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PREFACE

Scientific and research activities are an integral part of universities´ works. Therefore, the role of teaching staff is also to participate in preparation and implementation of research projects. The results of their work, whether on a theoretical or practical level, are presented at international scientific conferences or scientific seminars and also published in proceedings of scientific conferences, in scientific monographs and journals.

Nowadays society is well known us a rush one, where a lot of professional activities are influenced by technological progress and informatization. However, most of the professional activities can be progressive only after a hard working improvements. Also scientific work needs a lot of time to become a really good researcher able not only to work scientifically, but also to publish using comprehensive but clear and sophisticated texts.

In order to encourage starting teachers and young researchers in presenting results of their scientific work and its publishing, we have decided to organize annual scientific conference focused on young science. First such a conference was held by the School of Economics and Management in Public Administration in Bratislava in 2012. Now this 4th annual international conference on young science was held as a cooperation of four institutions representing Slovakia, Hungary, Lithuania, Czech Republic, Poland, Ukraine.

IV. Young VŠEMvs Science 2015 as an international conference was this year focused on **s***tartup support in the SME sector as a decisive factor of regional.* A main objective of the conference was a mutual exchange of scientific results of research activities of young researchers from universities and research institutes. We assume that it is important to provide support to starting researchers and teaching staff from experienced domestic and foreign colleagues and to give them an opportunity for the mutual exchange of scientific knowledge and experience. A long-term cooperation can bring many positive results. We are sincerely glad that young scientists from all around the world joint this special event.

The conference proceedings contain contributions with the focus on areas: Public administration and regional development, Economics and management of small and medium enterprises in regions, Civil security.

We believe that a special conference focused on the young science could bring positive effects not only in supporting young, starting research and teaching staff of higher education institutions, but also in supporting the development of all participating higher education institutions, regions and countries.

We are wishing you a lot of professional success and looking forward for the next V. International conference on young science at VŠEMvs.

Prof. Ing. Vojtech Kollar,

Chairman of the scientific committee at the 4th conference for Young Science

Content

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DIGITAL LITERACY OF CITIZENS AND THEIR ABILITY TO USE ELECTRONIC SERVICES

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SUMMARY

Purpose – The following article discusses the digital literacy of citizens and their ability to use electronic service in everyday life. Readiness of wide population circles to use modern information and communication technologies (ICT) - the digital literacy that appears to be one of the key preconditions of development. It means the ability to understand information and to use it in various formats from various sources, which are presented through information and communication technologies;

Design/methodology/approach – It is a frequently shared opinion today that the current society is more and more based on work with information. We call the society that is based on penetration of information communication technologies and information to all areas of social life an information society;

Findings – The questionnaire aimed at getting information required for the analysis of behavior of users of electronic banking services. From our survey expect the expression of views on electronization society and their own use of electronic services;

Research limitations/implications – We were determining by a questionnaire survey the behavior of randomly chosen users of electronic banking services. We have chosen the questionnaire survey in order to obtain necessary information and this survey was performed during the period of one month;

Practical implications – The results of our survey show the real state of use of electronic services by citizens. In our specific results appear specific findings demonstrating that positive and negative impacts digitalization of public services;

Originality/Value – Our survey we found out attitudes and opinions of 312 Slovak citizens to use electronic services of banks. Partial results of our survey presented in graphical form as a graph. The selection of respondents of the survey was anonymous and was carried out randomly;

Keywords: Digital literacy, Information and communication technologies, technological literacy, e-services

Research type: Viewpoint

JEL classification:
A2 – Teaching of Economics
H5 – National government expenditures and related policies
H6 – National budget, deficit and debt

INTRODUCTION

It is a frequently shared opinion today that the current society is more and more based on work with information. We call the society that is based on penetration of information communication technologies and information to all areas of social life an information society.

In such society, all life aspects (technologies, social area, economics and politics) depend on access to information. It is therefore only natural that new demands are continuously placed on the education in the information society. However, some foreign researches warn that society computerization processes often result in a new type of social division. Article discusses the digital literacy of citizens and their ability to use electronic service in everyday life. Readiness of wide population circles to use modern information and communication technologies (ICT) - the digital literacy that appears to be one of the key preconditions of development. It means the ability to understand information and to use it in various formats from various sources, which are presented through information and communication technologies. We have chosen the questionnaire survey in order to obtain necessary information and this survey was performed during the period of one month.

The results of our survey show the real state of use of electronic services by citizens. In our specific results appear specific findings demonstrating that positive and negative impacts digitalization of public services. Division to those who have and those who don't have access to modern information and communication technologies and at the same time have various level of digital literacy. On the other hand, the area-wide development of digital literacy is not in itself enough to assure new life quality, to eliminate social, economic and political disparities, or even to deal with social issues. It is important to determine for what purpose and with what objective the digital literacy will be used, i.e. what contents and values will it have.

1. ONSET OF NEW TECHNOLOGIES AND DIGITAL LITERACY OF CITIZENS

Overcoming digital literacy of older, less educated, economically inactive and rural part of the population also seems to be a serious problem, because this part of population obviously lacks sufficient motivation or real opportunities to eliminate its lagging behind; and moreover it appears that it is not even aware of it (Cohen, Green, 2007; Gubalová, 2006) . The ability to acquire digital literacy has been in Slovakia even decreasing in the last five years, what is in sharp contrast with objectives set in several European Union documents as well as with the trend visible in the field of digital literacy in EU member states, even those directly bordering Slovakia. One of the causes is the lack of motivation created by external pressure of the society (Gubalová, 2010; Kabátová et al. 2009).

Technological progress as one of key phenomena in the development of humankind is marked with an interesting paradox. Although we assume that it will bring new life quality, that it will eliminate social, economic or political disparities and that it will help to deal with social issues, it rather deepens and reproduces many of such disparities and issues. This is caused especially by the way the respective society provides distribution and access of people to technologies, discoveries, inventions, information or knowledge. The vigorous onset of information technologies in the second half of the last century caught many countries unprepared and thus the phenomenon of digital division of the society (in English sources known as "digital divide" or "digital gap") did not take long time in coming (Velšic, 2005; Moravčík et al. 2009).

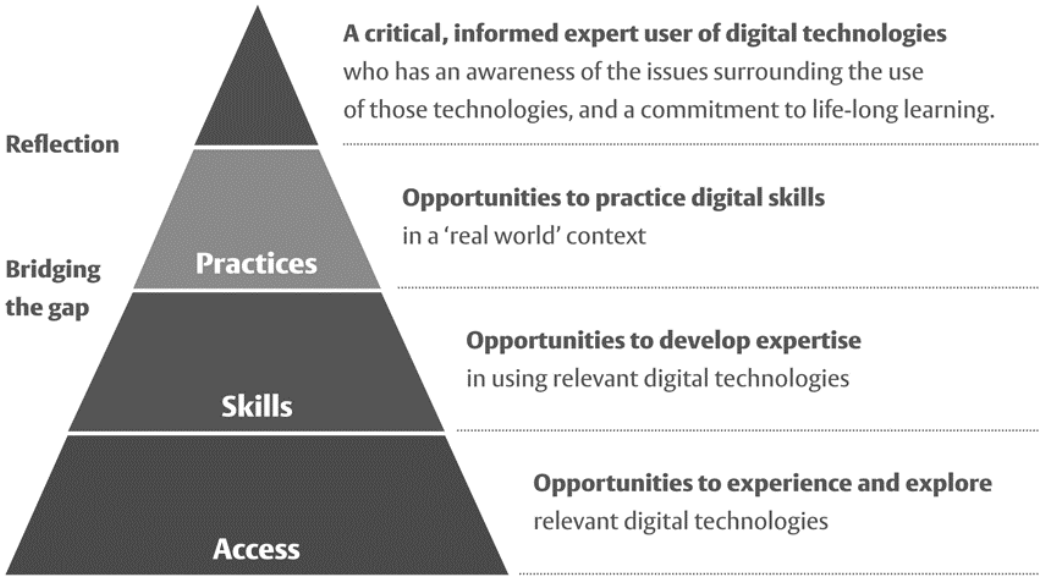
The society had started to divide to those who have access to ICT and corresponding level of digital literacy and those who lack such access and literacy. Such digital gap can be observed not only at the level of social groups with regard to age, gender, education or economic activity, but also individual regions, states and even continents (Barták, 2008; Jonssen, 2006). Differing levels of approaching the ICT, digital literacy and other parameters related to the usage of ICT can in near future constitute a significant factor in deepening social disparities in Slovakia. Within a longer outlook this could mean negative impacts on the system of education, labour market, economic performance and competitiveness, efficiency and performance of institutions etc. Slovakia achieves above average results in indicators that

reflect the status in the field of digital skills. The newest data show that the share of citizens having medium or advanced computer and internet skills ranges at the level 52 % - 55 %. We even have the sixth best position in EU concerning the share of citizens who acquired ICT skills through formal school education (Velšic, 2006).

1.1. Spectrum of information literacy

Despite these positive results, the digital gap is still present and is becoming a new type of society division. The older, less educated, lower qualified, economically inactive (the retired, the unemployed), socially weaker and rural part of the population has been standing at the edge of the imaginary digital gap for several years now. Insufficient utilization of online services is often caused by the lack of skills, i.e. digital and media literacy, and not only with regard to the possibility of finding a job, but also with regard to education and utilization of digital media. Bridging this digital gap can help members of disadvantaged social groups to more equal participation in the digital society (including services of electronic education, electronic public administration and electronic healthcare services) and to compensate for the fact that they are disadvantaged with better possibility to find a job.

To be literate means to have the required competences, which describe in detail the group of knowledge, skills and attitudes. The area of utilization of computers has at the end of the last century become one of the most important spheres of literacy application. Expressions such as "computer" or "information literacy" have very quickly become the most frequently used attributes of literacy (Reddick et al. 2015).Computers and their usage both in work and at home have changed our lives. The meaning of the term "to know computers" has changed a lot in the course of time. The current period covers those who were born when personal computers have already been among us, but also those whose only assistant on their desk was the mechanical writing machine. Maybe also because of that there appeared the need to define new literacy terms.



Source: Reddick et al. 2015

Figure 1. Reason for the non-use of electronic bank services Usage of electronic banking services

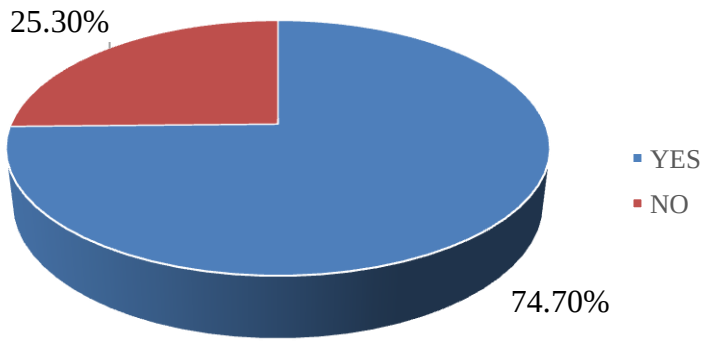
Technology literacy is the ability to use new media for effective access to information and for communication. Information literacy is the ability to find, organize and evaluate information and to formulate correct opinions on the grounds of it (Markauskaite, 2006).

Media creativity applies to the ability to create and present contents to a diverse audience. Global literacy is about the understanding of mutual links between people and nations and about the ability to mutually interact and cooperate across cultures. Literacy with responsibility is the ability to consider social consequences of information distribution with regard to safety, privacy and other areas. Information and communication technologies affect virtually the whole social practice to which the literate man is exposed. They change social space where the individual create and communicates with partners. All this requires new abilities and competences, new methods of reading and writing (Binkley, 2010).

The term literacy means in its classical perception "to know how to read and write". But what does the term computer literacy mean? A person who encounters computers in offices or at neighbours thinks about the computer literacy differently than a server administrator. There were therefore attempts to create a standard of computer skills and such standards have more or less willingly adjusted to the current market with computers and their equipment (usage of PC and products by the company Microsoft) (Binkley, 2010). Out of those standards, two are used in Europe more than others: ECDL (European Computer Driving Licence) and ECP (European Computer Passport). Both standards prescribe a certain minimum level of knowledge and skills necessary for mastering the work with personal computer and its basic program applications (Gyárfáš, 2012).

2. Usage of electronic services

We were determining by online questionnaire survey the behaviour of randomly chosen users (312) of electronic banking services. We have chosen the questionnaire survey in order to obtain necessary information and this survey was performed during the period of one month (June 2015). The questionnaire aimed at getting information required for the analysis of behaviour of users of electronic banking services. Following lines present partial results of our survey. The question whether respondents use some form of electronic banking was answered positively by (74.7 %) and negatively by 47 respondents (25.3 %).



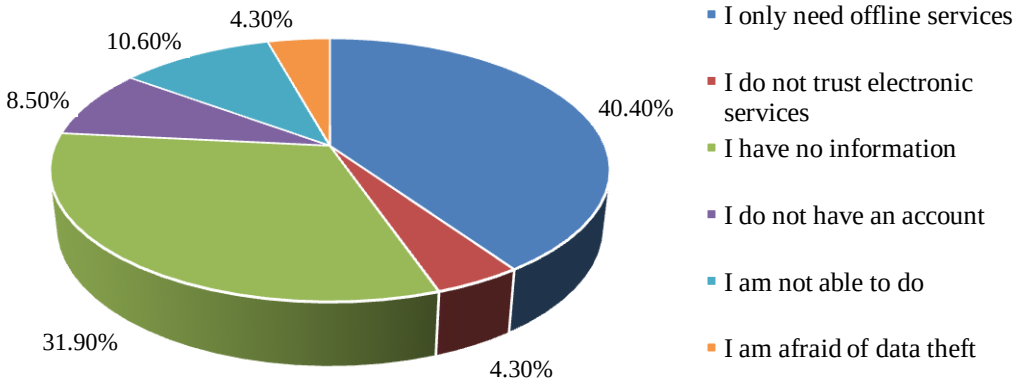
Source: (according to research data)

Figure 2. Usage of electronic banking services

Our results show that the most frequent users are respondents from the age group 26 to 35 years. Electronic banking services are least used by respondents to 25 years. It can be concluded on the grounds of obtained results that respondents use electronic banking services to a large extent after the completion of their studies.

If you do not use electronic banking services, what is your reason? Reasons for not using electronic banking services vary. 40.4 % of respondents stated that they only need offline services of their bank. 31.9 % of respondents do not use electronic banking services due to

the lack of required information, 10.6 % of respondents are worried that they would not be able to use electronic banking services. Respondents who cannot use services due to the fact that they do not have an account represent 8.5 %. Only 4.3 % of respondents stated that their behavior is caused by the lack of trust in security of electronic transactions and the same number worries about personal data and security codes abuse.

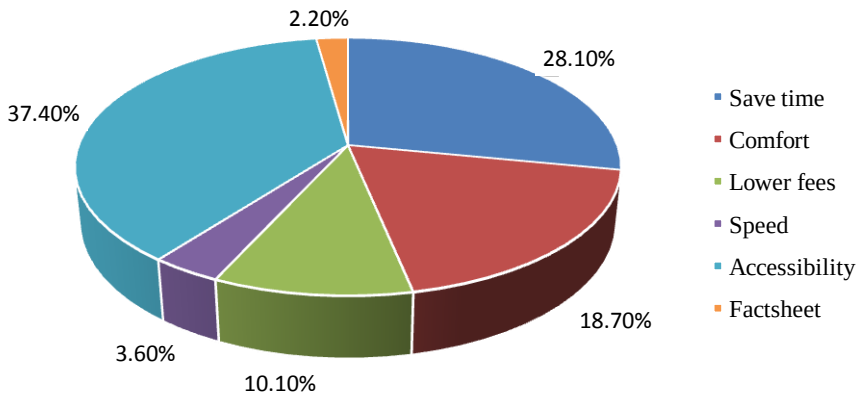


Source: (according to research data)

Figure 3. Reason for the non-use of electronic bank services Usage of electronic banking services

The survey implies that the least informed groups are those to 25 years and 46 to 55 years old. Respondents from these groups state insufficient information about electronic banking services as the key reason for not using such services. Respondents 36 to 45 years old are the most satisfied with offline services.

What is your main reason to use electronic banking services? It can be asserted that the accessibility of electronic banking services is the main reason for using such services. This option was chosen by 37.4 % of respondents. 28.1 % of respondents use electronic banking services in order to save time as in such case the physical presence in the bank is not necessary. The priority for 18.7 % of respondents is the comfort which the usage of EB services provides. Lower fees were given as the main reason for using EB by 10.1 % of respondents. 2.2 % of respondents appreciate better availability of information such as current balance or account statement.



Source: (according to research data)

Figure 4. Reason for the use of electronic bank services

CONCLUSIONS

Results of the questionnaire survey enabled us to obtain information about the user of electronic banking, his reasons for using these services, favorite services, but also information about his opinions concerning security and efficiency of using these services. The average electronic banking user is aged 26 to 35. He considers the accessibility of electronic banking services 24 hours a day 7 days a week to be the decisive factor that induced him to start using these services. Out of all services it is the Internet Banking he uses most frequently. As much as 40.4 % of those respondents not using electronic banking services stated that they consider electronic banking unsafe. For 8.6 % of respondents security is the main reason for not using electronic banking services. We found, when we were determining reasons for not using electronic banking services, that as much as 31.9 % of respondents think they do not have enough information about electronic banking. We recommend on the grounds of this finding that banks should exert more effort in promoting electronic banking services. Digital literacy is more than technological know-how: it includes a wide variety of ethical, social, and reflective practices that are embedded in work, learning, leisure, and daily life.

The term "multi-literacies" is often used to describe the various aptitudes and abilities that are needed for us to use, understand and create digital media. Given this, it's helpful to think of "digital literacy" not as a concrete set of skills, but as a framework that draws from and expands on numerous literacies and competencies. Under the digital literacy umbrella are a wide range of interrelated skills that traditionally fall under media literacy, technology literacy, information literacy, visual literacy, communication literacy and social literacies.

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THE PLANNING OF THE HUNGARIAN LOCAL DEVELOPMENT STRATEGIES BY USING CLLD-APPROACH

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SUMMARY

Purpose - Even today, strategies are only necessary tasks for local governments, or political marketing tools. This is very unfortunate, since well-designed strategies provide the backbone of future development and they lay down the path for reaching the goals by utilising internal and external resources in an appropriate way. Our goal with our study is to introduce the way Hungary complied with the recommendations and requirements for planning formulated in the Partnership Agreement with the European Union and in the Common Strategic Framework.

Design/methodology/approach - We have investigated the CLLD methodology and the way it can and should be applied for the LDSs through document analysis. As a result, we present the negative and positive sides of the processes and we draw up recommendations as well for further improvement.

Findings – Somewhat late, but the Hungarian Local Development Strategies (LDS) comply with the CLLD requirements. There are significant differences compared the previous planning processes, which makes it a challenge for the Local Action Groups to adjust to it. Right now it seems that there will be changes in the ways of working out the strategies later on. In our opinion an appropriate planning process and framework has been developed for the local levels, which supports development on a local level by utilising local resources.

Research limitations/implications – The implementation of the programmes regarding to the 2014-2020 planning period in Hungary started later than anticipated. It poses a problem to both the actors of the economy and researchers trying to conduct investigations on development strategies. Our recommendation is a new methodology combining static and dynamic analyses to investigate the changes in resources throughout the planning period. Many of these changes are the consequence of social, economic and globalisation processes, but many other of them are clearly the result of development programmes.

Practical implications – We believe that the principles and the monitoring system of the Partnership Agreement and the Common Strategic Framework show significant changes compared to the previous periods. Also, we are still in the beginning of the planning period and there are not enough feedbacks yet. Therefore, it is hard to see what will be the barriers of the new strategies and how we could counter them.

Originality/Value – The study is one of the first ones dealing with the CLLD methodology in the new planning period in Hungary, therefore we consider it a unique attempt.

Keywords: CLLD, Local Development Strategies, Common Strategic Framework, Place-based Development
Research type (choose one): research paper.
JEL classification:
R58 – Regional development policy

INTRODUCTION

Strategies are the bases of every programme. Without them we could not implement any programme, carry out any projects properly. They are needed to lay down the principles of future steps and to bring together actors to think together about the development directions of the regions.

The Hungarian Local Development Strategies (LDS) came late, but they comply with the Community-led Local Development (CLLD) principles. There are many differences now compared to the previous planning processes, which means that the local actions groups need to face certain difficulties trying to apply them. However, the new planning process is probably the best one yet, because it takes the needs of local actors and unique regional characteristics into consideration.

The principles and especially the monitoring system of the Hungarian Partnership Agreement (PA) and the Common Strategic Framework (CSF) changed a great deal compared to the previous planning period. However, we are still in the beginning of the period, therefore there is not enough feedback to see exactly the results of the new system; we can only make projections about the outcome. On the other hand, it does not mean that it is unnecessary to investigate the related documents – on the contrary, constant monitoring is very important, from the beginning to the end (and beyond) the planning period.

1. THEORETICAL BACKGROUND

The European Union recognised that every region has something unique and that the unique characteristics can be turned into comparative advantages. Each region has a specific 'territorial capital' that is distinct from that of other areas and generates a higher return for specific kinds of investments than for others, since these are better suited to the area and use its assets and potential more effectively (European Commission, 2005, p. 1 quoted from Camagni 2008). For example, many rural areas possess values which are not obvious for the first sight, but they can be utilized for many purposes, for example, as recreation areas (Villányi et al. 2000). Due to the technological and sectoral changes in the developed and some developing countries, we can observe a shift in government attitude to new directions, essentially to focus on trying to halt a decline, to concentrate more on seizing new opportunities. Some of these opportunities are linked to agriculture, but most will be in non-agricultural activities (OECD 2006).

The Community-led Local Development was introduced to the toolset of the EU to support the mobilisation of local resources. It is not an entirely new direction for the EU development policies; its basis is almost the same as the previous LEADER approach, because CLLD is about local development strategies based on local needs and local decisions about fund allocation. Its basic conditions are indicated in Table 1.

Table 1. The basic conditions of the CLLD

„community"	real co-operative local community
„led"	an administration system ensuring real decision-making competence and an organisation possessing sufficient professional and programme-management capacities
„local"	empowering the local level
„development"	sufficient funds, proper situation-analysis, good strategy, „smooth" implementation

Source: According to Gelencsér, 2013

The planned regulation will recommend using a unified methodology in the future, which will allow the integrated application of funds for local development. Now it is the European Commission who needs to act, because this methodology does not exist yet. Furthermore, until the criteria are not elaborated on a member state level, strategies cannot be created. Time is short, because an actual bottom-up and integrated strategy takes much time to be worked out.

CLLD strategies are very much needed in all the regions of Europe, but they are probably even more important in certain lagging-behind areas, such as the V4 countries. Territorial cohesion within the V4 countries has not been achieved in all the aspects, which makes it more difficult for the countries to represent a strong co-operation within the EU28 (Káposzta, Nagy 2015). From Hungary's perspective it would be therefore very important to support territorial cohesion with every tool possible, for instance, by the using the full potential of CLLD.

The success of the CLLD lies in some basic principles:

- Region-specific local development strategies,
- Co-operation between the public- and private (civilian and business) sectors,
- Bottom-up approach with individual decision-making rights for planning and project-selection,
- Multisectorality,
- Innovative solutions,
- Projects based on co-operations,
- Supporting network development for local co-operation" (Gelencsér 2013).

The importance of the locality is an ever growing issue in the EU and worldwide as well. Káposzta et al. (2010) wrote that besides the rational planning of community resources and the full-scale mapping of local resources the involvement of the local population is very important in working out complex development directions.

There are several possible obstacles before carrying out local development strategies. In the previous planning period the main factors were the following:

- Low-quality planning;
- Insufficient administration system which did not recognised the local decisions;
- The ratio of delegated tasks in the operational cost frameworks resulted diminished community tasks of the LEADER programmes;
- Too much bureaucracy caused by the overcomplicated, unnecessary and counter-productive controlling activities of the paying agency;
- The lack of the real civilian initiatives in the Local Action Groups;
- The lack of co-operation skills and culture in the Local Action Groups;
- Typically, weak professional competences, which did not improve over time;
- The lack of evaluation (e.g.: prestige-investments of local governments)" (Gelencsér 2013).

The CLLD concentrates on specific, sub-regional levels for which the community-led, area-specific local economic strategies, representing the local interest and the socio-economic interest of the private sector, supported by local action groups, integrating more sectors. These strategies are based on local needs and opportunities and they include an innovative approach. Aside from that, the unified methodology required by the operational programmes makes it possible to use multiple funds in the same time during the implementation of the Local Development Strategies (LDS), and it also provides a structure for the local communities through which they can take part in realizing EU policies. (European Committee 2014)

The widespread utilization of the CLLD is capable of increasing efficiency, it supports complex integrated approaches (Multi-funding, Common Strategic Framework) and it also embraces the principal of one region – one strategy. Furthermore, it eases the rules due to less complicated cost-administration. One of the main pillars of the EU's integrated regional

development (local development) policy is the multi-funding approach (planning based on multiple funds, which increases their efficiency). It emphasises the exploration of challenges on local levels and more efficient counter-actions as well.

The financial resources of rural development are not sufficient to satisfy the development needs of rural areas; the financial resources for improving the rural economies are also not sufficient for generating growth in these areas. However, successful settlement development can only be carried out within a complex approach. Based on the current situation, territorial problems can be solved in the most appropriate way by the tools of the CLLD.

During the LEADER-type development activities the members of the action group visit the target group; they ensure that the project ideas, development goals are well-written, they initiate co-operation between the stakeholders. Most of the jointly formed projects are supported by the LEADER programme. In the case of success a new product (innovation) and co-operation (networks) are created. It requires much more proper workforce, but it is the only way to initiate change in lagging behind areas.

2. RESEARCH METHODOLOGY

During our research we have encountered many planning processes, but we believe that there was only one which really meets the EU requirements, and which is suitable for integrating local needs. This planning process is the Hungarian LDS (for the 2013-2020 time period). The government and the research group supporting the planning optimised the planning with many new points. We would like to present this planning process from the EU requirements' perspective. For this research we conducted document analysis which we carried out through the LEADER Local Development Strategy Planning Guide.

There are many different approaches to regional planning, with different main points in all of them (for example, Swinburn et al. (2006) differentiates only 5 stages). The LDSs' planning process has 9 points from which only 7 are required for supervision until 17 December 2015. These 7 points are needed for providing financial resources to the Local Action Groups who did not receive any financial support for months in the second half of 2015. In this paper we elaborated the abovementioned 7 points, since there is no experience about the remaining two points, yet.

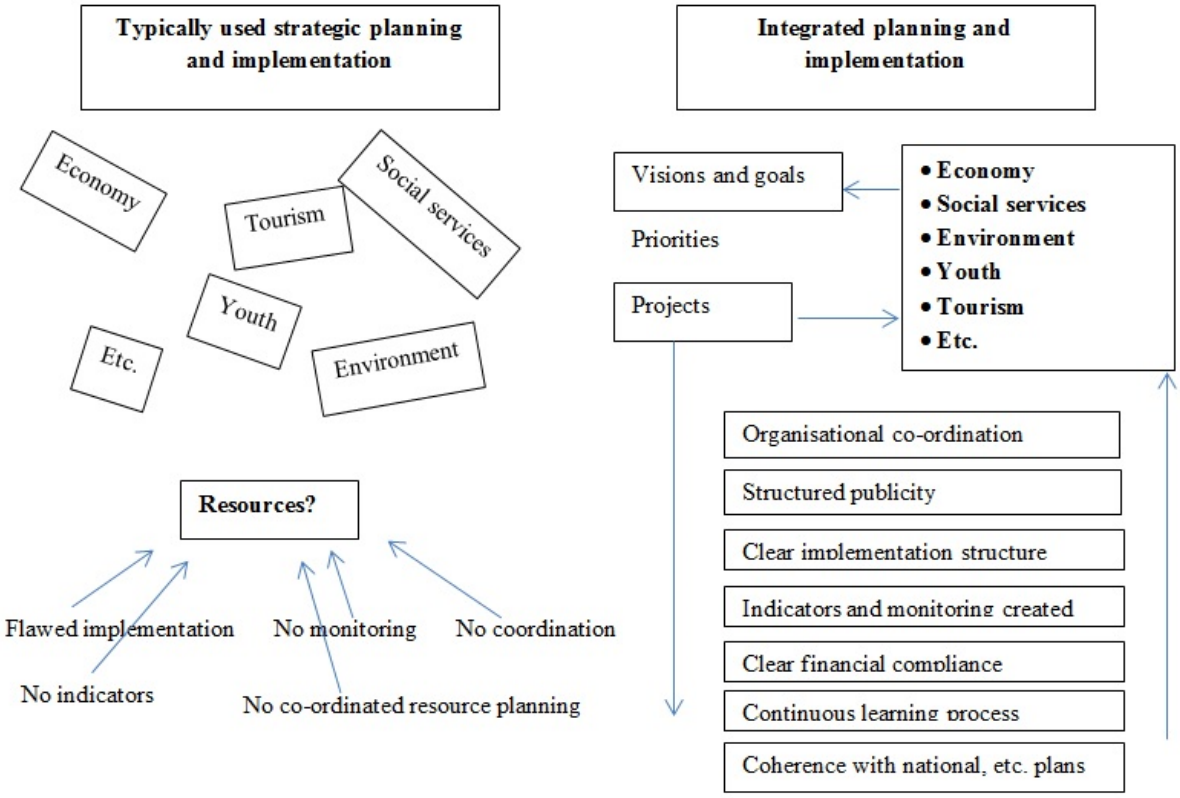
We do not believe that the framework is perfect, though. During the introduction of the certain points there we tried analyse if there are missing elements and other anomalies, and we also gave recommendations on how to improve the framework.

3. RESEARCH RESULTS AND FINDINGS

A strategy is the sum of planned actions in order to reach predefined goals. It is a thought, a scenario; it is flexible and it is reshaped from time to time, because it is a crucial step in the case of every strategy. The sum of the selected actions, the strategy therefore is a pivotal step in shaping the future. The task of creating a strategy is not easy; the longer the time period subjected for planning, the more difficult it becomes to prepare for the possible changes and sudden problems, especially in the case of macroeconomic challenges, such as the global economic crises. But if it is so difficult to predict the future, and strategies are doomed to be re-arranged as time goes by, then why are they so important? Because the planning process is a dynamic one and it is used for ensuring that the resources of certain areas are well-utilised according to the goals set in the beginning; therefore, their role is undoubtedly important.

The current planning processes are created in an integrated approach. It means that all the sectors (economy, society, and infrastructure) and all the actors who affect the operation of the organisation are handled in a co-ordinated way (Figure 1).

The typical top-down decision-making processes are not for solving local problems without those persons, groups, organisations or systems which influence and are influenced by the strategies implemented. Why are they not suitable? It is because without involving the stakeholders we lose crucial information about the regions. Also, with no stakeholders involved in the planning process and in the implementation the programme becomes less legitimate. Therefore, the project will be either incapable of tackling the actual problems of the locals or the inhabitants of the region will not accept the project results. Partnership systems, similarly to hard infrastructure, require careful planning, because it creates such social capital that is an important element of the success and sustainability of local strategies.



Source: According to Makay, 2013

Figure 1. Planning and implementation

The LDSs prepared by the Local Action Groups were created along these principles. However, the planning is in a delay in the current planning period, because even at the end of 2015 the authorities request only the preliminary documents from the 105 Local Action Groups among which a sum of 56.5 billion Forints (EUR 180,6 million) will be distributed for the indicative framework, which is about EUR 2 million per group.

The first required planning point is for *highlighting the strong relationship between the LDS and the higher level programmes* (such as the Hungarian Rural Development Programme, the Partnership Agreement, the LEADER initiative and the EU2020 strategy). The persons responsible for creating the LDS need to highlight those goals from the abovementioned strategies to which the LDS contributes the most. It may be problematic to comply with the higher level programmes and strategies – we believe that sufficient competency is needed to

ensure that certain goals of those programmes can manifest in local development strategies, because it can be easy to misunderstand or misinterpret those points on local levels.

The second important planning point is the *applicability of the strategy in the specific local area*. Therefore, it must be presented how the locals are involved. Specifically, about the communication channels between them and the strategy makers and about the specific tasks they carry out in the planning and implementation processes. Ritter et al (2013) also points out that there is an urgent need for the designing and the implementation of bottom-up local economic development strategies, which are based on the local resources, and which connects and coordinates the local actors.

The LDS has to include a chapter about proving that the *action area of the LAG* (the area and the population as well) *is sufficient for implementing a strategy based on partnership and local participation*. The importance of this chapter could be described by the next few lines: "Increasing complexity requires that economic developers possess a better understanding of the local economy and the nature of its internal connections and its connections to the global economy" (Malizia and Feser 1999). Also, co-operation must be highlighted, because the scarce resources of local governments are not sufficient to deliver the kinds of services their citizens would like, so there is a clear need for collaboration between all the sectors (Hamlin and Lyons 1996). Judging by the sources quoted we can establish that this point of the LDS is well-founded and much needed.

Therefore, in the third point the planner team has to create a description of the area using static and dynamic indicators, including the emphasis of the following elements:

- geographic, social and economic coherence/homogeneity, common characteristics in the region;
- previous co-operations, joint-projects carried out in the past;
- the inventory of resources needed for implementing the strategy;
- personal communicational abilities and characteristics in the region.

Even though it is important to gain information about forming partnerships, there is possible to have many different approaches; every partnership is unique and is composed of different stakeholders (Norman 2012). That is why the fourth chapter is very important.

In the fourth chapter a *situation report* must be included. This point summarises all the information which is important about the selected area regarding to the Local Development Strategy. According to Péli (2013), in Hungary's case the regional differences had grown much between 1990 and 2010, and they are considered significant compared to the EU average differences between regions. The differences (their types and extent) therefore must be observed closely. All the information is necessary related to the needs, opportunities and targets for the area. It must not be forgotten that the analysis does not reflect only to one aspect (for example the problems) of the area, but also to the local resources and opportunities as well. The suggested themes are the spatial structure, the environmental characteristics, the cultural resources, the state of the local society and the economic situation. Next to the general report a SWOT analysis also has to be made. This analytical method explores the strengths, weaknesses, opportunities and threats for the region, which can be very useful for making further decisions. At this point it is crucial to choose the most relevant indicators, which should be dynamic and static as well to see the most important trends and characteristics regarding the region.

The fifth point must contain the *horizontal goals*, the detailed description of the elements regarding to equal opportunities and environmental sustainability, and it also has to contain that how the abovementioned elements are implemented and monitored during the LDSs. This is also a part which can easily be misinterpreted, or in a worse case, become a necessary burden for the strategy-makers. Equal opportunities and environmental sustainability do not bring direct and short-term profit to the inhabitants of the regions, thus they are usually not viewed as important elements. It is, therefore, crucial to take these

factors into consideration and help the locals and every stakeholder understand the long-term benefits of both elements.

In the sixth point the creators have to present the *innovative and integrated elements* of the LDS. It means that the strategy must contain certain elements which support multisectoral, multilateral and innovative development in the region. It is especially important to introduce innovative elements when creating programmes complying to elements of higher level programmes (e.g. the Partnership Agreement). We do not fully agree with this approach. Looking through the history of economic development we can see many recipes that can work in one case and later on in other places, too. Naturally, the strategy must take the unique local aspects into consideration, but there are elements which can be adopted from previous strategies. We do agree, however, with the integrated approach and the innovative elements when they can bring real improvement.

The regional strengths, weaknesses, threats and breakout points compiled during the situation report, complemented with the needs and ideas of local actors provides sufficient base for determining the focus of the strategy, the future image, and later the priorities, the goals, the specific activities and the indicators measuring their success. Taking this to account, in the seventh chapter the *intervention logic of the strategy* must be drafted. The intervention logic is a methodological tool which creates a logical bridge between the needs and opportunities, and between the goals of the programme and the planned actions. Therefore, it presents the relationship between the actions, the resources and the results of the intervention. This way the contribution of certain steps, actions to reaching the goals can be monitored

For utilising the resources the best way possible it is necessary to identify the focus of the strategy. The first part of the seventh chapter deals with a tool supporting this goal: formulating the *strategic future image*. One of the most common mistakes in the strategic planning process is that it does not exclude any development opportunities. To avoid that, we must set up a clear image about the region's future, along which we can later determine the priorities and goals.

The second part of the seventh chapter deals with the *hierarchy of goals*. It must be formulated what we want to change, achieve, or keep by applying the strategy. In the case of all the previous LEADER programmes the European Court of Auditors established that the local strategies were very formal; they did not really react to the actual situation of the strategy. Also, after the implementation the results were not measured properly. That was the reason why LAGs are now required to set measurable and achievable goals for themselves which the Local Development Strategies can truly support. It means that strategies need to reflect to region-specific challenges and needs, and development actions need to be organised according to region-specific goals. The results also have to be measurable (by, for example the Full Time Equivalent (FTE) indicator). Table 2. shows an example of how to summarise the strategy according to predefined points

Table 2. The structure of the hierarchy of goals

Future image

	General goal(s)
1.	
2.	

#	Specific Goals	Output indicators	Objectives
1.			
2.			
3.			
4.			
5.			
6.			

Source: Lechner Nonprofit Ltd., 2015

As we mentioned earlier we presented only seven points from the 9 of the strategic elements, because they were elaborated at the time this study is written. The remaining two points (action plan, indicative financial plan) will be subjects of later studies.

After introducing the first seven points required in the LDS we must point out some missing elements. On the one hand, the strategy guide does not give any recommendations about finding members for the manager team, which is a really important point, since there are many skills needed for creating such strategies. Knowledge, experience and readiness to learn are among the most important qualifications of modern managers of municipal partnerships, according to Lubimow (2014). Before the planning process there is a huge need for measuring the necessary skills of the participants.

Another important point is missing: the integration of the monitoring and evaluation process. Monitoring is a difficult, but important part of the planning processes, yet there is little understanding as to whether plans achieved their goals in guaranteeing sustainable development on a territorial level. Follow-up of spatial planning is rather difficult due to insufficient methodologies, deficiencies in plans' contents and resource limitations (Ramos and Nunes 2012). Without, however, suitable monitoring and evaluation systems we cannot now if the strategy was successful or not (whether it needs improvement or correction, or not).

CONCLUSIONS

The planning period 2014-2020 provided several new development opportunities for the member states. One such opportunity is the introduction of the Community Led Local Development, the CLLD.

CLLD is based on discussion and participation throughout the whole planning process, and it requires a complex and coherent structure from the planners in order to create a successful Local Development Strategies. The primary goals of this initiative are to strengthen participation from the locals, to mobilise endogenous human and other types of resources, to encourage creativity and to improve co-operation towards the development of the region.

Based on our findings and our past experience in regional development, we can establish that a development programme needs to be very complex. As such, a CLLD programme has to be

- *feasible*, because if we dream about developments that cannot actually manifest after careful planning, it is better to abandon them for more realistic ones,

- *sustainable*, so the locals can enjoy the fruits of their work on a long-term,
- *integrated*, which means that it takes into account many aspect of the region and also aims at solving not only single, but multiple problems as well,
- *discussion-based,* which is only possible if the locals are involved and communication channels are established,
- *factual,* which means that it is based on accurate and relevant data
- *innovative*, in a way that it tries to improve previous projects (if possible),
- *tailor-made*, so it reflects to the real problems in the region,
- *local resource-based,* which is important, because local resources need to be explored and utilised to decrease dependency on external resources,
- *constantly monitored*, which means that the management team needs to measure the project implementation process from the beginning to the end (and beyond).

The analysed programme framework is not perfect. During its introduction we discussed some missing elements in it, from which we consider the lack of the establishment of a monitoring system the most important. The Monitoring is usually one of the greatest challenges during the implementation of programmes. Our recommendation is a methodology containing dynamic and static indicators which analyses the shifts in regional resources from the beginning to the end of the development periods. Of course, many of the changes are the results of global-scale trends, but some of them are obviously the results of the implemented development programme.

The measurement of the management team's skills is also missing. As we could see from the quoted source, a management team does need crucial skills to take the responsibility to create plans for a region. Therefore, we recommend the creation of an evaluation system for potential team members. It is certain that in regions lacking experts there might not be suitable personnel; therefore, it is recommended to include training activities into the programme. Such activities may not be the responsibility of the local actors, however (due to, for example, the abovementioned lacking skills), but of the central government, regional agencies or private companies (with possible financial support from the EU or the national governments).

To sum it up, we could establish that the new framework lacks certain important elements, but the principles and the emphasis are appropriate for new and successful development efforts.

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USING NEURAL NETWORKS FOR BUSINESS FORECATING

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SUMMARY

To predict business failure accurately is a very important issue in financial decision-making. This problem is solved with the methods of financial analysis ex ante. At the beginning (early 20th century) it was the method of scoring. This is a simple method which are very unreliable. Based on the Ansoff theory of weak signals began to emerge more accurate methods which use the principle of discriminant analysis (e.g. Altmann coefficient). Predictions models, which are used at present, are based on the neural network theory. These are often difficult models, but which achieve a high degree of reliability. In this article we focused on the basic principles of the model of neural networks with emphasis on enterprise bankruptcy prediction and compares their strengths and weaknesses.

Purpose – A main purpose of this article is to outline the theoretical models of neural networks used in business forecasting. Based on information in the article it is possible to identify business problems that can be solved using neural networks. In the article we identify the assumptions of these models and their strengths and weaknesses.

Design/methodology/approach – Based on the analysis of the findings of the relevant scientific articles we used in this paper analysis approaches to predicting business bankruptcy with emphasis on neural networks and then after methods of comparison. There were also general scientific methods used - synthesis, induction and deduction.

Findings and originality – The value of the article is, that it provides business forecasting situations in which recourse to methods of neural networks. Also points out that the selection or combination of the methods cannot be applied generally, but specifically on the basis of assumptions resolve the issue.

Keywords: neural networks, bankruptcy prediction, financial diagnosis, business forecasting
Research type: viewpoint
JEL classification:
M20 – Business Economics
C45 – neural networks and related topics

INTRODUCTION

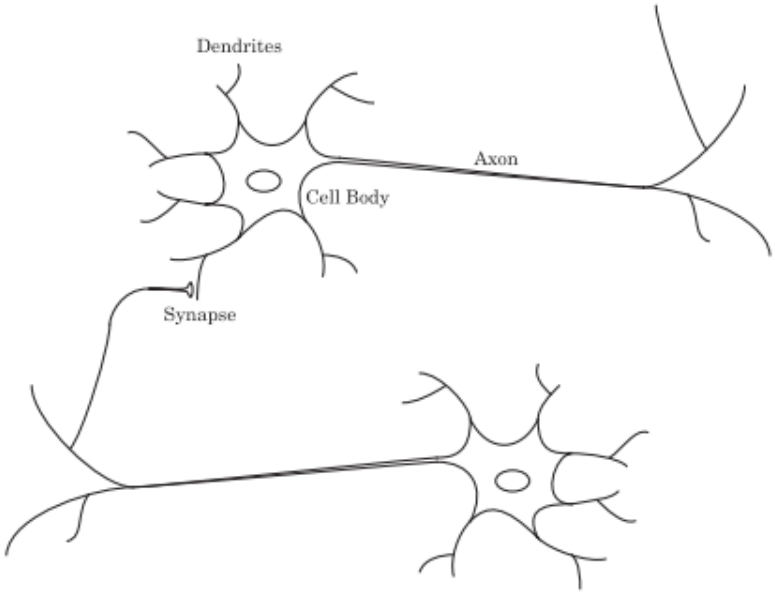
Financial analysis has developed a large number of techniques aimed at helping decision makers. The multivariate statistical models represent a great advance when compared to those which study each variable separately. However, traditional statistical models, despite their undoubted usefulness, are not free of problems which make their application difficult in the firm. Amongst these we find the problems difficulty of working with complex statistical models, the restrictive hypotheses that need to be satisfied and the difficulty of drawing conclusions. To overcome these problems, the tools provided by artificial intelligence have shown themselves to be most appropriate for business management, given that the philosophy from which they spring is different, namely to help in the taking of decisions by simplifying the task of the final user, in such a way that comprehensive technological knowledge is not required from the decision maker (Serrano Cinca, 1996). Expert systems, the most well-known branch of artificial intelligence, has emerged with this same aim in mind. Having said that, after thirty years of study, these systems are not bearing the fruit expected of them in areas such as the evaluation of the solvency of an entity. Their high cost, the difficulty in obtaining the knowledge of a specialist, as well as in managing incomplete or

incorrect information, and their limited flexibility in the face of change, are given as the causes of their limited application. Artificial neural networks, a newer paradigm for artificial intelligence, are multivariate mathematical models that can be easily integrated, and could offer very interesting advantages for immediate application in the financial diagnosis of the firms.

1. THEORETICAL BACKGROUNDS

1.1. Biological background of the neural networks

Artificial neural networks emerged after the introduction of simplified neurons. These neurons were presented as models of biological neurons and as conceptual components for circuits that could perform computational tasks. The basic model of the neuron is founded upon the functionality of a biological neuron. The neuron has four main regions to its structure. The cell body, or soma, has two offshoots from it, the dendrites, and the axon, which end in presynaptic terminals. The cell body is the heart of the cell, containing the nucleus and maintaining protein synthesis. A neuron may have many dendrites, which branch out in a treelike structure, and receive signals from other neurons. A neuron usually has only one axon which grows out from a part of the cell body called the axon hillock. The axon conducts electric signals generated at the axon hillock down its length (Kampianakis, 2011). These electric signals are called action potentials. The synapse is the area of contact between two neurons. The neurons do not actually physically touch. They are separated by the synaptic cleft, and electric signals are sent through chemical interaction. The neuron sending the signal is called the presynaptic cell and the neuron receiving the signal is called the postsynaptic cell. Schematic drawing of biological neurons shows figure 1.



Source: Hagan, Demuth and Beale, 1996

Figure 1. Schematic drawing of biological neurons

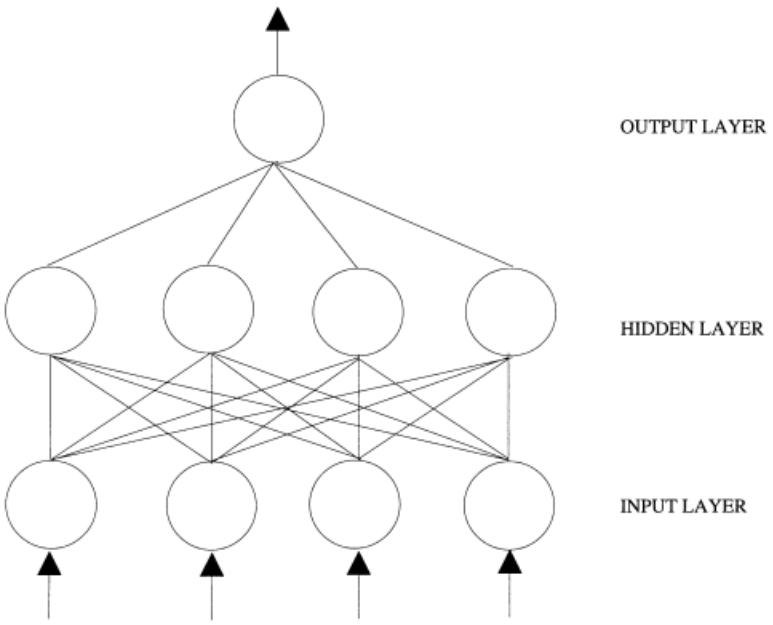
1.2. The basic principle of neural networks

Neural networks are flexible, nonparametric modeling tools. They can perform any complex function mapping with arbitrarily desired accuracy. A neural networks is typically composed of several layers of many computing elements called nodes. Each node receives an input signal from other nodes or external inputs and then after processing the signals locally

through a transfer function, it outputs a transformed signal to other nodes or final result. Neural networks are characterized by the network architecture, that is, the number of layers, the number of nodes in each layer and how the nodes are connected. In a popular form of neural networks called the multi-layer perceptron, all nodes and layers are arranged in a feed forward manner. The first or the lowest layer is called the input layer where external information is received. The last or the highest layer is called the output layer where the network produces the model solution. In between, there are one or more hidden layers which are critical for neural networks to identify the complex patterns in the data. All nodes in adjacent layers are connected by acyclic arcs from a lower layer to a higher layer. This three-layer multi-layer perceptron is a commonly used neural networks structure for two-group classification problems like the bankruptcy prediction. We will focus on this particular type of neural networks throughout the paper. Like in any statistical model, the parameters (arc weights) of a neural network model need to be estimated before the network can be used for prediction purposes. The process of determining these weights is called training. The training phase is a critical part in the use of neural networks (Zhang, Hu, Patuwo, Indro; 1997). For classification problems, the network training is a supervised one in that the desired or target response of the network for each input pattern is always known a priori.

1.3. The basic model of the neural networks

When creating a functional model of the biological neuron, there are three basic components of importance. First, the synapses of the neuron are modeled as weights. The strength of the connection between an input and a neuron is noted by the value of the weight. Negative weight values reflect inhibitory connections, while positive values designate excitatory connections. The next two components model the actual activity within the neuron cell. An adder sums up all the inputs modified by their respective weights. This activity is referred to as linear combination. Finally, an activation function controls the amplitude of the output of the neuron. An acceptable range of output is usually between 0 and 1, or -1 and 1 (Clerence, Herlina; 2001). An example of a neural network model is a schematic illustration of feedforward neural network on figure 2.



Source: Zhang, Hu, Patuwo, Indro; 1997

Figure 2. A typical feedforward neural network

Inputs

The input layer of a neural network typically functions as a buffer for the inputs, transferring the data to the next layer. Pre-processing the inputs may be required as neural networks deal only with numeric data. This may involve scaling the input data and converting or encoding the input data to a numerical form that can be used by the neural network. For example, features like the availability of a swimming pool, a granny flat and a waterfront location, were represented with a binary value of '1', indicating the availability of the feature, or '0' if it was not. Similarly, a character or an image to be presented to a neural network can be converted into binary values of zeroes and ones.

Outputs

The output layer of an neural network functions in a similar fashion to the input layer except that it transfers the information from the network to the outside world. Post-processing of the output data is often required to convert the information to a comprehensible and usable form outside the network. The post-processing may be as simple as just a scaling of the outputs ranging to more elaborate processing as in hybrid systems (Clerence, Herlina; 2001). In the case of bankruptcy prediction it is an output for example the statement "bankruptcy", "satisfactory financial condition" or "indifferent state".

2. FINDINGS

2.1. Business failure prediction

To predict business failure accurately it is very important to issue a financial decision-making process. Wrong decision making in financial institutions can cause important consequences, e.g. financial crises or distress. Two well-known issues in financial decision-making are bankruptcy prediction and credit scoring (Chih-Fong & Jhen-Wei; 2007). Bankruptcy prediction and credit scoring have long been regarded as critical topics and have been studied extensively in the accounting and finance literature. The main impacts of such research are in lending decisions and profitability of financial institutions. Before extending a loan, banks need to predict the possibility of failure of the potential counterparty. Thus, predicting bankruptcy timely and correctly has become great importance for financial institutions (Atiya, 2001). With the rapid growth in credit industry and the management of large loan portfolios, credit scoring models have been extensively used for the credit admission evaluation. The credit scoring models are developed to classify loan customers as either a good credit group (accepted) or a bad credit group (rejected) with their related characteristics such as age, income and martial status or based on the data of the previous accepted and rejected applicants (Chen & Huang, 2003). The benefits of using credit scoring include reducing the cost of credit analysis, enabling faster decision, insuring credit collections, and diminishing possible risk (West, 2000). A slight improvement in credit scoring accuracy might reduce large credit risk and translate into significant future saving. Strengths and weaknesses of neural networks are summarized on the table 1.

Table 1. Strengths and weaknesses of neural networks

Strengths:
Modeling the linear and nonlinear relationships
Modeling the complicated mathematical and logical relations
High reliability prediction
Weakness:
Complicated on the definition and interpretation
Time consuming

Source: author's compilation

While traditional statistical methods work well for some situations, they may fail miserably when the statistical assumptions are not met. Neural networks are a promising alternative tool that should be given much consideration when solving real problems like bankruptcy prediction. However, the mechanism of neural networks in predicting bankruptcy or in general classification is not well understood. Without a clear understanding of how neural networks operate, it will be difficult to reap full potentials of this technique. Theoretically established that outputs from neural networks are estimates of posterior probabilities. Posterior probabilities are important not only for traditional statistical decision theory but also for many managerial decision problems. Although there are many estimation procedures for posterior probabilities, neural networks are the only known method which estimates posterior probabilities directly when the underlying group population distributions are unknown. Neural networks with their flexible nonlinear modelling capability do provide more accurate estimates, leading to higher classification rates than other traditional statistical methods. The impact of the number of hidden nodes and other factors in neural network design on the estimation of posterior probabilities is a fruitful area for further research. We also compared neural networks with logistic regression, a well-known statistical method for classification (Zhang, Hu, Patuwo, Indro; 1997). Neural networks provide significantly better estimate of the classification rate for the unknown population as well as for the unseen part of the population. It can be easily argued that the cost of not being able to predict a bankruptcy is much higher than that for a on bankrupt firm. Neural networks in our study clearly show their superiority over logistic regression in the prediction of bankrupt firms.

Perhaps the most frequently used assessment of the quality of neural network solutions is the measurement of the number of correct classifications or number of correctly predicted bankruptcies. Generally, such comparisons should employ statistical analysis to establish their conclusions. O'Lear (1998) found that the neural network resulted in at least as many correct classifications as logistic regression for each scenario tested. In addition, they used a test of equality of proportions to test the probability that that there is a difference between the findings using logit and the findings using a neural network. In six out of thirty-two cases, the number of correct classifications by the neural network was statistically different (better) than that for logit at the 0.10 level or better.

According to table 2, for one year before failure, the best statistical model was the logit model. The results from neural network were very similar to the statistical models. For two years before failure, the neural network results outperformed all statistical models. The performance of the neural network was improved when the hybridization with discriminant analysis and logit models was considered.

Table 2. Comparison of reliability business forecasting models

Model type	1 year before failure		2 years before failure	
	Non-failed firm correctly classified (%)	Failed firms correctly classified (%)	Non-failed firm correctly classified (%)	Failed firms correctly classified (%)
Discriminant analysis	86	75	86,3	60
Logit	91	80	91,2	55
Neural network	94	80	95	65
Neural network with discriminant analysis	98	75	96,2	65

Source: Yim, Mitchell; 2002

CONCLUSION

Artificial neural network have emerged as an important tool for financial diagnosis. Neural network have many desired features that are quite suitable for practical forecasting applications. This article provides a general overview of the neural networks for the forecasting applications. Successful forecasting applications areas of neural networks, as well as critical modelling issues are reviewed. It should be emphasized that each forecasting situation requires a careful study of the problem characteristics, prudent design of modelling strategy, and full consideration of modelling issues., Neural networks have achieved remarkable successes in the field of financial analysis. It is, however, important to note that they may not be a panacea for every forecasting task under all circumstances. It is not an approach that can be used universally, but its use must be considered, the model must be adapted to the particular conditions and prediction should be supplemented by other methods. Forecasting competitions suggest that no single method, including neural network, is universally the best for all types of problems in every situation. Thus, it may be beneficial to combine several different models in improving forecasting performance (for example neural network and discriminant analysis). Indeed, efforts to find better ways to use neural networks for financial analysis should never cease.

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FIRM CHARACTERISTICS, BUSINESS ENVIRONMENT AND PERFORMANCE OF SME IN LAOS

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SUMMARY

Purpose – Existing policies and programs in Laos, toward Small and Medium Enterprises are not well understood. This paper presents a study of the performance of firms (SMEs) in Laos. It looks at determinants related to business environment, firm characteristics on firm performances.

Design/methodology/approach – The 2012 Enterprise survey conducted by World Bank was utilized as the main source of cross sectional data for 348 sampled firms, by applying Ordinary Least Square method to examine the impact of business environment, firm and customer characteristics on firm turnover.

Findings – Findings showed that the age of the firm, the manager's experiences, training, and use of websites influenced a firms' turn over statistical significantly. On the other hand the proxy of supporting government policy does not show statistics significantly on the turnover. The study also revealed that various locations of firms affected the firm performance comparably. As empirical finding displayed, the proper and compatible of SMEs policy in Lao PDR is necessary. To enhance the understanding of SMEs performance in the future study the productivity ratio and type of business should be taken in to consideration.

Research limitations/implications – As a limitation, this research only applied cross-section data. The long-term performance of the firm is not taken into research.

Practical implications – What drives performance of SME in Laos? Is experience adequate requirement in entrepreneurship? Do different aspects of the government policy easily support SME performance?

Originality/Value – Many publications and researches have covered the issues SME in Laos. Not many have clearly pointed out the major causes of a stagnant (no improvement) performance of these SME's in the country.

Keywords: SMEs, Performance, Infrastructure, Location, Education, Competition, Policy.
Research type: Research paper

JEL classification:
C21 – Econometric models – cross-sectional models

INTRODUCTION

SMEs (Small and Medium Enterprises) are gradually being recognised as a creative and major drive for development of economies in both developed and developing countries (Pushpakumari & Watanabe, 2010). The height of economic dependence **in Laos** on these SMEs has shown increase in recent years. In addition, recent research stated that SMEs accounted for more than half of all business and over half of employment in developing country (Wolf, 2001; Matthews, 2007). **SME firms** are legally registered and self-regulating enterprises operating in conjunction with the current laws of the Laos (LNCCI, 2010). SMEs in Lao come in contact with constraints, such as inadequate skilled labour, shortage of financial

support, and a lower level of competitiveness. Despite that, according to ERIA Research Project 2014 Report, Laos had provided a good quantity of job prospects aiming to strengthen the socio-economic growth (Kyophilavong, 2008).

These firms are progressively working towards identifying fresh ways in which they can improve their market situation. As a result they continuously look for ways to develop effective innovation-focused strategies (Saisana, 2012). It is important to identify the ranking of the important critical firm resources and firm performance. In general, a firm's relationships between the business environment, characteristics, infrastructure, customers, location and capabilities; provide performance differentials (Sisounonth & Kongmanila, 2014). The resources of firms include human resources; intangible resources; and tangible resources.

Measures for Policy and action plans on SME are outlined in the government strategies (Tambunan, 2011). The Action Plan for SME promotion encompasses establishment of an enabling environment, improvement of competitiveness, development of access to finance and markets, and promotion of entrepreneurship (Vixathep, 2014). This research tried to examine how firm characteristic, government policy and entrepreneurship of firm affected its performance in case of Lao PDR.

SMEs and assessments of SMEs promotion policies in Laos, existing policies and programs toward SMEs are not well understood. In this regard, this paper provides an overview of SMEs in Laos and assesses SMEs promotion policies in Laos.

The specific objective of this paper is to examine the performance of SME in Laos based on internal (firm characteristics) and external (investment climate) factors.

1. THEORETICAL BACKGROUND

As being characterized as dynamic, innovative and its small size allow SMEs to be flexible, quick response to customers need, short decision making chain (Singh, 2008)As SMEs is classified specific characteristics studies addressing the determinants of firm performance have focused on three broad factors: firm strategy (Mazdeh, 2011), firm structure or internal environment (Chang, Hughes, and Hotho, 2011) and the external business environment (Tan and Liu, 2014)According to the scholars, three perspectives relate to the business environment. The first perspective is a focus on groups external to the organisation that impinge on its activities, including customers, competitors, suppliers, government policies and regulatory agencies. The second perspective focuses on the attributes of external forces, such as complexity, dynamism, and munificence (De Jong, Phan and Ees, 2012)The third perspective is concerned with managerial perceptions of environmental attributes, exemplified by (Swamidass and Newell, 1987)Given that all of these factors and actors can affect the future of the company, top managers must anticipate their effects to take advantage of opportunities, defend from threats, and measure the effects of both on firm performance (Nicolau, 2005).

SMEs in Laos have been the topic of a few studies. Kyophilavong (2008) evaluates the impact of FDI and trade liberalization on SME development. The study wanted to reveal that SMEs are confronted with problems of innovativeness, lack of competitiveness, and limited market. The study found that the impact of trade liberalization on SMEs is not well understood but trade liberalization has a negative impact rather than positive impact on SMEs. The Ministry of Industry and Handicraft and United Nations Development Organization (UNIDO 2007) carried out surveys on SMEs in Vientiane and other provinces with 200 of sample size. They demonstrated that SMEs were still faced with many constraints such as lack of access to finance and production inadequacy. They recommended that SMEs get better management and skills and technological capability to become more competitive. On the other hand, the study could not show the performance of subsectors. A combined study by the

Asian Development Bank and the World Bank (2007) looked into the investment climate. This was based on an Investment Climate Survey (ICS) carried out in 2005. There was still no study on the Innovativeness, Market Expansion, Networking and Competitiveness of SME in Laos. Such is the gap that this paper aims to fill.

1.1. SMEs Definition in Laos

The definition of SMEs varies from country to country in terms of number of employees, value of total assets and total sales. A distinction is made between qualitative and quantitative definitions of SMEs. Quantitative approach uses the criteria of the number of workers or volume of sales, or a combination of both. These measures are simple and commonly used by developing countries. Qualitative approach is more flexible and relates to how enterprises differ in aspects of business development such as financial development, and technical or managerial capacity. For instance, if an enterprise has one or two persons responsible for managerial decisions it will usually be defined as a small firm. Qualitative definitions distinguish between different kinds of businesses and are more widely used in industrialized countries. In Laos, the definitions of SMEs have changed from time to time:

In 2000, the National Statistical Center echoed the then new definition put forth by the MIH, which has now become the standard among practitioners and academics working with micro/small enterprises in Laos. Based on its definition, small enterprises have one to nine workers, medium-sized enterprises 10 to 99, and large enterprises more than 99.

According to the Prime Minister's Office (2004), SMEs are independent enterprises that are legally registered and operating according to the prevailing laws of the Laos and are classified into the following size categories:

A. Small enterprises are those having an annual average number of employees not exceeding 19 people or total asset not exceeding two hundred and fifty million kip or annual turnover not exceeding for hundred million kip, and

B. Medium size enterprises are those having an annual average number of employee not exceeding 99 people or total assets not exceeding one billion two hundred million kip or an annual turn over not exceeding one billion kip.

2. RESEARCH METHODOLOGY

An approach of productivity analysis mentioned in (Escribano and Guasch, 2005) was applied as econometric model for this study. The evaluation of the impacts of investment climate (IC) variables (infrastructure, bureaucracy, crime, finance, etc.) and other firm's characteristic (C) on productivity measures using the following equations:

$$Yi=(Li,Ki,Mi)Pi \quad (1)$$
$$Pi=(ICi,Ci)\exp(ui) \quad (2)$$

where the index i denotes the *i-th* firm, Yi denotes the output, Li labor, Ki capital services, Mi materials/intermediate inputs, Pi productivity, and ui the error term. The productivity (P) is referred to as the impacts of any variables different from production inputs (L, K, M), which influence the production/sales process.

The productivity measures based on the annual turnover of a business level, and proposed certain estimation methodologies using parameter nonparametric procedures. Additionally, the following extended Cobb-Douglas-type production function would be sufficient for our purpose.

$$logYi=\alpha P+\alpha LlogLi+\alpha KlogKi+\alpha MlogMi+\Sigma\alpha IC,ogICi,rr+\Sigma\alpha C,rlogCi,rr+ui \quad (3)$$

For the study purpose, the investment climate variables would be represented by measures of government policy, firm locations. Additionally, for individual sample firms the dataset contains information on business turnover. Therefore, an ordinary least square regression model was used to analyze the impact of independent variable on business turnover.

The standard Ordinary Least Square of model for this analysis could be expressed as:

$$yi*=\beta i'xi+\varepsilon i \quad (4)$$

where $yi*$ is a turnover of business, xi is a vector of independent variables (including labor, characteristics of owners/manager; firms; and customers, and government facilitation), $\beta i'$ is an array of parameters to be estimated, and εi represents the random error which is assumed to follow a standard normal distribution, and the index i denotes the *i-th* firm.

Data Description

Data using in this paper is conducted in 2012 by World Bank named Lao Enterprise Survey 2012. This data set is provided the firm level data. Based on some missing data in this analysis 348 sample has been used for analysis.

3. RESEARCH RESULTS AND FINDINGS

The empirical analysis of firm turnover is follow the Equation (4) above. The statistical data are summarised and showed in Table 2 which will be interpreted based on 3 categories as Entrepreneurship, Government policy, firm characteristic and customer characteristic.

Entrepreneurship

As general acceptance that workforce is a significant input for business performance. As the result from table.1 indicate the statistically significant in term of labour on the turnover of firm. According to the situation that most of SMEs in Laos engaging in a primary production functions which require high-labour supply.

In addition, to have a preferable turnover, not only sufficient labour force is necessary, the adequate ability to carry on the task is critical. As average education of employee is applied in this paper. It can be explained that when the firm has human capital that can communicate and use the technology, aware of new innovation and knowledge on law related to business it helps to improve the performance of the firm which confirm the similar contribution of education as previous study in developing countries Pakistan (Kurosaki and Khan, 2004), Lao (Onphanhdala and Suruga, 2010a), and Vietnam (Santarelli and Tran, 2013; Vixathep, 2013).

Table 1. Turnover of SMEs

Lnsale	Definition	Coef.	P>t
Enterpenuership			
Fulemploy	Number of Full-time employment	0.006***	0.00
Website	Activating Firm Website	0.570**	0.02
Edu	Average year of Education of employee	0.226**	0.019
Age	Firm Age	0.010	0.461
Mexperience	Year of Manager Experience	0.028**	0.011
Government Policy			
Taxadmin	Ease of Tax administration	-0.015	0.894
businessli~e	Ease of Business Licence application	-0.062	0.636
accesstofi~e	Ease of Access to finance	0.008	0.928
Firm Characteristics			
Manual	Type of business- Manulfacturing	1.256***	0
Service	Type of business- Services	0.953***	0.001
Champa	Based in Champasack (Southern Part)	-0.483*	0.14
Lunagpra	Based in Luangprabang (Northern Part)	-0.095	0.75
Khammua	Based in Khammuan (Center Part)	-0.123**	0.664
Domestic company	Private Domestic Company	0.730*	0.073
Foriegn Comapny	Private Foreign Company	0.744*	0.182
Training	Training for staff last year	0.137	0.516
_cons		18.44	0
Obs		348	
R-Square		0.734	

Note: denote *, **, *** denote as statistical significant by 90%, 95% and 99% respectively.
Source: Author's calculation

The result also suggested that the use of information and communication technology as internet and website in term of promoting and communicate with customer help to increase the turnover of a firm. As in this study in comparison to the firm that does not have active website, the firm which build up their relation online has great impact on their turnover. In addition, experiences which measure by the top manager working year in related sector, has showed improvement of business turnover. This might be explained by the fact that good decision making can be supported by experience in the related field.

Government Policy

On the other hand, government policy which is precise as the facilitation support by the government which in this research use a proxy of the ease of tax administration, apply for business license and access to finance on the point of business owner. The independent variable showed no differences of impact on turnover even the precise and realization of government policy is higher. Based on the Government of Laos SMEs promotion legal since 1990s, document outlined that improving the regulatory environment, enhancing competitiveness, expanding access to domestic and external market, improving to finance and improving entrepreneur attitude (Kyophilavong, 2007). As the result mentioned above strongly support to the previous finding that the practical and appropriate government policy need to be set and detailed implementation supported program need to be included (Vixathep, 2013).

Firm Characteristics

In this paper enterprise characteristic included the type of enterprises (Manufacture, Services and retail). The result showed that manufacture firm and services has greater turn over than the retail store. In addition, firm that operates individually or privately has more

turnover than the firm operated by government. As this can be explaining that the level of ownership in the private firm is higher as the profit and turnover affected income of the owner and their staff, which government firm may have fixed salary or income which is not depend on the fluctuation of business.

The location of firm has been classified into 3 provinces in the model which is use to comparing to Vientiane capital. The result showed that in comparing to Vientiane capital, firm in main provinces has fewer turnovers than in the Capital city. The explanation is that the capital population purchasing power, demand and size is higher than those of provincial level. As well as the access to basic infrastructure is limited in provincial level. Based on the World Bank Enterprise Survey report data survey in 2012 business in provincial level on average loss their profit caused by shortage of electricity and water supply for in comparison to Vientiane Capital.

CONCLUSION

An increasing important of SMEs in economy has been recognised globally. SMEs play a core role in industrial innovation and employment opportunity for people. The study has pointed out that there is an important role of human capital in both forms quantitative and qualitative as ability to business achievement in Laos. Education – at all levels, specific training and experiences have showed the impact on firm performance. In addition, activating modern innovation as internet in connection with customer are relevant for business successes. Second, appropriate and practical implementations of SME policies and facilitation programs are inevitable to be clarified and to enhance the productivity of business. The findings highlight the importance of entrepreneurship development and policy implementation in business promotion. In addition, enhancing the private business is proving to be crucial for social economic development as this type of organization proved to be gain more profit than the public- based firm.

To enhance the understanding of firm performance in the future study should include the categories of sector based on ISIC standard, as well as the government as well as assess the SMEs performance in term of productivity ratio will deepen the understanding of resource management.

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IMPROVING THE SECURITY SERVICES AND THE SUPPORTING MUNICIPAL DOCUMENTS THROUGH CITIZENS´ SECURITY MEASUREMENT

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SUMMARY

Purpose – Security of citizens depends on our ability of prevention and preparedness on crisis situations and reliability of services for citizens. However, an administrative support needs to exist in order to ensure such services. This means documentation on strategic as well as on operative level of administration. Such a documentation needs to include right stated objectives as well as its measurements for making it possible, to compare fulfilled results and compare them.

Design/methodology/approach – The article identifies and characterize the current documents related with security of citizens on the level of self-government municipalities. It is focused on highlight of their importance and developing of examples for creation of objective and strategies for citizens´ security enhancement and measurement. In the article the methods of critical analysis, synthesis, deduction, induction and comparison, are used.

Findings – The article focuses on partial outcomes of a scientific research study "Possibilities of citizens´ security measurement" and is unique with its results – analysis and implication of proposed method for measuring citizens´ security into strategic and other documentation of municipalities. It also identifies a structure of these documents in order to link them together and strengthen their impact on fulfilment of citizens´ needs. The case study shows special findings related to public order services related with the activities of municipal police forces. To be able to ensure enhancement of service quality, there is a need of a right measurement of results for the purpose of its comparison with stated objectives.

Research limitations/implications – The case study is limited to the territorial unit and legal environment of Slovak Republic and its self-government municipalities.

Practical implications/Originality – As a practical implication of the results given in this article we can identify mainly its real usability in municipal documentation such as financial budget; review of municipal police activities; final accounting review. Knowledge about actual security connected with respective municipal services could serve for improvement of them as well as for improvement in rural and regional development.

Key words: security, citizens´ security, measurement, municipality, public services
Research type: case study
JEL classification
H12 – Crisis management
R50 - Regional government analysis

INTRODUCTION

Despite an obvious difference at the administrative level, there is a link between the European and local levels of governance, existence of the Committee of the Regions serves as its proof. The committee in 2006 formulated a resolution under the title "Political aims of the Committee of Regions for 2006-2008". In this document, the committee clearly defined efforts to strengthen security in Europe.

In this context, we consider as very important the efforts to establish a European centre for monitoring of a city security. Currently, cities and villages in Slovakia lacks a clear strategy documentation that would reflect the aims, objectives and key processes leading to the

achievement of security of citizens, along with measurable indicators to achieve the targeted level of evaluation results.

The only document at the level of self-governing territorial units, towns and villages, which contains part of the specified competencies is documentation within the program budgeting. Here, however, we consider it necessary to mention one aspect and that is the lack of specification of the content and structure of the program budget. The same problem faces the municipal final account. Municipalities usually do not have uniform structure in this issue and it is significantly differentiated and fragmented. This fact makes it impossible any mutual comparison, evaluation and ultimately the use of measurement results to streamline the security services in municipality.

Aim of this article is to analyse and evaluate the current usage of measurable indicators in municipal documentation. As well as to identify possible tools usable for linking of actual strategic and planning documentation with the results and surveys, tolls which could be beneficial for measurement of effectiveness of the stated objectives, identified plans and used finances.

1. THEORETICAL BACKGROUNDS

Definition of service: The service is "any activity or benefit that one party may provide to other party, is essentially intangible and does not result in its ownership. Production of such a service may or may not be associated with tangible products." (Halásek 2004)

Based on the public sector schema according to Rektořík (Beňová 2005), the first block consists of societal needs segment. These are public administration, police, judiciary and army. Such pure public goods that are ensured by public authorities in relation to meeting the needs of security include: protection of citizens, protection of territory, protection of property, the right to justice. To ensure these needs for citizen a wide range of public authorities at different levels serves.

It is not possible to address local security issues using only the global security system and vice versa. Despite this fragmentation of security systems, the phenomena and processes existing at these levels do interact. Citizen within a territorial unit cannot feel secure if a state is not secure as well, from another point of view state is destabilized by conflicts existing at the local level.

Security as well as defence is undoubtedly public good that is ensured by a state and no one group of citizens can be excluded from the provision of these security services. It is in the public interest to look for differences in how and why public services are differently perceived by public representatives and by individual citizens, as beneficiaries of the public service.

Security is possible to be seen in terms of "New Public Management" as a service that government provides to citizens as customers.

According to the authors Balážová, Papcunová: "In considering any public service, management must achieve reaching results by using the following criteria:

- The quality of customer service, including availability (eg time);
- Performance of public service;
- Cost of this service;
- Customer satisfaction and employee satisfaction." (Balážová 2008)

With regard to the application of the above mentioned criteria for assessing the public service in terms of the security of citizens in a municipal area we present modified criteria:

- Quality of service in the field of security of citizens;
- The real performance of services in the field of security in a municipality;
- Costs incurred to provide security services in the community;

- Satisfaction of citizens with the implementation of services in the field of security and satisfaction of municipal representatives with predispositions and support to ensure the security services for citizens.

There is a big influence of public administration bodies and its cooperation with local and regional enterprises in relation to solving problems with regional and local disparities. Vladimír Gozora highlights that such a cooperation is decisive also in conditions of ensuring of civil services. (Gozora, 2010, s. 186)

Citizens´ security is a pure public good; no citizen can be excluded from its consumption. Security as one of the life quality factors is possible to be understood according to the New Public Management Theory, as a service which self-government body ensures to citizen as customers. Definition of service: „It is such an activity or benefit, which one side could offer to another, is intangible and it does not lead to its ownership.“ (Halásek, 2004, s. 9)

This issue could be considered as a practical application of security aspects in self-government municipalities documentation. However, the real situation differs mainly according to size of a territorial unit and of course related number of its citizens and financial budget. Mainly smaller villages but also small towns insufficiently fulfil this content. Therefore, we have identified it as necessary to analyse and evaluate the current situation in implementation of measurable methods in strategic planning on the level of self-governing municipalities.

2. METHODOLOGY OF THE PAPER

In order to achieve the main objectives and the tasks of Article with respect to the nature of the work, there were used several scientific methods. The basic and most commonly used methods in the study were analysis and synthesis. Other methods that we have used are undoubtedly induction and deduction. These methods are supported by comparisons already recognized on the basis of shared characteristics and a summary obtained sub-logical conclusions into a single unit. The case study follows the work plan to induct specific conditions.

Generally, the case study approach can be characterized in following parts:

1. Selection of documents / legislation acts, general binding regulations of municipalities, financial programme budgets and final accounts as well as municipal police reports and reviews of its activities.
2. Critical evaluation of their validity, analysis of its content including identification of security services.
3. Comparison of the services, documents, its objectives and measurements of various self-government villages and cities.
4. Identification of decisive objectives in order to ensure prospective citizens´ security level as well as its measurement, comparison and enhancement.

3. RESULTS AND FINDINGS

When comparing the contents of the report on the activities of municipal police with some individual safety indicators, a certain conformity can be seen, however, this is only relative in nature. Measurement of security of citizens should thus be directly linked not only with the reports on the activities of the municipal police, but also the municipal budget - corresponding chapter - Security, subarea Public Order and Crime Prevention. Another document, which is needed to be linked to this issue is the final account of a municipality for the current calendar year. It should ultimately include data from the reports on the activities of the municipal police.

Despite the established structure of this report, the documents are not identically constructed, and their level of processing together with a summary of specific indicators is not the same.

We believe that the citizens´ security measurable indicators should not only exist in isolation, but should be part of a broader, mutually bound process with a clear strategic objective and the procedure for its achievement. In this context, we continue mainly on assumptions formulated in the introduction. This identified problem is connected with the current lack of a strategic approach to the security of citizens on the most basic unit of government that is closest to citizens. We expect that by implementing the proposed methods of measurement of citizens´ security proposed by author (Kovac 2014, 2015), a special instrument that would allow a whole range of security management implementation, can be determined.

Calculation of security index in a particular area could besides the direct result of a specific number, provide also an indirect result. A special evaluation scale could be tied to a particular proposal for a process of determining an appropriate strategy resulting from the measurement results.

4. PROPOSAL FOR CLARIFICATION AND IMPROVEMENT OF THE CURRENT SYSTEM

Based on the results of the mentioned study we can express the idea, that the current situation when each municipality has its own self-determined measurable indicators, is not effective. To assess the compliance with the objectives of the various financial programs relating to the budget a joint approach is needed (to be able to compare them). The resulting effect is also influenced by lack of financial, material and personal sources of some municipalities for creating and selecting optimal and results-oriented indicators of fulfilment of those objectives.

Example of this we can see in the actual inconsistency in existing measurable indicators of some municipalities. Some cities have stated as a measurable indicator of budget plan for the municipal police -- planned number of imposed fines or number of delivered judicial consignment. Such a way of setting of measurable indicators does not obtain realistic and comparable quantitative data. The nature of these data does not allow an effective planning and there is a risk of artificial efforts to capture a certain number of offenses in this regard. Despite the fact that increased efforts could lead to capture a greater number of anti-social activities. On the other hand, we believe that it is not right where if a motivation for such actions is to achieve some presented number In addition, this may also lead to lack of transparency in using the money from the budget and in endured services.

Slovakian Law no. 583/2004 Coll. states budgetary rules of territorial self-governments. There exist also another documents of the Ministry of Finance in connection to the implementation of program budgeting in municipalities. One of them is the Methodological Guide "practical and specific manual for the development of program structures at territorial and regional self-government level". This document conveniently connects the structure of the program budgeting and municipal financial planning with the overall strategic objectives and strategies forming the structure of programs and subprograms in financial budget. In the present context, the manual also refers to the Chapter - Security Program - recommended for the position 5. The problem that we identify in this context is the fact that it is only a proposal that is not binding on level local self-government authorities. Security in a municipal territorial unit we consider as such an important area that would not only deserved place among its main budgetary programs, but also a permanent place within the established strategy and objectives of each municipality.

In this regard, (in connection to the issues of optimal and effective measurement of citizens´ security) we consider it as necessary to implement the citizens' security and its real

measurable indicators in all the documents connect with each other so that together they will form a single strategy. This will include Strategic Plan, Plan of activities of a municipal police, Municipal financial budget, as well as the Final account of a municipality, and Report on the activities of the municipal police.

A set necessary procedural steps are connected with this proposal, leading to strategic and operative objectives in order to achieve a certain vision. We consider it as essential the finding, setting, monitoring and evaluation of the right output focused efficient indicators measurable for the purpose of comparison and enhancement. In the context of such indicators Slovak Republic implements a variety of tools for ensuring their appropriate creation and assessment. As a perhaps the most important tool in this respect we can consider the focus on program budgeting at municipal level. The objectives that should be included in of each program of such a budget have to be supported by indicators, which could serve as a real verification of their effective fulfilment.

To make such objectives efficient in each of the programs, they should be SMART (specific, measurable, achievable, linked, time-bounded). Indicators should then serve to verify the implementation of the objectives and therefore the effectiveness of spent funds.

If such an objective is made by municipality itself without rules, this leads to significant differences, which not only do not address the situation effectively, but also make it impossible to compare the situation among territorial units. Finally, it should be also noted, that there is a lack of interconnection among the municipal documentation - financial budget, the closing account and preventive planning and evaluation documentation in specific areas.

5. DEFINITION OF VISION, MISSION, STRATEGIC AND OTHER OBJECTIVES

In this context a vision can be described as a condition which is desired to be achieved in the future. To distinguish this, the usual diapason is 15-20 years. The vision should be clearly specified, so as in private sector employees should be familiarized with it, on the municipal level an overall understanding among citizens should be reached. Role of citizens is on higher level than the role of employees in a company. Their position best describes term stakeholders with respect to their right to decide about managing boards in elections and also the right to be informed about the current status and possible amendment.

Examples of such a vision:

• *Our town in 2020 is a safe place, where a high level of prevention ensures a low incident to public order and crime.*

• *Our village is well prepared to handle any emergencies that in cooperation with other public authorities are reduced according to their likelihood and consequences.*

• *The village is in 2020 a major and dynamically developing territory, which takes care on a safe environment for its citizens.*

• *It is a safe city, with low level of crime and anti-social activities. The number of members of municipal policy is stable and fully covers (by human, material and technical resources) the needs of citizens.*

Input indicators:

• *Budget level for municipal police (MP);*

• *The number of cameras operating in the current year - including static / rotating - percentual coverage of the territory of city;*

• *Number of prevention activities - lectures, seminars, explanation;*

• *The level of support from external sources for municipal police (grants, personal, financial or material participation).*

Output indicators:

• *The number of offenses, spot fines*

• *The level of satisfaction of needs of citizens in the field of security;*

• *The nature of the provided services provided and the view of the city about the result.*

Indicators of effectiveness:

• *The number of members of the MP for 1000 inhabitants.*

Performance indicators:

• *The number of complaining citizens dissatisfied with the work of MP (%).*

An aggregate indicator, which can replace all of the above mentioned ones is the Index of public order including objective - numerical as well as subjective - perceived indicators. In addition to this we consider it necessary to emphasize also the possibility of including a sub-index of perception of the security by citizens. This would, however, require implementation of an information campaign in respective cities to increase citizens' awareness of services as well as about existing restrictions (competences, financial resources) of the municipal police.

CONCLUSION

Security is a very important aspect of human coexistence with the social, natural, technical and economic environment. Suggested linking of existing documentation of municipalities and joint professional setting of objectives and their corresponding benchmarks could allow individual security actors to dispose with more information which are so important for decision making process. It may be for example a Decision to increase the funds; Rate and increase the number of preventive actions to prevent anti-social activities, but also Improvement and expansion of the camera system, and Streamline of cooperation of several security services components.

In particular, there exists a possible effect on the pursued objectives in the field of self-governing territorial units and interconnection of documentation in relation to the effective creation, monitoring and fulfilling the mission of a municipal security. Such an entanglement would allow more efficient processing of such documents such as: Municipal budget for the calendar year; Final account of the municipality; Plan for economic and social development; Report of the municipal police activities. Practical measurement of citizens´ security by the proposed index would results in better understanding of the factors influencing the municipal services offered to citizens. This can provide an important way for acquiring of measurements for checking the fulfilment of the set objectives and improving the efficiency and quality of services for citizens.

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THEORETICAL MODEL FOR "TIPPING POINT" IN A STARTUP ECOSYSTEM

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SUMMARY

Purpose – The paper discusses theoretical situation which can be applied in real world, yet with certain level of difficulty. This situation, in other words "tipping point", is where all the factors, both negative and positive, play favorable role in the emergence of startups. The paper will – in detail – propose financial, social, political and psychological conditions which should exist at the same time so that the model could gain the expected outcome.

Design/methodology/approach – The qualitative approach used in the paper relies on theories of certain researchers and case studies related to them. Systems thinking approach is also applied in the research, in other words having holistic approach rather than focusing on each problem individually.

Findings – Based on the review, the paper argues that the process of creating the favorable startup ecosystem is more important than the planned fixed outcomes, mainly relying on spillover effect.

Research limitations/implications – The proposal developed during the research has theoretical character and needs to be put into practice in order to be considered in its full potential. Each proposal can be tested separately, however as the paper argues they need to be applied at the same time, which makes it difficult to be tested.

Practical implications – Based on the proposal we can work out a development model in a country or at regional level mainly focusing on startup development and innovation. It can be a basis for further research done by governments, especially V4 countries.

Keywords: Entrepreneurship, Tipping point, Collective Investment, Monitored Chaos, Spillover effect, Innovation, Startup ecosystem.

Research type: Literature review

JEL classification:
O12 - Microeconomic Analyses of Economic Development

INTRODUCTION

The general idea of development of small business mainly lies on the definition stating when capital meets entrepreneur. However, currently we are aware that in our complex society the number of factors influencing the process exceeds the number that can be controlled by any individual or organization. "Tipping point" is a situation where all the factors intentionally organized or happened by chance plays favorable role in order that certain outcome will be reached (Gladwell, 2002). The factors will be analyzed based on the literature review in several fields including crowdsourcing, human behavior, microfinance, innovation and regional development. The research has mainly qualitative character with the purpose of providing base/hypothesis for a quantitative research to be carried out on the issue. The paper will try to define each factor and propose potential solution addressing each of them one by one. By this trying to explain why governments should try to have all the factors at the same time or relatively in close proximity so as to reach development in the SME sector.

Objective of the research is to develop a model for creating startup ecosystem in a region within 5 years and to test this model. In order to develop the model five hypotheses should be proven:

Hypothesis 1: In order that the model succeeds, all the four factors should occur at the same time or in relatively close proximity.

Hypothesis 2: In order that the model succeeds, the entrepreneurs for the model should be chosen based on four psychological and personality characteristics: People in their "highest point", "lowest point", people who have faced a lot of difficulties in their life, radicals/outsiders.

Hypothesis 3: In order that the model succeeds, main financing system for the model should be Collective Micro Direct Investment Scheme.

Hypothesis 4: In order that the model succeeds, the social system of the model should be based on: a) social background of the team members (entrepreneurs) b) entrepreneurs should be allowed to move around in their position c) Information flow system should be created d) Monitored Chaos System should be applied d) geographical proximity of the firms should be provided.

Hypothesis 5: In order that the model succeeds, government should perform the following duties: a) Serve as a guarantee for the fund b) Provide initial capital for the financial institute of the model c) Provide legal and operational support for the model in two areas: taxing and geographical proximity d) Carry out the programs developed by the model in encouraging entrepreneurship.

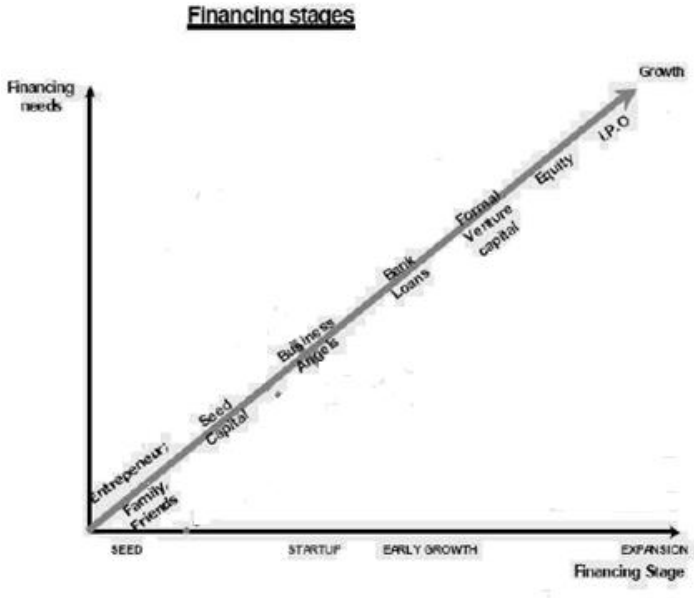
1. THEORETICAL BACKGROUND

In providing a theoretical basis for the paper, there has been analyzed literature from several fields, including regional development, organizational behavior, innovation, entrepreneurship, finance, psychology. Jeff Degraff in his book "Innovation You: Four Steps to Becoming New and Improved" argues that the best moment to start a business, to innovate or to make changes is when the person/organization is on their highest point or on their lowest point. The highest point is where there is driving force based on past successes, there is certain amount of capital providing confidence to take risks and so on. This is an ideal entrepreneur and one of the goals of usual systems is to create more of those. Based on Pareto Principle (80/20 law) we can assume that 80% of startup successes are the result of 20% of people (Degraff, 2011), however those 20% percent are not completely composed of people in highest point, there are also, quite a lot of them, people who came from the lowest point. A person who does not have anything to lose, who does not have any other option is willing to take risk, to innovate, to start something very successful. Some researcher argue that Renaissance followed black plague (Black Death) (Brafman, Pallock, 2013). If the plague didn't bring so much trouble, death and suffering it would not have been followed by such development. A person with no alternative can be an excellent entrepreneur if he/she is helped to understood that they don't have an option, and if they are for certain level guided to perform this task. However, we should admit that emphasizing on a person's situation in order to bring out entrepreneur out of him can be considered rather radical or even unethical/immoral. Still, in claiming our hypothesis we should be objective. The dissatisfaction hypothesis states that people who are less satisfied with their life tend to be more innovative (Hofstede et al, 2004).

Financing small and medium enterprises is one of the most important factors in the development. From initiation of the idea for business until the reaching fully sustainable company the enterprise may require certain type of capital in each stage. The former one may not be adequate during the later action of the enterprise. Figure 1 roughly illustrates which type of finance is consider in each stage of the growth. In order to have development in SMEs

sector, the region or a country should have and pay close attention to availability and functionality of institute in each stage.

Parallel to this forms of financing, we should consider one more type which can be applied in our model. Collective direct micro financing (hereinafter collective fund) is growing investment sphere in the world. In this case however, it will differ from majority of collective investment scheme with certain aspects. Unlike investment funds collective fund will not invest in stocks, real estate, government obligations. Its main focus is for launching new SMEs in the region it operates. The collective fund will be controlled by government/governments so that people can have trust in the fund. In order to explain how the fund should work, let's take V4 countries as a potential example. The main problem of collective investment is that the capital needed for investment is gathered very slowly as people, especially individuals provide small amount of money. That is the reason in most of the cases collective micro investment is done though online crowd-funding web sites. On the web sites admiration and other fixed costs that normal firm would face is not a problem. They are having an essential growth, but not enough to affect the growth of GDP and



Source: Eurada Guidebook, August 2004.

Figure 1. Financing stages of enterprises

employment. If it is launched as business, it might get bankrupt unless it is initially subsidized by the governments. First, V4 countries each by itself might be slightly little market to launch this fund. Thus, combined investment capability and combined investment options are more reliable. Table 1 shows us size of the population in four countries and average disposable income in each country. Based on the table we say even if we will be able to gain 0.5 % of disposable income per month, we will have a large of amount of investment capital. Based on the table we can calculate the average potential investment of 466416984 USD per month. According to OECD, FDI inward flows in 2013 (excluding SPEs) in V4 countries combined were 14 billion and 425 million US dollars. (OECD, 2014). If we compare this figures with the total 0.5% potential investment we can see that it equals to 38.8 % of FDI, which shows how substantial and important this is.

Table 1. The Population and Average Disposable Income in V4 countries

Countries	Population	Disposable Income Per Capita (USD per year)	0.5% of Combined disposable income (USD)
Czech Republic	10,538,275	18 404	969732065,5
Hungary	9,849,000	15 442	760441290
Poland	38,005,614	17 852	3392381105,64
Slovak Republic	5,421,349	17 503	474449357,735
Total	**63814238**	**69201**	**5597003818,875**

Source: OECD

In today's world businesses are driven by their innovations whether it is in their product line, marketing or logistics. In order to succeed, the model should have high level of innovation/creativity. The creativity is not solely based on individuals but in society. Csikszentmihalyi point out that creativity occurs in the interrelations of the system of three parts: domain, field and individual. Domain is the set of rules in a particular sphere, so creativity occurs when the rules from different spheres meet and find something in common. Which in other words means that people from different background should meet/interact. The field is composed of all the individuals who is responsible what is considered as new to the field, who is considered creative. In our case the fund will play this role determining which idea is worth attention. The third is the individual who takes the previous knowledge and bring out something new from it (Csikszentmihalyi, 1996). Beugelsdijk also point out the same from different point of view stating that innovation is derived from culture (which can be considered combination of three above). Propensity for innovation and Propensity for innovation always come together (Beugelsdijk, 2007).

2. RESEARCH METHODOLOGY

In the paper, there has been used inductive reasoning method. Based on the concrete observations of the scholars, which are reviewed in the paper and analyzing the content of the cases they provide, several generalized conclusions are reached. First, each theory has been analyzed in exploratory method separately, without any relation to other theories. As, each theory should be valid on their own in order to be considered for general system. Then, inferential method has been applied to draw relations and conclusions based on them. The conclusions are divided into four parts, together which form a system. The system is the result of the research.

However, the topic needs further research in order to prove that model actually works. General proposal for the further research is as following:

a) Subject of the study

The subjects of the research can be divided into four groups as does four factors.

The factor one – entrepreneurs: Students of the universities – Initially, judgmental sampling is applied to find students who match the description in the hypothesis based on the judgment of the professors of the university. Then, snowball sampling is applied and those students who are considered matching to the description will be asked to provide data who are similar to them. Members of the clubs (scientific, arts, music club, etc.) are selected based on the activity in the club, (how often do they meet with the others and how often they participate in the events and contests of the club), individual hobbyists (snowball sampling), the unemployed people with low social welfare – selected based on secondary data obtained from the government institution.

The factor two - finance – People from 16 till 60 years old. First, cluster sampling will be applied to choose the cities where survey will be conducted. Second, quota sampling in order

to choose samples who work and study in various fields. Third, the particular organization are chosen using simple random sampling.

The factor three – social influence: A group of friends which formed on normal basis (self-formed), they are chosen on availability in the university randomly. Selected individuals (picked based on average high GPA) for the group based on the conclusions from the literatures (50/15/25/10 ratio), group of individuals who will be observed individually (8 different professor each in different field are chosen using snowball sampling). All the three groups should have people from 6 to 10 people.

The factor four – government – heads of the taxing departments of the government, members of the parliament, quota sample - the ratio should be based on the party seats' ratio using snowball sampling.

b) Measurement.

Entrepreneurial factor variables:

Person of "Lowest Point" – From 20 till 30 years old, Unemployed for the past 6 – 3 months, doesn't have finances to sustain himself/herself more than 2 months, doesn't anyone who is supporting them financially.

Person who struggled a lot – From 25 till 35 years old, Grew up in low income family, worked since he/she was 12 years old. Who has a person whom he/she should support.

Radicals – dresses not in common trend, max. 2-3 times a month witnessed breaking social codes of conduct. Have difficulty building relationship with co-workers and classmates, anti-social.

Financial factor variables:

Supporter – A person who is willing to invest min. 50 euro in a month.

Rejecter – A person who is not willing to invest any money.

Undecided – A person who could not decide. (Considered positive as he/she is more likely to change opinion after massive marketing)

Social factor variables: There is no definition for creative and efficient group in the experiment. All of them are regarded based on the relative success of the other two groups.

Government factor variables: A person who is willing to provide support – Government official who is willing to vote for the decision to accept conditions mentioned for model.

c) Data-collection methods:

Entrepreneurial factor data is collected based on the qualitative interview. Interviewers will be hired and explained what is expected from them, they will need to identify people who match the definitions that has been proposed.

Financial factor data will be gathered based on the survey. The survey seeks to learn the opinion of the target population regarding the fund, to find out if they are supporter, rejecter or undecided.

Social factor data will collected based on the experiment. Three groups (defined in subjects of study) will be given the same type problems to solve and the time they come up with the solution will be recorded.

Government factor data will again be gathered based on the survey. The survey will seek to learn the opinion of the people (defined in the subjects of study) about the proposals in the model. They will be divided into supporter, rejecter and neutral.

When all four factors are valid, the whole model will be put into experiment. The result of the experiment will observed based on profitability and creativity of the fund.

3. RESEARCH RESULTS AND FINDINGS

The first factor - entrepreneur

Apart from two types of people mentioned in the literature, there is a second optional path, choosing a person who is not in his/her lowest point, but has struggled a lot, a quite a

long period of time. This kind of person doesn't need to be emphasized on their situation, they already understood it. The personality varies from person to person, but usual characteristics which we might need is high level competitiveness, strong desire for growth and independent decision making and problem solving skills. We can find a lot of successful people among business people, celebrities and politicians who not only faced difficulties but also these difficulties helped them to succeed. A typical example for this we can find from the early history of the United States. People who came the New Land were different kind of people, however, they, most of them, had something in common: They were running away from something, either it's political reason, crime or war. They were desperate, they didn't have an option. They were people who want more. This was the driving force to conquer the Wild West. They take risks, but even people who is not inclined to take but has high level of "uncertainty avoidance" of Hofstede's dimensions, they are more likely to choose self-employment due to restrictiveness of the existing companies (Wennekers et al, 2007). The third type of person that we should consider for our model is outsiders, radicals and people with disruptive way of thinking. They are a source of innovative entrepreneurship. I believe the most prominent example of this type is Steve Jobs who is defined as "defying reality" (Isaacson, 2011). Kary Mullis is famous for his works in polymerase chain reaction (PCR) technique. During his PhD studies in University of California, Berkeley, he was also a perfect example of this. He claimed that he has been visited by aliens, tried to synthesize LSD. He was not much appreciated by his colleagues. However, this outsider received Nobel Prize for Chemistry (Brafman, Pallock, 2013). Each of this types of people have their role in forming a startup ecosystem, but individually they are less effective than when they are considered collectively.

It is difficult to have enough of this kind of information about entrepreneurs. The main source can be universities where students have been observed for the past 4 years and based on recommendations of the professors and basic research they can be selected. Another method is through interviews among hobbyists (clubs). The most appropriate way would be to hire headhunters, recruiters with special experience.

Kalotay states that foreign privatization or cross-border M&A in Eastern European countries in the age of transformation had positive impact in two major ways: restructuring of large important companies and creating domestic owners wish to participate in privatization schemes (Kalotay, 2001). This is also true in launching the fund, people will want to participate (in other words more entrepreneurs) after they see the development of the fund.

The second factor – financing the startups

How the system of the fund should work? First, the minimum amount of investment made by either an individual person or a firm of these four countries will be determined based on currency: Poland – 200 Polish Zloty, Hungary - 10000 Hungarian Forint, Czech Republic - 1000 Czech Republic Koruna, Slovakia – 40 Euro. This is done in order to simply the process for the micro investors. The minimum amount of investment outside V4 countries will be 100 Euro for Eurozone and 100 USD for other countries.

Second, the collective fund launched by the governments will have only arbitrarily character, its main tasks will be to find the entrepreneurs, the management of the newly invested firms is mainly done by them, the fund will interfere only in vital issues, the micro-investors hold power only over their investments and can not interfere in the management process, even if their investment comprises more than 51% of all firms initial investment pack.

Third, the investment options are not limited to any field/sector. The size of the investment is also not regulated as long as the analytics in the fund will consider it as a good investment. It is important that each firm will operate separately from the main collective fund. This efficiency was discussed and proved in Clayton M. Christensen's book "The Innovator's Dilemma". He argues a new idea is more likely to succeed if it separated from a

larger company, giving it a chance to focus on small market. It is also important that a new firm does not have to adjust to corporate culture, it main strategy. By this system we will be able to give more freedom to entrepreneurs to innovate. There should be certain level of control involving creating supportive firms and establishing cooperation and supply support among firms. (Christensen, 1997).

Fourth, net income is divided into three parts: 80% is distributed, based on the investments, to the micro-investors, 15% is provided to the entrepreneur and 5% to the collective fund. The entrepreneurs can be chosen based on their ideas, in this case, the fund will play venture capitalist role, however even in this case entrepreneur should agree to above mentioned rules. If the fund assigns entrepreneurs, they should choose among the three type of people which was discussed in the first factor.

Fifth, the governments will have to face some losses for a certain period of time. In the beginning until the popularization will reach certain level the government will have to cover the expenses of admiration and running of the fund. So-called "Hundredth monkey effect" is a base for assuming that the after some time people will start micro investing more and the fund will be self-sustaining organization (Ken, 1984). The fund itself should be exempted from tax, because the firms it launched, each of them will generate enough tax. 5% that was directed to the fund, apart from the administration and other fixed expenses of the fund, must be kept as reserve fund. The reserve fund will play important role: it will serve as a creditor to its own firms when they face financial problem.

The problem that the fund might face is more likely to face is not the lack of funds, but lack of ideas for investment and entrepreneurs. Kiva Microfunds during its initial years had more money to invest than there were ideas, they had to search for people in the poor areas to provide them with initial capital (Howe, 2008). However, there is also two more factors which will solve this problem.

The third factor – social influence

A lot of research has been done in studying startup ecosystems on regional and national levels. Defining which are the essential indicators that should be high in order to have a flourishing SME development. However, as the fourth factor – social influence – we will discuss the social procedures that should be created within the fund and the firms it launched.

First of all, social influence is defined by the members of that particular group. As we mentioned in our first factor, while choosing entrepreneurs we have to pay attention to a particular people. But, what should be the ratio of those people, what kind should be dominant in the society. Stanford Graduate School of Business students are diversified in several aspects. The head of the school considers this is one of the most important factors in the classroom success and future professional success of the students. The majority of the group comes from people of safe choices, they had business degree worked in prestige institution and have good experience and knowledge (50 % of the group). 5 – 15 % is selected from people who have particular talent in one area, areas are widely ranging. They can be physics national completion winners or world class violinist. 25 % comes from diverse cultures, ethnicities, religions and regions of the world. The last group is the people who has diverse life experience regardless of the background. A military commander can be an example for that kind of life experience (Brafman, Pallock, 2013). The same ration can be applied to the entrepreneurs in the fund. However, the university considers the social background, anyway psychological background that we discussed should also be considered for forming the team.

Second, the entrepreneurs should not be like employees and do what they are assigned to do. The movement of the entrepreneurs within different spheres and regions should be possible. However, it should be on certain basis, such as entrepreneurs should want to leave, meaning their own initiative, it should not create problem for other entrepreneurs. A lot of companies use this method to increase innovation and creativity in their companies. The

companies like 3M, Johnson and Johnson's, Microsoft, Hewlett-Packard encourage their workers to move around the company trying different jobs (Sloane, 2006).

Third and probably the most important social factor is chaos. Not the chaos in its ultimate meaning, but monitored chaos. Before explaining the system, we should define the actual term. Monitored chaos, in this case, is a situation where the units meet, collide, interact with each other in an atmosphere pre-designed for this purpose and outside of it without actual goal in each meeting; and this process is monitored by the individuals/organizations with the purpose of detecting the ideas. The units in our case are the entrepreneurs, the fund will be the atmosphere where they will interact and outside meetings are their social occasions. The fund will periodically will bring the entrepreneurs together for meetings and talks. Each meeting doesn't have to have exact goal, the process itself is more important than the goal. These meetings will be the source of innovation. There are a lot of examples where simple social meetings of people became the incubator for innovations (Johnson, 2011). The fund needs ideas for future growth. The investment from the people should be constantly invested, they cannot wait for month for investment. As the entrepreneurs come from different firms working in different spheres, the idea will be more diverse and during the discussions they can form a new business idea.

Also, as we mentioned the sector to which the fund will invest is not limited. So, where the opportunity comes there the fund will invest. However, some business such as online startups are not bound to their geographical location like stores, cafes or factories. Therefore, when launching online businesses, creative firms, studios etc. the fund should make the geographical proximity as close as possible. It is argued that the more varied and creative firms are close to each other, the more creative they become. As an evident example of that, we can bring the Silicon Valley. (Saxenian, 1996). In Silicon Valley, if you want to launch a new web site, you can find a designer, professional coder, server provider and venture capitalist in one street.

The fourth factor – the role of government

Almost all the development models of economy have a large share in government's role. Today governments help SMEs not only by special taxing systems or polices. In some countries the influence of the government is more powerful. As the fund that we are discussing, will be owned by the government, its role in the model has to be discussed thoroughly.

Figure 2 illustrates the Monitored Chaos System in its basic form. The government/the fund plays the role of monitoring unit, making sure that the system is working as it should. The government performs several important roles in the system. First, the most important role of the government is that it should be basis for security of the fund, guarantying that the fund is reliable organization.

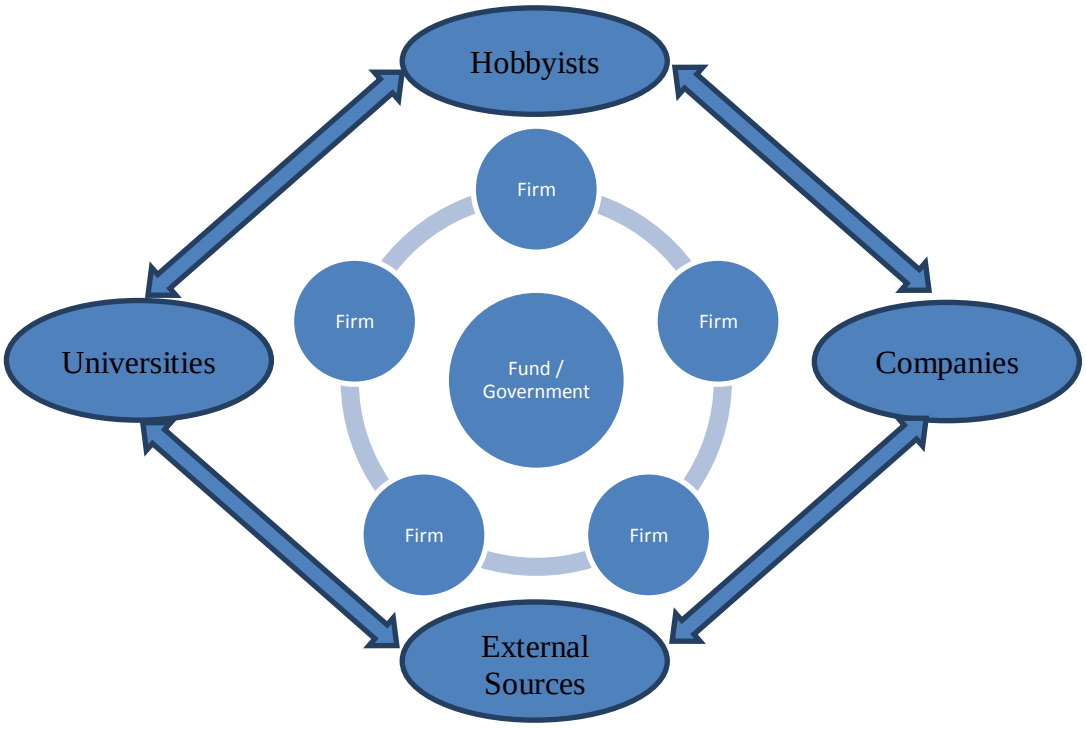
Second, as we mentioned earlier in the financial factor, government should provide initial capital for launching the fund and supply its operation until it becomes profitable. The reason for this is the "productivity paradox" which states that the new technology or new information systems will have negative return on investment for some time (Powell, Snellman, 2004). Also, the fund should exempted from tax, the firms it launched will pay taxes and double taxation should be avoided.

Third, as we mentioned in the social factors, some firms will be more successful if they are located in relatively close areas. It will be difficult to find free offices and buildings in the same areas and government will have to take action by helping to buy out the building, move the owners in another location, renting government properties. However, during this process government should avoid creating negative opinion about the fund within the population.

Fourth, one of the important roles of the government in system is developing interest towards entrepreneurship, improving perceptions of the citizens in value of entrepreneurship. Global Entrepreneurship Monitor's report of 2014 shows that media

attention for entrepreneurship received 33.5 % of people aged 18-64. This is very low. Poland had 54.5 %, Slovakia had 52.6 and no data is available for Czech Republic. Media is effective tool in promoting entrepreneurship, and government collaborating with non-profit organizations should be leading promoter. The same report shows Entrepreneurial intentions of people from 18-64 ages who do not currently own a business but intends to launch within 3 years: Hungary – 13.9 %, Poland – 15.6%, Slovaki – 15.1%. Czech Republic (2013) – 13.7. We can see that all of them relatively low. Government should work out special program in promoting entrepreneurship via speeches in universities and college, portraying successful business through media, etc.

If we consider the importance of the system in V4 countries, we have to pay attention to certain areas where the fund will play important role. Table 2 shows the ranks of V4 countries in Global Innovation Index. We can see that ease of getting credit is relatively on very good condition, 3 of them in top 30 with Slovakia slightly falling behind in the place of 34. However, Domestic credit to private sector is in lower level. The fund will increase this indicator as it will mainly operate based on the investments of domestic firms and local population. Also, Microfinance institutions' gross loan portfolio index is not available in Czech Republic and Slovakia, while Hungary and Poland hold 89th and 67th positions respectively. This also shows that a new institution like the fund is needed to improve the current situation. We should also consider State of cluster development index, which relatively higher than other in Czech Republic with 44, other all above 65. As we mentioned in the social factor, the fund will emphasize on proximity of related firms, with helping in formation of the clusters in the area.



Source: Author's own work

Figure 2. Monitored Chaos System

Table 2. Ranks of V4 countries in certain areas of Global Innovation Index

Factors	Czech Republic	Hungary	Poland	Slovakia
Ease of starting a business	90	48	71	65
Ease of getting credit	22	16	16	34
Domestic credit to private sector (2013)	59	65	61	76 (2008)
Microfinance institutions' gross loan portfolio (2013)	N/A	89 (2007)	67	N/A
Total value of stocks traded (% of GDP) (2012)	49	42	33	93
Venture capital per investment location: Number of deals (per trillion PPP$ GDP)	40	42	53	N/A
Intensity of local competition	15	45	49	30
State of cluster development	44	88	89	66

Source: The Global Innovation Index 2015

CONCLUSIONS

Based on the analysis above, we can conclude that monitored chaos system is a system which operates based on the random and frequent interactions of units. These units are created via collective investment of people and firms in that particular area. The units are trusted to the individuals who show potential via their psychological parameters. The main center of the monitored chaos system is the collective investment fund owned by the government.

"The tipping point" is the situation when all the factors discussed in the paper are applied at the relatively similar time period. Each factor will enhance the influence of the other factors. Governments help improves effectiveness of the fund, the fund's popularity will increase flow of investment and popularity of entrepreneurship and so on. The monitored chaos will mainly work based on the spillover effect and we have to into practice to make sure that the system works.

The monitored chaos system needs further research and field experiments to clarify the details and work out new factors that should exist at the same time to increase the "tipping point" effect.

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ILLEGAL (UNDECLARED) WORK AND ILLEGAL EMPLOYMENT AND THEIR IMPACT ON THE ECONOMIC SYSTEM OF THE SLOVAK REPUBLIC AND MEASURES ADOPTED BY EUROPEAN UNION TO REDUCE THIS NEGATIVE PHENOMENON OF THE SOCIETY

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SUMMARY

Purpose – The main purpose is describing the real situation regarding the mentioned issue. Another purpose is to identify approaches which will lead to the decreasing of the illegal work and undeclared employment; new methods, instruments and factors which influence the current situation; reveal causes and reasons of existence of illegal (undeclared) work and illegal employment and suggest new methods and approaches of effective solution of this issue.

Methodology – In this paper abbreviated information were used and selected from various sources (i.e. books, newspaper and online media). Gained information were analysed by scientific methods such as synthesis and analysis and are listed in the references in the end of the paper. Amount of illegal work in Slovak republic has been collected from databases; mostly from Eurostat. The World Bank Project "Doing Business" was used for statistics and comparison of data.

Findings - As a recent European Commission communication points out, the problem of illegal employment in Europe appears to be on the rise. While any estimates of the phenomenon need to be treated with caution, commentators have suggested that around 500,000 migrants enter EU countries illegally every year. Estimates of stocks of illegal migrants in individual countries meanwhile put the number at around 500,000 in Germany, 300,000 in France, 200,000 in the UK, and up to 800,000 in Italy. It can be estimated that around 70% of these are engaged in illegal labour. The phenomenon of illegal employment has raised a number of concerns in west European states. Domestic workers – especially in low-skilled work – may fear being undercut by lower-cost labour. Illegal work generates huge losses to national revenue, because of the non-payment of tax or social security contributions. Illegal employment is also politically sensitive, putting into question states' ability to enforce their migration rules. By research done in this paper we have found out that the higher volume of conducted controls (by Labour Inspectorates) revealed that quantity of illegal employers and employees increased in the year 2014 compared to previous years.

Research limitations/implications - The paper is limited to the European union legal environment and nowadays actual data about solving issue from Eurostat and The World Banka statistics.

Key words: illegal employment, undeclared work, joint stock companies, directive, European Union, hidden economics

Research type: general view

JEL classification:
K31 – Labor Law

INTRODUCTION

The subject of this article was chosen due to the fact that illegal (undeclared) work and illegal employment are a phenomenon that is not much discussed in society but has a very negative impact on the economic system of each country (i.e. taxes and contributions to health, social and pension insurance of the state), including Slovak republic. The paper is focused on the recognition of the reasons and causes leading to this negative phenomenon and possibilities of its reduction and suppression.

Illegal (undeclared) work and illegal employment are influenced by a various factors in a correlation. If Slovak republic will not eliminate or limit the negative factors like high unemployment rate, low standard of living, high taxes and contributions to health, social and pension insurance of the country, low level of the minimum wage, weak authority of the state offices (e.g. tax offices, courts) and other factors, we cannot expect the reduction or suppression of this negative phenomenon in the near future.

This problem has never been so much discussed in media (TV, internet, newspaper etc.); same as other issuses negatively influencing our society (e.g. migration issue, corruption in state offices etc.) since the society has not seen this issue so painful.

The situation was changed in 2005 when the Slovak parliament adopted the act no. 82/2005 Collection of laws about illegal (undeclared) work and illegal employment and about the change and completion of some laws (hereinafter as „the act no. 82/2005 Coll.“).

The legislator (i.e. Slovak parliament) removed the gap in legislative by above mentioned act since this issue had never been regulated by individual act before.

Act no. 82/2005 Coll. consists of the definition of illegal (undeclared) work and illegal employment (i.e. what means term „illegal (undeclared) work“ and „illegal employment“), prohibition and control of illegal (undeclared) work and illegal employment, sanctions for breaching of prohibition of illegal (undeclared) work and illegal employment and other regulations associated with illegal (undeclared) work and illegal employment.

The aim of this paper is to identify and describe how the reality regarding the mentioned issue is, reveal causes and reasons of existence of illegal (undeclared) work and illegal employment and sugest new methods and approaches of effective solution of this issue.

1. THEORETICAL BACKGROUNDS

Act no. 82/2005 Coll. defines following terms:

Illegal (undeclared) work - is dependent work carried out by a natural person for a legal or natural person who is an entrepreneur and

a) is carried out by a natural person without establishment of employment relationship or state – service relationship under a special regulation to a legal or natural person who is an entrepreneur,

or

b) a natural person is a national of a country which is not a Member State of the European Union, other member state of the Agreement on the European Economic Area or the Swiss Confederation or a stateless person (hereinafter referred to as "a national of third country") and are not fulfilled the conditions for employment of the national of third country pursuant to special regulations.

Illegal employment is the employment of a legal person or natural person who is an entrepreneur, using dependent work of

a) the natural person without establishment of employment relationship or state – service relationship under a special regulation

b) the natural person with establishment of employment relationship or state – service relationship pursuant to a special regulation and legal person or natural person who is an entrepreneur, failed to fulfill an obligation under a special regulation or,

c) the national of third country and are not fulfilled the conditions for employment of the national of third country pursuant to special regulation.

Illegal employment is also the employment of the national of third country who is staying in the Slovak Republic in contradiction with special regulation and is carrying out dependant work.

Act no. 82/2005 Coll. prohibits carrying out illegal (undeclared) work and illegal employment and sets financial penalties (i.e. sanctions) for breach of this prohibition for employer and employee as follows:

1. Employer (legal or natural person who is an entrepreneur) for violation of the prohibition of illegal employment financial penalty in the amount of 2,000 Eur to 200,000 Eur, and in the case of illegal employment of two or more individuals simultaneously, at least 5,000 Eur.

2. Employee (natural person who is carrying out illegal (undeclared) work) for violation of the prohibition of illegal (undeclared) work financial penalty of up to 331 Eur.

Pursuant to Act no. 82/2005 Coll. illegal (undeclared) work and illegal employment is controled by Labor inspectorates, Labour, Social Affairs and Family offices and Headquarters of Labour, Social Affairs and Family (Headquarters of Labour, Social Affairs and Family and Labour, Social Affairs and Family offices are entitled to impose above mentioned financial penalties on controled subjects who violated the prohibition of illegal (undeclared) work and illegal employment).

The most important reason to adopt the Act no. 82/2005 Coll. was its „economic reason" due to the possibility to increase the revenue to the state budget and thereby create assumption to reduce amount of contributions to health, social and pension insurance of the state what expect mainly employers and employees.

The aim of above mentioned law is to protect society against illegal (undeclared) work and illegal employment and also to protect natural persons for whom illegal (undeclared) work brings a lot of social uncertainties.

Accompanying phenomenon of unemployment is illegal (undeclared) work which consist in the fact that employment relationship between employer and natural person who is carrying out dependant work, is not established by written work contract (Sičáková, 1999). Even some foreigners who are coming to Slovak republic to work (e.g. Ukrainian citizens in the Eastern part of Slovakia) often do not have a residency permit and work permit. This is the way for illegal employers to hide carrying out work. The reason for this secrecy is an effort of a natural person to receive tax – free income without fulfilling duties for contributions to health, social and pension insurance of the state on the one hand and the effort of illegal employers to save costs for the manpower connected with tax and contribution (contribution to health, social and pension insurance) duties on the another hand. In addition to tax – free income natural person can also receive social benefits from the state (e.g. unemployment benefits). Employers who illegally employ natural persons including foreigners without paying contributions to health, social and pension insurance of the state and without paying taxes from incomes of their employees , cause huge damages to our state economic system because of the fact that state budget lose these money which would be income part of state budget (Hajnovičová, 1995). This „economic reason" of adopting of Act no. 82/2005 Coll. is considered as the most important reason from the perspective of influence to our society.

The legislator prepared above mentioned law based on the findings of carrying out illegal (undeclared) work and illegal employment in the Slovak republic and also based on law regulations of this issue in some European countries (in many european countries is illegal (undeclared) work and illegal employment considered as painful problem which is legally regulated).

Adopting of Act no. 82/2005 Coll. corresponds with the aim resulting from the article no. 136 to the article no. 139 of the Treaty on establishment of the European communities as amended, based on that member states are supposed to support employment, improve live and employment conditions and to reach their harmonisation by keeping the achieved level of social protection of employees. The idea of above mentioned law is also regulated in the law of European communities, specifically secondary law in direction of European economic community no. 311/76 about assembling o statistics of foreign employees regulates the duty

of member states to assemble statistics of foreign employees (i.e. employees who are not citizens of member state where they work, but they are citizens of other state or third country).

2. DEFINITION OF THE HIDDEN (UNDECLARED) ECONOMICS AND ITS DIVISION

„In 1989 Economics of Slovak republic started transformation from central planned model to market economy model which is based on the business and private ownership. Slovak republic thus became a country which main economic objective was renewed and develop business activities, create motivation business environment and business market. Business market consist of the subjects called „institutional units" which create a wealth of our country. In the ideal situation the activities of all institutional units should be captured statistically, accounting and tax. Actually the part od the activities of the institutional units is not captured (i.e. is hidden or undeclared)." (Hajnovičová, 1995)

These economic activities are comprehensively called hidden economics and we distinguish economic and statistic reasons of its existance.

Economic reasons are determining due to the fact that the most activities of hidden economics are violation of existing rules for doing business activities with the objective of acquiring economic benefit. If economic activity is carried out in contrary with existing rules, usually this activity is not registered statistically.

Institutional units are economic subjects entitled to own products and assets accept commintments and deal with economic activities and transactions with other institutional units.

Institutional units are divided into 4 types:

1. Joint stock companies/ corporations (fininacial or non – financial)
2. State enterprise
3. Non – profit organisations
4. Domestic enterprises.

Joint stock companies (corporations), state enterprises and non – profit organisations use to have a legal personality and they create a formal sector of economics (Rennoy, 2015). Domestic enterprises do not have the legal personality and create individual households as an informal sector of economics. Formal and informal sector form the economics and participate on creation of gross domestic product of the state.

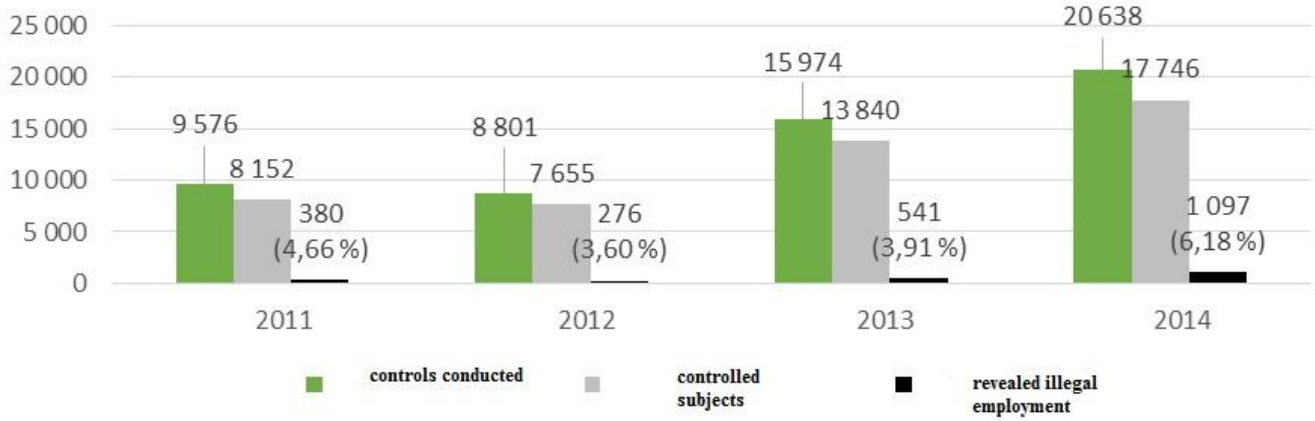
The easiest definition of hidden economics says that hidden economics is the whole production which is not included into official gross domestic product. According to the latest methods of gross domestic product measuring is in the gross domestic product of Slovak republic included also the part of the hidden economics and therefore this definition does not fully cover hidden economics in the Slovak republic. (Sičáková, 1999)

The hidden economics as a system includes more subsystems which create the hidden economics. One of these subsystems is illegal (undeclared) work and illegal employment. Based on this eplanation there are more activities of the hidden economics (e.g. illegal (undeclared) work and illegal employment, operation of forbidden games, work carried out without permit, car thefts etc.)

We can apply various aspects by division of the activities of hidden economics (e.g. from the view of their influence of gross domestic product, from the aspect of legality, market etc.).

3. RESULTS OF THE CONTROL OF THE ILLEGAL (UNDECLARED) WORK AND ILLEGAL EMPLOYMENT FOR THE PERIOD 2011-2014 IN THE SLOVAK REPUBLIC

Labor inspectorates conducted 20 638 controls of illegal (undeclared) work and illegal employment in 2014 what was the highest volume of controls till now (we still do not have volume of controls conducted in 2015 because these data are not assembled yet by controlling subjects). As you can see in chart 1, the highest level of illegal employment was revealed in 2014 (exactly 6,18 % - 1 097 illegal employers) and we can say that the volume of illegal employment in 2014 increased significantly compared to previous years.

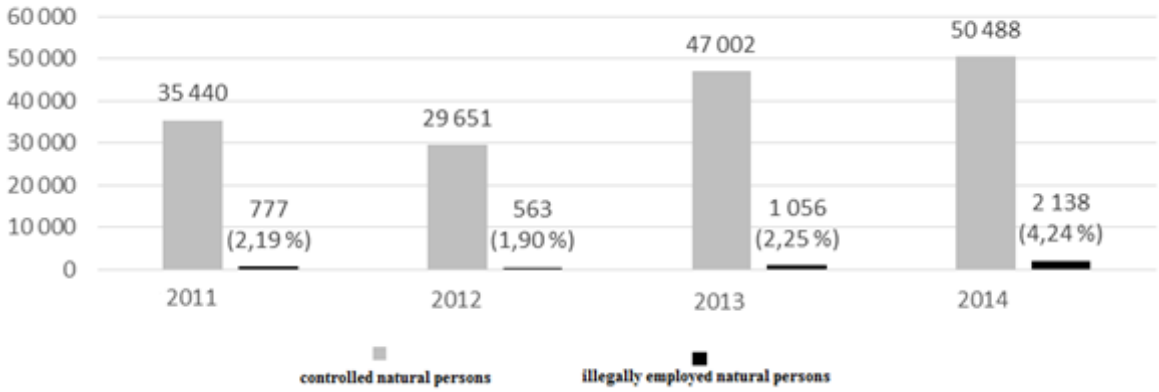


Source: Informative report about reveal and suppression of illegal (undeclared) work and illegal employment in year 2014 presented by National Labor Inspectorate

Figure 1. Controlled Subject and Illegal Employers

In addition to control of employers labor inspectorates carried out control of employees (natural persons) whether they work illegally. In 2014 inspectorates conducted the highest volume of controls (as shown in Chart 2, even 50 488 natural persons were controlled by labor inspectorates in 2014). The result is as negative as in the first case /i.e. control of employers). It means that the volume of illegal (undeclared) work in 2014 increased significantly compared to previous years (exactly 4,24 % - 2 138 illegal employees).

From 2 138 illegal employees were 833 illegally employed women and 1 305 illegally employed men. The most frequent occurrence of illegal (undeclared) work and illegal employment was: warehouse and retail (500 illegal employees), construction (459 illegal employees) and accomodation and food service (322 illegal employees) (Eurostat, 2015).



Source: Informative report about reveal and suppression of illegal (undeclared) work and illegal employment in year 2014 presented by National labor inspectorate

Figure 2. Controlled Natural Persons and illegally employed natural persons

4. MEASSURES ADOPTED BY EUROPEAN UNION TO REDUCE THIS NEGATIVE PHENOMENON OF THE SOCIETY

Illegal (undeclared) work and illegal employment are considered as a huge problem in all European Union member states (Cihon, 2013). Due to this fact it is necessary and effective to solve this issue not only on the level of member states, but on the level of the competent bodies of European Union (i.e. European parliament, European commission and The Council of the European Union). This issue is a part of the migration policy of European Union which is now even more acute due to migration crisis in European Union.

The result of the effort of the competent bodies of European Union was adopting legal measures by European Union, specifically:

1. DIRECTIVE 2009/52/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2009 providing for minimum standards on sanctions and measures against employers of illegally staying third-country nationals
2. COUNCIL DIRECTIVE 2009/50/EC of 25 May 2009 on the conditions of entry and residence of third-country nationals for the purposes of highly qualified employment

Both directives are legally binding acts.

Both directives are legally binding acts issued by European union bodies for all member states of European union regarding the content but each member state of European union is obliged to adopt own law (or other legally binding act) to achieve the content (the aim) of the directive (Cihon, 2013).

Above mentioned directives are the measures of European Union to reduce illegal (undeclared) work and illegal employment in European Union and they represent one part of the comprehensive approach of European Union to migration policy which the most stimulating factor is illegal employment of foreigners.

According to appraisal of European union bodies in European union illegally stayed about 8 million foreigners before the current migration crisis (started in 2015) and nearly 16 % of gross domestic product of European union came from illegal (undeclared) work and illegal employment (Eurostat, 2015). Now it is difficult to find out exact number of illegally staying foreigners in European Union due to the fact that the member states of European Union still did not assembly data of all migrants from third countries.

Foreigners from third countries usually illegally work in low-qualified and low-paid work positions in construction, agriculture, cleaning a hotel services. Illegal employment of the foreigners causes reduction of their salaries, deterioration of work conditions of these employees and has a very significant negative influence to European union economics (i.e. distortion of competition among enterprises, tax evasion etc.).

European union controls compliance of the member states with DIRECTIVE 2009/52/EC by reporting of this issue from the member states to European union for previous year (e.g. Slovak National labor inspectorate reports to European commission every year within a period of 1st of July information about a volume of conducted controls of illegal (undeclared) work and illegal employment and about the results of these controls) (Larsen, 2012).

CONCLUSION

The methods and manners of effective solution of this issue lay in the deep analysis of the reasons of existence of this negative phenomenon. One of the most serious reasons of existence of illegal (undeclared) work and illegal employment is high unemployment rate. Illegal (undeclared) work and illegal employment was thus frequent solution of employers to increase incomes and dicrease costs, and thereby increase their competitiveness on the

economic market (it was also solution for unemployed people because they would work illegally rather than not to work at all).

Effective manner to solve this problem would be reducing the amount of contributions to health, social and pension insurance and reducing the amount of taxes. Another manner to suppress illegal (undeclared) work and illegal employment would be increase of quantity of conducted controls of employers and in case of reveal of illegal employment employer would pay financial penalty in a higher amount than by now (a lot of sanctions were imposed on employers in the lowest limit – i.e. a financial penalty in the amount of 2,000 Eur). We cannot forget to outline the fact that if state will create a convenient conditions for domestic and foreign investments which would mean a creation of new job positions for unemployed people, the unemployment rate will decrease, and fewer people would be willing to work illegally due to the fact that they could work legally with all benefits which they would not receive in case of illegal work (e.g. reimbursement of vacation, meal vouchers, notice period etc.).

This combined way would stimulate employers to employ legally due to the fact that illegal employment would become not attractive for employer and would bring unnecessary risk for employer.

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CREATION, ADMINISTRATION AND MANAGEMENT OF E-LEARNING COURSES AND THEIR USE IN THE EDUCATIONAL SYSTEM

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SUMMARY

Purpose – Nowadays, the traditional way of education still exists. In recent years, the implementation of new technology have been modernising it but in fact, the traditional way of education has not changed. There has always been a teacher who has taught students. Students use textbooks and recommended literature as the basic source of information. Instead of a blackboard, modern interactive boards are used which use IT connected with a data projector. Implementing modern means of IT and communication technology into the educational process leads to a more complex solution.

Design/methodology/approach – The paper discusses e-learning, currently an important innovative form of learning in technical subjects. Apart from defining the basic terms within e-learning, classification in the system of scientific disciplines and a historic review, focus is paid to computer literacy as a necessary prerequisite for effective education via e-learning courses;

Findings – However, with external study methods, there is a marked decrease in the quality of education provided. There are several reasons for this, the most significant of which could be the weak motivation of students, insufficient communication with students during the education period, the inability to self-educate, the application of varying criteria when testing the knowledge of students with full-time and external forms of study, or an insufficient amount and quality of study materials designed for distant forms of study.

Research limitations/implications – The authors of the paper express their belief that this paper will be a useful aid for all those interested in creating e-learning courses in LMS Moodle and will appeal to teachers who are expected to be familiar with these forms of education and its principles when they are employed.

Practical implications – In our paper, we offer a preview of the problematics of e-learning and blended learning focusing upon the mutual relationship between e-learning and computer literacy. We perceive this as a necessary prerequisite for effective learning using e-learning courses;

Originality/Value – The aim of the authors of the paper is to provide the reader with a complex preview of the possibilities provided by the LMS Moodle e-learning system. The paper includes advice and recommendations which were created based on the authors' practical experience of creating courses in LMS Moodle at the School of Economics and Management in Public Administration in Bratislava.

Keywords: E-learning, Blended learning, LMS Moodle, Digital literacy
Research type: Viewpoint
JEL classification:
A22 – teaching of Economics - undergraduate

INTRODUCTION

Together with other modern information technology, e-learning is currently being successfully applied in innovating learning at all levels, from primary school to university study, as well as in lifelong learning. Implementing the use of computers and the internet in learning has been directly addressed in teaching at the School of Economics and Management of and Public Administration since it was established. The paper on the theme of e-learning in specialist subjects is the result of our activities in this area. In our paper, we give a preview of the problematics of creating and using e-learning courses and we offer particular suggestions and observations from actual practice. We currently consider e-learning as a necessary prerequisite for effective learning. The content of our paper focuses upon options for using the LMS Moodle e-learning system and its particular on-line learning management system and a virtual learning environment which can be considered as the highest form of e-learning. It includes the most modern means, mainly within web technology and database systems, and includes a wide scale of functions in order to best cover the needs of the entire educational cycle.

1. VIRTUAL LEARNING ENVIRONMENT – DEFINITION OF TERMS

The virtual learning environment can be considered as the highest form of e-learning. It includes the most modern means, mainly within web technology and database systems, and includes a wide scale of functions in order to best cover the needs of the entire educational cycle. Several different names are used for this system in practice, from which the most common are three below (Kvasnica, 2010):

1. Virtual Learning Environment (VLE),
2. Course Management System (CMS),
3. Learning Management System (LMS).

A Learning Management System (LMS) is a software package designed for the creating, distribution and administration of electronic learning materials and courses. An LMS should facilitate (Kvasnica, 2011):

1. The display of a list of courses with information about their content (syllabus), terms and accessibility,
2. Registration and application for courses by participants,
3. Distinguishing between access rights for teachers and students,
4. Distribution of the multimedia content of courses,
5. Synchronous and asynchronous communication,
6. The support of feedback, testing and evaluation,
7. Interconnection of parts of the content and external links.

Compared to traditional methods for controls, didactic evaluation in the on-line education process may seem simpler. Teachers have more space for creating varying evaluation methods and for preparing an evaluation scale for larger groups of students. It is possible to transfer skills in an environment assuming there is targeted feedback (Turek, 2008). The use of a large number of methods for verifying the authenticity of the results of a given pupil is increasing globally in terms of protecting against negative influences and circumstances (fraud, viruses, etc.). The three main limitations of on-line study are currently being addressed in terms of these evaluation processes. These are mainly group size, inadequate methods for collecting online data by the pupil and simultaneous inability to learn with sustainable resulting effectiveness. However, this does not change anything in terms of the positives of new educational technology which, together with communication skills, ranks amongst the key skills of a modern human (Green, 2007; Zounek, 2009; Andreasson, 2015)

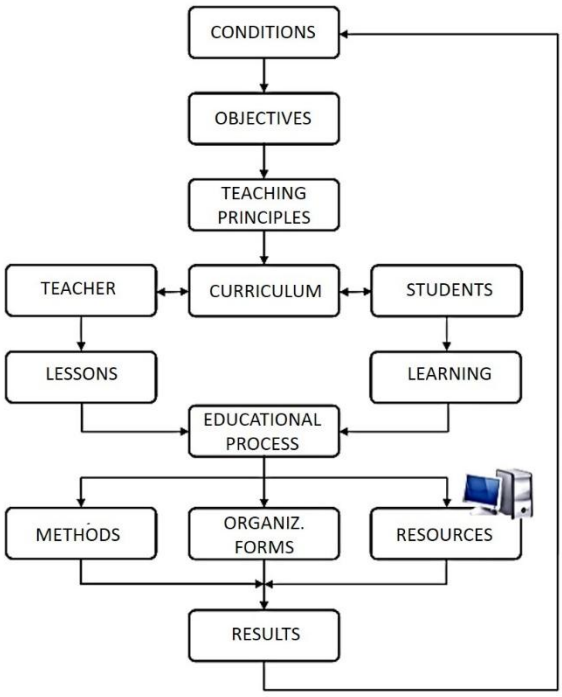

Figure 1. E-learning system
Source: (Kvasnica 2011; Kvasnica 2010)

Due to the educational function of e-learning, it should mainly be sought in the learning theory system. A didactic system consists of a set of factors which form the learning process: conditions, aims, didactic principles, curriculum, teacher, lessons, students, learning, educational process, methods, organisational forms, resources and results (Binkley, 2010). Like in all modern learning trends, we may also encounter inconsistencies in terminology even in e-learning. For this reason, in accordance with educational reality, we can define e-learning in a wider meaning - we perceive e-learning as the application of new multimedia technology and the internet in the education system in order to increase its quality and provide access to source data and services, to exchange of information and to cooperation (Compos et al. 2011; Palková et al. 2006). In its narrower meaning, e-learning is understood as education supported by modern technology and implemented by computer networks - intranet and internet. The generally accepted definition of e-learning in European conditions may be formulated as follows: E-learning is understood to be the multimedia support of the education process using modern means of information and communication technology which is usually implemented via computer networks. Its basic task is free access to education in terms of time and space (Zilinskas, 2014; Mikulecká, 2009; Gubalová, 2010).

1.1. Moodle vs Microsoft Class Server

The year 2001 was crucial for LMS. On 11 January 2001, the largest software producer in the world, Microsoft 46, announced a new platform for learning management, the Encarta Class Server. The product was available in five countries from April 2001. In the same year, on 26 November 2001, Martin Dougiamas 47 published the test version of his open source CMS Moodle. These systems have continuously been developed since then and tens of others have simultaneously been created. The Microsoft Class Server system for online learning management is currently integrated into the Learning Gateway portal. The Microsoft Learning Gateway brings a broad portal solution for education. Thanks to connecting a wide range of products and services, this solution is mainly suitable for universities.

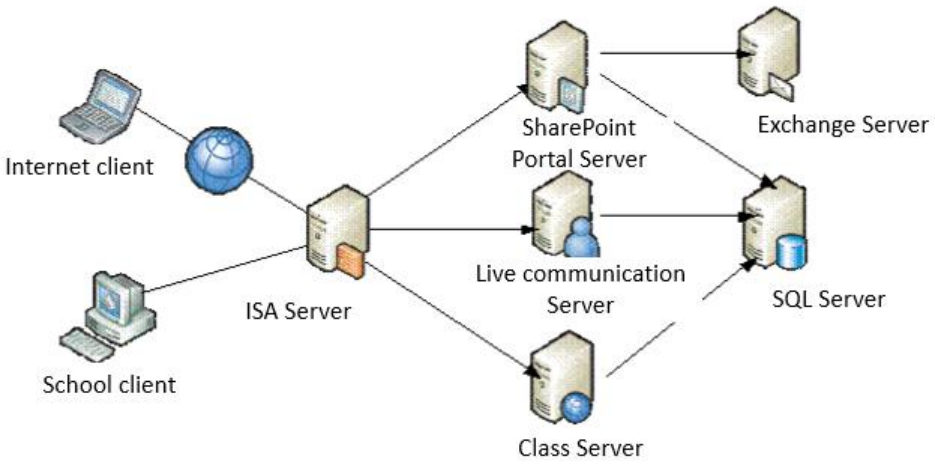

Figure 2. Learning gateway architecture
Source: (according to authors)

The Learning Gateway is based on a SharePoint Portal Server 2003 platform. Microsoft Exchange 2003 provides email services, the administration of personal information including calendars, to-do lists and other communication tools. Cooperation in real time via instant messaging is provided by the Microsoft Live Communication Server. Microsoft Internet Security and Acceleration (ISA) Server ensures safe operation of the whole portal at high level, mainly via a firewall, VPN (option for remote connection to the network) and a proxy server. As the solution's primary database, it is possible to use a Microsoft SQL Server, which mainly contains all websites and information about study results achieved. The hardware infrastructure of servers can be configured using various methods depending upon the number of users, the output of the equipment and the support of coexistence between individual products. To operate the portal, the user would only need a client computer with an internet browser and access via a local network or the internet.

From a teacher's viewpoint, this solution brings:

1. Access to everything necessary for online learning in one place using the same login details,
2. Easy grading without the need to input the same information into various computer systems,
3. Cooperation and communication with colleagues,
4. Access to approved lectures based on standards,
5. A calendar showing all important events,
6. Space for sharing ideas.

For students, this solution brings:

1. Access to all their programs and work from home,
2. An online assistant and access to tutorial groups,
3. The opportunity to see who is online if help is required,
4. More interesting and entertaining learning,
5. The chance for a teacher to grade work quickly,
6. A calendar showing all their tasks,
7. Greater use of the internet.

Moodle (Modular Object-Oriented Dynamic Learning Environment) was created by Martin Dougiamas, an educator and computer scientist who provided CMS support at the University of Perth (Australia). The operation of the Moodle system requires no software investment. The Moodle CMS is open source software and it only requires freely accessible PHP support and a database tool to operate on a web server. At http://moodle.org/downloads/ you can also download all-in-one packages for Windows and

Mac OS X operating systems with all the software necessary: Apache for operating a web server, MySQL for working with databases, PHP for processing source code and Moodle itself. The hardware parameters necessary depend upon the number of users, the applied system modules and the expected performance. Moodle is defined as a course management system which is also confirmed by the fact that the basic unit of the system is a course. It is formed of a text or web site, downloaded files or links to other sites. These can be supplemented by various modules with additional activities: *quiz - allows answers to a given question to be obtained from course participants, *chat – a tool for synchronous communication, allowing teachers and students to communicate in real time on a selected theme, *forum – an asynchronous communication tool between teachers and students, messages are stored in a thematic format, *book – provides clear and simple presentation of study materials and can be divided into chapters, *lesson – consists of several pages of text, so called cards, each with a control question at the end and proceeding to the next page (card) depends upon the answer to this question, *survey – useful for identifying changing opinions between course participants, *written work - allows students to record their ideas, thoughts and notes on the given theme, the teacher can evaluate these notes and therefore motivate the student towards further study, *vocabulary – via this activity, the teacher (or in cooperation with students) can create an encyclopaedia of terms, *test – the following types of questions are available: yes/no, multiple choice, short answer, numeric answer, answer with calculations, assignment, description, random question with the option to choose answers, *creative workshop – a module primarily designed to support team work in the learning process, *wiki – provides space for all the students to work together in creating web documents, *task – allows assignment of tasks to students for them to work on, followed by grading by the teacher, assigning points using a predefined grading scale or feedback to be added. Registration is required in order for a teacher to create and modify courses, and for students to apply for and complete courses. The administration tools also include backup, import of data, etc. According to current information 53, Moodle has 56,018 registered installations from 210 countries, from which 276 e-learning portals operated by the Moodle system have been recorded in Slovakia.

2. METHOD FOR CREATING MATERIALS FOR E-LEARNING

This part of our paper describes the basic rules and principles for creating electronic learning materials suiting e-learning principles. The creation of electronic courses is a process requiring the thorough application of several rules. Their creation should be looked at from two angles (Prucha, 2008):

1. Didactic – this includes the principles which should meet the basic requirements related to the creation and application of learning theorems,
2. Technical – should include resolving problems related to ICT tools, whether software or hardware.

An electronic learning course is a multimedia product which combines a text explanation with animation, video, audio, graphics, graphs and test objects. There are several methods for processing and presenting a curriculum, from a simple text presentation of the curriculum, via interactive tutorials to complex simulations of real situations. All electronic materials should, however, obtain feedback from students in an attractive way in the form of tests, control questions, etc. The most beneficial course should be selected using several criteria:

1. The profiles of potential students (grade and method of study, situation in terms of ICT, etc.),
2. The content, type and method of learning the subject (theory, practical exercises, etc.),

3. The technical and technological options of educational institutions (the quality and quantity of computers, network options, multimedia and presentation equipment, etc.).

Apart from specialisation requirements which an electronic course must meet, it should also meet several other requirements, such as:

1. An interactive, simple and graphically well processed environment,
2. Well-arranged and intuitive controls,
3. Browsing through electronic learning materials in open source browsers with a suitably selected resolution,
4. Simple-to-open applications (not requiring special knowledge by the user).

Before starting to create electronic materials, we must be able to answer the following questions:

Question 1: For whom is the given electronic course designed?

Question 2: Will it only serve as support in a presentation form of learning or is it part of distance learning?

Question 3: Will it be designed for students who regularly work with ICT or will it be designed for the lifelong education of people who have other duties apart from study (employment, family, etc.) and are not used to working with ICT?

Question 4: What will the scope of the explanatory course be and what will the sample tasks be for exercise purposes?

Question 5: How will the student be allowed to practice the studied subject?

When creating electronic learning materials, it is beneficial to follow the given flowchart. We must not forget that individual chapters should be arranged logically and should allow intuitive control of all the learning material so the student does not have to spend time on technical matters, allowing them to start the course and spend their time more effectively by studying information contained within the course.

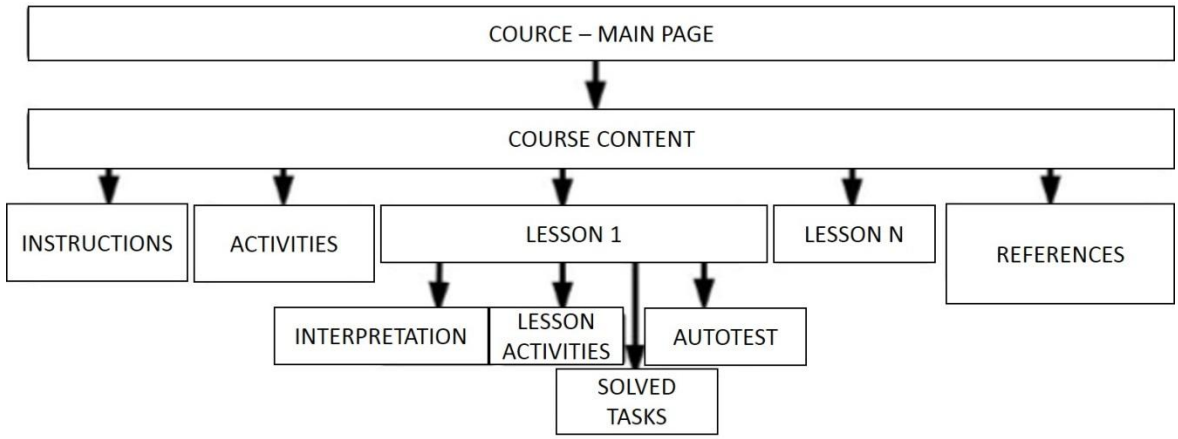

Figure 3. Moodle LMS course architecture
Source: (according to the authors)

The explanatory part should form the major part of the structure of the whole textbook or course. In terms of its form, the majority of texts in courses (lessons) are divided into several basic parts:

1 Introduction,

2 Aims of the study,

3 A time schedule and guide to the study material (e.g. explaining the meaning of the icons used, suggestions of suitable study methods, etc.),

4 Explanatory text supplemented with solved examples, on-going questions, tests, etc.,

5 Summary,

6 Final tests (various questionnaires, correspondence tasks, randomly generated tests, etc.)

7 Vocabulary,

8 Literature, important links, enclosures, etc.

The theoretical parts should be logically divided into chapters and sub-chapters with suitably selected headings, allowing better and more transparent orientation in the structure of the learning material. The structure of individual chapters should be uniform. One of the most important parts of a course is the creation of feedback between the student and their subject of study. This issue can be addressed in the form of tests and auto-tests with varying levels of difficulty and importance. Of equal importance is the successfulness of the student throughout their whole study. The basic philosophy is that the course does not just replace classic textbooks but, using hypertext structures and multimedia elements, provides students with a new, attractive environment and a stress-free way of self-study.

CONCLUSIONS

E-learning initiatives are ubiquitous in higher education. Their expansion has been driven largely by the increase in nontraditional (or post-traditional) learners who desire flexibility in scheduling, geographic location, and access to course resources. In addition to providing greater access for these students, e-learning initiatives can contribute to increased enrollments and revenue, enhance an institution's reputation, and enrich the teaching and learning experience. Institutions take various approaches to delivering e-learning services and technologies. Some manage e-learning services through central IT; others manage e-learning through different or multiple departments. Some institutions provide e-learning services and technologies centrally, and some have a distributed or mixed approach. There are multiple paths for the successful provision of e-learning, and the selection and delivery of e-learning services and technologies depend on factors such as institution size, mission, and the priorities of institutional leaders. The greatest benefit of e-learning remains unchanged since its inception: It can increase enrollment by increasing access. Online programs in particular can reach previously untapped student populations in rural areas, at military installations, and across national borders. E-learning, combined with mobile device proliferation, expands the learning environment to "anytime, anywhere."

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DEPENDENCE OF LONG-TERM UNEMPLOYMENT BY GENDER IN SLOVAKIA

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SUMMARY

Purpose – In this paper I focus on long-term unemployment as a major challenge for the Slovak labor market and compare the causal dependence between long term unemployment and gender as qualitative character.

Design/methodology/approach – Since this is a categorical data, I will use the area of statistical analysis of categorical data. Appropriate test for that type of variable is Pearson's chi-square test of independence. The basis of the test is to compare the correlation of theoretical frequency distribution of the actual frequency and assess the significance of differences between them.

Findings – As is mentioned below on the significance level of 0.05 cannot confirm a statistically significant relationship between long-term unemployment and gender job seekers in the labor market.

Research limitations/implications – The global financial and economic crisis since 2008, indicates in most EU countries to a significant deterioration in labor market performance. For general macroeconomic regularities follows that unemployment fluctuates depending on the stage of the economic cycle. ie., that in times of recession is unemployment rising trend contrary, in good times (expansion) unemployment is falling.

Practical implications – Direct impact on labor market is possible gain from theoretical findings based on exact statistical data.

Originality/Value – This research is based on statistical analysis (Pearson's chi-square test of independence) and primary data analysis of unemployment in Slovakia by gender and time jobless.

Keywords: labor market, long-term unemployment, Pearsons's chi-square test
Research type: research paper
JEL classification:
C12 – Hypothesis testing

INTRODUCTION

Unemployment is one of the biggest challenges for the Slovak economy. This statement is in the long run for the Slovak Republic Economic brake (restrictions) which extends into every area of human life.

The very term "employment services" implies that the formulation and implementation as a key indicator such employment is necessary to provide a high quality service in a system of institutions and instruments for supporting labor market participants in search of employment. Quality of service depends on an effective system of governance of the organization, organizational structure and management system, quality communications strategy and the transmission of information in the organization away from management to employees and clients, but also the opposite direction from clients to staff and management, but mainly from strategic planning services. The strategy in the social context can be understood as a response to frequently changing environment in promoting the mission of social services. Thinking strategically is to be informed and targeted response to the dynamic environment. In ensuring the quality of services is equally important to build a quality system for the development, implementation and evaluation of an individual development plan for each client so that the process is effective.

1. THEORETICAL BACKGROUND

The current situation on the Slovak labor market indicates slight improvement in the structure of the unemployed, and especially risk groups in the labor market. The registered unemployment rate at the end of 2014 decreased slightly (12.5%), but still remained above the European average of 20 s (9.9%), while in absolute terms the greater part of the structural and striking is that the long term effects. The European Commission notes that weak demand for labor and the low number of jobs in connection with low fluctuation of the workforce causing one of the highest long-term unemployment in the EU (10%).

The key factors in poor performance of the labor market include:

- low employment of certain population groups (gypsies),
- the existence of factors discouraging from work (tax burden, the system of social benefits),
- the ability of employment services to assist risk groups of job seekers,
- a minimum geographical labor mobility within the country.

Employment services have limited possibilities to provide specialized and highly individual employment services, especially for those people who are furthest from the labor market, such as:

- long-term unemployed
- low-skilled workers,
- young people
- gypsies

2. RESEARCH METHODOLOGY

Since this is a categorical data, I will use the area of statistical analysis of categorical data. Appropriate test for that type of variable is Pearson's chi-square test of independence. The basis of the test is to compare the correlation of theoretical frequency distribution of the actual frequency and assess the significance of differences between them.

Statistical hypothesis

H0: the characters A and B is not a contingency (addiction).

H1: the characters A and B is a contingency (addiction).

Statistics that in this test I use is called the Pearson χ2-statistics and calculate it as:

$$\chi_P^2 = \sum_{i=1}^{s} \sum_{j=1}^{r} \frac{\left(O_{ij} - E_{ij}\right)^2}{E_{ij}}$$

s-number columns.

r-number of lines.

Oij - actually determined frequency. Oij = (aibj)

Eij - theoretical frequencies. Eij = (ai x Bj) / n

Critical area:

$$\chi 2P > \chi 21\text{-}\alpha\ [(R\text{-}1) \times (P\text{-}1)]$$

where α is the permitted level of significance, respectively (1-α) it is reliability.

$$\chi 21\text{-}\alpha\ [(R\text{-}1) \times (p\text{-}1)]$$

the value found in statistical tables, respectively. in statistical software. If inequality is true, I accept the hypothesis H1, that I can confirm dependence. If inequality does not apply,

there is not enough evidence to I reject the hypothesis H0, ie relationship between the characters A and B cannot confirm.

Depending on the intensity characteristic If you find that the statistical character is a contingency, I can proceed to further analysis and to characterize the intensity of the association. I will use Pearson's coefficient of contingency.

$$C = \sqrt{\frac{\chi^2}{\chi^2 + n}}$$

Pearson's contingency coefficient can take values in the interval <0; 1). When shall the coefficient 0, tells about the independence of variables. It is true that the closer the coefficient value to 1, the stronger the addiction.

3. RESEARCH RESULTS AND FINDINGS

In the following, I evaluated the relationship between long-term unemployment and gender. For the following analysis was used chi-square test of independence of quality and characteristics pertaining to assessing the intensity of research on addiction.I dealt with the significance level of 0.05 (the 95%) statistical hypothesis, which should shape:

H0: The long-term unemployment and gender candidates of employment are not statistically significant dependence.

H1: The long-term unemployment and gender candidates of employment are statistically significant dependence.

Found abundance of unemployed in the various periods of long-term unemployment by gender, are as follows (Table 1):

Table 1. The actual numbers of the unemployed in different periods of long-term unemployment by gender

Gender	**Types of long-term unemployment**		Together
	Long-term unemployment from 1 to 2 years	Long-term unemployment up to 2 years	
Men	45 700	106 400	**152 100**
Women	36 500	102 700	**139 200**
Together	**82 200**	**209 100**	**291 300**

Source: author's compilation in MS Excel

According to relationship (no formula to calculate the chi-square) necessary to express the values of theoretical frequencies (Table 2).

Table 2. The theoretical numbers of the unemployed in different periods of long-term unemployment by gender

Gender	**Types of long-term unemployment**		Together
	Long-term unemployment from 1 to 2 years	Long-term unemployment up to 2 years	
Men	42920.08	109179.92	**152100.00**
Women	39279.92	99920.08	**139200.00**
Together	**82200.00**	**209100.00**	**291300.00**

Source: author's compilation in MS Excel

As we can see from the table above, condition (all frequencies eij ≥ 5) applies, and therefore I continue analysis. In the following, compute chi-square characteristic which I subsequently will be used to check the above hypotheses.

Table 3. Calculation of Chi-square characteristics - the unemployed in different periods of long-term unemployment by gender

Gender	Types of long-term unemployment		Together
	Long-term unemployment from 1 to 2 years	Long-term unemployment up to 2 years	
Men	180.05	70.78	**250.83**
Women	196.74	77.34	**274.08**
Together	**376.79**	**148.12**	**524.91**

Source: author's compilation in MS Excel

The calculated value of χ2 = 524.92, than I compared with the critical border crossing χ21 α e[(R 1). (S - 1)], where (r - 1) = 5-1 = 4; (p - 1) = 5 - 1 = 4 and (1 - α) = 0.95. Then χ20,95 [291299 degrees of freedom =] = 200,000 (the value obtained from statistical tables, respectively. MS EXCEL CHIINV) and the subsequent comparison (χ2 = 524.92) <(χ20,95 [291299] = 200,000) at a significance level of 0.05 Do not reject the hypothesis H0. This means that the significance level of 0.05 cannot confirm a statistically significant relationship between long-term unemployment and gender job seekers in the labor market.

CONCLUSIONS

Public employment services should be given a mandate to fulfill leading roles, in order to guarantee an optimal functioning of the labor market as a key factor for the success of the Europe 2020 strategy Continuous follow-up of the labor market and employment services gives the first prerequisite for the fulfillment of this strategic goal. Only economy that creates attractive jobs can attract a skilled workforce and give a basis for sustainable development of the country in a dignified social security of its citizens.

The interdependencies of the two characters categorical (gender, long-term unemployment) showed that there is no significant dependence of these characters. Further research should focus on a comparison of other characters such as a relationship between long-term unemployment and age, region, education. The importance of comparison is precisely set in subsequent improved employment services in the Slovak labor market is crucial for the re-employment of long term unemployed people.

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THE POSSIBILITIES OF THE CENTRAL-HUNGARIAN REGION WITHOUT THE CAPITAL

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SUMMARY

Purpose - The primary goal of our study is to explore the territorial differences in the Central-Hungarian NUTS II region.

Approach - By the measurement of GDP per capita, the Cohesion Policy of the EU distinguishes three levels of development. Based on this method the EU ranks developed, transitional and less developed regions. In the time of EU accession Hungary drops into the second part of programming period 2000-2006.

Findings - The Central-Hungarian region (which includes the capital and Pest county) was classified as a less developed region similarly to all the six "rural" regions, thus the area received the highest amount of supporting sources. In the programming period 2007-2013 the Central-Hungarian region belonged to transitional regions, so it received continuously decreasing subsidies. In the case of Budapest the value of GDP per capita refers to development, but based on the measurement Pest County was supposed to belong to the transitional areas.

Research limitations/implications – Between 2014-2020, the whole area of the Central-Hungarian region getting into the level of developed region. It means that this area is not entitled anymore to get Cohesion sources.

Practical implications – Our study will draw attention the huge territorial differences between the capital and its agglomeration and surrounding areas.

Originality/Value – On 30th October, 2015 the Pest County Assembly made a decision about Pest county's disruption and declared its intent to create a separated region. As long as the government stand for the idea and it met with a warm response in Brussels, from 2018 Pest County could operate as an independent region.

Keywords: Regional policy, NUTS 2 level, Central-Hungarian region, Regional differences
Research type: case study
JEL classification:
R58 – Regional development policy
R11 – Analysis of growth, development and changes

INTRODUCTION

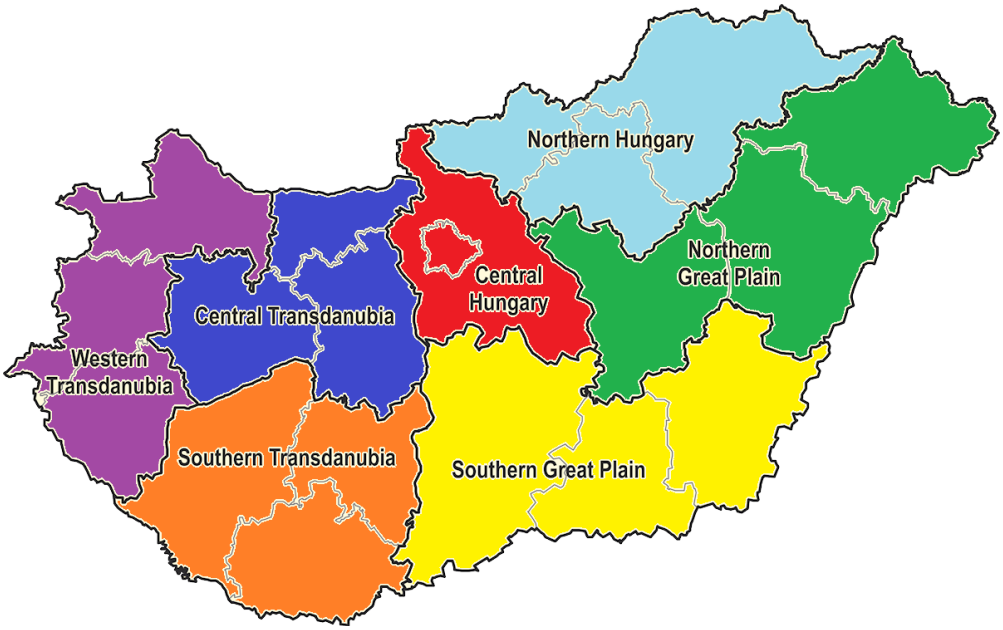
The Central-Hungarian region (which includes the capital and Pest County) was classified as a less developed region similarly to all the six "rural" regions, thus the area received the highest amount of supporting sources. In the programming period 2007-2013 the Central-Hungarian region belonged to transitional regions, so it received continuously decreasing subsidies. In the case of Budapest the value of GDP per capita refers to development, but based on the measurement Pest County was supposed to belong to the transitional areas. Since (and before the) EU accession the separation was always a big question in the political life but the different initiatives were not successful.

According to the previous description, the primary goal of our study is to explore the territorial differences in the Central-Hungarian NUTS II region. Furthermore, our basic objective is to examine the causes of the economic and social issues in the case of both separated constituent administrative unit. As a methodology we choose to analyze some case studies and articles. The main question is that development or the lagging behind situation was typical of the two NUTS III actor of the region in the programming period 2007-2013?

1. THEORETICAL BACKGROUND

The Nomenclature of Territorial Units for Statistics system in its everyday abbreviation NUTS system is the only unified territorial classification system in the European Union. The framework has five levels, it made up of three regional and two local levels. The forming and the regulation of the European Union's Cohesion Policy – similarly to some other specialties – happens in NUTS II, regional level. The aim of the Cohesion Policy is - with providing balanced spatial development - to subserve the releasing of territorial differences between the different regions of the European Union.

The classification is always the role of the member state then after the approval of the EUROSTAT and the European Commission it comes in force. In 2004, when 10 states were joining to the EU, the aspirants could choose from two alternative ways. The capital was classified as an independent NUTS II region (for example Slovakia, Czech Republic and later Romania) or according to the other way, the capital and another (already existing) administrative unit together constitute a NUTS II region. On Figure 1. We can see, that Hungary chosen the latter version that is Budapest and Pest County were merge into one NUTS II region.



Source: hungaryforyou.wordpress.com, 2015

Figure 1. NUTS 2 regions in Hungary

In the categorization process of NUTS levels, the decision makers take only one standpoint into account which data still determines the territorial definition up to this day. This aspect is the onsite area's population. Table 1. shows the measurements of the limitation in relation with the first three regional levels.

Table 1. NUTS level's definition by population

Level	Lowerlimit	Upper limit
NUTS 1	3 000 000	7 000 000
NUTS 2	800 000	3 000 000
NUTS 3	150 000	800 000

Source: Szabó, 2015

According to the above-mentioned criteria, both of Pest county (with 1,2 million population) and Budapest (with 1,7 million people) has the rights to form an independent region.

By the measurement of GDP per capita, the Cohesion Policy of the EU distinguishes three levels of development. Based on this method the EU ranks developed, transitional and less developed regions. In the time of EU accession Hungary drops into the second part of programming period 2000-2006. The Central-Hungarian region (which includes the capital and Pest County) was classified as a less developed region similarly to all the six "rural" regions, thus the area received the highest amount of supporting sources. In the programming period 2007-2013 the Central-Hungarian region belonged to transitional regions, so it received continuously decreasing subsidies. In the case of Budapest the value of GDP per capita refers to development, but based on the measurement Pest County was supposed to belong to the transitional areas. Between 2014-2020, the whole area of the Central-Hungarian region getting into the level of developed region. It means that this area is not entitled anymore to get Cohesion sources.

Territorial differences can be experienced within Pest County, of course. This statement was supported by Kis and Goda (2013). As we can see from their research there are huge territorial differences within Pest county thus we cannot handle (or manage) it as a homogeneous region. Kis and co-authors (2013) in another investigation proved that the competitiveness of the settlements decreases while their distance from Budapest is increasing. By the examination of the settlement-level they could determine some relative peripheral areas (Kis at al, 2013). Based on the research of the Ministry for National Economy (2015) we can conclude that the average development level of Pest County is much lower against Budapest. Moreover, Pest County itself is divided by marked internal inequalities. These inequalities mainly arise between the suburban zone (agglomeration settlements which are in strong, daily relation with the capital) and the areas out of the agglomeration zone. Considering practically all of the economic and social development indicators the outside zone even certain parts of the agglomeration zone are lagging behind. Thanks to this kind of difference, these peripheral areas of Pest County (in development perspective) can rather compare with the neighbor territories of the less developed regions (Ministry for National Economy, 2015). The separation of the Central-Hungarian Region could be a solution to prevent the lagging behind situation of the internal peripheral areas and to start up a development career because these peripheral territories could be the winners of the cohesion funds.

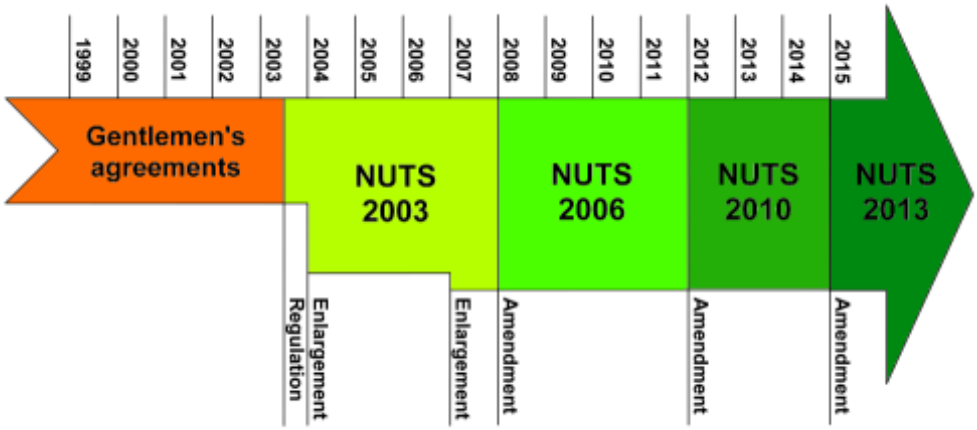
2. RESEARCH METHODOLOGY

The methodology of our research was based on analysis of the theoretical and historical background. Out of the statistical data we chosen the GDP per capita and the available EU subsidies for Pest County.

The thought of separation of the region dating back one and a half decade before, when in 2002 the Pest County Assembly initiated a referendum. The aim was to vote that Pest County has have a chance to create an independentt region. The Pest County Court didn't

allow this initiation, so the idea of the seven region version was born at this time, which is valid since the EU accession of Hungary.

After the EU accession a three-year long moratorium came into force in the case of modification of NUTS system thus the earliest date could have been 2006 to modify the limitation of seven NUTS II regions. However in spite of the motivation of EUROSTAT the modification failed in the absence of the Hungarian government's supporting activity. As we can see on Figure 2., the member states has the possibility to modify the NUTS system in every three years.



Source: pestmegye.hu, 2015.

Figure 2. The development of the NUTS system

The next year when Hungary had a chance to the division was in 2009. The Hungarian government asked for delay but despite the permitted delay they didn't apply for the modification of NUTS system at the European Committee nor in 2010

In 2013 the application has had no effect because the permitted new classification would come in force on 1th of January, 2015. (Those modifications which are supported by the national government, the European Committee and the EUROSTAT come into force in the second following year after the application.) Because this date is the second year of the seven year planning period, the EU subsidies were already declare, so the process of division didn't start nor in 2013.

On 30th October, 2015 the Pest County Assembly made a decision about Pest county's disruption and declared it's intent to create a separated region. As long as the government stand for the idea and it met with a warm response in Brussels, from 2018 Pest County could operate as an independent region.

3. RESEARCH RESULTS AND FINDINGS

Why the separation is so important? Pest county's self-sufficing is essential because the development level of the regions is determined by the GDP per capita in comparison to EU. According to this the following data have been create:

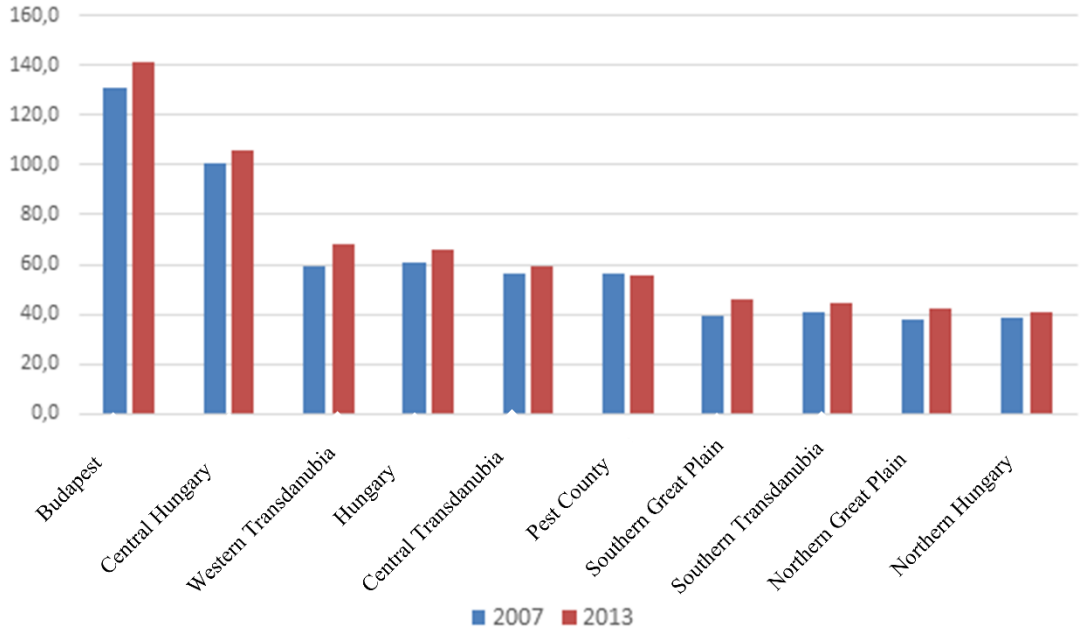
- the measurement of cohesion and rural development subsidies of
- the range of eligible activities and the rate of co-financing
- source-concentrating limitations in relation with support
- the measurement of supports for enterprises' (maximum supporting intensity). (Csath, 2015)

As we mentioned above in the EU the measurement of support per region is determined by the GDP per capita. The way of this calculation is that what percentage the GDP per capita has in the average of the EU. The results appeared in a three-point scale:

- GDP per capita is under the average of EU 27: **less developed region**,
- GDP per capita is between 75-90% of EU 27's average: **transition region**
- GDP per capita above 90% of EU 27's average: **developed or competitive region**.

This definition is also determines the rate of the obligatory national contribution beside the determination of the EU subsidies. If the member state didn't assume this co-financing, then the states couldn't reach these amount of supports.

Based on the above-mentioned limitation – the previous planning period „convergence region" qualification – by the impact of the capital's outstanding performance the region getting into the transition region category. The economic efficiency in planning period 2007-2013 of the Hungarian counties and the capital were shown on Figure 3.



Source: Csath, 2015.

Figure 3: GDP per capita in the average percentage of EU 27 (based on PPS, %)

As Figure 3. Shows, Budapest has an absolutely leading position in a rank. Its economic efficiency is so high volumed that it catches up Pest County's slightly 55 % level until the average of the European Union. Certainly it doesn't mean that it could motivate any kind of development in Pest county, the thing is , that their merged, aggregated average seems positive in the statistical point of view.

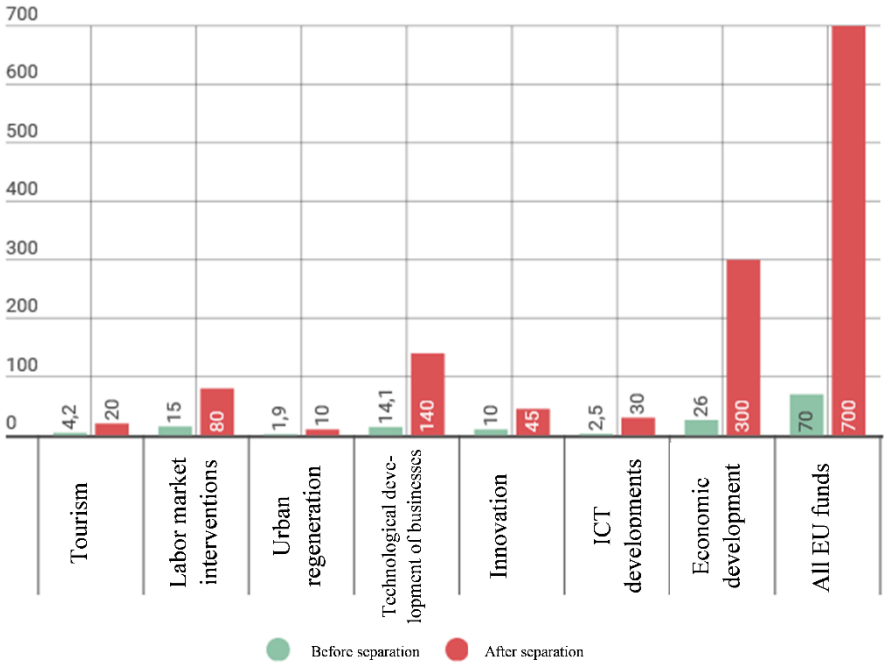
We can see, that two Trans-danubian region follow Budapest and the Central-Hungarian region, namely the West-Transdanubian and the Central-Transdanubian convergence, less developed regions. After that Pest County is the next one, so its position is in the middle of the field, then the rest four convergence regions came after.

If we analyze the development process under the planning period not just the ranking position in 2013, we could get a totally different picture. It is clear, that the most highlighted development level belongs to Budapest which was followed by the West-Transdanubian Region. Overall we can conclude that all the seven Hungarian NUTS II region have developed between 2007-2013. If we examine separately the two administrative units (Budapest and Pest County) of the Central-Hungarian region we should facing several mismatching data.

Based on this Pest county is the only one area under the 2007-2013 programing period which was not developed and what is more its economic efficiency was decreased 55% from 56%.

We could talk about a significant problem because in 2004 this value was 40% which means 16% raising in the first three years, while in the seven year planning period it means 1% decrease – only in this case in the country.

In the time of the ongoing 2014-2020 programing period's planning period the Central-Hungarian region has already belong to the developed (competitive) regions, according to this the region is entitled for slight amount of EU supports. Figure 4. contains the most significant details and edifications of this research where we can see eight categories about the ongoing limitation and the measurements of entitled subsidies.



Source: Dzindisz, 2015.

Figure 4: Available EU subsidies for Pest county (bill. HUF)

Supports in relation with tourism-development would raise five times more, while labor-market targeted subsidies could increase five and a half times more than before the separation. The county for urban regeneration and innovation development purposes similarly to the previous activities could get five times more support after the division. The three most significant sector – approximately with ten or twelve times more subsidies – will be the developments of small and medium-sized enterprises, the support of info-communication technologies and the economic-development arrangements.

As a summarize we can say that current approximately 70 billion HUF supporting amount could be raise ten times higher after the independent NUTS II region establishment.

CONSLUSIONS

We can clearly see from our study that the previous and the present programing period for Pest County the „symbiosis" with Budapest was disadvantageous. During the two planning period the county didn't received its deserved European Union subsidies. Based on the previous analysis and data these facts obstructs the county to improve its competitiveness. The winner of this integration was Budapest because without Pest county Budapest could not be able to reach such a big amount of EU supports nor in 2004-2006 and 2007-2013. With the help of these aids Budapest's development and economic performance is unbroken.

According to the latest researches only 20% of the obtained tenders (applications) gets to Pest County the remainder 80% goes to the capital, Budapest. Thanks to this information the „development-scissor" keen on opening because if the capital develop continuously, Pest County will lag behind

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REGIONAL ANALYSIS OF GDP PER CAPITA IN SLOVAKIA

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SUMMARY

Purpose – The introduction of macro-economic aggregates allowed to measure production and consumer potential of individual national economies and quantify both economic theory. The purpose of this article is to realize regional analysis of economic development via GDP per capita in the Slovakia during period 2002 – 2013. The purpose is to point out differences between regions in the Slovakia and also these differences statistically confirm or reject.

Findings – In this contribution we made regional analysis of economic development in the Slovakia via GDP per capita in 2002 – 2013. We identify differences between regions in the Slovakia also these differences statistically demonstrate. With using of selected statistical methods we conclude statistically significant differences between individual regions of the Slovakia.

Design – The article will be designed in form of an analysis.

Research implications – The analysis clarify situation about expressive differences among regions in the Slovakia.

Practical implications – The results of this research can be used for regional institutions in decision making process by application different strategies.

Originality –This type of research can help by the implementation of regional policy.

Keywords: GDP, development, Bratislava Region, regression, one-way analysis of variance.

Research type: research paper

JEL classification:

R10 – General spatial economics

R12 – Size and spatial distributions of regional economic activity

O11 – Macroeconomic analysis of economic development

INTRODUCTION

Gross domestic product is the basic macroeconomic indicator that is used to measure the performance of the economy and is one of the fundamental macroeconomic variables. It is a main indicator of economic theory and practice and it is used for evaluation of an economic growth. GDP is used to measure a success of social development and at the same time, according to some experts, is GDP also the source of improving the quality of life in society. GDP measures "strength" of the economic system with using of output volumes that pass through standard market valuation.

Terms, which have the consequence in human resources management, can be divided into three basic groups. Usually it is the following ones: the external conditions, internal and environmental conditions resulting from the characteristics of employees. The decision of the organization to hire additional staff, reduce the current staff levels, possibly increasing their wages in relation to the cost of increase to living costs are largely influenced by macroeconomic conditions. It is therefore important to monitor these external conditions, which in the national economy to a large extent may affect the workforce, and hence the

employees. Development and interpretation of the results of the national economy in terms of aggregate output can by Kotulič (2011) greatly help to clarify the situation on the labor market and thus to diagnose conditions that to a greater extent influence the behavior of people of working age.

1. THEORETICAL BACKGROUND

Gross domestic product (GDP - Gross Domestic Product) is the most important macro-economic measure, which can be defined as the market value of final goods produced in a country over a given time period (Frank, Bernanke, 2003).

Gross domestic product (GDP or GDP - Gross Domestic Product) as an essential macroeconomic variable in the evaluation of development and performance of Slovak economic can be assessed on the basis of macroeconomic results. These results can be quantified and expressed in various ways. According to economic performance can be understand a specific monetary value generated by the economy over time, through a system of national accounts. Individual companies, multinational corporations, small businesses (entrepreneurs) contribute to the overall GDP by own production, manufacture, or providing services. We can conclude that gross domestic product is the sum of the monetary value of final goods and services produced and provided in the economy in a given period (usually 1 year) by production factors perform on certain territory of the country, regardless of who is their owner. The owner of these factors of production can be domestic, but also foreign owners.

Gross national product (GNP) serves to calculate the total economic activity of the economy. It expresses the total monetary value of the national product. GNP represents the most comprehensive measure of the total production of goods and services of the country. It is the sum of the monetary values of consumption, investment, government purchases of goods and services, and net exports from national point of view. (Samuelson, Nordhaus, 1992).

GDP is the sum of final goods and services produced in a given economy. Under the term final product we understood the product that individual consumers, firms, state organizations and foreigners manufactured and sold for final consumption or investment (Lisý, 1999).

The third view of GDP offers Vlček et al. (2003) who define GDP as the sum of all final goods and services produced in the country in given period. "To the final production goods we include all products and services that are assigned to final consumption (private consumption), to the purchase of tangible and intangible fixed assets by entrepreneurs (private investments), to purchase goods and services from public finance (public, government consumption), and net exports.

Regional GDP is thus calculated as sum of added values by the industries in region and the taxes on products reduced by subsidies on products. (Gonos, Nemec, 2011).

Source: own proceedings

Figure 1. Slovakia – regions (2015)

As we deal with regional GDP, we use definition of region in accordance with Announcement Statistical Office no. 438/2004, which identifies within the regions of Slovakia about the following definitions:

Korec (2005) described the region as a territory defined by their borders with the required qualitative and quantitative characteristics and specific position in the hierarchy (geographical) organization of society. Hančlová, Tvrdý (2004) argue that region can be defined on basis of relations or on basis of homogeneity. In case of the definition on basis of relationships we talk about merging the areas which have strong spatially relation. In the case of homogeneity, we talk about that the merged homogeneous territory by selected elements or on the bases of functionality. Hudec et al. (2009) provides a definition of the region from the systemic point of view. He noticed: "the region is a complex spatial open dynamic system with many elements of varying quality and dense relations, and is richly structured and has a wide variety of different properties."

2. RESEARCH METHODOLOGY

Regional gross domestic product analyzing in terms of time on the basis of the available data from the Statistical Office and subsequently compared with the average of the EU 28.

We use data of GDP at current prices in the article, therefore we compare regions in one country with one price development.

Differences between GDP per capita in individual regions are tested by one-way analysis of variance. First basic assumption (normal distribution) of using this method is tested by Shapiro-Wilk test according to the formula:

$$SW = \frac{(\sum u_i x_i)^2}{\sum u_i^2 \sum (x_i - \bar{x})^2}$$

where:u_i - constant

x_i - value of i-th statistical unit

$\bar{x}$ - average value of the variable

Second one is tested by Levene test according to the formula:

$$W = \frac{(N-k)}{(k-1)} \frac{\sum_{i=1}^{k} N_i (Z_i - Z_{..})^2}{\sum_{i=1}^{k} \sum_{j=1}^{N_i} (Z_{ij} - Z_{i.})^2}, \text{ kde } Z_{ij} = \begin{cases} |Y_{ij} - \bar{Y}_{i.}| \\ |Y_{ij} - \tilde{Y}_i| \end{cases}, Z_{..} = \frac{1}{N} \sum_{i=1}^{k} \sum_{j=1}^{N_i} Z_{ij}, Z_{i.} = \frac{1}{N} \sum_{j=1}^{N_i} Z_{ij}$$

where: k - number of different groups to which the sampled cases belong
N - total number of cases in all groups
N_i - number of cases in the *i*-th group,
Y_{ij} - value of the measured variable for the *j*-th case from the *i*-th group
$\bar{Y}_i$ - mean of *i*-th group
$\tilde{Y}_i$ - median of the *i*-th group
$Z_{..}$ - mean of all Z_{ij}
$Z_{i.}$ - mean of the Z_{ij} for group *i*.

In case of assumptions rejection is signification of differences between regions tested by K-W test:

$$Q = \frac{12}{n(n-1)} \sum_{i=1}^{I} \frac{T_i^2}{n_i} - 3(n+1)$$

where: n - the total number of observations across all groups
n_i - number of observations in group *i*
T_i^2 - rank (among all observations) of observation in group *i*

The above mentioned methods are described in detail by Hindls, Hronová, Seger (2002), Pacáková et al. (2009), Cyhelský, Kahounová, Hindls (2001) and Anděl (2007).

We tested annual data from period 2002 – 2013. The analyses are processed in MS Office, Statistica 12 and Statgraphics.

3. RESEARCH RESULTS

At the regional level, we analyze the regional gross domestic product per capita at current prices for the period since 2002. For clear arrangement, we present every second year of the data in the table 1.

Table 1. Regional gross domestic product per capita (in EUR, at current prices), 2002 – 2013

Region	2002	2004	2006	2008	2010	2012	2013
Bratislava Region	15 687,4	19 410,7	24 342,9	29 162,7	29 833,6	32 281,5	33 259,6
Trnava Region	6 933,6	9 008,5	12 648,0	14 424,7	13 909,9	14 918,6	14 790,6
Trenčín Region	6 365,9	7 964,4	9 750,0	11 431,5	10 962,2	11 791,3	11 929,2
Nitra Region	5 863,1	7 559,6	8 893,2	10 644,7	10 281,7	11 974,0	11 919,2
Žilina Region	5 678,1	6 947,5	8 433,8	10 961,9	10 964,1	11 506,6	11 663,0
Banská Bystrica Region	5 996,5	7 064,0	7 703,8	9 501,5	9 155,5	9 495,6	9 884,8
Prešov Region	4 299,1	5 141,5	5 700,4	7 396,6	6 999,7	7 933,4	8 097,5
Košice Region	6 267,5	7 562,5	8 794,9	10 384,8	9 774,7	10 461,4	10 629,4

Source: own processing on the basis of data from the database STATdat

One can see that in the monitored period the GDP per capita increased at most in the Bratislava Region, Trnava Region and Nitra Region. The lowest growth in this period was recorded in Banská Bystrica Region and Prešov Region. For the comparison with the average

GDP per capita in EU 28 we illustrate the percentage of individual regions in the EU-28 GDP in 2013.

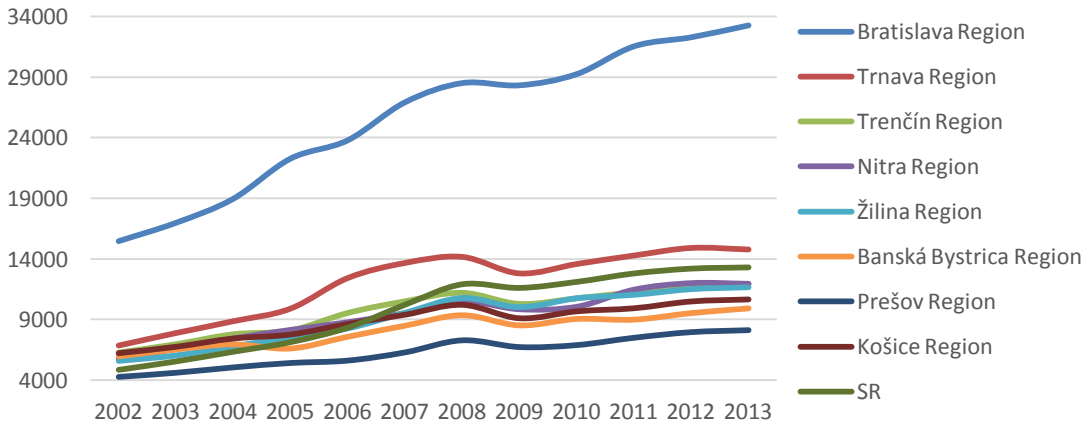
Table 2. Regional GDP per capita at constant prices in 2013 (EUR)

Region	2013	Comparison with the average EU 28 (%)
Bratislava Region	32768	128,5
Trnava Region	14572	57,1
Trenčín Region	11753	46,1
Nitra Region	11743	46,1
Žilina Region	11491	45,1
Banská Bystrica Region	9739	38,2
Prešov Region	7978	31,3
Košice Region	10472	41,1

Source: own processing on the basis of data from the database EUROSTAT

We can see that the best performer from the all regions is Bratislava Region, which reaches 128,5 % of the average of EU 28 and the worst is the Prešov Region and Banská Bystrica Region. Both of them is less than 40 % of the average EU 28. The causes mainly related by us to the marginal eccentric position of the region, with low availability of a large transport infrastructure (particularly motorway) and weak competitiveness and innovation performance of the industry. We note that, despite the fact that the Bratislava Region was in some way discriminated against and excluded from drawing of EU funds in accordance with the first objective of convergence and other regions have benefited from financial resources, regional differences are more and more increasing.

For better visual vies changes we present also a figure showing the trend growth of GDP per capita.



Source: own processing based on STATdat database

Figure 2. Trend of GDP per capita at regional level in the years 2002 – 2013 (in EUR c. p.)

In all regions it is possible to notice a decline in GDP per capita in the years 2008 – 2009. It is largely influenced by the negative impacts of the global economic crisis, which resulted in deterioration of the business environment in the regions of Slovakia. This downward trend in GDP was stopped in 2010 and the rebound of the growth in the years 2010-2011 can be observed in all regions except the Banská Bystrica Region.

Next, we can look at annual GDP growth in the period 2002 - 2013 and we can found the following:

Table 3. Coefficients of linear regression functions at national and regional level, 2002 - 2013

Region/State	a*[1]	b	r^2
SR	37 414	3 340,20	0,9260
Bratislava Region	15 444	1 633,60	0,9467
Trnava Region	7 458	726,25	0,8275
Trenčín Region	6 581	503,39	0,8782
Nitra Region	588	547,61	0,9474
Žilina Region	5 482	581,65	0,9252
Banská Bystrica Region	5 965	345,62	0,8795
Prešov Region	4 107	349,52	0,9495
Košice Region	6 469	383,48	0,8648

Source: own processing on the basis of data from the Statistical Office of the Slovak Republic

The GDP development in 2002 continued in growth tendency from previous years, when increased by 4.7%. To GDP growth contributed mainly the domestic demand, particularly household consumption. Creating of the new investment stagnated. The Government consumption rose although less in the comparison with the previous years. In the same way, the export growth slightly decelerated.

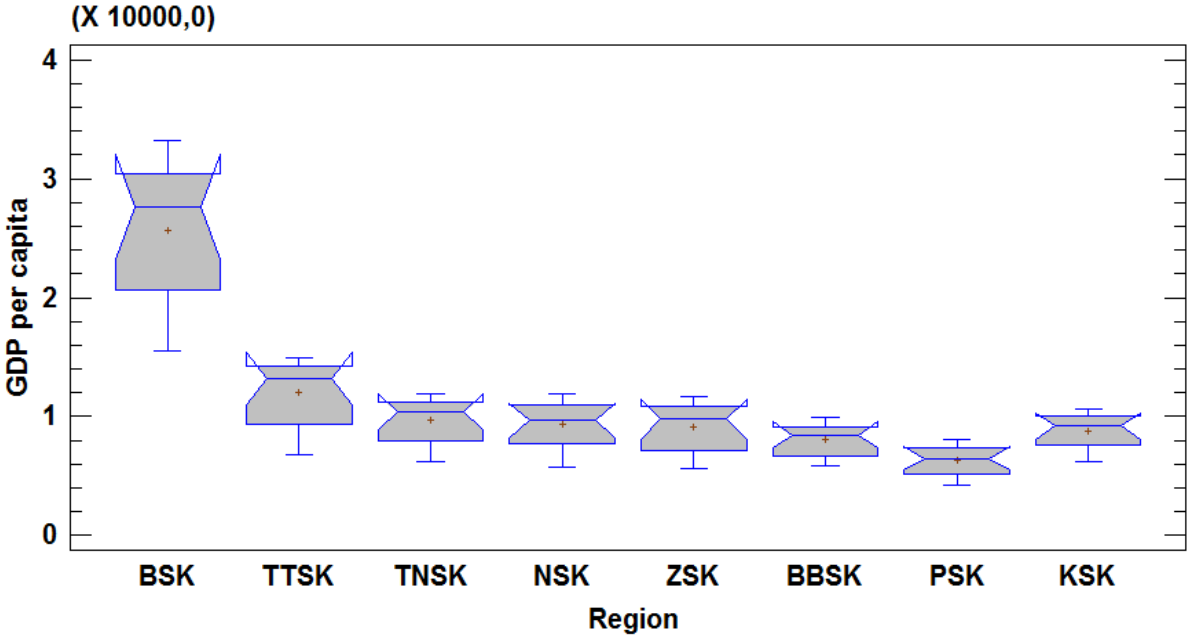
4. FINDINGS

From the perspective of the development of GDP in the three economically weakest regions of Slovakia, we observe approximately three times lower level of this indicator in comparison with the strongest Bratislava Region. Trenčín Region, Nitra Region and Žilina Region are moving at a very similar level and Trnava Region, the strongest one after Bratislava Region is about twice weaker than the Bratislava. Regional disparities to a certain extent also relate to a different place of employment and place of residence of many of Slovakia's population. Several regions in the Slovak Republic do not provide enough jobs and people are leaving to the cities with higher labor supply. Areas characterized by a high number of migrant workers have often very high regional GDP per capita (in comparison with the surrounding regions).

Based on the above analysis, we note that while at the national level GDP rose by 3 340,20 million Euros, regional differences are significant and differ from the national. The Bratislava Region had annual GDP growth of 1633,60 million Euros while the Prešov Region grew only by 349,52 million Euros. The difference represents 1 284,08 million of Euros, which is evidence of the strong regional differences. We are noted that inter-regional disparities are high and has not tendency of cohesion, but rather the differences are increasingly exacerbated which effects of the overall social development of regions. In annual rise of GDP by 1 633,60 million of Euros in the Bratislava Region we can see a social development and improving the standard of living in a completely different extent than in regions where annual growth reaches only about 350 to 500 million Euros.

One of assumptions (homoscedasticity) was not confirms by Levene test ($p \leq 0,001$). For this reason further analysis was processed using K-W test.

[1] Notes – a – intercept
b – regression coefficient
r^2 - coefficient of determination



Source: own calculations

Figure 3. Box plots - regional GDP per capita (2002 – 2013)

K-W test confirmed differences between GDP per capita in individual regions of Slovakia (K-W: 54,513, $p \leq 0{,}001$). As different region using Bonferroni method was marked Bratislava region. This region was significantly different to all other (except Trnava Region) and Prešov Region with 2 significantly different regions.

CONCLUSIONS

Regional GDP in Bratislava Region is significantly higher than in other regions of Slovakia, which in 2011 reached only 24 – 45 % of the total GDP in Bratislava Region. As regards the development over time in all regions it may be observed decline in the level of GDP per capita. The period 2008 - 2009 is largely influenced by the negative consequences of the global economic crisis. This downward trend in GDP was stopped in 2010 and growth in the years 2010 - 2011 can be observed in all regions except Banská Bystrica Region.

Regression analysis confirm similar trend of GDP per capita development in each region which is represents by regression coefficient (b). Indicator grows in each region with grow rate at least on 5.92 %. The main difference is represented by interception which variation range was almost 31000 EUR.

Using selected mathematical-statistical methods, the difference between regions of Slovakia has been confirmed. The difference was mainly represented with Bratislava Region. This result will represent the basic point of further research and will be extended by other more detailed analysis (e.g. regional analysis of other macroeconomic indicators as unemployment, salary, etc.).

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Databases
14. Statistical office of the Slovak Republic – RegDat, Slovstat, DATAcube, STATdat

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IDEA BREEDING FARMS

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SUMMARY

Purpose – The article will present a success story and the decade-long experiences from Hungary: Idea breeding farms can be organized in the frames of the always given structures in the higher education without any additional resources. This form of startup-support in the SME sector can be seen as a decisive factor of regional development, because the sovereignty of researchers and lecturers in co-operation with innovation experts demonstrates unlimited force fields. This form of startup-support is a massive realization of the "dual education concept" since ever.

Design/methodology/approach – The article will be designed in form of a brief case study, where own experiences and facts of similar movements will be described and discussed in a structured way.

Findings – Idea breeding farms should be established and they should co-operate with each other to learn from each other and to support the insulated force fields through the force of the mass. The key persons for innovation, for innovative education are always the experts having direct contact to students and enterprises in the same time, and where expert of the higher education are entrepreneur and know how owner it the same person. This special constellation should and can be cloned and also searched for parallel constellation having the same efficiency in startup-support for SMEs. An idea breeding farms is namely a special form of doctoral, scientific schools. It is a old/new concept of incubation based on rationality and sovereignty.

Research limitations/implications – The idea breeding farms need a lot of factors being existent in the same time and in the same space. The frequency of occurrence can be increased through information networks, objective evaluations of activities, but not really with orders. The logic of idea breeding farms can be adapted e.g. in the V4 countries. The adaptation needs a common language (English). The international information network can provide further best practices and direct communication possibilities between active participants of this network. An international expansion could also be helpful for startups aiming international market presence.

Practical implications – In case of each researcher/lecturer/expert/parent, it is possible to derive the value of the potential (like estimation of innovation potential for enterprises) being able to play a leading role in an idea breeding farm. Parallel, the estimation of the potential indexes produce a simulator, where each person can be evaluated in form of online expert systems based on the term-creation capacities of artificial intelligence solutions.

Originality/Value – The case study itself is only a report. The methodology of estimation of person-oriented innovation potentials can be seen as one of the most relevant direction of developments, where human

capabilities should be transformed into source codes. The same methodology is able to derive bubble effects, which show both for the enterprises and the higher education the directions having innovation needs.

Keywords: artificial intelligence, objectivity, information alliance, innovation management, knowledge management, learning organization, competence matrix

Research type: case study

JEL classification:

Z00 – Other special topics

INTRODUCTION

The following case-study tries to summarize the results of a data-driven [Pitlik, 2009] experiment from the last 10 years (Pitlik, 2010). Our purpose is: to present a success story about decade-long experiences from Hungary. Idea Breeding Farms are a rationality maximized concepts to co-operate with the market and the university, where ideas of Students should support innovative changes of the given solutions based on strict quality management offering by teachers and researchers. Idea breeding farms can be organized in the frames of the well-known structures in the higher education without any additional resources. Therefore, Idea Breeding Farms could be initiated at once everywhere. This form of startup-support in the SME sector can be seen as a decisive factor of regional development, because the sovereignty of researchers and lecturers in co-operation with innovation experts demonstrates unlimited force fields to coach ideas of Students originating as soon as possible in the innovative education principles. This form of startup-support is a massive realization of the "dual education concept" since ever.

1. THEORETICAL BACKGROUND

Idea Breeding Farms are a few alternatives mentioned in the literature, like scientific papers of students (Bocsi, 2010 and Pitlik, 2015), innovation competitions/awards (Markus, 2010), incubation (Kálmán-Farkas-Dékány, 2014), home works with real challenges for teams and/or individuals, specific seminars, MOOCs (Owusu-Boampong/Holmberg, 2015), coaching effects, etc. Idea Breeding Farms include all advantages of the alternatives and even customized for each student in a specific way. Idea Breeding Farms are therefore a kind of synthesis of each force field trying support students to be creative.

The leading principles of the Idea Breeding Farms are as follows: Learning materials may never be designed without clear examples. Learning purpose is never the repetition of well-known thesis. Students should learn to detect potential problems. Learning is the process to identify evidence proving elements behind each declaration. Knowledge is only that constellation, what can be transformed into source code – each other human activities are parts of arts. Arts and science can not be ranked. But: The magic of words, the presentations, and data-visualization effects are important to catalyze human intuition processes. A text itself may not be seen as final form of knowledge representation. For each problem, a lot of possible solutions should be derived and the best solution should be detected based on a large set of error or fitting definitions. Tasks are not problems! Task should be done. Problems should be interpreted, classified, matched to solution classes. Problem detection delivers innovative situations in a direct way, where at least already known solution templates should be used for supporting real processes in a micro-environment. Hermeneutics of solutions should also be transformed to source codes. There is always a better solution, if their good-better-best scale could be defined in advance. Be always better than the best on the market or in the class or in the neighborhood!

Concerning the theoretical background, we should also take note about the risks of technology-oriented movements like Idea Breeding Farms: In Gősi's (Gősi, 2011) opinion, the development of information technology consequentially increased the fear of a common

destruction-effect, which is confirmed by both the technophile and technophobe phenomenon. Between these extreme points of view, there exists a techno-realism movement, which aims to adjust to technology in a realistic way, not overestimating or underestimating it. The movement states what it means to adjust to technology in a realistic way in eight points: Technology is not neutral. Each technological solution has a direct or indirect social, political, economic meaning, and its utility is determined. The internet is revolutional, but not utopistic. The internet has an informative characteristic, reinforcing and negative. Various governments have such a huge role in electronic changes, because they have to accept the rules and traditions of the cyber-industry, and its right to integrate the traditional population into itself. The technological standards and data security are too important to be defined into market questions. Information is not knowledge. It's a big mistake to confuse the information flow with knowledge, even more so with wisdom. The networking of schools is not enough to save them. The increase of technological solutions' quantity does not involve improvement in the quality of teaching. Information must be protected! The cyberspace saps the law of copyright and intellectual protection rights, but it doesn't equal to total freedom of information. The information belongs to them, who create it. Communities must profit from the changes. From the use of new technologies, the communities and the civilians must profit, while the major part of sources must give a share to improve the education, culture and social aims. The understanding of technology is the pledge of becoming a global civilian. To become a reasonable civilian, one must recognize the possibilities and limits of technology. Information society is the new solution of cohabitation, where the creation, buffering and development of information on the web have a central role. The macro-systems are politics, economy and culture; the intermediate institutes are the State and its institutes, while the manufacturing organizations, communities, families and the individuals are reformed by the informational society. Athene-model: technology has great power, which makes people free and the result will be the new electronic democracy. Orwell-model: technology produces a total submission, and every single person becomes controlled by technology.

2. RESEARCH METHODOLOGY

Thomas (Thomas, 2011) offers the following definition of case study: "Case studies are analyses of persons, events, decisions, periods, projects, policies, institutions, or other systems that are studied holistically by one or more methods. The case that is the subject of the inquiry will be an instance of a class of phenomena that provides an analytical frame — an object — within which the study is conducted and which the case illuminates and explicates." The collecting of facts and their interpretation is a trivial method to declare a kind of good practice in a given field. The WHY-questions can never be answered with high evidence. However the principles can be seen as a sort of why-effects behind of success stories. The elements of the success story should always be detailed interpreted to support the handling of complexity.

Facts: The observed period contains 10 years (2006-2015). The concerned BSC-courses (2-times with 15+10 persons) are the ISZAM-course (agricultural engineers with IT and legal specifications), MSC-course for Organization and Management (1-time with 10 persons) and the informative co-operation between “freelance”-Students (further 10 persons pro year), colleagues (6 persons), and the My-X research group (independent from the university – further 6 persons incl. international partners). My-X-Team got established concerning to an innovation project (INNOCSEKK 2006-2009 granted by the Hungarian Government). The aim of the innovation project was: developing an online analytical tool for creating models based on artificial intelligence (like similarity analyses). The My-X Free Tool can be seen as one of the catalytic force fields being able to support generation and realization of innovative ideas of Students. The basic partners are the organizations on the field of innovation management

in Gödöllő (GIK Ltd.) and in the region of Central Hungary (KMRIÜ). The innovation management organizations and the researchers/teachers could transfer real problems to the Students and the controlling activities of further partners concerning the solution activities.

Parallel to the education, development activities run with Seacon Ltd. The result (SeaLog) got prized (2012) with the Hungarian Innovation Award. This impulse had a catalytic impact towards the Students. Spin-off enterprises (InnoHow Ltd. and InnoSpin Ltd.) got also established to manage the innovative licenses.

The problems could be identified both by Students (like bet-activities / sport psychology – altogether 100+ cases) and by experts (like rural development analyses – also 100+ cases). Each problem should be real and each potential solution should be used at once – at least in frame of teaching activities. Databases should be developed to support efficiency for big-data-concepts.

The partner (being satisfied) ensure journeys for Students to Germany (Giessen) in order to give more and more new impulses for further idea generation processes.

The above listed facts can be interpreted as a kind of volume information for the experiences in frame of the education system. Each realized activities like amount of matured studies (100+), employments by the university (ca. 100 months FTE), concerned projects (like regional development issues, and also the project "Noble Ideas" with several books, flyers, rollups, exhibitions, study trips), and contacted partner (100+ enterprises) on activities of spin-off managers, permanent online presence based with catalytic effects to visits (c.f. MIAU-LOG analyses: in average 2-times higher level as before) can be compared to HR-sources here and in the rest of the national and/or international universities. The unconscious objective function tried to maximize these indicators without involving further resources as basically given.

The comparison shows, that in case of the special constellations (innovation-oriented tasks, project-frames and partners, online presence, international contacts, etc.) the students are ready to approximate their borders and deliver at least doubled volume of performances. The analytical methodology is there for a kind of benchmarking, comparing to the classic level of education system.

3. RESEARCH RESULTS AND FINDINGS

The Findings of the Idea breeding farms are simple, almost trivial: If the ideal constellation could be described and a scale for measuring the difference between the ideal and the given status can be identified, then ideas can be verified in an automated way. Parallel, Idea Breeding Farms should be established and they should co-operate with each other to learn from each other and to support the insulated force fields through the force of the mass. The key persons for innovation, for innovative education are always the experts having direct contact to students and enterprises in the same time, and where expert of the higher education are entrepreneur and know how owner it the same person. This special constellation should and can be cloned and also searched for parallel constellation having the same efficiency in startup-support for SMEs. An idea breeding farm is namely a special form of doctoral, scientific schools. It is an old/new concept of incubation based on rationality and sovereignty.

Requirements, limitations, implications concerning Idea Breeding Farms: The idea breeding farms need a lot of factors being existent in the same time and in the same space, but these factors should be given in the most cases automatically and without external cost effects. The frequency of intuitive occurrence can be increased through information networks, and based on objective evaluations of activities, but not really with orders. The logic of idea breeding farms can be adapted e.g. in the V4 countries. The adaptation needs a common language (English). The international information network can provide further best

practices and direct communication possibilities between active participants in this network. An international expansion could also be helpful for startups - aiming international market presence. The IPR-anomalies are limited, if the most ideas concern problems of universities. The innovation potential of Students should catalyze a more and more innovative constellation day by day. Universities work well, if each finding or idea will be adapted on the spot in frame of the universities. This strategy supports the effectivity and, or efficiency of daily life in the university, and parallel it creates robust references for market or civil partners and first of all for each Student.

Practical implications of an Idea Breeding Farm: In case of each potential interested researcher, lecturer, expert, and also parent, it is possible to derive the value of their objective potential (like estimation of innovation potential for enterprises), expecting to play a leading role in an idea breeding farm. Parallel, the estimation of the potential indexes produce a simulator, where each person can be evaluated in form of online expert systems based on the term-creation capacities of artificial intelligence solutions. These sorts of simulators deliver frames for Life Long Learning strategies in case of each concerned person.

Elements of the success story

The following activities got initiated in frame of the Idea Breeding Farm (for details see the documents collected in the reference list below):

- Losonczi (2011): The quality of online presence can be seen as a sort of big data problem…
- Varga (2013): Big data analyses need more and more new methods like approaches based on similarities…
- ETDK (2009): Almost each Student of the courses being concerned in the experiment produces a scientific paper and the appropriate IT-solution in the background:
    - E-valuation – supported with similarity analysis – for real estate developers
    - Customization of Microsoft software licenses based on an online expert system
    - Technical advising with online support: expert systems for quality awareness
    - Agricultural consultancy with on-line support: on-line benchmarking based on FADN database
    - Strategic planning of postal services based on similarity analysis
    - Managing disproportions of the tax-system in Hungary in case of the planned property tax
    - Production functions in the precision farming
    - Development of an offline autofilter-mechanism as add-on for browser-supported OLAP-reports
    - Developing an online expert system generator
    - Development of an e-learning module to derive combinatorical space of expert systems
    - Competitive meteorological forecasting supported by similarity analysis
    - Online applications in addition to the HEGYIR: forecasting of wine prices according to regions and types
    - Development of new monitoring system for the Duna-Ipoly cross-border region based on similarity analysis
- Szilágyi et al (2014): The concept of the Virtual Robot Farmer got invited to the Finale of Innovact Awards 2014 (Reims, France)…

- Alföldy-Boruss et. al. (2015): NG-STRESS concept got prized in the Hungarian Innovation Competition HUNINNO…
- For team working, a WIKI-service (MIAU-WIKI) got installed, where lexica and articles about innovative problem solving got developed day by day…
- Expert systems and other online solutions could be presented on own server (c.f. MY-X FREE), where an innovative analytical tool could also be involved into the innovative processes…
- High School Students could also be integrated into the experiments
- Students from neighbored universities co-operated too…
- Databases for further analyses got also created (c.f. MIAU-OLAP-services)
- Own e-learning solutions support the irregular distance education.
- The file management could integrated into an own library software (MIAU-OSIRIS).
- A rule system (c.f. academic writing skills) got developed to support the quality management of studies (c.f. MIAU-RULES), where the correction processes of previous studies could also be followed.
- Knowledge got presented in deep structured forms (like expert systems – c.f. My-X online handbook)
- Barriers between social and life sciences could be eliminated based on data-driven concepts (like big data, log-analyses – c.f. Kollár et al. 2015).

The above listed results are only a part of valuable activities. Comparing these complexity and information value added levels to the general level of studies (produced by Students) it can be declared, that the significant difference made possible to be interesting enough for market-oriented enterprises and for the teaching on the university(c.f. nowadays dual education).

CONCLUSIONS

What can be the Originality or the Value of the concept of an Idea Breeding Farm? A case study or a presentation itself is only a report. The methodology of estimation of person-oriented innovation potentials can be seen as one of the most relevant direction of developments, where human capabilities should be transformed into source codes. The same methodology is able to derive bubble effects, which show both for the enterprises and the higher education units the directions having innovation needs. The artificial intelligence-based methodologies can initiate new knowledge management solution (cf. higher level of the human-machine symbiosis), where each problem can be handled in an operationalized, optimized, objective way. So, the knowledge engineers can integrate human knowledge and robot-knowledge, because the future belong the optimized human-machine interactions.

The education frames can be changed without any relevant needs for further sources, if each partner does what he has to do. For lack of performances of Students are responsible mostly the system parameters and not the HR-potential in the input side. Students should be seen as children of the system, where parents do all to catalyze a sustainable future for them.

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HOW DID THE ECONOMICS CRISIS INFLUENCED FOREIGN DIRECT INVESTMENTS AND UNEMPLOYMENT IN REGIONS OF SLOVAK REPUBLIC

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SUMMARY

Purpose – The aim of the article is to analyze correlation between foreign direct investments (further - FDI) in the Slovak Republic and unemployment in selected regions during and after recent economic crisis based on the Pearson correlation coefficient and regression analyses.

Design/methodology/approach – The article used basic scientific methods like analysis, synthesis, deduction, induction, critical analysis and statistical methods like Pearson correlation coefficient and regression analyses.

Findings – This paper presented partial outcomes of a scientific research project "Monitoring the effects of the global financial and economic crisis in the conditions of the Polish and Slovak economy"[2]. Slovak Republic, which had before the crisis a rapid growth of GDP of more than 10%, could not return to the levels before the crisis under its influence.

Practical implications – FDI which are in Slovakia currently one of the forms of increasing regional development and reducing disparities in what leads to the penetration of foreign capital into our economy through the introduction of new production technologies, know-how, creating healthy competition, effective integration of our economy into the international division works. Acquisition of new FDI and maintaining existing foreign investors is becoming an important part of a policy aimed at increasing the competitiveness of national economies.

Originality/Value – Research presented main findings based on statistical methods, namely the correlation between FDI inflow and unemployment in Slovak regions, and the importance of FDI on the Slovak economy.

Keywords: foreign direct investment, FDI inflow, unemployment, regions, Slovakia
Research type: research paper
JEL classification:
E22 Capital, Investment, Capacity
E24 Employment, Unemployment, Wages, Intergenerational Income Distribution, Aggregate Human Capita
F21 International Investment, Long-Term Capital Movements

INTRODUCTION

The general argument in relation to FDI is the effect of growth and performance of the economy. The impact of FDI on the economy can be direct or indirect. On the one hand, the flow of capital into the domestic market from abroad. On the other hand, there are countless accompanying phenomena such as reducing unemployment, supply technology, the involvement of subcontractors and the like. Especially in economies that are open to foreign trade and focus on one or several strategic sectors such as Slovakia, FDI can have a significant impact.

The aim of the paper is to analyze the correlation between FDI in the Slovak Republic and unemployment in regions based on the Pearson correlation coefficient and regression

[2] IGP 1/2014-M-4.4 Sub-project: Monitoring the effects of the global financial and economic crisis in the conditions of the Polish and Slovak economy.

analyses. Confirm or disprove the argument that FDI is an important factor affecting the Slovak economy and its economic growth.

Paper presents main findings based on statistical methods, namely the correlation and regression analyses between FDI inflow and wages in Slovak regions, and the importance of FDI on the Slovak economy. This research builds on some Slovak authors such as T. Dudas, and J. Tancosova, and elaborates the interdependence of FDI inflows into the region and their impact on the unemployment, whose rapid decrease may lead to increase of attractiveness of the region and reduction of regional disparities.

The contain of the papers are brief theoretical background based on foreign and domestic authors and results of own research based on Pearson correlation coefficient and regression analyses which analyze the impact of FDI inflows and the unemployment in regions of Slovak republic.

1. THEORETICAL BACKGROUND

1.1. Definition of foreign direct investments

The issue of investment attractiveness determinants, which is very live at present, is being dealt with in numerous publications of Slovak and foreign authors. The importance of several determinants of investment attractiveness is stressed by A. Bevan (2000, 2004), S. Estrin (2000, 2004, 2014), K. Meyer (2004) and Y. Gorbunova, D. Infante, J. Smirnova (2012), who divided them into two basic groups (of political and economic factors) and distinguished between the factors influencing the hosting and domestic economies.

Theoretical background of the investment attractiveness investigating and the theories of FDI creation were made by prominent foreign scholars. The most comprehensive is J. H. Dunning's (1979, 2001) eclectic theory based on three categories of factors, which determine decision-making of investors. It is well-known OLI paradigm and the motives which prerequisite investment decision-making are the benefits resulting from the ownership and ownership rights, advantages from having information about the human resources and new information, and the specific benefits resulting from the locality.

According to the definition by the UN Conference on Trade and Development FDI are defined as investments based on a long-term relation to a company and reflecting permanent interest and control by the resident entity of one country (foreign investor or parent company) in the company of other country's resident. (*Dudas, 2010*)

FDI has been one of the main drivers of economic restructuring in east central Europe and significantly contributed to the region's integration into the European and global markets. *(Medve-Bálint 2014)*

The level of wages is assessed in the literature as one of the most important factors affecting the decision to invest in a large number of sectors in transition economies. Dunning (1998) establishes that labor costs were a significant variable for market seeking type FDI during the 1970s, and remains a significant variable during the 1990s along with the existence of skilled and professional workforce. For efficiency seeking investors, labor costs are included in the category of the main production related costs during the 1970. *(Paul, et. al. 2014)*

The FDI are part of equity, reinvested profit and other capital (especially inside the company or group – loans). Individual countries not always gather the data for every item separately and for this reason the submitted data about the FDI cannot be fully compared among individual countries. Especially the data about the amount of reinvested profit dependent on the resolutions of global companies is often not disclosed in many countries. *(Dunning 2001)*

1.2. Borders of capital ownership

The countries vary according to the threshold value for defining the foreign ownership of capital that they consider to be an evidence of the relation to the FDI. It represents the level of participation on the company's economic activities management. The threshold value usually used for foreign direct investments is 10 %. *(Dudas 2006)* Some countries do not state the threshold value, but they rely on completely different basis. In quantity terms, the impact of differences in the threshold values used is quite small considering the high share of the FDI focused on majority ownership of foreign branches. *(Dudas 2010)*

There are also other possibilities of having a share on the equity of companies by which the foreign investors may efficiently obtain a vote. These include subcontracting and manager contracts, turnkey agreements, franchising, leasing and granting of licenses. For instance, the OECD considers the financial leasing between direct investors and their branches, subsidiaries or affiliated companies as current loans, i.e. these relations are included in the modified definition of the FDI. *(Bevan et.al. 2001)*

FDI is an important part of the Slovak economy, the labor costs are only one of many indicators. It may therefore be agreed with the view of several authors, pointing to the importance of wages as wage growth may also be a factor affecting unemployment, and is an important indicator affecting FDI inflows into an economy.

2. RESEARCH METHODOLOGY

Methodology of the research is based at the Pearson correlation coefficient and regression analyses. The Pearson (1896) correlation coefficient is a measure of the linear dependence of two variables. It is used when variables are measured on at least an interval scale. This method is independent of the scale at which variables were measured. Pearson's correlation coefficient ρ ("rho") estimated from the random sample are written r_{xy} and is calculated by the following equation:

$$r_{xy} = \frac{\overline{xy} - \overline{xy}}{s_x s_y}$$

We assume that the statistical features of character X and Y is a linear relationship, and expresses its course function:

$y_i = \beta 0 + \beta 1 x1 + \varepsilon i$, where i = 1,2,.....n (εi – sum i)

Function parameters express the basis of data from the statistical sample file.

The compensatory function has the form:

$y'_i = b0 + b1 x_i$, where i = 1,2,.....n

The coefficients b0 and b1 we deal with the following formulas (Hindls, 2007):

$$b0 = \frac{\sum_{t=1}^{n} x_i^2 \ \sum_{t-1}^{n} y_i - \sum_{t=1}^{n} x_i \ \sum_{t=1}^{n} x_i \, y_i}{n \sum_{t=1}^{n} x_i^2 - (\sum x_i)^2}$$

$$b1 = \frac{n \sum_{t=1}^{n} x_i y_i - \sum_{t=1}^{n} x_i \ \sum_{t=1}^{n} y_i}{n \sum_{t=1}^{n} x_i^2 - \left(\sum_{t-1}^{n} x_i\right)^2}$$

The coefficient b1 is called the regression coefficient, if its value is positive we are talking about direct dependencies, if negative, so the inverse. This coefficient indicates how many units of measure the average change in the dependent random variable, if the nondependent random variable changes by one unit of measure

Data used in the research were collected from statistical databases of Ministry of finance of the Slovak republic, Statistical Office of the Slovak Republic and UNCTAD.

FDI inflows will be expressed in millions € (x axis) and the unemployment rate (y axis). Period from 1998 to 2014 were used in the analysis.

3. RESULTS AND DISCUSSION

Foreign investors became interested in Czech-Slovakia after 1989, because the country showed new opportunities to investors, such as, unsaturated markets, solid macroeconomic situation in comparison with other countries of the region, economic potential. Comparison with developed countries, FDI is a new phenomenon in the Slovak economy. At the optimum ratio of domestic and foreign capital were several views, as well as the optimal volume in the economy in various stages of transformation *(Tancosova 2013 2014).*

Crucial part of foreign direct investment in Slovak economy was mostly in form of foreign capital. With these investments coming to our country modern technologies transferred that, underpin the structure of the economy and the creation of new products and services, which was successfully applied to the domestic and foreign markets.

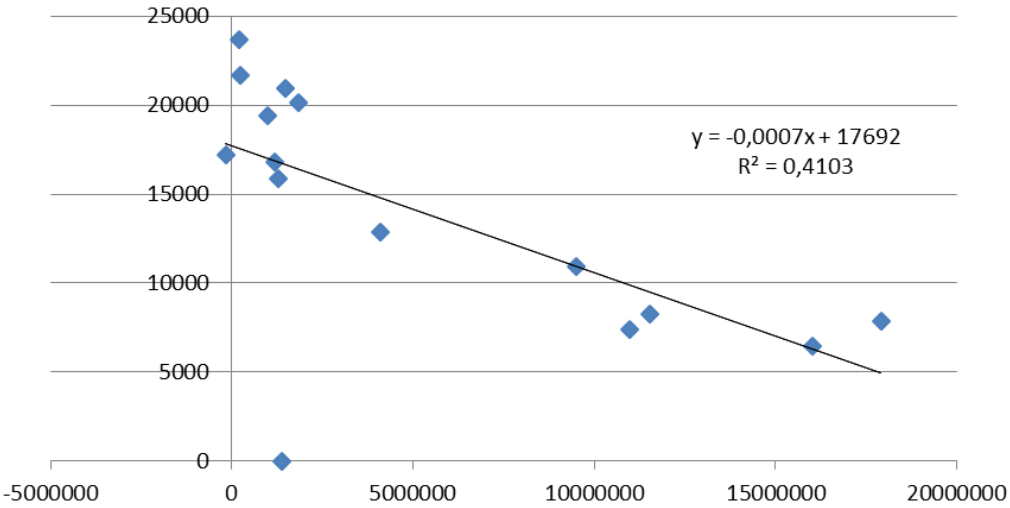
Development of FDI inflows in Slovakia from 1993 until 2000, had low value, few investors were coming to our territory. During this period, Slovakia has not used its potential to attract foreign investors. Entry of foreign capital into the economy did not match the demand for foreign direct investors. Slovakia lagged mainly due to political and economic weaknesses, which are a threat to investors while investing. In the years 2000-2008, the situation changed rapidly in the inflow of FDI into Slovakia. The program of the new government focused mainly on increasing FDI inflows, implement measures to meet this objective. In 2008, crises began on international financial markets due to problems of mortgages in the US, which escalated into a global financial crisis, which reflected in global flows of FDI. Because of the global recession, TNCs its activities in the field of foreign investment significantly reduced, and the decline reflected until the next year 2009.

Slovakia has an open, export-oriented economy with a small domestic market and limited material resources. The advantage is membership in the EU, OECD, IMF, WB, WTO and other international economic institutions that allow SR to exploit the potential of economic growth and competitiveness in a global environment. Key source of economic growth and innovation performance SR are the foreign direct investment. Slovakia is located in Central and Eastern Europe, which means its economy, forced to compete for foreign investment with other economies in the region, especially with the Czech Republic, Hungary and Poland. Slovakia can offer to foreign investors lower transaction costs, based on the integration of the Eurozone, entry into the Schengen Area, political stability, the introduction of the euro, investment and favorable tax conditions, a skilled workforce and low labor costs.

In this following part, we will analyze the impact of FDI inflows and the unemployment in selected regions of Slovak republic. FDI inflows will be expressed in millions € (x axis) and the unemployment rate (y axis). We use time frame from 1998 to 2014 in the analysis. Correlation coefficients are calculated according Hindls *(Hindls 2007).*

Bratislava region

In the region of Bratislava, correlation analysis showed an indirect impact of FDI on unemployment, which means that the FDI inflow participated in unemployment reduction in a certain extent however indirectly (the spillover effect, the need of sub-suppliers). However, unemployment is affected by a number of factors; hence we cannot claim that FDI is the main reason of unemployment reduction. Subsequent n+1 correlation analysis, examining the relationship between the given variables in consecutive years, showed that the correlation coefficient decreased at the level of -0.61635, implying an even more indirect relationship between FDI inflow and unemployment reduction.



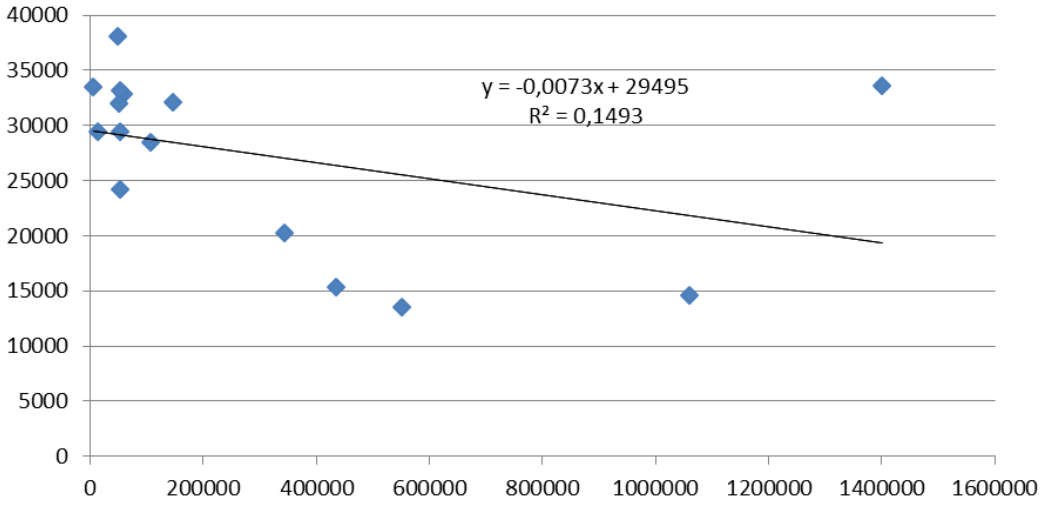
Source: own processing

Figure 1. Linear regression line of relative FDI inflows and unemployment, Bratislava region

Trencin region

The results of correlation between FDI inflow and unemployment in the region of Trencin imply a strong indirect correlation with the value of -0.83787. Subsequent n+1 correlation analysis resulted in the value of -0.38642, implying a less significant indirect dependence between the variables, and FDI inflow participated in unemployment reduction indirectly already in the year of investment.

The results of regression analysis confirm a negative, or an indirect relationship between FDI inflow and unemployment in the region of Trencin.



Source: own processing

Figure 2. Linear regression line of relative FDI inflows and unemployment, Trencin region

Presov region

Correlation analysis in the region of Presov resulted in the value of -0.87289, implying a strong indirect relationship between FDI inflow and unemployment. Subsequent n+1 correlation analysis resulted in a lower value of -0.79205, still representing a quite significant indirect correlation between the examined variables.

Subsequent regression analysis recorded a downfall, implying an indirect relationship between FDI inflow and unemployment in the region of Presov.

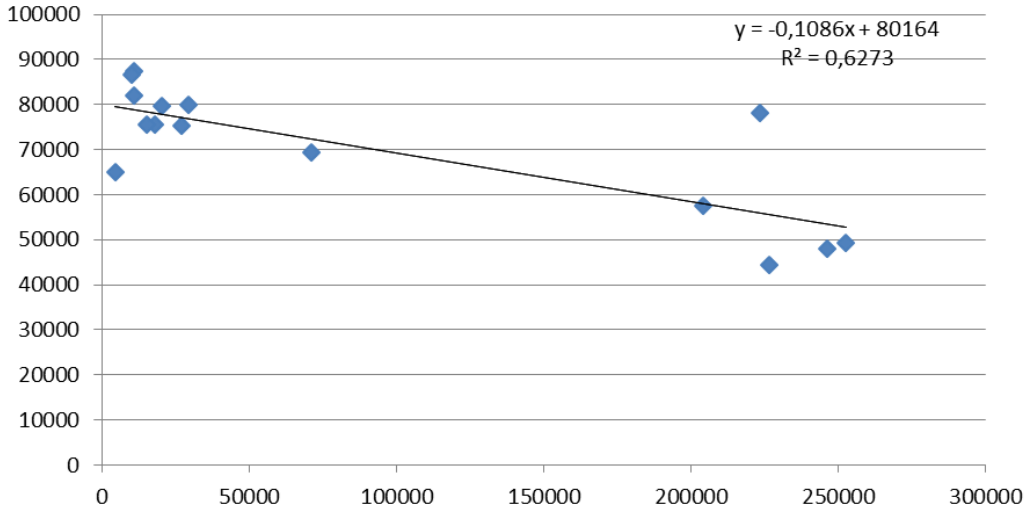


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Figure 3. Linear regression line of relative FDI inflows and unemployment, Presov region

Kosice region

Comparing FDI inflow and unemployment in the region of Kosice, the correlation coefficient reached the value of -0.7269, implying a quite significant indirect correlation between FDI inflow and unemployment. Subsequent n+1 analysis implied a correlation of a lower value of -0.55376, demonstrating a moderate indirect correlation between the variables.

Subsequent regression analysis with values n+1 records a downfall, i.e. an indirect relationship between FDI inflow and unemployment. In spite of low investment in the region of Kosice, which also reflected in GDP growth, we can say that unemployment decreased in the region of Kosice. However, we cannot claim that the reason was only FDI invested in the given region.

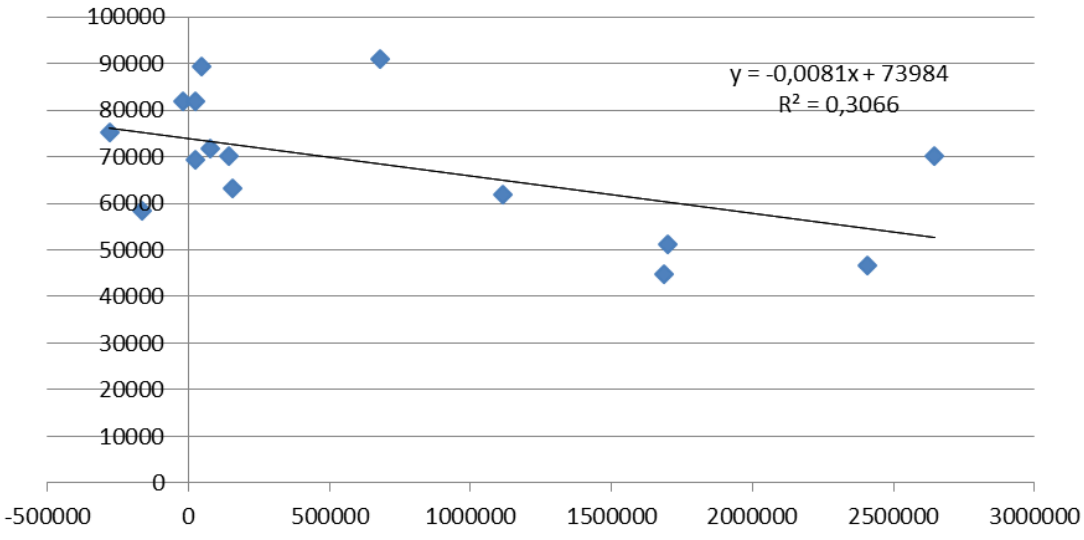

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Figure 4 .Linear regression line of relative FDI inflows and unemployment, Kosice region

CONCLUSIONS

By means of correlation analysis, we were examining mutual dependence between the impact of FDI inflow and unemployment development in the regions of the Slovak Republic. Upon examining the impact of FDI on unemployment rate decrease in the regions, indirect dependence between the examined variables was confirmed. Moderate indirect dependence was recorded in the region of Bratislava, where the variables recorded a slightly stronger indirect correlation upon conducting the n+1 analysis. On the contrary, a significant indirect relationship between FDI inflow and unemployment reduction was recorded in the regions of Trencin and Presov. Lower, respectively moderate indirect dependence between the examined variables was recorded in the subsequent n+1 analysis, which means that investment was reflected already in the year of investment. Regression analysis confirmed negative, i.e. indirect dependence in all regions, which can be seen on regression lines in the provided figures.

Before the global crisis, Slovakia was among the countries achieving the greatest rates of economic growth in European economy, which was reflected in a double-digit economic grow in 2007, which only occurs rarely in central and eastern Europe. It is quite difficult to state at present whether economic growth is a result of FDI with regard to a number of factors affecting it. However, based on the analysis of the current state of FDI in Slovakia, we can opine that FDI contributed to the country´s development.

The reason is that a greater number of variables than economic growth affects unemployment. It can be explained by significant fluctuation in unemployment due to turbulent economic development, e.g. FDI inflow with a minor effect on the reduction of unemployment rate decrease. The region of Trencin can serve as an example, where the correlation coefficient proved a strong relationship between FDI inflow and unemployment. The probability of an impact of FDI on new jobs is greater in case of Greenfield investments, which was also reflected in the region of Trencin. On the other hand, however, there are also negative effects, when the number of jobs decreases due to lower demands on workforce, even in spite of investments in new companies. However, it needs to be underlined that FDI is only one of a number of factors affecting unemployment reduction. Hence, it cannot be stated that in spite of quite high correlation coefficients, FDI contributed to unemployment reduction, respectively creation of new jobs.

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A VIEW OF USING E-LEARNING COURSES ON HIGH SCHOOL IN EUROPE

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SUMMARY

Purpose – The development of interactive online technology has enabled the development of online and virtual schools in Europe, and elsewhere. These forms of school education challenge conventional schooling modes characterized by the physical presence of teachers and students in a building using experiential modes of learning. This paper considers examples of online projects for European school students. It also discusses the reasons for the development of online and virtual schools, and differentiates between available choices.

Design/methodology/approach – More recently, the European Commission also observed that "E-learning is starting to become mainstream in our education and training systems. These comments are particularly relevant to school education, where students and teachers have access to a complex online learning environment that can be used at school, home or elsewhere. In this environment, students can construct their own understandings of the world, with a reduced emphasis on earlier didactic models of learning involving the one-way transmission of information.

Findings – More recently, the European Commission also observed that "E-learning is starting to become mainstream in our education and training systems. These comments are particularly relevant to school education, where students and teachers have access to a complex online learning environment that can be used at school, home or elsewhere. In this environment, students can construct their own understandings of the world, with a reduced emphasis on earlier didactic models of learning involving the one-way transmission of information.

Research limitations/implications – The paper concludes that virtual schools are likely to become increasingly attractive for school students and parents in Europe, but their characteristics may vary from those in other countries. A consequence of the growth of virtual schools is that there is likely to be an increased focus on the advantages and issues associated with interactive online learning.

Practical implications – Online and virtual schools are likely to become increasingly attractive for school students and parents in Europe. As e-learning becomes commonplace, and the enabling online technologies increase flexibility for learners, the delivery of course materials and even much of a student's education over the Internet will be routine. However, because of social, cultural and historical differences, the characteristics of future virtual schools in Europe may differ from those that are currently operating in other parts of the world. A consequence of the growth of virtual schools is that they enable communities to reflect on the advantages and challenges associated with interactive online learning.

Originality/Value – The use of technology in classrooms is found to be socially contextualized, interacting with the institutional and organizational cultures of schools and reflecting elements of the prevailing social relations in and around the context of use. Researches demonstrates that educational organizations are social organizations that both influence the ways in which an innovation will be adopted and are influenced by that innovation.

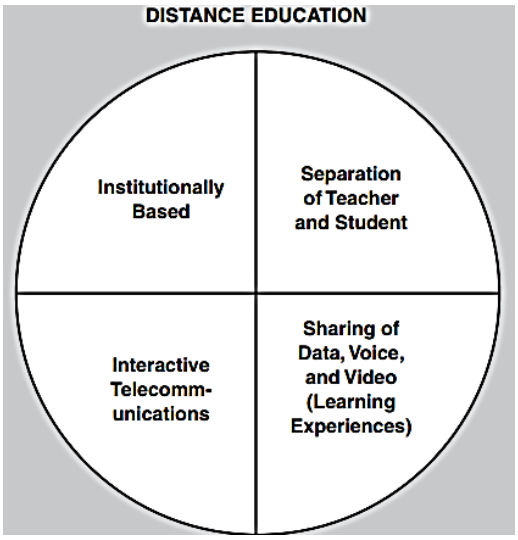
Keywords: Interactive computer learning, virtual schools, online learning, e-learning.
Research type: Viewpoint
JEL classification:
A22 – Teaching of Economics - Undergarduate

INTRODUCTION

The importance of the concept of e-learning in the past created a large number of definitions. Different variants of definitions and conform to the purposes for which they are incurred. By e-learning specialist (Darabi, 2010; Green, 2007; Agarwal, 2012), we can e-learning as: Tool using network technology to create, distribute, selection, administration permanent updating of training materials. Distance education was defined as institution-based, formal education where the learning group is separated, and where interactive telecommunications systems are used to connect learners, resources, and instructors. The recent developments in technology are changing the role of the teacher and the learning experiences of school children, engendering an exciting future where students study increasingly from places other than school. A new milestone in the development of e-learning in schools has been the use Virtual Learning Environments (VLEs), enabling new opportunities to personalise learning, although this can lead to inequity through the digital divide.

1. DEFINING OF DISTANCE EDUCATION

The Association for Educational Communications and Technology has published a monograph that explains this definition (Kanuka, 2007; Karpicke et al. 2012;). Four main components comprise this definition. First is the concept that distance education is institutionally based. This is what differentiates distance education from self-study. Whereas the institution referred to in this definition could be a traditional educational school or college, increasingly there are emerging non-traditional institutions that offer education to students at a distance. The second component of the definition of distance education is the concept of separation of the teacher and student. Most often, separation is thought of in geographic terms - teachers are in one location and students are in another. Also implied by the definition is the separation of teachers and students in time. Asynchronous distance education means that instruction is offered and students access it at separate times, or anytime it is convenient to them. Interactive telecommunications is the third component of the definition of distance education. Interaction can be synchronous or asynchronous - at the same time, or at different times. Interaction is critical, but not at the expense of content. In other words, it is important that learners be able to interact with each other, with resources of instruction, and with their teacher. The fourth is the concept of connecting learners, resources, and instructors. This means that there are instructors who interact with learners and that resources are available that permit learning to occur. Resources should be subjected to instructional design procedures that organize them into learning experiences that promote learning, including resources that can be observed, felt, heard, or completed.



Source: Storm et al, 2010

Figure 1. Four components to the definition of distance education

According to other authors (Gubalová, 2010; Guldberg, 2007; Roediger, 2006; Andreasson 2015) and others can also be used other definitions which also defines e-learning as such: E-learning is essentially the use of any electronic material and teaching effective means to achieving the goal of education that is realized mainly through computer networks. E-learning is an educational process using information and communication technologies to the development of courses, to study the distribution of content, communication between students and teachers on the management of study. E-learning is a form of learning which uses multimedia presentation elements and texts with links, animated sequences, video frames, shared workspaces, communication with the teacher and classmates, tests, electronic processes models etc. in the management study. E-learning can be regarded as an innovative approach to the mediation of interactive learning environment, focusing on the learner, easily accessible to anyone, anytime and anywhere with the use of features and resources of digital technologies and also other forms of educational materials that are suitable for open and flexible environment.

The current educational level of development not only in European but on a global scale indicates that it is more accurately called, respectively. get used to that e-learning has become virtually indispensable part of traditional forms of education. The term alternative means to choose between several options, but such a definition the current status of e-learning in relation to the traditional form of teaching does not do. One form of education cannot replace the other, they operate in parallel because it would not benefit traditional learning not do without electronic, e-learning without classical form would be doomed. Several foreign experts, (Compos, 2011; Mikulecká, 2009; Green, 2007; Storm, 2010) considers that training through e-learning achieves the desired results if the supplement is a classic, t. j. attendance forms of learning, respectively. when the balanced combination of both types of educational systems. One form of education cannot replace the other, their parallel operation would not benefit, traditional learning not do without electronic, e-learning without classical form would be doomed. The term blended learning, blended learning, therefore, understand the meaningful connection of traditional didactic teaching methods with the use of information and communication technology, which basically means the combination of specific steps of the educational process: The exhibition, lectures, Explaining, exercises, discussion seminars, field trips, team brainstorming, self-study.

2. E-LEARNING ON HIGH SCHOOL NEEDS A STRATEGY

Penetration level e-learning in the educational system in Central Europe is different. Individual countries have their own characteristics in the education system and also access to the development of e-learning. In some countries, e-learning develops without established institutional coverage of the other countries created state-funded public institutions, which has long been involved in the development of e-learning as part of distance learning. This focus on a more strategic use of e-Learning has become important as the environment in which higher education institutions operate changes. Over the last decades higher education institutions have experienced profound changes in their external environment affecting both their primary and secondary processes of education, research and organization. It is generally acknowledged that technology, demography, governmental policy and economic factors are the main external drivers for change (Binkley, 2010).

One result of the changes that these factors have brought about is that higher education institutions must operate in a far more competitive world than before. Higher education institutions must deal with greater market forces, because of the decline in public funding, together with other challenges such as rising expenses, increasingly diverse student bodies and their changing needs and expectations and heightened demand for new and different programs and services.

Zilinskas (2014) argue that higher education institutions have to develop strategies for integrating e-Learning in their educational delivery and support processes. One of the main reasons for this is to effectively educate students for the new social context that will arise the coming years. For responding to student markets and changing needs and expectations, according to Green (2007), it is necessary for higher education institutions to:

- Define a vision for teaching and learning, and define where technology fits within that vision,
- Identify new target groups that could be reached through the use of technology,
- Define priority target groups and appropriate programs for the use of technology-based delivery Identify areas of already-existing technology support and encourage people in those areas to provide support for “novice” technology users,
- Identify areas of support outside the department, faculty or institution, and determine the organisational support staffing for technology-based teaching that still needs to be provided in-house,
- Ensure that innovation and the skilled use of technology for teaching is properly recognised and rewarded Identify the role of and priorities for face-to-face teaching in an increasingly sophisticated technology-based learning environment,
- Decide on key areas of investment and resource allocation for technology-based teaching.

2.1. A View of using e-learning at universities in Europe

According to the research needs and possibilities of online education in the Central European context into effect in 2012, Comenius University in Bratislava, Slovak Technical University in Bratislava is the level of diffusion of e-learning in the educational system in Central Europe is different. Individual countries have their own characteristics in the education system and also access to the development of e-learning. In Slovakia, the e-learning develops without established institutional coverage for the Czech Republic and Poland established state-funded public institutions, which has long been involved in the development of e-learning as part of distance learning. In terms of using Moodle solutions in different countries recorded Website Moodle.org 184 certified e-learning portals in Slovakia, 1052 Portal is located in Poland, 260 portals works within Hungary and 451 sites in the Czech

Republic. These figures show the different degree of implementation of solutions Moodle in the educational process. Despite the possibility of free distribution solutions Moodle, this tool uses only almost 1/3 of universities in Slovakia. Extension of e-learning, however, in most cases covers only the minimum number of university faculties and the degree of its use in teaching is very volatile. In Slovakia the is most often used e-learning tools for sharing teaching materials and syllabi of individual subjects. Within the education system in the Czech Republic created institutions focusing on the provision of e-learning and its development in the country, National Center of distance learning. (http://www.csvs.cz/). This institution focuses on priority issues of lifelong learning, which is second to distance learning is closely linked. Provides its own know - how survey-based distance learning opportunities and also provide assistance to educational institutions and students. Very similar scenario in Poland, which created a public institution focused on the development of education through e-learning (http://www.sea.edu.pl/). Association of Academic e-Learning aims at improving the quality of education through electronization and Government. In 2014, the European University Association in Belgium conducted research full use of e-learning which involved over 249 universities across Europe.

2.2 MOOC– future of e-learning ?

The concept of Mooc (Massive Open Online Course) was founded in 2008, in connection with the introduction of online collaboration into practice in the field of career development of teachers. After timid beginnings led spiritual fathers connectivity Siemens and Downes Cormier in which courses are involved thousands of participants began to be freely available for all courses identified as MOOC offered in other areas of education. After the autumn of 2011, two professors from Stanford able to participate in an online course artificial intelligence over 160,000 participants find the world have a prestigious university, which would MOOC that some students did not offer a free course. After a few months of existence has managed to take 43 courses and engage them 680,000 students from 190 countries. With the emergence of Massive Online Open Courses (MOOCs) it seemed that, beyond the bounds of the e-learning communities and their activities, generally, little attention had been paid to how information technologies (ICT) impacted higher education teaching and learning. There were voices pointing out that the rise of MOOCS was just one particular, albeit spectacular element, of the much broader agenda of digitalisation (i.e., e- and online learning), in which many universities have been involved for quite some time. According to the research report European University Association in 2014, which implemented e-learning research on 249 European universities of different sizes according to the number of students created interesting results and conclusions which specifically refers to the use and promotion of e-learning in contemporary education in Europe.

Table 1. Respondents by institution

Type of higher education institutions	Number of institutions	Percent in the sample (%)
Comprehensive university	159	64
Specialised university	38	15
University of applied sciences	21	9
Technical university	26	10
Open university	5	2
Total	249	100

Given the potential of e-learning in higher education, and its broad range of possible implications for institutions and learners, governments might be expected to take a keen interest in it. One aspect of the survey thus concerns existing national frameworks for e-learning, including policies, strategies and other support measures, and their visibility among institutions.

In your country, is there a policy or strategy for enhancing e-learning that specifically addresses higher education?

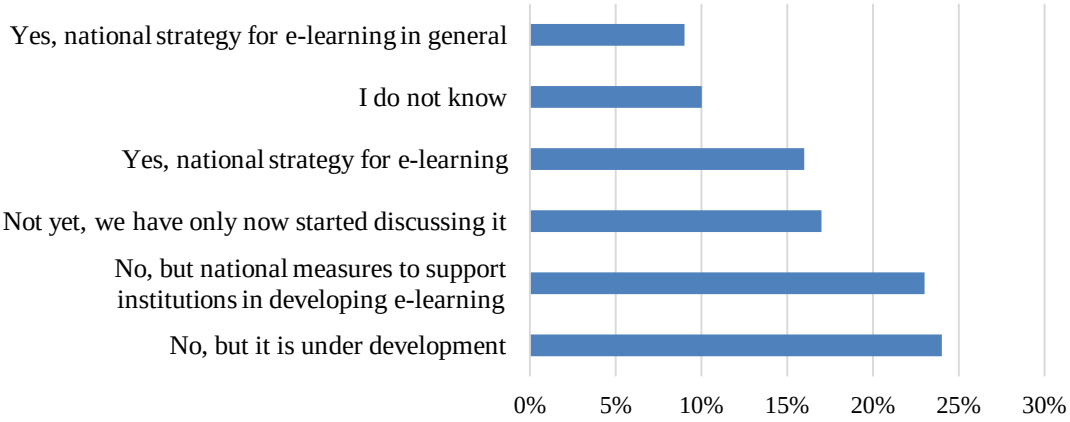


Figure 1. Strategy for enhancing e-learning, Source (E-learning in European Higher Education Institutions. [online])

A quarter of respondents stated that their countries have developed a national policy or strategy for e-learning, either specifically for higher education (16%), or for education in general (9%). In addition, 17% of respondents reported that the introduction of a nation-wide e-learning strategy is under discussion. Only one third said that there is no policy, or that they were not aware of one.

Does your institution have a strategy or policy regarding e-learning?

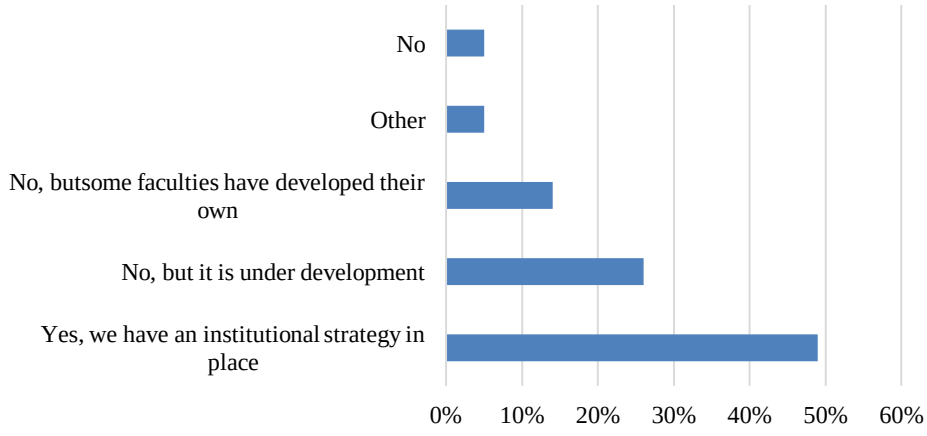


Figure 2. Developing strategy or policy for e-learning, Source (E-learning in European Higher Education Institutions. [online])

The vast majority of respondent institutions have an institutional or faculty-level strategy, or are currently preparing one. Nearly half of the institutions said they have an institutional strategy (49%), while only 14% reported the existence of faculty-level strategies. Just over a quarter (26%) said that they are currently developing a strategy. Larger institutions are more likely to have an institutional e-learning strategy or policy in place.

Does your institution offer MOOCs?

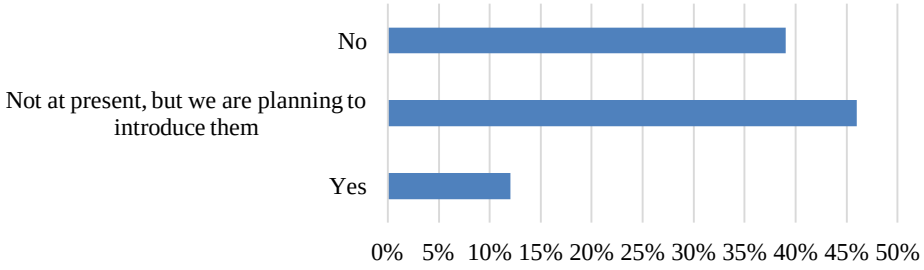


Figure 3. Institution MOOCs offer, Source (E-learning in European Higher Education Institutions. [online])

What are the reasons for not offering MOOCs at your institution? (Multiple response)

Figure 4. Reasons why not offer for MOOCs, Source (E-learning in European Higher Education Institutions. [online])

The present survey covered only a fraction of these MOOCs. In total, 31 of the 249 institutions surveyed offered such courses. Eight of them said that they have not yet launched their MOOCs, thus reflecting the speed of the recent trend. At least in our small sample, the results point to differences among types of institution. Every third technical university and all but one open university offer MOOCs, but only 10% of comprehensive universities and 5% of specialised and applied sciences institutions do so. Out of the 98 institutions that said they do not offer MOOCs and have no immediate plans to do so, around half said that no decision had yet been taken on the matter, and over a third stated that financial restrictions were a barrier. It would seem that these institutions have no objection in principle to MOOCs, which once more suggests potential for their further growth in Europe. However, nearly a third of the institutions said that they preferred other forms of e-learning, or expressed concerns about the pedagogical approach of MOOCs, quality and recognition, or the purpose of developing such courses. For example, one institution commented: “we invest in teaching and learning at our university, not worldwide”.The 13 institutions which said they have no institutional strategies are widely spread geographically, in Austria, Belgium, Estonia, Finland, Norway, Poland, Sweden and the UK. The fact that some institutions in a given country have a strategy for e-learning while others do not, suggests that the decision to develop one is theirs alone, rather than the outcome of any national higher education strategy or policy.

The pedagogical foundations claimed for MOOCs follow on from their attributes and in part are justifications for those attributes. So it has been argued that online learning is particularly effective, formative quizzes enhance learning through the mechanism of retrieval practice, short video formats with quizzes allow for mastery learning and peer and self–

assessment enhance learning. Further claims have been made that short videos complement the optimal attention span of students (Khan, 2012) and that discussion forums provide an adequate replacement of direct teacher–student interactions that would be considered normal for a class delivered on campus.

The justification of pedagogical benefits of MOOCs is in all likelihood teleological. The benefits have been retrofitted after the fact to a course format pioneered by Sebastian Thrun and Peter Norvig (2012). The fact that their original course and others that have followed have proved so popular, however, would suggest that there are positive aspects to the way they have been presented.

The structure and format of MOOCs is being adapted as more experience is gained with their delivery and so it is important to understand in a systematic manner their benefits and shortfalls. The purpose of this review is to examine the evidence regarding the pedagogical foundations of MOOCs and indeed validate that these foundations actually relate to the attributes of MOOCs as they are currently envisioned. These attributes and their pedagogical consequences are shown in table 2.

Table 2. Characteristics of MOOCs and their related pedagogical benefits.

MOOC characteristic	Pedagogical benefits
Online mode of delivery	Efficacy of online learning
Online quizzes and assessments	Retrieval learning
Short videos and quizzes	Mastery learning
Peer and self–assessment	Enhanced learning through this assessment
Short videos	Enhanced attention and focus
Online forums	Peer assistance, out–of–band learning

Source (according to authors)

CONCLUSIONS

E-learning education can take several forms, and thus perfectly adapted to the needs of individual students, groups and organizations. Some good e-learning is called asynchronous e-learning. It includes self-study of individual students or employees who elect themselves what information they need, when and how quickly they will receive. For individual students is asynchronous e-learning space and time freedom in the learning process, student adapting the learning process to their own needs and habits. Students and staff can freely choose the time and place to ensure better concentration and faster acquiring the educational content, the only requirement is access to the Internet. The survey results suggest that this is on the way: institutions have developed strategies for e-learning, or intend to do so; there is a significant trend toward institution-wide structures for the coordination and support of e-learning; these are often being mainstreamed into the regular teaching provision; e-learning is included in internal quality assurance processes in the same way as regular teaching is and a number of quality assurance agencies are reported to have taken up the issue of e-learning. A difficulty with the analysis of MOOC structure and its pedagogical foundations is the question of how similar a MOOC is to existing online courses offered for distance learning or as an extension of face–to–face delivery of courses as part of a so–called blended delivery. In some ways they are not and so the analysis of MOOCs is inherently not that different from research examining the benefits of online delivery of courses generally. The difference lies in the particular combination of the underlying characteristic components of MOOCs, their massive participation and the fact that they are open. The subtlety in the novelty of MOOCs is not the point of this paper, however, and will be left for exploration in future work.

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ECONOMIC AND SOCIAL DIFFERENTIATION OF SLOVAK BORDER AREAS WITH POLAND IN SPECIFIC ENVIRONMENT

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SUMMARY

Purpose – In the nowadays society a cooperation among countries is a decisive factor of development. A special position in this has cross-border cooperation. The paper focuses on identification and analysis of imbalance factors of business entities in Slovak regions mostly in the border area with Poland. Knowledge about these factors of imbalances can help us to analyse the social and economic differences and later to develop a closer and more fruitful cooperation in Slovak – Polish regions.

Design/methodology/approach – Underlying data were obtained from the information sheet of Ministry of Agriculture and Rural Development, Ministry of Finance and Statistical Office of the Slovak Republic. The obtained data were verified and completed by a verification research in 123 small and medium enterprises of the agricultural and food sectors in Nitra, Žilina and Prešov self-governing units. To obtain data we used the method of analysis, synthesis, comparison and query method. To quantify the results, we used the method of analogy, human judgment and common mathematical and statistical relationships and numerical calculations.

Findings – *The analytical part of the paper we focused on:* identification of the factors of unbalanced state of business subjects, economic and social disparities of border areas with Poland, cooperation of Slovak – Polish border areas. In the synthetic part of this paper we introduce proposals to develop cross-border cooperation. Further development of the border areas with Poland we can see in improving business cooperation crosslinking businesses, in creating clusters and enterprises with foreign capital participation. Holders of such cooperation must become the regional and municipal governments, international consortia and strategic alliances.

Research limitations/implications – The results described in this paper are limited for conditions of Slovak Republic legal environment and to the economic and social conditions of Slovak Republic.

Practical implications – The greatest opportunities are in scientific research cooperation. Universities and departments of scientific research base are to successfully participate in international research and educational projects, publication activities and educational mobility of students. We can see greater opportunities at universities and researchers in creating knowledge clusters, joint study programs and promoting professional development of teachers in the membership of academic bodies and working committees.

Originality/Value – Realization of the research includes a survey in the file of sectors of agriculture in the years 2007-2012. The obtained data were verified and completed by a verification research in 123 small and medium enterprises of the agricultural and food sectors. These data and summarizes are original due to this verification.

Research type: case study

Key words: economic differentiation, border area, imbalances, business entities, self-governing units

JEL classification:
H12 Crisis management

INTRODUCTION

Slovakia's accession to the European Union requested the adaptation of business structures and administration to a common European policy. Transformation and restructuring of the economy have forced business bodies and public administration to adapt to economic mechanism of activating the business and growth of the Slovak economy. It

determines not only dramatical increasing of legal persons by more than 94 % compared to 2003, but the growth of entrepreneurs by almost 24%. (Gozora, 2014)

Enhancing of corporate-economic base and development of entrepreneurship with the support of European Union finance and national resources, initiated the growth of the national economy. This Slovakia gradually adapted to the characteristics of the market economy and the economic level of the European Community. Slovakia is attained by the dynamics of economic growth, positive numbers on-year increase in gross domestic product growth of net value added and labour productivity ranked among the associated countries with the highest gain value of those macroeconomic indicators. Increasing of employment of economy active population and by modulation of market economy Slovak Republic qualified for entry into the Eurozone and from 1.1. 2009 is its valuable member.

The rise of the Slovak economy slowed down the world economic crisis, insolvent enterprises and a significant slowdown of financial and material flows, with the result that in 2009 narrowed to - 4.7%. Series of positive results in the Slovak economy has proved already in 2010. However, the economy is not helping the population yet. The growth of the current economy is according many economists still weak to create new jobs. To create this, it is necessary a long-term economic growth of 3-4% and creation of a safe business environment, application of critical infrastructure and enhancing in-house economic regimes in all types of businesses. In this context, it is essential to establish effective means of intra management and indicators of corporate security.

Particular task of managing processes will be to eliminate regional economic and social disparities and to develop border areas in the Euroregions. Therefore, the aim of this paper is to identify the factors of nonequilibrium conditions of businesses, economic and social disparities in border areas with Poland and propose further possibilities of cross-Slovak - Polish border areas.

1. RESEARCH METHODOLOGY

Realization of that objective sought to undertake a survey in the file of sectors of agriculture in the years 2007-2012. Underlying data were obtained from the information sheet of Ministry of Agriculture and Rural Development, Ministry of Finance and Statistical Office of the Slovak Republic. The obtained data were verified and completed by a verification research in 123 small and medium enterprises of the agricultural and food sectors in Nitra, Žilina and Prešov self-governing units.

The analytical part of the paper we focused on:

1. identification of the factors of unbalanced state of business subjects,
2. economic and social disparities of border areas with Poland,
3. cooperation of Slovak – Polish border areas.

In the synthetic part of this paper we introduced proposals to develop cross-border cooperation. To obtain data we used the method of analysis, synthesis, comparison and query method. To quantify the results, we used the method of analogy, human judgment and common mathematical and statistical relationships and numerical calculations.

2. RESEARCH RESULTS AND FINDINGS

2.1. Factors of unbalanced states of business subjects

Regional disparities in small and medium enterprises are determined by the external business environment and internal unbalanced state of the economic environment. Therefore, the solution of business imbalances is an integral part of small and medium enterprises.

Business environment in Slovakia has its own specifics determined by geographical, socio-economic and socio-political conditions. Therefore, each region or territorial-administrative unit in relation to business subjects is specific and different in regional macroeconomic indicators.

Economic differentiation of businesses is reflected in all size groups of enterprises. It confirmed also that SMEs are more flexible and achieve higher productivity, but they are illiquid and often highly indebted. At the same time there is shown that modified economic indicators is not possible to apply to entities in all sectors and branches of the national economy. Persistent specifications of enterprises and self-governing units also require specific approaches to evaluate economic performance.

Table 1. Determinants of unstable states

Serial No.	Determinant - content		Scale		Ranking of determinants
			Number of points	%	
1.	Determinants of internal and external environment	Production imbalance	55	16,56	3
2.		Economic imbalance	43	12,95	4
3.		Price imbalance	72	21,69	2
4.		Replacement imbalance	22	6,63	7
5.		Regional imbalance	85	25,60	1
6.		Ecological imbalance	27	8,13	6
7.		Knowledge imbalance	28	8,45	5
1-7	Totally		332	100,00	-
8.	Determinants of specific environment	Worsening of business conditions	80	26,84	2
9.		Slowing of material and financial flows	85	28,52	1
10.		Worsening of environment	32	10,74	4
11.		Elimination of production and market products	76	25,50	3
12.		Labour shortage	25	8,39	5
8-12	Totally		298	100,00	-

Source: Author´s own research

Significant impact on economic differences there have direct foreign investment funds and financial support of European Union funds and funds from national sources. As a result of these flows economic scissors opened more and some self-governing regions have moved to lower rungs. Direct effects were found in individual districts as a results of supporting funds.

Economic and social differences of border areas with Poland

Economic and social differentiation of business entities determined disparities in economic and social environment of self-governing units of Slovak Republic. This is evidenced by the development of regional macroeconomic indicators in 2011-2012. Chart 2.

Table 2. Chosen markers of regional disparities in the years 2011 – 2012

Marker	Self-governing Unit (SGU)								SR
	BA	TT	NR	TN	ZA	BB	KE	PO	
Area in km^2	2053	4147	6346	4502	6809	9455	6755	8974	49038
Aliquot part from the whole area of SR in %	4,2	8,50	12,90	9,20	13,90	19,20	13,80	18,30	100,00
Number of districts	8	7	7	9	11	13	11	13	79
Number of inhabitants in thousands	612,682	556,577	688,400	593,159	690,121	658,490	794,025	817,382	5410,836
Aliquot part from the whole population in %	11,32	10,29	12,72	10,96	12,75	12,16	14,67	15,08	1,00
Density of population per km^2	298,40	136,62	108,47	131,75	101,35	69,64	117,55	91,08	110,34
Number of business entities (in thousands)	58401	14963	17040	13123	15232	14115	16829	15068	164771
Number of entrepreneurs (in thousands)	59336	41521	48679	42548	57345	41802	39854	56367	387452
Regional GDP (in millions of Euros)	18296,58	7665,98	7105,26	6434,89	7499,63	5856,88	7464,23	5546,04	65869,49
Regional GDP per 1 inhabitant in Euros	29241,22	13633,69	10077,56	10744,48	10746,40	8973,67	9580,63	6860,71	12130,72
Measure of unemployment in % (year 2010)	4,63	8,17	11,76	9,51	10,86	18,86	16,78	17,75	12,50

Explanatory notes: BA- Bratislava SGU, TT- Trnava SGU, NR- Nitra SGU, TN- Trenčín SGU, ZA- Žilina SGU, BB- Banská Bystrica SGU, KE- Košice SGU, PO- Prešov SGU.
Source: Author´s own research

The results of the investigation documented the delay of Prešov SGU in the regional gross domestic product, labour productivity from value added and employment of the population. These factors rank the region in the last place among the self-governing regions of Slovakia. The causes of this state are limited production resources and worse soil and weather conditions, limited FDI inflows and lack of job opportunities. This in turn makes high unemployment and lower purchasing power, exodus of labour power for work abroad, economic and social backwardness in comparison to other self-governing units. Prešov Region is a part of Eurocarpathian region and Euroregion Tatry.

Žilina SGU is a part of the Euroregion Beskydy. Despite the downturn in the heavy engineering SGU created automobile production, which with other products of mechanical engineering, woodworking and food industries provide economic growth of the region.

Zilina SGU ranks the fourth position among the self-governing units of Slovakia by attained level of macroeconomic indicators at regional level. In comparation with the Prešov SGU Žilina SGU has more excellent technical and transport infrastructure, greater foreign direct investment and higher productivity in per capita. Achieved unemployment of population ranks it in the first half of the self-governing units.

Following determinants results from a survey of economic and social differentiation of investigated self-governing units:

1. The utilization of natural and economic resources. The effectiveness of this determinant is based on more efficient recovery of natural and economic resources for an efficient economy. Development of tourism develops potential of regional market Prešov SGU.
2. Development of small and medium enterprises is determined by the presence of strategic enterprises of Orava and Tatry subregions.
3. The use of foreign direct investment and support funds was per capita higher in the Žilina SGU and was motivated by qualified human resources, construction of the expressways and scientific-research potential of university and research institutes. Finally, it's its strategic position. Implementation of the automotive industry in the Euroregion positively influenced the economic growth of the population and employment.
4. The delay of the Prešov SGU in comparison to Žilina one in employment is conditional upon the activation of small and medium enterprises. The Prešov SGU solves the problem solved by leaving for jobs to other regions or abroad.
5. Trade Cooperation and small border traffic have a long tradition. The presence of a larger number of border crossings and major intersections makes intensive business cooperation in the border districts of Žilina SGU with Poland and the Czech Republic.
6. The promotion of tourism and business is conditioned by the presence of university structures, scientific research departments, regional counselling centres and the Honorary Consulate of the Republic of Poland in Liptovsky Mikulas. Their activities significantly affect cross-border cooperation. Closer integration of scientific research base with enterprise-scale economic base determined the creation of technical and technological parks and cross-border scientific research and business cooperation in the Žilina SGU. In the Žilina SGU these processes occur much more intense than in the Prešov one.
7. The transportation infrastructure is gradually improving in both SGUs. We expect that the completion of the highway sections D-2 and the expressway is to mobilize foreign investors and foreign direct investment will support business activities in Žilina and Prešov SGUs.
8. Business activities and creativity of the population are different in the border areas. More experience is seen in the Žilina SGU. The main reason is the need to diversify production support programs in marginal conditions. An important factor is the proximity of universities, which contribute in improving of the educational level of the local population.
9. The institutionalization of cross-border cooperation has its significant contribution to the promotion of international trade and scientific research cooperation. The institutional framework is based on the contractual Slovak-Polish territorial-administrative units, non-governmental organizations to support the activities of the Honorary Consulate and partial agreements of local governments on mutual cooperation.
10. The economic performance of Polish border regions strongly influences economic and social processes in the Žilina SGU, less in the Prešov SGU.

Some proposals for development of cooperation in Slovak – Polish regions.

Numerous initiatives of investigated business entities from verification research are aimed at increasing the economic efficiency of border areas with Poland. Most of them support the development of inter-firm production and trade cooperation to improve market performance of companies in the Euroregion Beskydy, Tatry and the Carpathians. Implementation of these initiatives we can see in the formation of organic and inorganic

clusters of small and medium-sized enterprises, in networking of companies with the same production focus, finalization of products and creation of strategic alliances and production clusters in Slovak - Polish Euroregions.

In addition to the associated forms of economic cooperation we encouraged to apply joint ventures with foreign capital as the highest form of production and trade cooperation, activation of foreign direct investment and strengthening of commodity-cash flow.

A second important area of cooperation is a foreign trade cooperation based on the cooperation of retail chains and the mobility of small retailers in the local markets on both sides of the Slovak - Polish border. Experience to date presents particular focus on food products and ordinary goods and personal consumption in the active balance of Polish retailers. With the development of business cooperation, there increased the need to check of products.

A specific form of cooperation is improvement of road infrastructure on focus at those that are a part of the European transportation system. The role of the Slovak - Polish areas will be to improve the quality and throughput of roads of first and second class, eliminate bottlenecks in traffic and to complete speed road sections.

The greatest opportunities are in scientific research cooperation. Universities and departments of scientific research base are to successfully participate in international research and educational projects, publication activities and educational mobility of students. We can see greater opportunities at universities and researchers in creating knowledge clusters, joint study programs and promoting professional development of teachers in the membership of academic bodies and working committees.

CONCLUSION

Results of the survey of economic and social differentiation of border areas of Slovakia and Poland supported by a verification research of SMEs documents causes of differentiation of economic and social environment that makes economic and social disparities at Slovak - Polish border area. Despite that there persists long term business, cultural and scientific research cooperation. Therefore, further development of the border areas with Poland we can see in improving business cooperation crosslinking businesses, in creating clusters and enterprises with foreign capital participation. Holders of such cooperation must become the regional and municipal governments, international consortia and strategic alliances.

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THE EFFECT OF RELATIVE THINKING ON ONLINE SHOPPING

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SUMMARY

Purpose – The study seeks to highlight the significance of online marketing and investigate the effect of the relative thinking on the online shopping by focusing on the decision making process for finding consumer behavior.

Design/methodology/approach – The study presents an overview of the literature. Relevant research concerning cognitive biases and relative thinking influences on marketing will be utilized by searching in the behavioral economics and marketing research journals and books.

Findings – The outcome of the survey will offer some strategies for increasing sales through the internet and therefore improve their financial balances and market shares

Research limitations/implications – The findings of the investigation demonstrate that the role of cognitive biases, especially relative thinking on the decision making process.
One of the limitations of this study was that only literature was utilized to gather the findings.

Practical implications – the finding of the study revealed some practical implications. First, it would be important to investigate how male and female relative think towards online shopping. Also, it would be vital to investigate some of the factors to attract male and female customers towards online shopping.

Value – This study is significant to the online customers and the retailers. It assists the online customers to make a wise decision before making a purchase. As well as, it assists the retailers in developing better strategies to overcome the competition.

Research type -- literature review

Keywords: Cognitive biases, Relative thinking, Pricing strategies, Online shopping, E-Commerce
JEL classification:
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INTRODUCTION

Nowadays one of the most crucial commercial centers for shopping is the internet. Because of lots of reasons, wholesalers and retailers are trying to improve their sales through the internet and convince the customers for buying their goods and services. Internet marketing is claiming a fast-growing share of marketing spending and sales. On one hand, for buyers, online shopping is convenient, easy, and private. On the other hand, online marketers can target small groups or individual customers. Online marketing is more flexible than other form of marketing. It allows marketers to change and make adjustments to prices and programs frequently or make immediate, timely, and personal announcements and offers (Kotler & Armstrong, 2012).

Purchasing goods or services requires decision making; whether via the internet or via the store. A lot of rational decision making's models proposed by the researchers (e.g. Cox, Granbois & Summers, 1983) but the problem is that because of some reasons such as time limited, people are not able to follow the rational decision process and make the best decision, or sometimes they make irrational decisions. Biases can result in irrational analysis of price and market information by consumers. A cognitive bias is a 'pattern of deviation in judgment that occurs in particular situations, leading to perceptual distortion, inaccurate judgment, illogical interpretation, or what is broadly called irrationality' (Baron, 2008).

One of these cognitive biases is relative thinking. The relative thinking theory claims that people consider relative differences and not only absolute differences when making various economic decisions, even in those cases where the rational model dictates that people should consider only absolute differences (Azar, 2007).

This paper begins with demonstrating research methodology and describing how information and data were gathered. After that, it explains decision making process and cognitive biases, especially relative thinking by focusing on purchasing situation. In addition, it highlights pricing strategies and online marketing. Finally, it analyses the effect of the relative thinking on the online shopping.

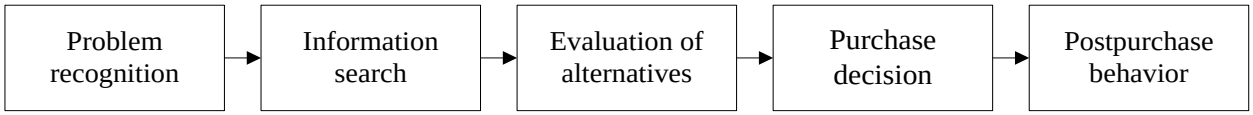
1. RESEARCH METHODOLOGY

Originally, online shopping and relative thinking come from two different types of literature. On one hand, this research requires to find related articles and topics in behavioural economics or behavioural marketing. On the other hand, reviewing latest articles or books' chapters about online marketing seems necessary. Therefore, some keywords are used for finding related articles or books' chapters such as cognitive bias and pricing strategies. Next step, similar conclusions are grouped by authors or results to show that different authors found same results and this one makes our work more reliable. Finally, I try to show how my study relates to previous studies.

2. RESULTS AND FINDINGS

2.1. Decision Making Process

The process which customers go through when deciding whether to buy a product or service is complicated. While many people will believe that the act of purchasing is the main part of a decision process in reality, it is actually only one part of a chain of steps which constitute the entire process Only profit hungry companies try to understand all the steps in this process which so called decision making process because they can derive the maximum financial benefit out of customers by selling them as much as they possibly can. Kotler & Keller (2012) developed a "stage model" of this process as you can see in figure 1. This model can be a guide for marketers to understand consumers and communicate effectively with them.



Source: Kotler & Keller, 2012, P. 166,

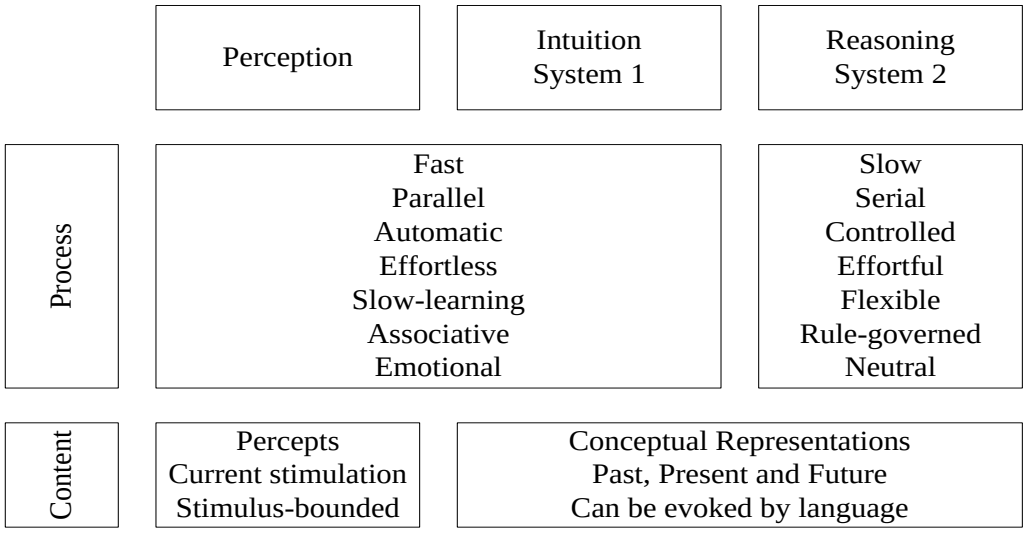
Figure 1 – Decision making model

The fact of the matter concerning the buying process is that it is not an instant act that happens when the purchase is made. Instead, it is initiated much before the transaction and has an impact in the long-term, post-transaction. The steps shown in the figure 1 are more or less exhaustive in nature, but all customers do not necessarily pass through them when deciding to buy. They may neglect or skip any of the steps based on what conveniences them. The model provides a good frame of reference, however, because it captures the full range of considerations that arise when a consumer faces a highly involving new purchase (Bazerman & Moore, 2009).

Many customers who decide to purchase any products or services do not always make a logical or rational decision. Instead, many times they take what are known as "mental

shortcuts" to decide upon whether or not to buy the target product or service. Behavioral decision theory [BDT] is one of the main areas of academic research in marketing since it studies how consumers make their purchase decisions. This theory has a focus on ascertaining when customers make illogical decisions that are not based on reasoning. In such situations, they prefer to use general buying ideas that may not necessarily be associated with logic. The work of these and other academics has also challenged predictions from economic theory and assumptions about rationality, leading to the emergence of the field of behavioral economics (Kotler & Keller, 2012).

Why do people usually make irrational decisions? For finding the answer of this question, knowing the way of thinking or in other words, thinking system is necessary. According to Stanovich & West (2000), there are two separate thinking systems which customers adopt when deciding whether or not to purchase a product or service. One of the systems, called System-1, has a strong role of intuition in it and it refers to our intuitive system. Be quick, emotional and effortless are the most important characteristics of it. The other system, dubbed System-2, which is the opposite of System-1. System-2 refers to reasoning that is slower, conscious, effortful, explicit, and logical. The summary of their theory is shown in figure 2 (Kahneman, 2003).



Source: P. 698, Kahneman, 2003

Figure 2 – Thiniking systems

Logical steps provide a prototype of System-2 thinking. If people are busy and don't want to spend a lot of time for deciding, then they are most probable to go for System-1. Even the brightest people make judgmental errors on a regular basis. These errors or biases are much more likely to occur in System-1 than in System-2 (Bazerman & Moore, 2009).

The concept of cognitive bias was formulated originally to describe human behavior. Usually customers make irrational decisions when deciding about any particular purchase. This irrationality is part of many decisions made by buyers and is referred to as cognitive bias in terms of psychology. Simply put, cognitive bias is defined as any act which is deviant and is not what is normally done. It is said that there are at least three situations because of which this bias may arise. One is that the customers are looking for shortcuts so as to save up on the effort required to make a rational choice. Second is that the customers in question are not experienced in making effective buying decisions, and they are naive basically. The third is that if the loss resulting from biased decision making is negligible (Haselton, Nettle, & Murray, 2014).

2.2. Relative Thinking

Calling relative thinking as a cognitive bias according the cognitive biases definition seems logical. The relative nature of judgment is a central theme of psychology. Volkmann (1951) and Parducci (1965) argue that the research into the aspect of cognitive bias has shed light onto how the absolute difference in any particular scenario can show as big or small depending on the range which it is viewed from by the observers (Bushong, Rabin, & Schwartzstein, 2015).

In terms of marketing, what this is interpreted as is that if customers are offered an added value for any product, in addition to what they are already getting, then their standard of evaluating the merits of that added value is restricted not only to the absolute value of the added value itself but also on its relative aspect, in relation to the value they are already making good use of. Evidence of relative thinking can be seen in the following conditions:

Whether or not customers decide to pay higher for a higher quality of a product or service depends on its price.

When the price of a product is low, then customers are much more sensitive to making savings on it because then those saving seem sizable, relative to the price of the good in question (Azar, 2011a).

In simple words, people make less effort to save a constant amount when they buy a more expensive good. For example, people exert more effort to save $5 on a $20 jacket than to save $5 on a $500 suit. Or imagine if a customer is asked to pay 5$ in addition to the 30$ for a product for installation, he might as well wish to save that amount because most probably in his perception, the benefit of saving 5$ as a function of the price or benefit of the product would be relatively high. On the other hand, if a customer was paying $1,000 for any other product and the seller offered an increase of 5$ for installation, then the same customer would gladly pay for it as for him. But in both cases, customer just pay 5$ but his perception is totally different.

So when the price of a product is very high, customers are not as interested in making savings on its purchase as they are when the price is low. Azar (2007) further explains that even if customers have a good knowledge of rational decision making, the bias of relative thinking may still exist in their decision making process.

2.3. Online Marketing

The online world is very different and unique from the physical world. This is because in the online world, the dynamics are all very different, as in, there is a click stream analysis, searches are made using keywords, there is a real time interaction that takes place, it is also flow-based, is more targetable than the physical world, also involves much more privacy and trust than the physical world, so on and so forth (Shankar & Batra, 2009).

According to Kotler & Armstrong (2012), there are a number of benefits which online marketing has to accrue to marketers relative to marketing in the physical world such as, much greater efficiency, quicker, lower costs, faster processing of orders, better handling of inventory as well as delivery, much higher flexibility, timeliness and finally it allows marketers to make ongoing adjustments to prices and programs or make immediate, timely, and personal announcements and offers.

For private consumers around the globe the most well-known form of e-commerce falls into the business to consumer (B2C) category, also known as online retail or online shopping. The statista.com (2015) provides information on B2C e-commerce sales worldwide in 2012 and 2013 including a forecast until 2016 as you can see in table 1.

Table 1. - B2C e-commerce sales worldwide from 2012 to 2016

Year	Sales in billions U.S. dollars
2012	1.058
2013	1.233
2014*	1.471
2015*	1.7
2016*	1.922
* Forecast	

Source: (Statista.com)

The interpretation that can be taken from the given statistics is that on the whole, the number of people making their purchases online is increasing. It should be considered that, internet buyers differ from traditional offline consumers in their approaches to buying and their responses to marketing. In the Internet exchange process, customers initiate and control the contact.

For most companies, creating an effective website is the first step and key to attracting the highest number of customers online over the World Wide Web. Websites vary greatly in purpose and content. Be advised that for customers, a colorful website that has a catchy theme is definitely preferable, but it shouldn't be forgotten that, it is the content that counts for them more, instead of the flash! In addition a website must be user-friendly, what this means is that customers should easily be able to find what they are looking for with the help of the tools active over the subject website. Also, having regular and interesting promotions running on the website keeps customers positively engaged so they buy more than they would without them (Kotler & Armstrong, 2012).

Speaking of the current situation regarding online shopping, there are two separate views on it. One is that consumer reviews and the larger market size may attract higher qualities to the online market. Another view is that since online shopping involves customers not being able to inspect the product prior to purchase, therefore, dishonest retailers have the incentive to sell lower quality products with a high price tag (Chen, Chen, Hu, & Li, 2015).

2.4. Pricing Strategies

The compensation demanded for buying any product or service is defined as its price. In other words, it is said to be the aggregate of all the values that any potential customer has to give up to acquire the useful advantages of the product or service he seeks to purchase. Historically, the price has been the major factor affecting buyer choice. Price is the only element in the marketing mix that produces revenue; all other elements represent costs. Price is also one of the most flexible marketing mix elements. Unlike product features and channel commitments, prices can be changed quickly. At the same time, pricing is the number-one problem facing many marketing executives, and many companies do not handle pricing well. Some managers view pricing as a big headache, preferring instead to focus on other marketing mix elements. However, smart managers treat pricing as a key strategic tool for creating and capturing customer value and convincing customers to buy their products.

Price says something about the product. Pricing that considers the psychology of prices, not simply the economics is called psychological pricing. Psychological pricing is the new theme that has been employed by marketers to try and win the maximum amount of sales for their products or services. Most customers usually skip the effort of comparing prices as best as they can to know if they are paying fair. Instead of doing that, they rely on rules of the thumb and take shortcuts to decision making by following certain cues that help them decide for the best possible price for a product or service. Clever marketers know that customers are

doing this and so what they do is place these cues where they think customers would find. This is so that they can satisfy themselves that they indeed are making a good bargain and proceeds on to make it right-away and keep making more like it!

The internet has brought marketers into a new world of pricing that is now called fluid or dynamic pricing; the thing about this kind of pricing is that it allows marketers to respond very quickly to customers' expectations and demands regarding pricing for any particular product or services. So as against the traditional norm of fixed prices being charged by retailers previously, the concept of "real-time-pricing" is what has emerged. All thanks to the ease with which prices can be changed online over the internet; marketers have probably never been more actively responsive to calls for a change in price than now. This has led to another scenario, however; a situation in which marketers can study the buying patterns of different customer groups and then offer them products in the range which they are very probable to buy. This can serve to be a big advantage to marketers, but if they stretch it too long, they might end up hurting their business relationships with clients instead of profiting from them, so this is important for them to keep in mind (Kotler & Armstrong, 2012).

2.5. Relative Thinking and Online Shopping

As already discussed, relative thinking related to the price of the goods or services. Thus, we focus on pricing strategies in online market by considering relative thinking effects. In this section, we will discuss about two strategies which online retailers can use for increasing their sales.

On one hand, consumers are willing to save a certain absolute amount on a good when the good's price is lower (Azar, 2011a). On the other hand, Marketing managers frequently utilize promotions to enhance the purchasing intentions of consumers and attract them more. These promotions may concentrate on changing the price of target items (e.g., discounts, coupons) (Liu & Chiu, 2015). Therefore, it seems online discounts or promotion for not expensive products or services is more attractive than expensive ones.

Nowadays, purchasing services such as airfare is increasing and have so many advantages for customers and online retailers. Furthermore, customers are willing to pay significantly more for a constant improvement in quality when the good's or service's price is higher (Azar, 2011b). By adding some extra options (e.g. Seat selection in airline online tickets) to available services which are more expensive than other services, online retailers can improve their sales and income. Even more, we can offer fast shipping for expensive products during the online shopping process. Because shipping cost is one of the most important elements in online markets, even though they are irrelevant to consumers' purchase decisions in offline distribution channels for most product categories (Becerril-Arreola, Leng, & Parlar, 2013).

CONCLUSION

The study sought to highlight the significance of online marketing and investigate the effect of the relative thinking on the online shopping. As it was already discussed, relative thinking and cognitive biases have an effect on consumers' decision making and lead them to interpret prices' information not only base on the price of a product or service, but also the situation where they are shown. Also, this study may assist the marketing manager to use some special pricing strategies considering relative thinking and cognitive biases to improve their sales and market share. Such as having more frequently discount on their cheaper products or services, and having extra options for premium services, or supplements for their expensive products. Future research could investigate the effect of relative thinking on

arranging products or services on the web pages and find that by considering relative thinking, which sort of products or services can be more effective.

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