Havierniková, K. 2014. Convergence of the Slovak Republic regions. In: *Proceedings of the 2nd international conference on European integration 2014*. Ostrava: VŠB. ISBN 978-80-248-3388-0, pp. 228-235.

Kalusová, L. 2015. Skúmanie odvetvových diferencií medzi faktormi determinujúcimi finančnú štruktúru slovenských a českých podnikov. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 63, No. 10, p.1033.

Koráb, P., Poměnková, J. 2014. Financial Crisis and Financing Constraints of SMEs in Visegrad Countries. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 62, No. 9, p. 887.

Lalinský, T. 2016. Firm-Level Output and Competitiveness in the Great Recession: The Role of Firm Characteristics and Qualitative Factors. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 64, No. 2, p. 118.

Mura, L., Buleca, J., Hajduová, Z., Andrejkovič, M. 2015. Quantitative Financial Analysis of Small and Medium Food Enterprises in a Developing Country. In: *Transformations in Business & Economics: International Journal of Scholarly Papers*, ISSN 1648-4460, Vol. 14, No. 1, pp. 212-224 [on-line] http://www.transformations.khf.vu.lt/34/ /article/quan.

Nemec, J., Ochrana, F., Šumpíková, M. 2008. Czech and Slovak Lessons for Public Administration Performan-ce Evaluation, Management and Finance. In: *Ekonomický časopis*, ISSN 0013-3035, Vol. 56/2008, No. 4, p. 353.

Podnikatelska Aliancia Slovenska. 2016. Business Environment Index. [on-line] http://alianciapas.sk/category/ pravidelne_aktivity/index_podnikatelskeho_prostredia/

Šúbertová, E., Kinčáková, M. 2014. *Podpora podnikania pre malé a stredné podniky.* Bratislava: Ekonóm. ISBN 978-80-225-3967-8.

Tóth, M. 2015. Postavenie pracovnej sily agrosektoru v národnom hospodárstve Slovenskej republiky. In: *Faktory zvyšovania výkonnosti poľnohospodárskych podnikov vo väzbe na rozvoj vidieka a zabezpečenie primeranej potravinovej sebestačnosti*. Bratislava: Ekonóm. ISBN 978-80-225-4166-4, pp. 8-16.

The World Bank. 2016. Doing Business. [on-line] http://www.doingbusiness.org/rankings.

World Economic Forum. Global Competitiveness Report 2016. [on-line] http://reports.weforum.org/global-competitiveness-report-2015-2016/

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Features of internal audit in conditions of economic clusters

Alexander Vyzhitovich, Oleg Lyamzin

Abstract

Currently, the research question of the internal processes of clusters in the economic literature is insufficiently developed. The article discusses a methodical approach to clarify the concept of internal audit of the company conditional (by using a dedicated business game). On the basis of the objectives of the conditional of the Board of Directors for the internal audit department specifies the content of the main changes in approaches to organization and development of an appropriate methodology taking into account possible changes in the business processes of the company in the transition to the cluster.

Keywords: internal audit, risk, management, cluster, efficiency
JEL Code: C 700, M100, O 220

1. Introduction

Questions of increasing company's efficiency and its enterprise value, of ensuring its stable and sustainable development are important and relevant today. Results of the study of current status and trends of internal audit development in Russia in 2015, conducted by the Institute of Internal Auditors with the support of The EY company, show a change in the priorities of the functional responsibilities of the internal audit units in the direction of such key activities as the assessment of the reliability and effectiveness of internal control systems, advising executive management on various issues, monitoring of the process of eliminating the shortcomings of the internal control system. Evaluating the effectiveness of the risk management system is also becoming a priority, in particular, focuses on the revitalization internal audit unit's work in the processes of strategic planning and evaluation of the quality of strategic risks management.

One of the promising ways of increasing of territorial activity is the functioning of clusters in different sectors of the economy. The cluster approach of the development of Novosibirsk region was discussed in detail in the Resolution of Government of the Novosibirsk region from 01.04.2016 N 89-p "On approval of the program of reindustrialization of the Novosibirsk Region's economy until 2025". Government Incentives for the creation of cluster structures in the form of financial and non-financial support measures contribute to the emergence of new benefits for companies involved in the cluster. Nevertheless, the risk assessment and evaluation of such participation's effectiveness is required. According to the authors, approaches to minimize the risks of participation in the clusters may be the similar with the choice of the contract outsourcing partners, as well as choosing counterparty for tax risk management (Vyzhitovich, 2015).

2. The risks of the company's participation in cluster projects and the role of internal audit

The problem of Internal Audit in relation to the work of the clusters received insufficient recognition in the economic literature, and methodical recommendations on this issue hardly been published. The importance of the issue under consideration is associated with timely awareness of Institute of Internal Auditors (IIA), members about the readiness to participate in operational meetings and the preparation of expert opinions in areas of strategic assessment and other risks of the company's participation in cluster projects; about the need of developing competence in the rapidly changing business environment. To immerse into this subject the

working meeting of the IIA members in the format of business game "Internal audit in a cluster" took place on September 14th, 2016. During the meeting the educational presentations on "Topical issues of the entity's internal audit under the cluster", "System performance and cluster performance evaluation" and business game "Internal audit in a cluster" have been organized. A real industrial cluster project was selected as an example from the reindustrialization of the Novosibirsk region economy program.

An industrial cluster is understood as a set of stakeholders in the industrial sphere linked by the interactions within the mentioned area due to the geographical proximity and the functional dependence which are placed in the territory of one or several entities of the Russian Federation (Federal Law of 31.12.2014 N 488-FZ (as amended on 13.07.2015) "on industrial policy in the Russian Federation" (Article 3)).

In the course of the business game in accordance with the developed scenario, the achievement of the target of forming the conclusion regarding the feasibility of whether to enter the cluster or not, as well as concerning the necessary measures in the company's business processes in the cluster transition and in changes in the internal auditors actions, was set by the fictitious Board of Directors for internal audit.

According to the authors, the activities must take into account the ongoing industrial policy of the state of import substitution during the designing the cluster development program (Vyzhitovich, Ershov, 2015).

Among the main features of the model of an enterprise functioning in the cluster, in particular were considered:

- preparation of applications for participation in the cluster, the permitting procedures for the conclusion of the relevant agreements for the participation in the cluster;
- a high level of interdependence (cooperation) with other members of the cluster, the conclusion of multilateral agreements;
- fulfillment of the conditions (obligations) as a cluster member in accordance with the requirements of normative documents, internal documents of the cluster and the agreements with the specialized cluster company;
- participation in the preparation of the "road map" of the program, of the development program, of the functional diagram of the cluster;
- the achievement of the targets affecting the overall performance of the cluster in order to comply with the terms of state support, as well as for receiving government subsidies on compensation of the creating a cluster infrastructure costs and other incentives;
- possible participation in the authorized capital of the specialized organizations and cluster members, joining representatives of the enterprise into the Board of cluster members of or into the administration of the governing bodies of the specialized organization of the cluster;
- the high concentration of industry, credit and other risks;
- receiving of the state support measures in compliance with regulatory requirements;
- the existence of the threats of government subsidies return in the event of failure to comply with regulatory requirements with the consequences of the deterioration of company's financial stability;
- the presence of cluster exit costs for businesses;
- the occurrence of tax risks on VAT and income tax in case of unscrupulous actions of providers - other members of the cluster.

Roadmap of establishing of the conditional cluster comprises a set of measures in successive stages: the cluster creation decision-making, the creation of the organizational structure of the cluster and the cluster management system, the development of strategic documents for the development of the cluster, including preparations of an application for the incorporation of the cluster into the State clusters Register of the Russian Federation entity.

The company's participation in a cluster requires the calculation and analysis of indicators in three areas (Figure 1).

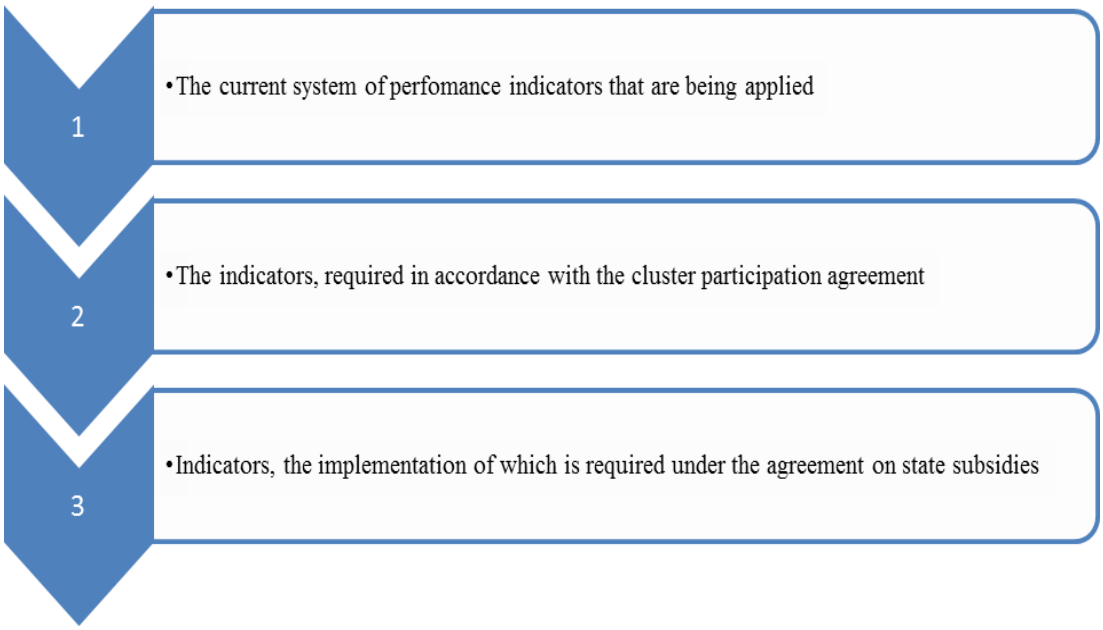

Fig. 1. The analyzed indicators

The mutual discrepancy of such indicator systems is one of the problems that hinder the successful functioning of Russian clusters in the short run. And if at the present stage of the clustering the organizations which participate in the analytical field are more concerned with formal issues (ensuring accountability within externally imputed scorecards), then in the foreseeable future, the problem of identifying the real effectiveness of the cluster and its participants' activities will be especially pronounced, as well as the problem of in-depth understanding of the cause-and-effect relationships. The current absence of a proven and replicated scientific and methodological support in the area of evaluating the clustering effectiveness and its maintenance in Russia can significantly reduce such. In this context specialized scientific developments adapted to Russian economic conditions, which originally were focused on comprehensive support of the formation of Russian clusters, become particularly relevant (Lyamzin 2016) (Lyamzin 2014) (Lyamzin, 2005).

Given the need for funding to ensure the smooth work of cluster members, for building the infrastructure and other business targets, the ratio of credit and other financial institutions to the issues of the reliability of the cluster members as the prospective clients is considered important. Improving the effectiveness of risk management and internal audit in the cluster companies, as well as the absence of reason for the return of government subsidies can be regarded as a positive factor in the assessment of credit and other risks. The attraction of reliable prospective customer groups represented by the cluster members can enhance the quality of management of strategic risk of credit institutions.

Participation risks in cluster projects are:

- Loss of benefits due to non-participation in the clusters;
- Executive bodies of the State authority's disapproval of the application;
- Non achievement of the project's targets;
- Return of the state subsidies with the threat of bankruptcy or significant deterioration of the financial situation;
- Under-funding from the state;
- Termination of financial accounts due to a failure in the opening of bank accounts and (or) carrying out suspicious transactions on the accounts due to the opacity of the relationship in the cluster project;
- Failure to comply with the obligations between the parties to the cluster, the failure of the supply (services);
- The loss of the business reputation in terms of further participation in cluster projects.

According to the authors, approaches to minimize the risks of participation in the clusters may be the same as when selecting the contractual outsourcing partner and choosing a contractor for the purpose of tax risk management (Vyzhitovich, 2015a), (Vyzhitovich, 2015b).

3. Application of the simulation game for management decision-making on participation in the cluster

In the business game roles have been assigned as follows. The head of the internal audit department – is the head of a small group, the employees of the internal audit unit – are the members of a small group, the Chairman of the Board of Directors (Chairman of the Audit Committee) – is the chairman of the jury, members of the Board (member of the Audit Committee) – are the members of the jury, a consultant on cluster – is the moderator, consultant's assistants – are the students of Siberian Institute of Management (a branch of the Russian Academy of National Economy and Public Administration under the President of the Russian Federation), the independent expert of internal audit – is the coordinator of the IIA regional center.

The jury selected three participants of the meeting: 1 person - from the credit institution, 1 person - from the production sector, 1 person - from other sectors of the economy. Chairman of the jury is determined by the moderator and the independent expert. To select the members of the jury the following criteria were used: experience in internal audit over 10 years, experience in internal audit management for at least 5 years. Jurors serve as the Board of Directors of the Company - member of the cluster. They need to assess the involvement of the internal audit unit in a cluster, and use it to conduct negotiations with the organizers of the cluster, with a specialized company and others for taking a final decision on participation in the cluster. During the working time, the group members of the jury may discuss the clusters work experience, possible internal audit priority directions, the position of the institutional consolidation of the new internal audit approaches under the conditions of changing business models, and other questions on the subject of the business game.

Groups are formed with the consideration of the representatives of various economy sectors, the presence of members from financial institutions group, manufacturing and other areas is ensured. The head of each group is determined by the moderator and by the independent expert. Each group chooses a real cluster project. The Group uses working materials templates (tables in test form) to fix ideas, their adjustment and maintenance.

Participants, working in various sectors of economics organizations, actively applied the method of "brainstorming" in the workshop mode and prepared recommendations for different periods of the company's participation measures in the cluster project (Figure 2) in order to minimize aforementioned risks.

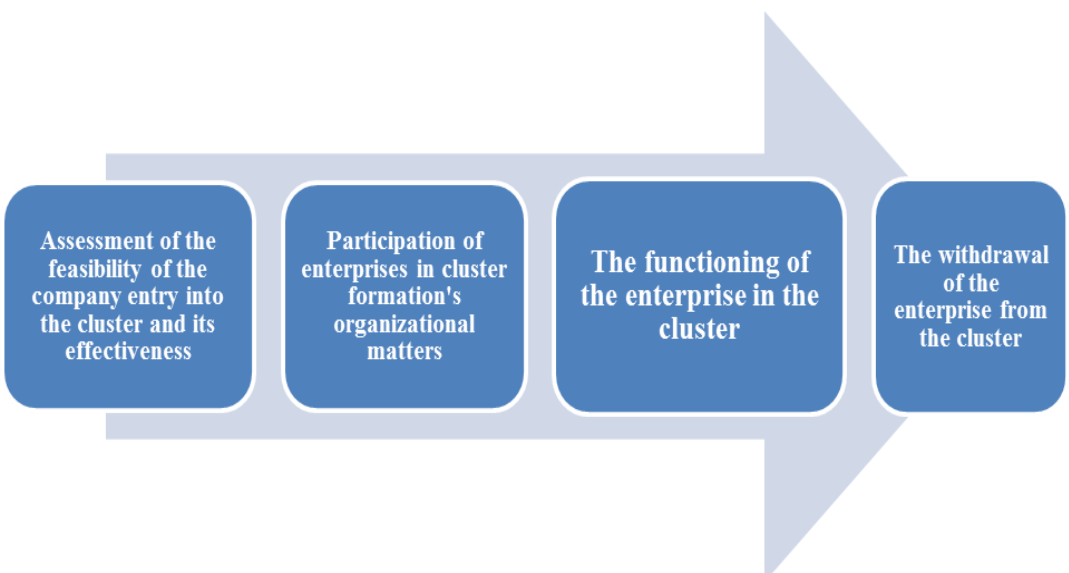

Fig. 2. Different periods of the company's participation in the cluster project

Separation of its life cycle on such stages as the assessment of the feasibility and effectiveness of the company entry in the cluster, the company participation in the organizational issues of formation of the cluster, the operation of the enterprise in the cluster, the company withdrawal from the cluster, allows detailing the recommendations in relation to specific assigned tasks.

The opportunity to work in a like-minded team was provided for meeting participants with practical experience in internal audit, as well as the application of a team approach to address the new challenges, contributed to the formation of the following recommendations for each stage of the enterprise in the cluster's life cycle.

1. Assessment of the feasibility and effectiveness of the enterprise entering into the cluster:
   - It is necessary to create a map of risks that exist and that can occur (change of organizational structure, changes in staff's schedule with the consequences of increased costs, and others);
   - to clarify the benefits of enterprise entry into the cluster (they can be the presence of the guaranteed sales market, and improving of the image, ranking and reputation of the enterprise, the stability in the supply);
   - to assess the KPI indicators, which exist within the cluster in order to understand whether the company complies with them or not;
   - to evaluate the new organizational structure as part of joining the cluster, in order to understand, whether the intended goals could be actually achieved.
   - To evaluate the possibility of changing of the existing structure and internal control systems.
2. The participation of enterprise in the organizational issues of the cluster's formation;
   - to create an internal document on the definition of the interaction with the other members of the cluster, on the order for determination of control procedures within the company and in the cluster, in order to understand the ability of controlling the declared quality assurance procedures;
   - To fix the authorities of internal audit services for the control procedures legitimacy in internal documents.
3. The functioning of the enterprise in the cluster:
   - ensuring the participation of the company representatives in the Cluster Council, in the Board of Directors of the cluster's specialized organization;
   - to determine the integrated indicators, which can help identify the activity of the company, whether its competitiveness sufficient within the same cluster.
4. The enterprise's withdrawal from the cluster:
   - to assure the painless exit in case if the need to withdraw from the cluster will arise, the company needs to accurately reflect in the cluster documents all the possible situations: what are the main and additional reasons on which the company can get out on its own initiative or on the initiative of other parties, with an indication of the proportion of potential compensation of nested costs return (to prepare the so-called "marriage contract").

Further discussion of the recommendations ended with drawing the conclusions, receiving high evaluations from the Board of Directors as jury members, and the prize awards. The overall opinion concluded that the realization of such recommendations as a part of the activities plan allows reducing the company risks of cluster participation. The general conclusion of joint work was the approval of the cluster project participation with a condition that all drafted recommendations would be taken into account.

As a result of the business game that was conducted by the Board of Directors on the basis of intended targets for internal audit units a proper expertise of the enterprise participation in the transition to a cluster, taking into consideration all the possible changes in the company's business processes. The method of playing a real simulation of the new current situation related to the interaction between the internal audit division and the Board of Directors of the enterprises participating in a cluster.

4. Conclusion

The applied method of a game simulation of real situation which is related to the interaction of the internal audit division and the Board of Directors of member companies of the cluster through the organization of the business game, allows solving the professionally-oriented problems when the swift management decision making on changing corporate business model is necessary. The application of the business game with the expert practitioners creates an opportunity to test the new management technology of identifying and assessing the risks of the enterprise in cluster projects. The methodical approach to the solving of the cluster problems in the form of the business game has important theoretical and practical value and can be used in the companies - participants of the cluster within the strategic sessions, development programs, road maps and other activities.

References

Vyzhitovich, A.M., Ershov, P.A. 2015. "Import substitution: actual mechanisms and tools". National interests priorities and safety. №38 (383), pp.52-64.

Lyamzin, O. 2016. "Approaches to forming and evaluating the effectiveness of multisectoral innovation associations (innovation clusters)". Proceedings of 11th International Forum on Strategic Technologies (IFOST), June 1-3, 2016, Novosibirsk, Russia. Part 2. - pp.432-436. IEEE Catalog number CFP16786-PRT. ISBN 978-1-5090-0853-7. ISBN 978-5-7782-2918-1 (Part2)

Lyamzin, O. 2014. "About analytical and structural aspects of the management system of organizations that implement the integration steps" / O. Lyamzin // International multidisciplinary scientific conference on social sciences and arts (SGEM2014): conf. proc., Bulgaria, Albena, 21–9 Sept. 2014. – Albena : STEF92 Technology Ltd., 2014. – Book 2, vol. 3. – P. 3–8. – ISBN 978-619-7105-27-8, ISSN 2367-5659.

Lyamzin, O. 2005. "Cluster approach in the analysis of city competitiveness" / O. Lyamzin // The 9-th Russian-Corean International Symposium on science and technology KORUS 2005. 26-th June – 2-nd July, 2005, NSTU, Russia. pp. 918-920.

Vyzhitovich, A.M. 2015. "Tax risk management in the implementation of enterprise outsourcing strategies in the process of restructuring" // Vestnik Samara State University of Economics. №8. pp.78-84.

Vyzhitovich, A.M. 2015. "Control methods of the outsourcing strategies under restructuring of enterprises" // Economy and Entrepreneurship. № 8-1 (61-1), pp. 531-537.

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Tradition and modernity as determinants of market behaviours of disabled consumers

Joanna Wyrwisz, Magdalena Maciaszczyk

Abstract

The article is aimed at an evaluation of consumer behaviour in the context of market changes. These changes concern different aspects of market functioning. On the one hand those changes affect consumption of new products. On the other they refer directly to the level and ways of meeting consumers' needs. In both cases information and communication technologies determine buying processes. The article presents the research approach based on literature and empirical examinations. There were presented results of surveys carried out among physically disabled inhabitants of Lublin province concerning the attitudes of physically disabled consumers towards new products being launched, modern technologies or social media was emphasised. The ROPO effect (Research Online Purchase Offline) and conditioning of its appearing were included. The research material was constituted by 125 survey questionnaires.

Keywords: consumer behaviour, social media, tradition, modernity, disabled consumers
JEL Code: M31

1. Introduction

As a key market player, the consumer is actively involved in the process of purchasing and consuming products offered on the market. In the context of his constantly evolving social, cultural and most notably technological milieu, the consumer's market behaviour is marked by significant activeness, changeability and independence. A now inherent element of the information society, the consumer functions within an information environment whose key aspects include the prevalence of product data, fragmentation and dissemination of distribution channels, global media market, and predominance of digital content (Gołąb-Andrzejak, 2014). Indeed, the scope and ease of accessing information is a factor that strongly influences purchasing decisions and allows for more informed consumer choices. Nowadays, clients actively engage in researching products of interest, they are prone to seek recommendations from others and keen to share their own opinions. The ubiquity of internet access and the dynamic development of mobile communications allow the consumer to review product information at virtually any time or place. These changes are not without influence on the consumer's purchasing behaviour. The internet has become an important factor in the process of choosing products or services. Consumers visit vendors' websites, blogs, internet forums and social media sites in search for relevant information. In this context, web portals offering the ability to directly exchange opinions on specific products, brands and models have gained a particular significance.

Outside the technological dimension, consumers are now increasingly likely to base their decisions on the actual experience of buying and consuming products. This later translates to their purchasing behaviour, including marketing-related aspects such as word-of-mouth, as well as pro-consumption attitudes expressed through involvement in the development of an offer (Baruk & Iwanicka, 2014). Faced with increasing product unification, consumers are now looking for ever more powerful and individualised experiences. The uniqueness and strength of an experience has become an extension of the market offer as such, often evolving towards a particular form of entertainment, or aptly named shoppertainment (Gębarowski, 2014).

However, the prevalence of ICT at every stage of the purchasing process does not automatically entail a radical change in the consumption habits and patterns of consumers. In fact, consumer behaviours rooted in traditional, pro-environmental or natural sentiments are commonplace. A single consumer is not unlikely to display seemingly extreme and contradictory attitudes. An innovator shopping for the latest products and often anxiously awaiting e.g. the launch of a new mobile phone model, will at the same time prove himself a traditionalist who buys pro-environmental products, bakes his own bread and spends holidays with his family. It seems, therefore, that the technology-dominated purchasing process is not without certain traditional elements.

2. Consumer behavior in modernization of consumption process

The current transformation of the market pertains mainly to the consumption of new products or in-depth modification of items already in use, as well as to rerouting the process of satisfying consumer needs. Said changes are so far-reaching and extensive that novelty has now become an immanent element of consumption as such. The modernisation of consumption can be characterised in terms of phenomena such as dematerialisation, ecologisation, virtualisation, or presumption (Kieżel & Smyczek, 2014).

Three specific facets of modern consumer behaviour can be identified (Mącik, 2013):

- technological aspect – an overwhelming majority of both personal and professional consumer activities are conducted through or by means of internet-based information technologies, with a particular focus on mobile technologies;
- acceptance of ICT – the consumer's access to information and communications technology does not automatically entail his use of the same, but the consumer is aware of its existence and accepts it for what it is;
- rationality of consumer decisions – ICT facilitates rational consumer decisions by providing access to information and moderating the element of risk.

Certain aspects of this modernisation of consumer behaviour can also be traced in models of decision-making processes. Hybrid models account for changes in the perception of value relative to one's expectations towards products and their qualities as well as the perceived likelihood of high or low post-purchase satisfaction (Smyczek, 2007).

Modern consumer behaviours are shaped on various levels. Their main determinants include the processes of globalisation, technical and technological advances, ageing of the population, and changing attitudes of the youngest Y and Z generations. Problems faced by the consumers of today are those of abundance and choice. One must choose between traditions, styles, new or long-established products. As a result, cultural, social and technological changes define the new behavioural patterns of contemporary consumerism or postmodern consumer culture (Kieżel & Smyczek, 2014). The characteristic features of this new culture are presented in Table 1.

One of the aspects of the modernised processes of consumption can be observed in the ways in which consumers make their purchasing decisions. The following consumer types can be identified based on the structure of the purchasing process (Mącik, 2013):

- Perfectionistic Consumer – high-quality-conscious and willing to accept greater financial outlays in order to maximise the desired vale; a careful and systematic buyer who analyses the available choices and accepts no compromise where quality is concerned;
- Brand Conscious Consumer – is of the opinion that the higher price of a brand product guarantees the desired level of quality and will therefore buy more expensive, well positioned and well-advertised products of popular brands; usually a customer of shopping centres;
- Novelty and Fashion Conscious Consumer – is ready to make the additional effort and bear the additional risk of buying products that are fashionable and new, often striving to be the first to do so; excited by market novelties, determined to stay up to date with latest fashion and current trends;
- Recreational Consumer – buys for pleasure and entertainment, enjoys the commercial environment and perceives it as useful and desirable;
- Price/Value Conscious Consumer – seeks to secure maximum value at a minimum cost, actively searches for discounts, sales and bargains by carefully comparing the available offers before committing to a purchase to ensure maximum rationalisation of spending;
- Impulsive Consumer – makes unplanned purchases, is careless about spending, does not compare offers or look for bargains;

- Consumer Confused by Overchoice – is overwhelmed by the abundance of products, brands and outlets that adds to the difficulty of making purchase decisions;
- Habitual, Brand-Loyal Consumer – shows purchasing habits which are strongly biased towards specific products, brands and places.

Table1. Values and characteristics of modern consumer culture

Values of Postmodern Consumer Culture	**Characteristics of Postmodern Consumer Culture**
Pluralism	Negation of universal ideology and norms, scepticism, disillusionment.
Diversity	Search for individual identity, lifestyle diversity, diversification of demand.
Globalization	Aiming for a modern, more attractive lifestyle with access to global products.
Tribal Community	Growing importance of social relations and demand for goods and services that facilitate social interactions.
Symbolism	Creation of the cyberspace and virtual reality.
Fragmentation	Disassembly of experience, decontextualisation.
Lack of hierarchy	Disordered consumer stimuli.
Multiculturalism	Drawing on the oeuvre of multiple cultures.
Popularisation	Ubiquity of mass media, social media.

Source: Mazurek-Łopacińska, 2011 in: Kieżel, Smyczek, 2014

The evolution of consumer behaviour follows certain observable patterns that manifest themselves in both social and market contexts as they affect changes in various aspects of consumers' lives. The trends most relevant hereto include (Mróz, 2013):

- gender blending – evolution of the traditional roles and behaviours attributed to particular genders;
- LOHAS (Lifestyles of Health and Sustainability) – departure from excessive consumption, promotion of healthy lifestyles, organic nutrition, respect for the environment and sustainable development; striving to strike a balance between health and pleasure;
- trysumer – consumers are increasingly aware of their own needs, more self-confident and self-reliant, able to independently verify the reliability of particular companies or products;
- sharing economy (collaborative consumption) – collaborative consumption or shared product use can help to reduce expenditures; consumers are searching for alternative was of using products;
- democratisation of luxury – luxury is no longer the exclusive domain of the highest social strata and wealthy consumers; relatively affordable products of luxury brands are now available to the middle class;
- everyday technology and social media – technology touches every aspect of our daily lives and is becoming so prevalent that nowadays, certain devices and gadgets are already perceived as essential commodities;
- digital abstinence – disinterest and tendency to veer away from technologically advanced products.

3. Methodology of research

The research was aimed at an evaluation of determinants of market behaviours of physically disabled consumers, particularly at symptoms of modernity and traditionality. Survey on the determinants of market behaviours of disabled consumers was conducted in Lublin province in August – September 2016 via questionnaire. The examination enrolled individuals who fulfilled three requirements simultaneously: 20 years of age, physical disability and minimum 1 year of injury. The last criterion was supposed to eliminate individuals being in the unstable phase of acceptance. The demographic profile of respondents presents Table 2.

Table 2. Demographic Profile of Respondents

Variable	Category	Respondents (%)
Gender	Male	46,4 %
	Female	53,6 %
Age	20 – 30	29,6 %
	31 – 40	31,2 %
	41 – 50	35,2 %
	51+	4,0 %
Education level	Vocational Qualification	12,0 %
	Secondary Education	28,8 %
	Higher Education	59,2 %
Material situation	Very bad	7,2 %
	Bad	18,4 %
	Average	24,0 %
	Good	25,6 %
	Very good	24,8 %

Source: Own research

The sample comprises 125 valid responses. The data was analysed using the SPSS Statistics for a descriptive analyses. Table 2 summarizes the demographic characteristics of the survey respondents. Concerning the profile of respondents, 46,4% are males and 53,6% are females. The majority of the participants are aged between 41- -50 (35,2%). Next group is composed by participants aged between 31 – 40, 31,2%, 29,6% are aged between 20-30, and only 4,0% are aged above 51 years old. The sample is constituted mainly by educated individuals. 59,2% respondents declare higher education and 28,8% secondary education. Only 12% have Vocational Qualifications. 18,4% respondents declare their material situation as bad, and only 7,2 % as very bad. The rest rather seem to be quite pleased with their material situation.

4. Traditional and modern attitudes of physically disabled consumers towards shopping – discussion of results

Participants of the research were asked to determine what type of consumer they represent (Rogers, 2010). Innovators are the first group. Such customers are usually eager to experiment with anything new on the market. They read a lot news and magazines so they are repeatedly exposed to innovative ideas. They are probable to influence other buyers in their group. Early adopters are trendsetters that want to understand the benefits and will look for references from other satisfied buyers before making up a decision. The next group is the early majority. Members of this group are pragmatic, slower to try new products, purchasing only after other customers have embraced the product. They care about reputation of a company and are looking for slight productivity enhancements. Late majority members make their purchases late in the cycle as they are typically skeptical about an innovation. They wait until prices fall and the product has become the universally accepted one. They also usually rely on the mass media for purchasing information. The last group members are focused on “traditions”, wait for the price to bottom out and the product itself to become an absolute need.

Table 3. Respondents as Five types of Buyers

Variable	Category	Respondents (%)
Innovators	Male	2,4 %
	Female	4,8 %
	All	7,2 %
Early adopters	Male	8,8 %
	Female	7,2 %
	All	16,0 %
Early Majority	Male	16,8 %
	Female	24,0 %
	All	40,8 %
Late Majority	Male	27,2 %
	Female	13,6 %
	All	13,6 %
Laggards	Male	4,8 %
	Female	4,0 %
	All	8,8 %

Source: Own study

The biggest group of the motor disabled participants of the research refer to themselves as early majority buyers (40,8%) (see Table 3.). They are much more interested in productivity and practical benefits of the product than in its coolness or reputation. They seem to be a little pragmatic and not so technology-driven, but are still eager to buy innovations. Two smallest groups are innovators (7,2 %) and laggards (8,8 %).

In order to verify self-perception respondents were asked to name main motivators of starting the buying process (see Table 4.).

Table 4. Main Determinants of Buying Process

Variable	Category	Respondents (n)
Launching new products	Male	7
	Female	10
	Total	17
New purchasing possibilities	Male	15
	Female	17
	Total	32
New needs unveiled in reality	Male	10
	Female	11
	Total	21
New needs unveiled in the Internet	Male	8
	Female	13
	Total	21
Change of expectances towards goods owned	Male	10
	Female	12
	Total	22
Lack of a product	Male	8
	Female	4
	Total	12

Source: Own study

The respondents agree that new possibilities meant as changing economic situation of the household are the main incentives for starting purchasing process (25,6 %). The second most important factor (17,6 %) are new expectations toward the product already owned. In terms of new needs unveiled (33,6 %), half of the respondents declare that those needs appear as a result of Internet activities (16,8 %) while the other half claim (16,8 %) that new needs are the side-effect of real-life incentives, such as shop windows or noticed in the street products used by other consumers.

In the next question motor disabled respondents were supposed to determine which of the given sources of information they use most often (see Figure 1.).

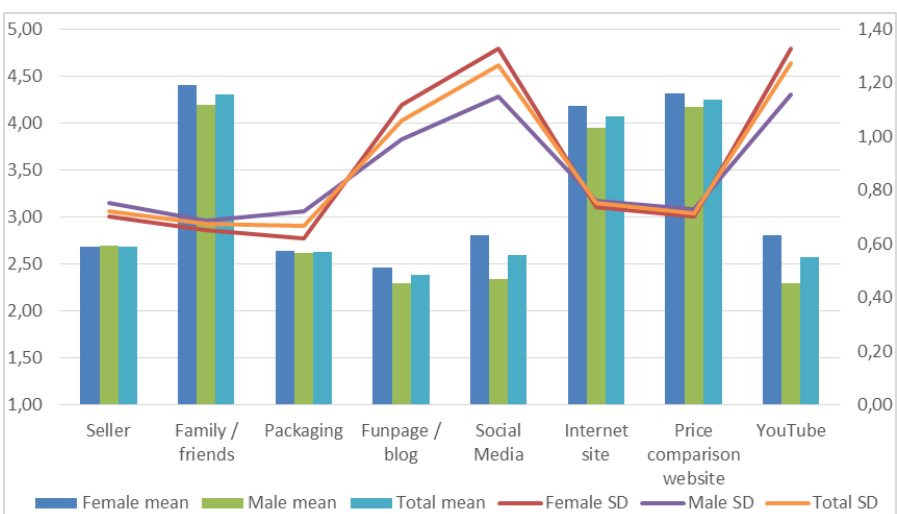

Figure 1. Sources of Information - Frequency of Use
Source: Own study

Regardless of sex and age of the respondents, the most popular sources of information are the opinion of family member or acquaintances (A=4,30), price comparison websites (A=4,25) and websites of a seller or a producer (A=4,07). A low level of standard deviation (SD) indicates clearly that the data points tend to be close to average value of the set (A). The remaining sources show noticeably lower importance. The greatest significance of the family and acquaintances probably results from the fact that they know well the situation of the disabled consumer who does not feel constricted and embarrassed and does not need to explain specificity of his individual needs and expectations.

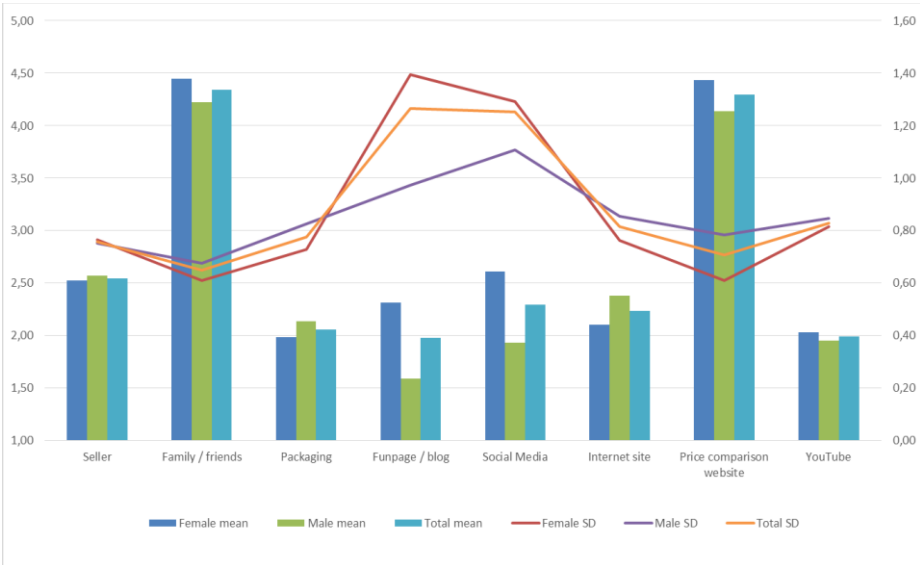

Figure 2. Sources of Information - Usefullness
Source: Own study

As far as two most popular sources of information are concerned – family/acquaintances and price comparison websites, they were also evaluated as the most useful – respectively A=4,34 and A=4,30 (see Fig. 2). However the third most popular source was not rated high as the level of mean reached only 2,23. It turned out, that although motor disabled consumers frequently visit websites in search for information, they obviously do not classify their previous experiences with Internet data as positive and so they don't perceive it as reliable and trustworthy. Described behaviours prove that disabled consumers in their behaviours display dual attitudes - on one hand they unquestionably rely on opinions of their family and friends, while simultaneously they seek information on the Internet.

Considering different goods purchasing patterns, according to the data analysis, there is no one clear way customers behave. To find out the pattern of motor disabled consumer purchasing the ROPO effect and showrooming symptoms were described in a set of sentences. Research online, purchase offline (ROPO), also called research online, buy offline (ROBO) or Online-to-Store (O2S-Factor), is a trend in buying behaviours. It means that customers look for significant product information in the Internet and when they make up their buying decision, they in fact buy the product in the local stationary store. Showrooming refers to a situation in which consumers are using traditional retailers just as “showrooms” for goods they are interested in. While gathering information about products takes place at a local store, final purchasing is from an online retailer at a discounted price (Horky & Collier, 2016).

It is impossible to point out just one pattern of gathering information and purchasing goods. Admittedly, 32,8% of respondents usually research online and buy online, but still 25,6 % declare that they take advantage of online and traditional shopping evenly (see Tab. 5). There also are some (18,4 %), who research offline and buy online, and who research online but buy offline (16,0 %). Nonetheless 7,2 % of the questioned motor disabled consumers indicate that they have no intention to search online reviews or buy goods via the Internet.

Table 5. Purchasing Patterns

Variable	Category	Respondents (%)
I collate and purchase products in a stationary shop.	Male	4,0 %
	Female	3,2 %
	Total	7,2 %
I collate products in a stationary shop but buy via Internet.	Male	9,6 %
	Female	8,8 %
	Total	18,4 %
I collate products in the Internet but purchase in a stationary shop.	Male	4,8 %
	Female	11,2 %
	Total	16,0 %
I collate and purchase products in the Internet.	Male	14,4 %
	Female	18,4 %
	Total	32,8 %
I purchase in a stationary shop as often as in the Internet.	Male	13,6 %
	Female	12,0 %
	Total	25,6 %

Source: Own study

Such results might seem startling as the experienced motor disability is often an obstacle to visiting shops, while the Internet is giving possibilities of faster and effortless way of searching for an interesting offer. It is hard to interpret the attitude of examined disabled persons to purchasing on the Internet. It is possible however that in the course of last years disabled consumers got used to virtual shopping and it reduced the level of perceived benefits resulting from the online shopping. Additionally, earlier researches suggest that disabled consumers are much more interested in traditional than online purchases because of a possibility of social contacts (Maciaszczyk, 2015).

5. Conclusions

In contemporary days, modernity is a feature that strongly determines consumer behaviours. It happens both in the consumption, as well as on every of stages of the process of the purchase decision making. Motor disabled consumers are willingly choosing new and modern products and the process of their choice is accompanied by information and communication technologies. However modernity does not exclude traditionality. In the area of the consumption and satisfying consumers' needs of traditional behaviours are not assigned to age, health state or gender of consumers. It would be much better to state that it is preconditioned behaviorally and associated with current market trends.

References

Baruk, A., Iwanicka, A. 2014. Wybrane aspekty kształtowania doświadczeń nabywców finalnych. In: *Marketing i Rynek*, ISSN 1231-7853, No. 5, pp. 252-260.

Gębarowski, M. 2014. Shoppertainment oraz eatertainment – kreowanie wyjątkowych doświadczeń w handlu i gastronomii. In: *Marketing i Rynek*, ISSN 1231-7853, No. 11, pp. 151-158.

Gołąb-Andrzejak, E. 2014. Lojalność w społeczeństwie informacyjnym na przykładzie „pokolenia Milenium". In: *Marketing i Rynek*, ISSN 1231-7853, No. 11, pp. 11-21.

Horky, A., Collier, J. 2016. Exploring Showrooming Experiences at Small Retailers. In: *Celebrating America's Pastimes: Baseball, Hot Dogs, Apple Pie and Marketing?*, ISBN 978-3-319-26646-6, pp. 863-866.

Kieżel, E., Smyczek, S. 2014. *Zachowania konsumentów. Proces unowocześniania konsumpcji*. Warszawa: Oficyna Wolters Kluwer. ISBN 978-83-264-8076-8.

Maciaszczyk, M. 2015. Wirtualizacja procesu zakupowego konsumentów niepełnosprawnych ruchowo - wymóg czy wybór? In: *Handel Wewnętrzny*, ISSN 0438-5403, No. 6, pp. 90-99.

Mącik, R. 2013. *Technologie informacyjne i komunikacyjne jako moderator procesów podejmowani decyzji zakupowych przez konsumentów*. Lublin: Wydawnictwo Uniwersytetu Marii Curie-Skłodowskiej. ISBN 978-83-7784-366-6.

Mróz, B. 2013. *Konsument w globalnej gospodarce. Trzy perspektywy*. Warszawa: Oficyna Wydawnicza Szkoły Głównej Handlowej. ISBN 978-83-7378-834-3.

Rogers, E. M. 2010. *Diffusion of innovations*. Simon and Schuster. ISBN 0-74322-209-1.

Smyczek, S. 2007. *Modele zachowań konsumentów na rynku usług finansowych*. Katowice: Wydawnictwo Akademii Ekonomicznej w Katowicach. ISBN 978-83-7246-964-9.

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Successful use of Market Intelligence in the Enterprise

Peter Zahumenský, Jaroslav Dugas

Abstract

Examining the instruments of Market Intelligence (MI), their implementation and impact on decision-making in the steel enterprise is the main goal of this article. Market Intelligence is engaged in describing the activities which provide the company with an overview of the market on the basis of existing sources of information to better understanding of the market situation, problems and activities of competitors, customers or consumers. Attention is also set on the market potential for new products or services considering the previous actions and reactions. For the need of the research at the marketing department with its staff there was an interview performed necessary for the research and expert consultations along with brochures were provided as well. Thanks to presentations we were able to get detailed information on this issue. This article is supposed to deliver a comprehensive view of market intelligence importance and use; moreover, it should help to identify the use of market intelligence in the past and nowadays in the corporate environment of the steel enterprise.

Keywords: marketing information system, market intelligence, key performance, indicators, war room, big data
JEL Code: M150

1. Introduction

In the last period we have witnessed a great development of processing and evaluating of information necessary for decision in the last period. While in the 90s of the last century we had a deficit of information and a huge participation in decision-making process, a little intuition (feeling from the market) or inaccurate statistical data, today on the contrary, there is a huge amount of information and for the quality decision it is necessary to archive the information correctly, to sort them, understand their explanatory power, and last but not least to process the information. Therefore Market Intelligence takes its irreplaceable stand here.

A good understanding of the market potential and capabilities of the company over competitors is required for business planning and development of a company in the current turbulent conditions. Market Intelligence is a system which systematically collects and processes critical business information and transforms them into desired marketing decisions.

Based on the data source the Market Intelligence can be divided into two areas: on one hand Market Intelligence according to external data, social media monitoring and on the other hand Market Intelligence according to internal data. These two categories are increasingly being redefined as Big Data. However, the Market Intelligence is also used to denote collecting and monitoring of external data such as analyst reports, financial data of competition, press monitoring or social media monitoring. Greater attention is being paid to Market Intelligence by internal information which provide insight into markets and customer behavior from sources such as databases, lists of products, activities on websites, operations history, loyalty cards, etc.

The goal of this work is to point out the importance of market intelligence in current business environment, explore the Market Intelligence tools and their actual application in steel enterprise.

2. Theoretical concepts

Market intelligence

Market intelligence is able to provide strategic value to a business' future. The power lays in information, and companies that have the right information at the right time have the power to transform themselves into world leaders. Most market intelligence is based on readily available information. Obviously, having the right market intelligence tools, talent and processes will be key to success (Hedin, et al., 2014).

Advantages

- identification of new opportunities One company in a component industry identified a new trend before the 'expert' industry analysts,
- early warning of competitor moves - through good intelligence, One chemical company thwarted the siting of a competitor's manufacturing plant in one of their most profitable sales territories,
- minimizing investment risk - ongoing intelligence and analysis is more likely to temper unbridled enthusiasm to follow the bandwagon into those "mustn't miss the window of opportunity" marketsket and customer orientation - implementing an MkIS will encourage people throughout the organization to focus externally (Surinta, 2009).

Market intelligence plays a significant role in the automotive industry where some global companies spent as much as US$50 million in 2013. While this may appear substantial, they are however, not the biggest spenders. By comparison, some manufacturing and industrial companies may commit as much as US$130 million to market intelligence in a single year.

In GIA's 2013 Global Market Intelligence Survey involving over 1,200 respondents who responded to an online questionnaire earlier this year, 37 first- to third-tier car marque companies, automotive OEMs and suppliers revealed that;

- Overall, 89% in the automotive industry say their company's investments in market intelligence have paid off.
- 79% agree that their "decision-making is very efficient".
- However, only 38% say that "information is always readily available".

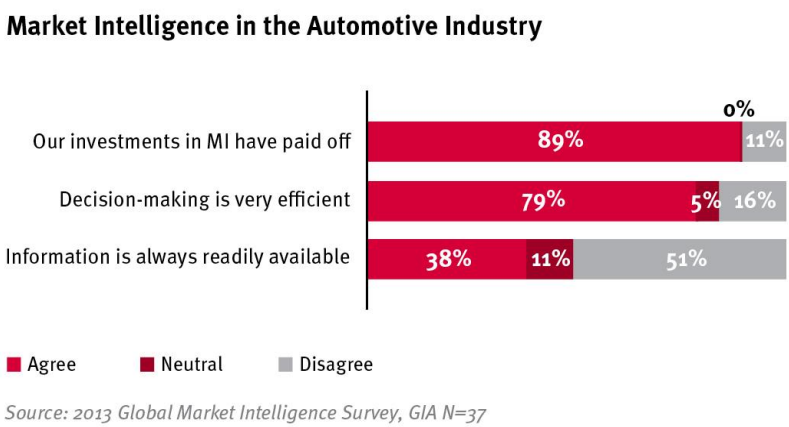

Figure 1. Market Intelligence in the Automotive Industry
Source: http://www.globalintelligence.com

In order for auto executives to make more well-informed decisions the relatively low availability of business information (38%) highlights the need for sophisticated market intelligence amongst industry players.

Big data

Public organizations and businesses in the past were able to gain insights from the structured data gathered through their inner enterprise systems or databases. However, in this era of big data, they are poised on the

brink of new business opportunities provided by advanced big data called business intelligence and analytics (BI&A), with which they can minimize uncertainty and create potentially revolutionary technologies. The opportunities associated with data analytics help an enterprise better understand its business, market, and consumer and thus make timely and exact decisions. Since many companies have begun to recognize the value of big data analytics as an important resource or capability realizing advanced business intelligence, big data is emerging as a key issues in modern society (Kim, 2014).

3. Metodology

Market Intelligence features implemented in the steel company were investigated in this article as well as their influence on decision-making process in the company. Marketing department with 34 employees took part in the survey conducted in the form of structured interviews with seven leading department employees working in positions: Commercial Director Global Marketing, Specialist for Commercial Planning and Forecasting, Manager for Marketing and Strategy Planning, Manager for Marketing Strategy Automotive, Appliance & Prepainted, Commercial Director Marketing Home Market, Europe & Export.

For the need of this paper the expert consultations, brochures and presentations were provided allowing us to look into all the pitfalls of the issue. Employees responded to various structured questions prepared in advance in order to determine indicators of market trends, information about competitors in the same field of business, customer behavior, ways of negotiating in work related meetings and especially the use of market intelligence tools for decision-making process. Answers to the questions are integrated in the following part of the article.

4. Research results

4.1. Marketing Information

In the case of the processing of marketing information we distinguish the data according to subject of tracking and to main groups as follows: Macroeconomics, Commodity Goods Market, Competitors and Customers (Consumer Segment).

Macroeconomics – such indicators are directly linked to our market and they are great steel market trends development indicators. In this case, the main source is **Eurostat** that regularly publishes statistical figures of key macroeconomic indicators on its website, such as GDP, Industrial Consumption, Unemployment. Forecasts of economic development: **Focus Economics** is acknowledge source, which relatively reliably predicts long and short term development, especially for EU countries. A great indicator is also the **PMI** - Purchasing Managers Index - the "Economic Health "indicator of the manufacturing sector. It is based on five major indicators - the new orders, inventory level, production state, deliveries of suppliers as well as environment. Other sources of the macroeconomic indicators are as follows:

- National banks and private banks (their individual analysis), The European Central Bank (ECB), Eurofer, International Monetary Fund, The World Bank, OECD, European Commission, Statements of economists and goverment representatives, Various conferences and other economics forums.
- ***Comodity market*** –The main source of this type of information is Eurofer - an association of steel producers in the European Union, of which we are members. This association regularly publishes overviews of important market indicators. Within the world-wide scale, this is represented by the Wolrdsteel association. Among the most important market indicators are involved:
- Apparent consumption that represents a variable indicating total quantity of the product included in respective segment irrespective of whether it was consumed or is awaiting for the consumption (warehouses). The calculation method consists of the total production on the domestic market and added quantity imported from the third countries (import). Than the total quantity exported to third countries (export) is deducted from such amount.
- Import, Export - such data are obtained from the Capex source. Data of the biggest importers and exporters are regularly processed on a monthly basis.
- Raw Materials Market - in this case it is primarily about price development of input materials such as an ore, pellets, alloying elements, scrap, etc., which have a direct impact on price of the output material ... in our case this is the steel sheet. Sources of information are SBB, MetalExpert.

***Competition* –** besides the imports from the third countries, for steel company the main competition are primarily domestic producers in the EU, for which we regularly monitor the indicators as follows:

- Steel Production - source for such data are Eurofer, World Steel, Hutnictví železa. For pipes manufacturing we use data from ESTA and AVOT associations.
- Production Capacities - production data of all production capacities in Europe, whether from existing or planned, we get from the agencies as follows: Metal Bulletin, CRU, SBB, SteelGuru. All these data are regularly processed in the Marketing Monthly Report, where we account for investment intentions of the competition as well as trend of the production capacities utilization. We regularly update also the database of existing European facilities with the most important technical data.
- Price - we obtain data on price from the CRU, SBB, MEPS sources.

Consumer segment, customer

- *SWIP* (Steel Weighted Industrial Production Index) - the overall level of economic activity on the market with steel products, which takes into account percentage of production of each steel processing industry on the steel total consumption in selected (basic) year and current development of these sectors. We obtain such data from the EUROFERRIT association.
- An important source of information on the market segments are conferences. Among the most important the conferences are included organized by Automotive Circle and Euroconstruct associations.
- Accordingly, our steel company is also a member of **associations that bring together producers**/processing units and suppliers of our products. These associations organize meetings of its members and issue publications/statistical data on the segments on regular basis. *Eurofer* – the association of steel producers in the EU, *Hutníctví železa* – the association of steel producers in the Czech Republic and Slovakia.
- **Technical and commercial customer service** - is a very important source of information in accordance with customer needs from qualitative and quantitative point of view. In this process such sections are involved, as mainly Sales, Marketing, CTS and Research and Development.
  - Sales performance - these data represent a statistical analysis of our sales.
  - Fairs and exhibitions - systematically collected data from a customer visit at the exhibition stand.. The data are processed by the Marketing department in the so-called Summary Report, which contains detailed data on the customer demand. This report is distributed to the Sales department for the purpose of a customer addressing and a quotation preparation.

4.2. Information use in the decision-making process

From the perspective point of view, the decision-making process can be divided into a short-term (spot) and long term (strategic) process. ***The short-term (spot) decision-making process*** is usually carried out for the period until the end of the current year and, in the case of Business Plan for the following year. This process consists of the following inputs:

External inputs (processed by the Marketing dpt.)

- Macroeconomic indicators - on a quarterly basis.
- Information about the flat products market
  - We predict the expected development of consumption based on regression analysis. In the short term, we must take into account also the seasonality of the flat-rolled products market. We certainly confront these results with published forecasts from external sources, CRU and Eurofer.
  - Activities of competitors primarily relate to the declaration of the price increase or decrease for the following period.
  - Expected price development of raw materials.

Internal inputs (Market)

- Information from business meetings (market survey).
- Information from CTS (quality requirements).
- Information from business meetings - Customer´s Days and other events - discussion on needs, trends in the sectors in which our customers operate.

A decision - on prices, volumes - consensus of the market and marketing / external and internal sources - the tool:

- *Warroom* - meeting with presence of Marketing and Sales departments, where confrontation of market knowledge takes place. The outcome of such cooperation is a consensus on the price level of our products in the next period.

The effect of the **Market Intelligence use = Correct decision.**

- *The short-term sales plan development* – allocation of material with the detailed data of: customer, month, product and price. As expected, in this case there is great importance to optimize a portfolio of customers from the product and territorial point of view in order to achieve maximum efficiency of sales and to be able to cover also investments of strategic importance as well.

Appropriateness of the decision evaluation:
KPI – Key Performance Indicators – These are statistically processed data on our sales volume, profitability, payment terms and payment discipline.

Long-term (strategic) decision making process precedes the Strategic Plan development prepared for the next 5-year period. Again, it consists of a combination process of the Market Intelligence use from external and internal sources.

External inputs (processed by the Marketing dpt.)

- *Macroeconomic indicators* - basic information is gained from annual data. Various hazards that can have direct impact on the steel market (e.g. the Ukraine - Russia crisis, EUR exchange rate, deflation, referendum in the UK ... etc) have to be taken into account.
- *Information about the flat products market.*
  - Also in this case we forecast consumption development based on regression analysis.
  - We monitor activities of competitors especially in the context of investments in constructions and production facilities upgrade. These investments can significantly affect our position on the market.
  - Analysis of imports.
  - Trend of production capacities utilization development.
  - Expected price development of raw materials.
- *Information from conferences and associations,* related to market and material trends.

Internal inputs (Market)

- *Information from the business meetings* - Customers Days and other events - discussion on needs, trends in the sectors in which our customers operate
- *Innovation/Strategic Teams* - representatives of the Marketing, Sales, CTS, Production, R&D, Quality, Engineering, Logistics department are engaged in these teams. The main task of this team is products innovation and closer relationships with customers building and a better understanding of how they are intending to use our products now as well as in the future.
- *Proposal for new investments/new products development* - prepared by the Marketing department for the purpose to realize investments into new products or expanding current production capacities. It contains information about the market production and consumption, material trends and potential customers to achieve expansion. This document serves as a basis data for the investment economic return calculation.

The effect of the **Market Intelligence use = Consensus.**

The strategic plan of sales and investments development with the objective to maintain the long-term profitability and competitiveness of the Company is not possible without market intelligence tools.

5. Conclusion

Adopting information and communication technologies is nowadays seen as a chance for improvement in the area of effectiveness, purposiveness and services quality provided by the marketing department for the steel company. In my view, transparency of economic activities and the availability of information in real time is also the chance. MI focused on data uses systems for combination of operational data with analytical tools in order to present comprehensive and competitive information for planners and those who implement the decisions. The aim is to increase the timeliness and quality of inputs into decision-making process. MI oriented on processes records the biggest errors and imperfections in this basic database. Since the collection,

transformation and unification of data, and informative offer and analysis as well are mostly isolated from the performance of business processes, majority of the information that actually exist in the organization remain unused or only partially used, however, they lack the interpretative context. According to them the organization seems as a set of well-integrated processes. This way the MI can be used to integrate information and process world for the support of decision-making process with wider base. The processes can be understood as sets of partially arranged and coordinated tasks.

The literature the difference between information and data is very often forgotten. In the context of MI it is very important to realize this difference. Information represents the fact, content, or instructions in a formalized form suitable for communication, interpretation or for processing by people or automatically. In contrast to this the data are only a sub-group containing exclusively machine-readable information.

Nowadays, in other industries the use of BI is taken for granted and the relevant guide and at the same time the trigger for understanding of the outputs of the organization, and their real-time measurement in order to implement changes and improvements.

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References

Hedin, H., Hirvensalo, I., Vaarnas, M. 2014. *The Handbook of Market Intelligence: Understand, Complete and Grow in Global Markets*. [on-line] http://www.b2bmarketing.net/knowledgebank/data-intelligence/best-practice/how-use-market-intelligence-drive-business-growth.

Kim, K. Y. 2014. Business Intelligence and Marketing Insights in an Era of Big Data: The Q-sorting. In: KSII Transactions on Internet and Information Systems, ISSN 1976-727, No. 9, pp. 567-582.

2013. [on-line] https://www.m-brain.com/insights/industries/automotive/60-auto-executives-lack-access-to-business-information-highlighting-need-for-high-quality-intelligence-2/.

Surinta, O. 2009. Market Intelligence System (MkiS). [on-line] http://www.wbi.msu.ac.th/file/744/doc_8.pdf.

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