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SUMMER MESSAGE OF THE SCIENTIFIC DIRECTOR



Distinguished Readers and Friends,

In this summer the ten countries along the bank of the 2,850 kilometers long Danube making its way from the Black Forest in Germany to the Black Sea bordering in Romania and Ukraine showed its devilish face. In the last decade alone, the Danube suffered by two floods, in winter the vital waterway was frozen producing huge ice chunks for hundreds of kilometers. It brides were bombed by NATO killing hundreds of innocent civilians because the Brig Bother did not liked the Serbs. It water temporary were poisoned by toxically chemical spills preventing providing drinking water for hundred thousand. If composer

Johann Strauss would live today he definitely would compose not his Blue Danube Waltz but rather a Requiem for a dirty monster. The Danube reached its highest heights not seen I over 500 years in Passau (Germany) and bursting the dyke through a levee in Deggendorf village. Nearly 20 people died in the flooding of the Danube and Elbe rivers. Overflowing rivers killed more than 10 people in the Check Republic. In Vienna the Danube exceeded the level of the flood in 2002 and the highway to the airport was under the water. The Hungarian authorities and the civil society in “control of the Danube” have been mobilized nearly 50,000 people including water management experts, professional, soldiers, public servants, Romas and even prisoners.

The rescue operation was managed by the Prime Minister Viktor Orban. For the time of the flood prevention the strongest opposition party at the Hungarian Parliament has been suspended its attack to the Government.

The current devastating flood has been resulted in two significant outputs. *First*, the tragedy highlighted that the **solidarity did not died out from the people**. Being in danger people throw off their prejudices, because the danger has not party color marked by tulips or carnation. I thought man sitting in wheelchair on the dam holding tight in his arms the sandbag. *Second*, the current tragedy showed that the European Commission has no policy to handle such kind of catastrophes. Why NATO with its huge technical potential did not come across to help the save the life of civilians as well as the villages and cities? The European Union Solidarity Found established in 2002 did not provide yet a single Eurocent to compensate the losses and damages. Probably the EUSF will provide assistance to the EU member countries after a lengthy administrative procedure which is not sufficient.

ERENET successfully organized two events in the second quarters of 2013. The 6th ERENET Annual Meeting in the framework of the International Conference on Innovation-driven Entrepreneurship was organized at the Intercontinental Hotel in Tîrgu Mures (Transylvania), while the 11th International Conferences on Management, Enterprise and Benchmarking – MEB 2013 – was held at the Óbuda University in Budapest. In the current ERENET PROFILE we publish selected papers from the first conference. Other papers will be published later. Papers presented at the MEB 2013 Conference are published in separate Proceeding of this event.

Dr. Szabó Antal
Scientific Director of ERENET



Photo © by Antal Szabó

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STUDENTS' PERCEPTION OF ENTREPRENEURIAL SELF-EFFICACY IN INTERACTION WITH EDUCATIONAL PROGRAM

ABSTRACT

Universities have been recognized as primary source of highly qualified labor, and recently also as the source of potential entrepreneurs. There is elusive evidence that education in general positively influence attitudes, capabilities, intentions and commitment of the person toward entrepreneurship, especially in the context of ex socialist countries. In addition, the evidence is also inconclusive since both positive and counter effect can be found in the literature. The aim of this paper is to investigate entrepreneurial self efficacy of the students in Croatia and how is it influenced by the level of education or by the particular entrepreneurship program. The study explores the perception of the entrepreneurial self efficacy among business administration students at one Croatian higher education institution. The paper finds support for majority of theoretically assumed relations between entrepreneurial self-efficacy beliefs and its predictors. The entrepreneurial self efficacy is higher for those who have higher personal attitudes or aspirations to entrepreneurship and more positive reinforcement from close friends. There is an interaction effect between level of education and self-efficacy. For students with no previous and personal exposure to business formal educational program seems to have positive impact. The self efficacy of major students without experience is higher than for undergraduates without experience. On the contrary, self efficacy beliefs of undergraduates with personal experiences related to business are higher than self efficacy of students with experiences on the graduate programs. The main contribution of the paper is in confirming relationship between education and self efficacy beliefs among students in a ex socialist country. While there is interaction between educational program and ESE there is still much to learn about the entrepreneurship programs designs or their effectiveness. Demystification of the potential of the formal educational programs with respect to the enterprising behavior of graduates can be important to the education program educators as well as policy makers.

Key words: students career decision, entrepreneurial self efficacy, entrepreneurship program

JEL Classification: A23; I21; L26

INTRODUCTION

Several international based projects such as Global Entrepreneurship Monitor or Flash Eurobarometer indicate that transitional countries of Central, Eastern or Southern Europe have higher nascent entrepreneurial activity than well developed countries. However, despite higher nascent entrepreneurial activity, the ratio between nascent entrepreneurial activity driven by innovation (or opportunity) and nascent entrepreneurial activity started out of necessity (no other employment options) is still very unfavorable. On the national level, policy makers call for more responsibility of higher education institutions in promoting and nurturing entrepreneurial mindsets as a driving force behind opportunity or innovation driven ventures. On the level of higher education sector increasing number of graduates is faced with the prospect of unemployment, and at the same time, do not perceive self-employment or entrepreneurial career as first career choice.

Universities have been recognized as primary source of professional training of qualified labor, or recently also as the source of potential entrepreneurs. In order to nurture the enterprising minds of the graduates, and to encourage formation of innovation driven entrepreneurship it is essential to address the issue of the university based entrepreneurship education's impact on capabilities of the graduates to start a business. Since entrepreneurial activity is a type of learned and planned activity it has been assumed that education in general, and entrepreneurial education in particular can provide more control over the outcomes of the entrepreneurial

venture, and can widen employment options for young adults. Higher education has been called to equip new graduates with desire and capability to start new innovation-driven ventures after graduation. It appears that design of the entrepreneurship education advanced further than the valuation of it, therefore more empirical evidence to justify whether it works. There is elusive evidence that education in general positively influence attitudes, capabilities, intentions and commitment of the person toward entrepreneurship. However the evidence is also inconclusive since both positive and counter effect can be found in the literature. There is still a need for more detailed information about: how does entrepreneurship education or higher education in general, impact students' entrepreneurial confidence and how does this impact vary over time, over situation or context. Universities as the platforms for cultivating enterprising behavior (Zainuddin, 2012) need more thorough research on the association between learning outcomes and learning experiences gained on the higher education institution level. The aim of this paper is to investigate what boost entrepreneurial self efficacy of the students and how is it influenced by the level of education or by the students exposures to a particular entrepreneurship courses. It can be expected that explanation of the university education impact on the students' self-efficacy in a particular transitional socio economic context can contribute to reducing the gap between interest, intention, commitment or actual entrepreneurial behavior.

The paper is organized to provide theoretical background behind the formation of interest and selection of particular career. Two theories have been recognized as the main theory drivers, namely, theory of planned behavior – TBP (Ajzen, 1991) and social cognition and career choice theory – SCCT (Lent et al. 2002). Both of these theories are briefly described as useful and reliable theoretical frameworks that can be used for explaining and predicting entrepreneurship career or behavior. Previous research and empirical evidence is presented to justify set of the hypotheses that will be elaborated in the paper. The empirical evidence on the associations between different learning experiences on self-efficacy is presented. Finally, the paper concludes with discussion of the association of the learning experiences and entrepreneurship education program on formation of the self efficacy beliefs.

THEORETICAL FRAMEWORK

Research focused on explaining or predicting any type of behavior or deliberate choices most often uses two overlapping theories due to their high relevance and predictive power. Krueger et al (2000) noticed that inclination of a person toward starting a venture is planned behavior, and that entrepreneurial ventures are usually not a reflex, it is a complex, conscious decision preceded by intentions. Their research followed the Icek Ajzen's theory of planned behavior (Ajzen, 1991) which suggested that intentions are the most obvious way of predicting subsequent behavior. In situations such as job search activities, career choice, new ventures foundation, new products initiation, firm internationalization and many of other firm related situations intentions have been considered as the most effective predictor of behavior. Similarly, the social cognition career theory – SCCT (Lent et al. 2002) proposes that career interest, choices or even persistence in a particular career is fuelled by person's positive expectation of the outcomes of particular activity and one's perception of self-efficacy and capability to perform tasks specific for particular career domain. The interaction of these key constructs leads to the formation of the interests, goals, intentions and actual behavior. In addition, Lent et al. (2002) suggested that entrepreneurial intentions are more likely to develop if a person (i) feels capable to successfully conduct entrepreneurial tasks or activities, (ii) anticipates positive outcomes from entrepreneurial activity and (iii) has a positive reinforcement for entrepreneurial behavior from the important influencers. It has been assumed that these constructs mediate the influence of personal (demographic, attitudes, experience), or external (supports, barriers, social norms, culture etc.) factors.

Self-efficacy has been observed as the most influential predictor of the intentions. Entrepreneurial self-efficacy (ESE) can be described as the person's confidence in one's ability to execute specific actions related to the opportunity recognition, planning, operations marshalling, human resources or finances management. It represents the person confidence in ability to attain a designated level of performance in these activities. The number of studies on entrepreneurial intention antecedents suggests that self efficacy is single best predictor of the entrepreneurial intentions. A variety of personal or contextual factors such as gender, age, ethnicity, social, cultural norms, economic condition, location factors or other externalities also impact intentions but most frequently they primarily directly influence the ESE beliefs of the respondents and through it they indirectly influence entrepreneurial intentions. There is strong positive association between self efficacy beliefs and intentions or choices in performing particular type of behavior. Person with strong self-efficacy for a

certain task is more likely to pursue and to persist in that task than others who possess low self-efficacy. Person with low self-efficacy is more likely to avoid or limit one's career choice because the lack of abilities in a specific task domain. Despite its influential role the self-efficacy has rarely been analyzed as an outcome variable. Since it has been considered as a dynamic and socially constructed concept it is interesting to assess how ESE beliefs can be acquired or modified, and how university education complement student's perception of it.

Self-efficacy beliefs seems to be driven by four primary information sources or learning experiences (Bandura, 1997). The greatest influence on self-efficacy has been attributed to the personal performance accomplishments. Person who receive positive feedback on something she/he performed well, tend to repeat that behavior more frequently and has more reassurance in her/his capability of executing specific tasks. Experiencing success in particular domain in general tend to raise self-efficacy beliefs, while failures tend to lower them.

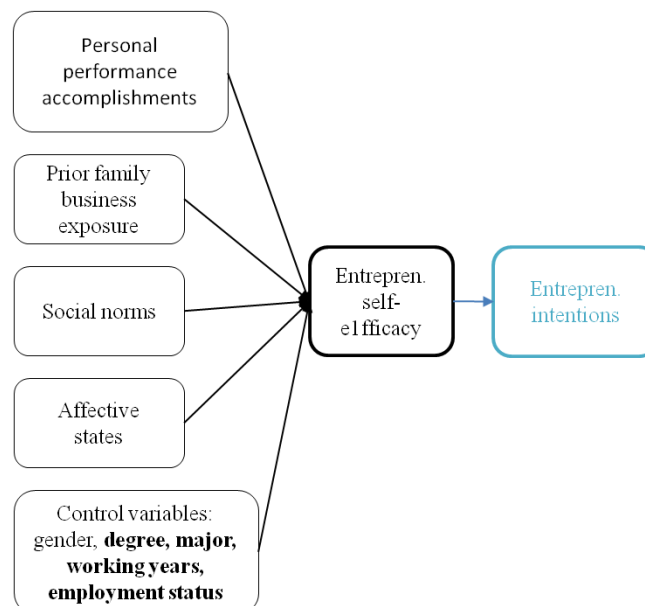
Second greatest influence on self-efficacy beliefs has been attributed to the social persuasions. Social persuasions are shaped by opinions of other people about the particular activity. Positive opinion of important others on a particular type of activity tend to motivate person to engage more fully in a particular tasks or activity, and consequently have positive influence on the perception of self-efficacy. The important others include opinions of parents, spouses, siblings, family, close friends, teachers, mentors and so on.

The remaining learning exposures responsible for shaping self-efficacy beliefs are learning through observation and affective states. It has been hypothesized that exposure to the family business, provide more direct and more immediate feedback on effectiveness in performing particular activities and therefore influences perception of one's self-efficacy. In addition, the person's attitudes and strength of aspirations toward particular activity can also be an important antecedent of self-efficacy. It is assumed that person's self image or passion orient one toward higher attainment goals and higher effort that fuel one's self-efficacy. Therefore, the person with stronger entrepreneurial identity aspiration will tend to have higher entrepreneurial self-efficacy.

A number of other personal attributes and social or economic factors may also be relevant for the formation of self-efficacy beliefs. For instance, it has been indicated that gender, age, location, transcend merely biological impact and impose the socially constructed impact on self-efficacy. For example the boys will be more encouraged in pursuing scientific career path, while girls may experience more support in the artistic careers (Wilson et al. 2007). However, it has also been suggested that these attributes influences on intentions are fully or partially mediated by ESE beliefs.

Figure 1

Antecedents of entrepreneurial self-efficacy



PREVIOUS RESEARCH

Relationship between self-efficacy and entrepreneurial intentions

Self-efficacy is often used in explaining and predicting entrepreneurial intentions as one of the key predictors. The extensive empirical evidence on the relationship between self-efficacy and entrepreneurial intentions confirm that self-efficacy is significant and single best predictor of entrepreneurial intentions, and to a lesser extent predictor of start-ups. Positive relationship between entrepreneurial self-efficacy and entrepreneurial intentions was confirmed by Barbosa et al. (2007), however Kolvereid and Isaksen (2006) found that entrepreneurial self-efficacy is *not significantly* associated with entrepreneurial behavior.

Research on entrepreneurial self-efficacy (ESE) as an outcome variable

Researches focused on ESE as an outcome variable are less often, and suggest that it varies by gender or socio economic context. It has been found that women have lower ESE than men (Baughn et al. 2006), or that persons from developed western countries have higher ESE than counterparts in less developed countries (Begley and Tan, 2001). Similarly, one study showed that Hungarian nascent entrepreneurs exhibit lower ESE than respondents in Croatia and Slovenia (Tominc and Rebernik, 2007) and suggested that ESE might vary according to a social or cultural context.

Relationship between entrepreneurship education and self-efficacy

Researches focused on relationship between the university based entrepreneurship educations suggest inconclusive evidence. Few studies observed positive relationship between entrepreneurship education and entrepreneurial self-efficacy. Graduate students exhibited higher ESE than undergraduate students (Florin et al. 2007), or entrepreneurial learning interventions resulted in positive association between ESE and intentions (Zhao et al. 2005; Wilson et al. 2007). Exposure to an entrepreneurship education was higher with students of entrepreneurship than with students of management or other business majors.

However, there are a few studies that indicate that this relationship might be more complex than expected. For example: Chen, et al. (1998) found in their analyses of MBA and undergraduate students that students self-efficacy belief was lowered after entrepreneurship education, particularly in the case of the students of entrepreneurship. Soutaris et al. (2007) found that learning resources of entrepreneurship courses had no significant impact on efficacy but had significant impact on norms.

To sum up, it appears that there are inconclusive empirical results on how university based entrepreneurship education influences career or behavior choices of the students. There is also a gap in the empirical evidence based on the studies in transitional socio cultural context.

In order to fill this gap the paper is focused on explaining what explains ESE beliefs of business students at one higher education institution in Croatia, recognized for its achievements in entrepreneurship through establishment of UNESCO chair on entrepreneurship. We assumed as follows:

H1: There is a difference in distributions of self-efficacy perception between subsamples of students according to:

- i. Personal exposure to business or entrepreneurship
- ii. Family exposure to business or entrepreneurship
- iii. Opinions of the other people regarding the entrepreneurial career choice
- iv. Strength of the entrepreneurial identity (positive self image)
- v. Educational level (undergraduate or graduate), and content (major in entrepreneurship, management, finances, marketing or business information systems)
- vi. Other physiological or socio-economical attributes

H2: Entrepreneurial self-efficacy is positively associated and explained by the personal, family, social persuasions and education level variables.

H3: Higher education in general and particularly entrepreneurship education has a interaction effect with key predictors of entrepreneurial self-efficacy.

METHODOLOGY

To assess the impact of education on ESE we used the sample of 454 students at the Faculty of Economics in Osijek, Croatia. The sample has been included in the large scale international sample of students from 91 countries worldwide under the EEP: Enhancing Entrepreneurial SE and Identity (<http://entrepeduc.org/>). The students were self administered in an on-line and on-site survey on English. The final sample comprised cca 40% of undergraduate and 60% of graduate students. Descriptive statistics are presented in Appendix.

From the dataset with more than 200 variables the ESE was chosen as the main dependent variable. In order to measure student's ESE the McGee et al (2009) ESE instrument was used. It contains 20 questions such as: How much confidence do you have in your ability to:

- Come up with new idea for a product or service on your own
- Estimate customer demand
- Network and make contact
- Delegate tasks
- Manage financial assets of a venture...

The students responded on a scale from 0 to 100. Individual scores on 20 items was summed, averaged and used as the single aggregate construct in the statistical tests.

Independent variables in this survey include as follows:

- i. Control variables: gender, area, family wealth, employment status, working years
- ii. Predictor variables:
 - a. Student's own personal exposure to entrepreneurship, or business
 - b. Exposure to a family business
 - c. Social persuasions of others (negativeness or positiveness of opinions of parents, partners, siblings, relatives, friends, ...)
 - d. Affective states: aspirations to entrepreneurship identity, general self-efficacy
- iii. Moderating variable: degree/ major field of study

To capture personal business or entrepreneurship exposure the students were asked questions such as:

Have you ever held a paying or nonpaying position (internship) in a company, or entrepreneurial venture.

Have you ever experienced a failure of the business where you have held position,...

The responses were dichotomous "Yes" or "No" answers.

Family business exposure was measured through questions such as: "Did your parents (siblings/grandparents) ever start a new venture?" The response were coded as "Yes" or "No".

Social persuasions of important others were evaluated through 6 statements describing referrals' opinion on the favorability of the entrepreneurship career (Kolvereid and Isaksen, 2006). The referrals included opinions of parents, significant other, siblings, relatives, close friends, and acquaintances. The responses were coded on the scale: 1-"Extremely negative" to 7="extremely positive".

Student's self-image and personal agency were captured by the Farmer et al. (2009) measure of strength of entrepreneur identity aspirations. The students responded from 1-"strongly disagree" to 5="strongly agree" with the statements such as: "Becoming an entrepreneur would be an important part of who I am... I often think about becoming an entrepreneur..." The individual scores on six statements were summed, averaged and used as an aggregated single construct.

In order to support main hypotheses several statistical analysis were performed including t- test for differences in two means; ANOVA for differences in three or more mean values; Pearson test for correlations and

hierarchical multiple regression.

The regression analysis was first based on the variables with high correlation with ESE. The several model and stepwise selection of the variables were added. In the final model a number of control variables, predictors and moderating variables were put in a regression analysis with ESE as a dependent variable.

RESULTS

The T- test of the differences between independent subsamples of respondents indicated there are differences in ESE and personal, family, social or affective experiences (see table 1).

Table 1
T-test and ANOVA

Control variables	Personal exposure	Family exposure	Social persuasions	Attitude
Area **	Personal paying or non paying position in a venture ***	Family paying or non paying position in a venture **	Parents	GSE **
Family wealth **	Personal exposure to a failure **	Family exposure to a failure *	Spouse	Entrepreneurial identity aspirations **
Employment **			Family	
Degree **			Close friends **	
Major **			Others	
Gender				

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.001$

There is a significant difference in the perception of ESE for students with different personal, family or attitudinal attributes. Interestingly, no significant differences in ESE were attributed to the opinions of parents, siblings, or relatives, while difference in ESE is significant for students with close friends who have favorable opinion regarding entrepreneurship career. The hypothesis H1 has been confirmed with respect to personal, family or attitudinal attributes.

These results were also confirmed with the hierarchical regression analysis (see table 2). Selected control variables were found significant but with relatively poor explaining power since they explain only 5% of the ESE variances. Addition of the predictors was significant and raised the predictive power of the model to 32%.

Table 2

Hierarchical Regression Analysis

Variable		Estimated regression coefficients (b) level of sign.
Step 1: Control (F=3.51***; R ² =0.047)		
Area	Urban	2.6**
	Rural	-1.1
	Suburban	-1.6
Family wealth	Below	-5.9**
	Average	1.2
Employ	Part time employmet	2.6***
Step 2: Predictors (F=17.52***; R ₂ =0.321; ΔR ² =0.36***)		
Own business exposure:	Without	-0.9
Family business exposure	Without	-0.9
Social pesuations of friends		0.9**
Attitudes and aspirations	Identity aspirations	2.7***
	GSE	12.5***
Step 3: Moderators (F=14.73***; R ₂ =0.323; ΔR ² =0.xx)		
Major	Entrepreneurship majors	-2.1
	Other majors	1.2
	Undergraduates	0.9
Step 4: Interaction term (F=8.65***; R ₂ =0.337; ΔR ² =0.xx)		
	Own exposure* Major	3.4*
	Own exposure* Major	-0.6
	Family exposure * Major	1.3
	Family exposure * Major	-0.7

* p<0.1, **p<0.05; ***p<0.001

Predictors explain 32% of the variances in ESE. Close friends are significant frame of reference for ESE as well as GSE and personal attitude. The impact of the moderator variables was only marginal in the overall predictive power of the model. The interaction effect between personal prior exposure to a business and education was significant but provided only marginal increase of the predictive power of the final model. The most interesting interaction was found between those without personal exposures to business who seems to have higher ESE after the Entrepreneurship education, while those with personal exposures to business showed that entrepreneurship education seems to decline after they are immersed in the Entrepreneurship education.

DISCUSSION

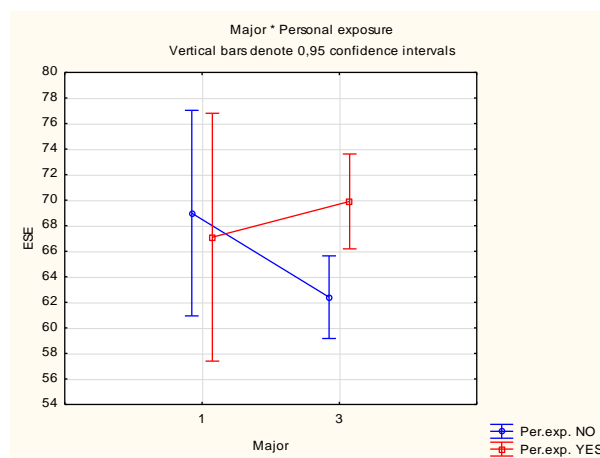
The purpose of this research was to explore whether university program in general and targeted program in entrepreneurship influence ESE. Prediction of ESE seems to be relevant and useful for developing of enterprising behaviour and widening the career options, particularly with the first-time entrants to the labor markets.

Theory indicates that targeted education can play an important role in acquiring and enhancing self-efficacy beliefs and formation of career preferences or persistence. Our results indicate that ESE is higher on the higher level of education, but not significantly different between students with different majors of the study. Undergraduate students at the first year were not exposed to any of the entrepreneurship courses at the Faculty of Economics, while graduate students took at least several entrepreneurship courses. Majors in Entrepreneurship are exposed to a wide variety of courses on entrepreneurship relevant topics such as: creativity and innovations, entrepreneurial finances; business planning, growing and managing entrepreneurial venture, family business, etc. We assume that higher ESE can be attributed to the longer university based education including the Entrepreneurship course.

Surprisingly, the students exposed to a variety of entrepreneurship topics, namely, majors in entrepreneurship, did not showed significantly higher ESE, when compared with other majors. The study design utilized the aggregated ESE construct which is derived from the students perception of their marketing, management, finance or HRM expertizes. The sample of graduated consisted of the majors such as finances, marketing, management and information systems management. It can be assumed that all majors result in the relatively similar level of ESE since their particular major expertize is integral part of the ESE construct. Additionally, several previous research found similar nonsignificant effect between educational programs and ESE constructs. Cox et al. (2002) even observed negative effect of EE on ESE. They indicated that the higher exposure to a courses with more and detailed entrepreneurial content, uncovers risks and complexities the students were not aware before the targeted education. The more awareness may result in higher risk aversion or more strict and more rigorous evaluation of the ESE.

Evaluation of the predictive power of antecedents of ESE indicate that lack of the experiences with entrepreneurship result in the significant impact of close friends or self-image as the largest direct predictors, while education has moderating effect.

Figure 2
Interacting effect



The paper contributes to the empirical evidences of the importance of the educational programs in general and entrepreneurial education in particular, to the aspiring potential entrepreneurs and their self efficacy beliefs.

CONCLUSION

The paper confirms that ESE is a key to a broader acceptance of entrepreneurial career among students. While there is some interaction between educational program and ESE there is still much to learn about the entrepreneurship programs designs or effectiveness. Formal educational programs on entrepreneurship tend to underestimate the impact of non formal or informal learning although they might be very important for the ESE. Widespread usage of feasibility studies, business plans, guest speakers, consultancy, case studies competitions seems to have effect and counter effect on the students facing their career options. However, to a number of students exposure to these learning interventions still lack authenticity of the real life situations. The number of the undergraduate and graduate programs especially in Croatia still struggle with the more authentic learning experiences deriving from apprenticeships, internships, placements, or incubating. It seems that these kinds of experiences would match much better to the students' expectations. For those with experience educational program can demystify entrepreneurial process and deflate the ESE beliefs that might have been overestimated. For those without experiences educational programs should provide stepping stones to the entrepreneurial competences, skills and capabilities. Special attention should be given to the opportunities to master the skills and to the authenticity of the programs.

Appendix: Descriptive statistics

Descriptive statistics of the sample:

Control variables	Sample frequencies or mean values
Gender	Male: 32% Females: 68%
Area	Urban: 38% Rural: 23% Suburban: 13% Mixed: 26%
Family wealth	Bellow avarage: 4% Average: 85% Above average: 8% Do not know: 3%
Employment status	Full time: 5% Part time: 12% Not employed: 79% Self-employed: 1% Missing: 3%
Working years	None: 15% Up to one year: 58% More than one year: 27%

Control variables	Average self-efficacy
Gender Male	67%
Female	68%

Area	Urban	70%**
	Rural	66%
	Suburban	66%
	Mixed	65%
Family wealth	Bellow avarage	63%
	Average	68%
	Above average	73%**
	Do not know	55%
Employment status	Full time	62%
	Part time	75%**
	Not employed	67%
Working years	None	62%
	Up to one year	66%
	More than one year	73%***
Moderating variables		Average Self-efficacy
Degree	Undergraduate students	66%**
	Graduate students	70%
Major	Entrepreneurship	68%
	Majors in marketing, finance, management	69%
	No majors	65%**

Correlations test

<i>Predictors: Personal attitudes and aspirations</i>	<i>Coef. correlations</i>
General self-efficacy	0,5118**
Entrepreneurial identity aspirations	0,3202**
<i>Predictors: Social norms</i>	<i>Coef. correlations</i>
Parents	0.0611
Partners	0.0353
Siblings	0.0752
Grandparents	0.0487
Close friends	0.1321**
Acquaintances	0.0043

Predictors: Personal of family business exposures	Average self-efficacy
Own business exposure	No:65%*** Yes:70%
Own Exposure to business failure	No:68%** Yes:66%
Exposure to personal failure	No:68% Yes:65%
Family business exposure	No:66%** Yes:69%
Family business failure	No:69%* Yes:68%

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FLOOD IN BUDAPEST 2013



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WHAT IS ENTREPRENEURSHIP?**ABSTRACT**

Entrepreneurship makes the world go round. The innovative, risk taking behaviour of entrepreneurial spirits is essential to leave the systems and processes of the past behind and start something new. Present article endeavours to uncover what entrepreneurship means nowadays in the light of definitions of the past almost three hundred years. Its aim is to show, that although entrepreneurship of the XVIII.-XIX. century was considered a battle of solitary actors, in the XXI. century social embeddedness of these actors is more important than ever.

Nowadays, it is not inevitable for individuals to struggle alone, they only have to have an innovative idea to test, some skills and competencies to make it work, and should be able to get access to everything else needed for their venture through their social ties. In line with this, social capital and social networks are inevitable to create and manage a fruitful venture.

Keywords: entrepreneurship, embeddedness, social network

JEL Classification: L26

INTRODUCTION

"Entrepreneurship is the gale of creative destruction. A process by which the economy as a whole goes forward." (Schumpeter, 1934). Accordingly, for each and every nation it is inevitable to foster entrepreneurship, and entrepreneurial spirit. However, in order to do so, a clear definition of entrepreneurship has to be created.

Present article endeavours to enumerate definitions of the past with the aim of showing how the notion of entrepreneurship has changed throughout the centuries. The focus of this list will be on the requirement that an individual had to be able to meet in order to be an effective entrepreneur.

The characteristics required from an entrepreneur have changed severely. In the beginning of the XXI. century, in line with the contingency approach, the entrepreneurs were not regarded as solitary actors any more, but from a holistic point of view, as ones embedded in their social surrounding. Along with this change, the "must have list" of entrepreneurs has been transformed, and the definition of entrepreneurship as a process has also been altered. Present article aims to provide readers with a better understanding of this change, and point out the application of the new definition.

ENTREPRENEURS OF THE PAST

Richard Cantillon (Savay des Bruslons, 1723) was the first one to define entrepreneurship. According to his understanding, entrepreneurs are risk taking individuals. Along with this the entrepreneur is a person who pays a certain price for a product to resell it at an uncertain price, making decisions about obtaining and using resources while consequently admitting the risk of enterprise. Hence, the centre of his definition is uncertainty tolerance and risk-taking.

Two hundred years later, the notion of entrepreneurship is still defined along these fundamental characteristics. Frank Hyneman Knight in his book *Risk, Uncertainty and Profit* (1921) still declares that entrepreneurship is about risk taking.

Joseph A. Schumpeter (1934) was the first one to state that entrepreneurs are unusual individuals, heroes, wild spirits. According to his ideology, they differ from the rest of the population in a competence called „Unternehmergeist“ (entrepreneurial spirit). An entrepreneur is a highly creative individual; a person, who is willing and able to shatter the already existing processes and convert a new idea or invention into a successful innovation. With doing so entrepreneurs are the catalysts for economic change, the gales of creative destruction.

Schumpeter (1934), by introducing the heroic aspect of entrepreneurship gave way to complex approaches, searching for the answer to the question "What characterises a good entrepreneur?".

Peter Drucker (1964, 1970) was one of the many to provide a complex aspect of entrepreneurship as a process and the entrepreneur as the central figure of it. He focused on decisions and practices rather than personal characteristics when creating his own definition of entrepreneurship. Along with his understanding an entrepreneur is an individual who consciously pursues change, responds to it and exploits opportunities. He/she is willing to put his or her career and financial security on the line and take risks in the name of an idea, spending time as well as capital on an uncertain venture. What is more, an effective entrepreneur converts sources into resources, hence innovation is a specific tool of him/her.

When defining entrepreneurship from an aspect other than entrepreneurial processes, the individual-centred, psychological approach is a choice to make.

David McClelland (1961) stated that only individuals with a high need for achievement can become entrepreneurs. Those, who do not want to be more than others, will not take the risk of failure, but will take the well-trodden path doing things the way they have been done previously, not searching for new ways or new things.

Collins and Moore (1964) on the other hand declared the desire for independence as the core of entrepreneurship. Albert Shapero (1975), when addressing the same notion speaks about internal locus of control. Both definitions emphasise the importance of the ability neglecting others' opinion. Accordingly, entrepreneurs, when taking initiative and with it accepting the risk of failure cannot be hold back by others, who due to sheer risk-avoidance try to preserve the status quo.

Stevenson and Gumpert (1985) defined entrepreneurship as a mindset, where during the pursuit for opportunities resources currently controlled are disregarded. Where creativity is not restricted by rationality, resources currently owned and solutions already available, but fostered by the complete disregard of the previous, of the reality of the common crowd.

Paul H. Wilken (1979) also emphasised, that the creative, innovative ideas that define an entrepreneur can not be implemented, when concentrating on the opinion of the others, or on the restrictive nature of the current circumstances. For that reason, besides creativity, daring and aggressiveness are inevitable for long term success.

As shown above, risk-taking is one of the core elements of the definition, but openness, conscious search for opportunities, sense of initiative and innovation along with high need for achievement, internal locus of control, daring and aggressiveness are also inevitable for individuals aiming to become effective entrepreneurs.

ENTREPRENEURS OF THE FUTURE?

For many years entrepreneurs were considered independent, autonomous, solitary warriors combating factors of political, social technical and economical environment alone (Kadocsa and Francsovcics, 2011). The career decision of being an entrepreneur was equal to that of being a self made man, and the emphasis has been on self. Although it has been clear for long that entrepreneurs use and utilise various resources during their process of setting and managing a venture, among others family and non-kin support, the social network of the entrepreneur, as a centre of research attention, is a relatively new phenomenon.

By the end of the XX. century, influenced by the contingency approach of management theories, the focus of research on entrepreneurship switched from the observation of individual characteristics to those of the

situation. Instead of searching for the "best" character set, they concentrated on the embedded nature of entrepreneurs.

One of the first openings to the contingency approach is associated with Starr and MacMillan (1990). On the basis of their researches they declared each and every business decision of entrepreneurs to be socially embedded. Their findings were corroborated by those of Shane and Venkataraman (2000). They stated that although entrepreneurs are solely concerned with opportunity recognition and exploitation, the opportunity that is recognised depends on the perception of entrepreneur.

Three years later Hoang and Antoncic (2003) came up with a more detailed situative approach. Along with their theory, entrepreneurs, as the companies they establish, are strongly connected to various other actors within their environment throughout their everyday operation. Thus, although certain entrepreneurial traits are required, entrepreneurial behaviours are also dynamic and influenced by environmental factors. Accordingly, entrepreneurs should be considered to be interdependent, embedded into a social system.

International literature provides proof not only on entrepreneurs (as the companies they establish) being strongly connected to various other actors within their environment throughout their everyday operation (Borbás and Kadocsa, 2010), but on social embeddedness influencing the process of starting a business venture as well. Opportunity recognition (Singh, 2000), entrepreneurial orientation (Ripolles and Blesa, 2005), entrepreneurial intent (Hmieleski and Corbett, 2006) and finally the decision to become an entrepreneur (De Clercq and Arenius, 2006) are all influenced by the entrepreneur-to-be's social background and environment.

Accepting the importance of the social ties in the process of entrepreneurship, the research focus "What characterises a good entrepreneur?" has been switched to "How can entrepreneurs be successful?". According to Anderson et al. (2005) findings it is imperative for an entrepreneur to have numerous and divers social surrounding, containing relatives, friends and less strong ties with past acquaintances and various social groups. Balancing and maintaining these is a central part of entrepreneurial life and may have a strong influence on the company's performance.

Successful entrepreneurs build and utilise networks in order to gain human, financial and social support and other valuable resources, such as advice, information, funding, boost of credibility/reputation, social legitimacy, access to knowledge and skills and social support (Hansen, 2001; Klyver, Hindle and Meyer, 2008).

The connections of the entrepreneur can be formal or informal, peer and non-peer, however most of these ties (ties within the social network) are not contract based and function along the basic rule of reciprocity when providing social support (House, 1981). Accordingly, social network is not a resource that can be bought and stored, but is like a living organism that has to be continuously nurtured in order to be in the right state for fulfilling its purpose.

Consequently, social support is not only inevitable for entrepreneurs, but also has its price. Various qualities, such as cognitive and emotional labour, tangible and intangible resources, but first of all plenty of time is needed for establishing and maintaining social contacts (Shirokova, Arepieva and Molodtsova, 2010). The cost/benefit point of view is one that should be kept in mind when evaluating social networks, since some connections are not worth the time and effort they take, since the benefit, or the potential thereof is low.

When searching for the golden way of successful entrepreneurship it has to be noted that social networks should not only be built and maintained taking into account characteristics such as size, functionality, centrality and diversity, but are and should be variable in time, and change with the demands the entrepreneur is currently facing (O'Donnell et al., 2001).

CONCLUSION - THE NEW WAY OF ENTREPRENEURSHIP

For centuries entrepreneurship has been regarded as a lonesome process, where the hero with the wild spirit had to be mentally and emotionally tough in order to face all hardships related to doing something innovative while disregarding the opinion of those conservative-minded. Some even thought, that good entrepreneurs are born and not formed (educated), since many personality traits were found to be in correlation with entrepreneurship.

With the holistic aspect of entrepreneurship gaining more and more ground in the end of the XX. century

researches on entrepreneurship increasingly involved besides the entrepreneurs and their personal characteristics, their social surrounding, their supportive belt. By changing the focus of the research, the notion of entrepreneurship has also undergone various alterations.

Entrepreneurs are not lone wolves any more. They are individuals, with a sufficient supportive belt, - network of strong associations and loose ties, - which can be activated and used on demand as a resource. They have to be able to create and maintain this network of kin and non-kin connections and determine the value of each tie on the basis of a cost/benefit analysis, bearing in mind that the costs of the, social ties should be less than the benefits stemming from them.

To sum it up, individuals who have an idea to test, some skills and competencies to make it work and are able to get access to everything else needed for their venture through their social ties are regarded entrepreneurs.

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QUALITY MANAGEMENT SYSTEM IN SMALL AND MEDIUM-SIZED ENTERPRISES IN PRESOV REGION

ABSTRACT

Business environment of the Slovak Republic has radically changed over the last 20 years. Businesses, especially small and medium-sized enterprises, faced the problem of how to be competitive. This has forced them to implement standardized practices into their operations. Gradually, the introduction of TQM has become crucial not only in large companies, but also in small and medium-sized enterprises. That is the reason, why we realized our survey among SMEs in the poorest region of Slovakia – Presov region. The results showed that only a third of respondents had implemented some of the quality management systems. Despite the relatively small proportion, we came to the conclusion that the companies which did not implement a quality management system directly, also tried to comply with the criteria for such systems.

Keywords: TQM, QMS, Business, Presov region, SME

JEL Classification: M21, D20

INTRODUCTION

Each product or service is assessed by several attributes during the sale. One of them, often the most important is the quality of the product or service provided. Assessing the quality of products and services is a part of market conditions. On the other hand, only monitoring the quality of the final product is not enough. The quality of the output is determined by the quality of the company - its technology, employees and total internal management of the company. In terms of evolution, we can talk about the traditional and modern ways of management in the company. The traditional way of management was focused on in-house activities and processes. Quality had only one meaning, that it was assigned by internal definition. "Products or services provided by organization were assumed to be good in quality, if this organization has done its best in producing that product or service." (REID, R.D. - SANDERS, N.R., 2011, p. 138) In 1920, however, there emerged a new concept of internal quality control in the company called Total Quality Management (TQM). The most precisely was this concept elaborated in Japan in the second half of the 20th Century. The greatest role in this process was played by W. E. Deming who engaged in corporate training on the need of establishing statistical control in all processes in the production not only senior management representatives, but representatives of all activities in the company. (TORTORELLA, 1995) His major idea was "improving quality will reduce expenses while increasing productivity and market share." (DEMING 1, 1970) Several manufacturers in Japan implemented this technology into their activities, and higher quality, in combination with reduced costs, created new international demand for Japanese products. Deming's concept was later on used successfully in other countries, and in many global companies. An example is the Ford Motor Company, which in the early 1980's, has seen a significant drop in their profits. After the implementation of TQM in its operations in 1986 it became the most profitable car company in America.

Business environment of the Slovak Republic has radically changed over the last 20 years. The economy has gone from the centrally controlled economy to a mixed economy built on the principles of

market economy with a partial focus on the social system. It has been incorporated into the structures of the European Union, and the result was a significant transformation. Along with the transformation of the economy there has been a significant transformation in business conditions. For businesses this means constantly adapting to new conditions.

Businesses, especially small and medium-sized enterprises, faced the problem of how to be competitive. This has forced them to implement standardized practices into their operations. Gradually, the introduction of TQM has become crucial not only in large companies, but also in small and medium-sized enterprises.

METHODS

We used structured questionnaire survey to get the relevant information. The main objective of the questionnaire survey was to investigate the use of ICT (Intellectual Capital) and QMS (Quality Management System) in enterprises on regional level, using the Presov region as an example. The data for the period 2009-2012 was collected from local enterprises in April - May 2012. The questionnaire contained 59 questions covering three main areas of interest: 1. Structure, education and qualification of employees; 2. Information and communication technologies in enterprises; 3. Factors influencing economic results of enterprises.

120 questionnaires were either mailed or delivered personally to small and medium enterprises from various sectors (for industry classifications of enterprises participating in this survey see Figure 1). Altogether 62 enterprises took part in the survey and fulfilled the questionnaire (51.7% of the distributed questionnaires). Results obtained for our sample of small and medium sized enterprises were compared to smaller sample of micro enterprises (having less than 10 employees) from the same region.

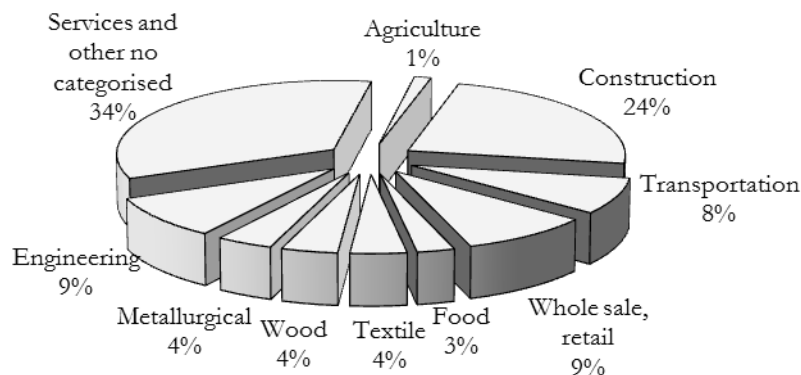


Figure 1 - Enterprises by sector of activity in 2011

Source: own data from questionnaire survey

The number of responses was limited by regional specifics. It is possible that the results are slightly overestimated owing to the modest size of the sample and collected data. Findings from a larger sample would have been more accurate.

BASIC CONCEPT OF TQM

We can talk about the seven basic concepts that make TQM:

1. Customer focus,
2. Continuous improvement,
3. Employee empowerment,
4. Use of quality tools,
5. Product design,
6. Process management,

7. Managing supplier quality.

Individual concepts are linked through four processes that take place in the enterprise:

1. **Human resources** - a critical element which determines the company's ability to exploit the advantages of the introduction of TQM. Human resource development is essential not only for the company itself, but it also contributes to the development of intellectual capital in general.
2. **Marketing** - the key to the successful use of TQM in business processes. Its mission is through close collaboration with customers to understand their changing needs and requirements and translate these findings into production "tailored" the customer directly to peace - that is the goal of TQM.
3. **Finance** - are another important area in TQM processes in the company. This is particularly the link between quality and costs that arise when it is created. They play an important role in quantifying the costs associated with the introduction of TQM, but also the education and training of employees, testing products and so on.
4. **Information systems** - a knowledge society cannot achieve development without involving IT. The basic problem can be the ability of staff to manage and use all IT options. (REID, R.D. - SANDERS, N.R., 2011)

The object of our research is the issue of intellectual capital, which includes TQM. Based on the schema "Components of intellectual capital" (FARKAŠOVÁ, 2012) is TQM a part of "structural capital" and thus a direct part of the intellectual capital. The scope and focus of our research, however, did not allow us to closely examine all areas concerning TQM. Therefore, we focused only on some of them.

TQM IN SLOVAKIA

Statistical Office of the Slovak Republic followed the development of certified management systems in Slovakia in enterprises employing 20 or more employees. Its findings show that SMEs experienced a growing trend in the implementation of quality management systems in the period. (Figure 2).

Table 1 - Number of certified quality management systems in SMEs in Slovakia

Year	1995	1996	1997	1999	2001	2002	2003	2004	2005	2006	2007	2008
Number	169	242	388	477	916	1,066	1,313	1,510	2,076	2,125	2,323	2,632

Source: STAT 1

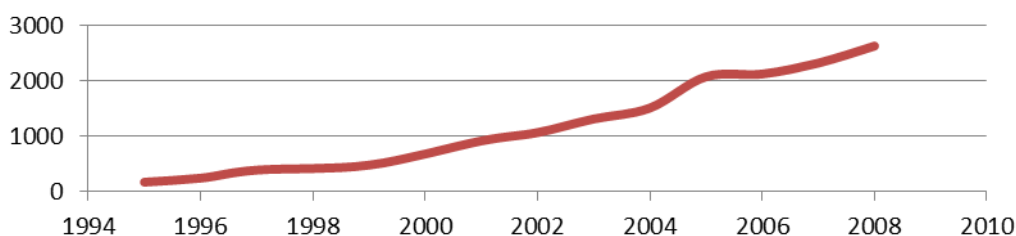


Figure 2 - Number of certificated systems of quality management

Source: own figure, data from Table 1

The fastest growing number of companies with TQM was in the period 2000 - 2001 and 2004 - 2005 and in the period 2008 - 2009. All three periods are for the business environment, as well as the Slovak economy itself, significant breaks.

The period 2000 - 2001 represented a period in which a very unstable 1990s for the first time managed to stabilize the economy. It also was a period of strong economic constraints and creating new rules. In terms of business environment, it is also a period of strong FDI inflows. Arrival of foreign investors who

in the parent companies already have implemented such systems (e.g. U.S. Steel Kosice), brought automatic introduction of quality management into their subsidiaries. It also created pressure on other companies which competitiveness compared to start-ups could fall. (RAISOVA, 2011)

The period 2004 - 2005 has significantly affected the future direction of the Slovak economy. 1st May 2004 the Slovak Republic along with nine other countries joined the European Union. Due to the EU's efforts to introduce quality management systems as a tool of control and increasing economic stability and competitiveness of both companies and countries, but also the EU itself, Slovak companies were forced to comply with legislative changes. The most significant changes can be observed especially when applying for public contracts in the public procurement system. In 2005 in this regard the new act - the Public Procurement Act (Z.z. 25/2006) was accepted, which, as amended, is still applied today. The law defined the possibility that the contracting authority may require from the applicant a certificate of compliance with the required quality standards and may use quality assurance systems under European standards. (Z.z. 1, 2006) Businesses that are interested in obtaining a public contract, started to introduce quality management systems, as evidenced by the increase in the number of such enterprises at 566 in 2005 compared to 2004. Companies that implemented these control systems, at the same time got more opportunity to compete for contracts in other EU countries, which had previously used these certificates as a form of invisible barriers to protect domestic markets.

The most recent significant increase in the number of firms introducing quality management systems are the years 2008 - 2009. This period is associated with a significant change in the Slovak economy. From 1 January 2009, Slovakia gave up its former currency - Slovak crown - and adopted the common European currency, the euro. This fact is not the only one leading to changes in the quality management in enterprises. In the years 2007 – 2008 the Slovak economy reached economic growth of 10%, which can be considered as the best season in the SR since 1989. The business environment in this period was characterized as a dynamically developing. This allowed the introduction of new systems in the companies that cannot afford it from financial reasons. Further development in this area stopped the first signs of the economic crisis at the end of 2008.

In our research, we asked our respondents if they used any standardized quality management system over the last three years in their operations.

Table 2 - The use of internal control in enterprises of Presov region

Question: Does your company use internal management systems?						
%	2009		2010		2011	
	SME's	Micro-enterprises	SME's	Micro-enterprises	SME's	Micro-enterprises
yes	35.5	11.1	42.1	11.8	32.0	11.8
no	64.5	88.9	57.9	88.2	68.0	88.2

Source: own data from questionnaire survey

We have found that slightly more than a third of our respondents use TQM system in their activities. More interesting finding was that while even in 2010, the number of these firms grew, in the year 2011 the TQM was even abandoned in the two companies. Further reasons for this development are not surveyed.

The most common type of TQM being introduced was ISO 14000. ISO 14000 is actually a series of international standards on environmental management. It provides a framework for the development of both the system and the supporting audit programme. (ISO14000, 2012) Then followed standard of ISO 16944, which is an ISO technical specification aiming to the development of a TQM that provides for continual improvement, emphasizing defect prevention and the reduction of variation and waste in the supply chain. It is based on the ISO 9001 and the first edition was published in March 2002 and ISO/TS 16949:2002. (KARTHA, 2004, p.336) Using just these types of ISO standards in the largest number corresponds to the

branch structure of our sample of respondents.

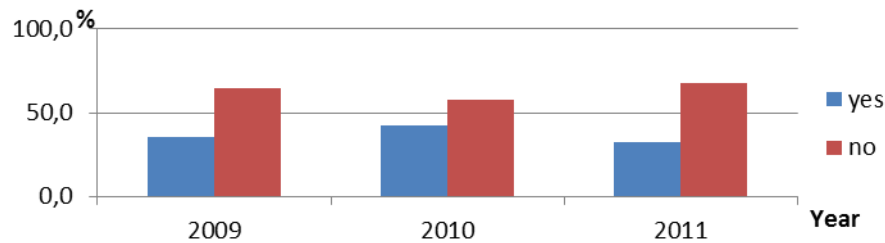


Figure 3 - Use of the internal management of the SME from Presov region

Source: own figure, data from Table 2

Our results were compared with a sample of microenterprises operating in the same region.

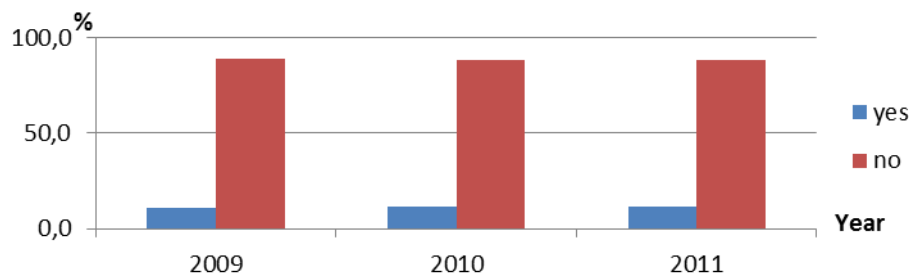


Figure 4 - Using the system of internal control in micro enterprises from Presov region

Source: own figure, data from Table 2

Here the situation is quite different. Micro-enterprises in Presov region used TQM systems to a very limited extent. There are only less than 12% of micro-enterprises in this region. Although the quality management system can manage all the processes in the company, in micro-companies activities are often carried out by only one person, or a very small number of people. The internal structure of the company is less complicated and simpler to manage. This may be the reasons why micro-companies are unwilling to implement TQM.

HUMAN CAPITAL MANAGEMENT - EVALUATION OF WORKERS IN THE FIRM

In the analysis of intellectual capital, human capital is often evaluated only in terms of its structure and learning, but the means of control and motivation to learn are ignored. In the research, we therefore focus, although relatively marginal, even on this area. We were interested in criteria for evaluating employees. The aim was to show whether the actual management of companies control and support the development of intellectual capital in their own company. For the purpose of research, we have created a series of four questions from this area.

The first two questions tried to determine whether the individual companies evaluate their staff and, if so, what form of assessment is used.

Table 3 - Type of evaluation of employees in the company

Question: What is the evaluation of employees in your company?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises

regular	50.0	57.9	47.7	66.7	51.0	66.7
irregular	50.0	42.1	52.3	33.3	49.0	33.3

Source: own data from questionnaire survey

Over 50% of SME respondents answered in 2011 that they do regular reviews of the workers. We note, however, a slight increase in the number of these companies, compared to 2010 (change is about 3%).

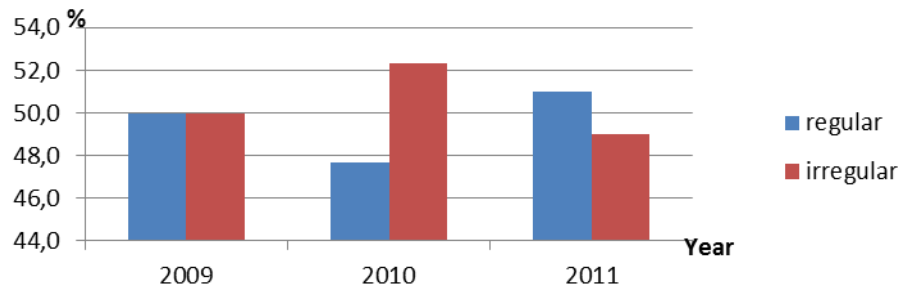


Figure 5 - Evaluation of workers in SMEs

Source: own figure, data from Table 3

This result reflects the experience of auditors of these processes auditors, who often encounter managers argument that such an evaluation is unnecessary paperwork or that they simply do not have time. Contrary to this are the opinions of recruiters and human resource management theorists who agree that the assessment of work and workers is an essential part of purposeful human resource management in the enterprise. Meanwhile, regular assessment contributes to a better understanding of employees and improvement of their performance. (GLOS, 1999)

When comparing our results with the sample of micro-enterprises in Presov region, we achieved significant differences.

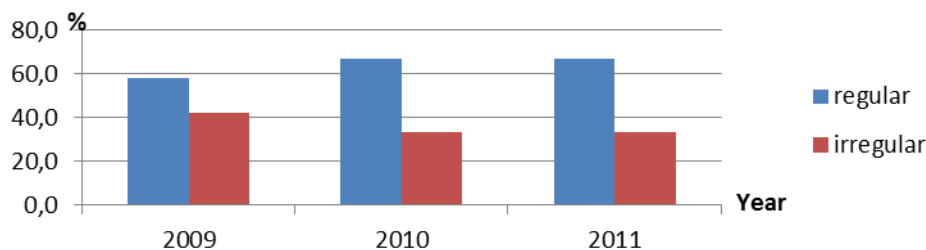


Figure 6 - Evaluation of workers in micro-enterprises

Source: own figure, data from Table 3

Up to 67% of micro-enterprises reported that workers are assessed regularly. Based on the experience of auditors, principally different company structure can be attributed to the significant difference in the percentage of assessed companies.

The second question was directed to a form of assessment that is used.

Table 4 - The form of staff appraisal in a company

Question: What form of evaluation of employees do you use in your company?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises

bulk	42.9	20.0	47.7	22.2	40.0	21.1
individual	64.3	80.0	61.4	83.3	60.0	78.9

Source: own data from questionnaire survey

The individual assessment clearly dominates the evaluation forms. This is a special category of job evaluation that takes place between the worker and his immediate superior. An example would be target-oriented staff evaluation. The basis of this type of assessment is mainly setting targets for each employee. Performance evaluation of set personal goals is an excellent tool for evaluating management, research and development and other workers with the possibility to influence their work (with decision-making competence). It can, however, also be applied for blue-collar employees. It has one major advantage over other forms of evaluation: it extremely focuses on workloads. The objectives agreed with the employee are based on the workload and are very specific and accurate in order to be measurable. Each worker is planning their own performance, so the evaluation criteria are easy to understand for everyone.

Our respondents did not have to choose only one of the options, but both. Five companies of all the respondents use both assessment options.

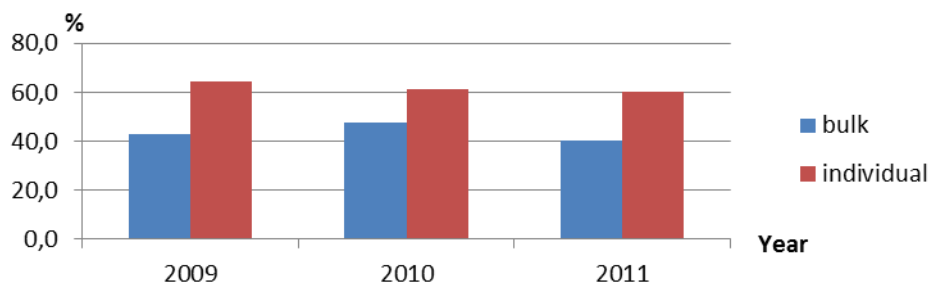


Figure 7 - Evaluation form in SMEs

Source: own figure, data from Table 4

One of the positives is that firms gradually moved away from collective assessment of their staff and transferred to various forms of individual assessment. Similarly develops the situation in the micro-companies, where nearly 80% of companies said they used individual assessment of staff.

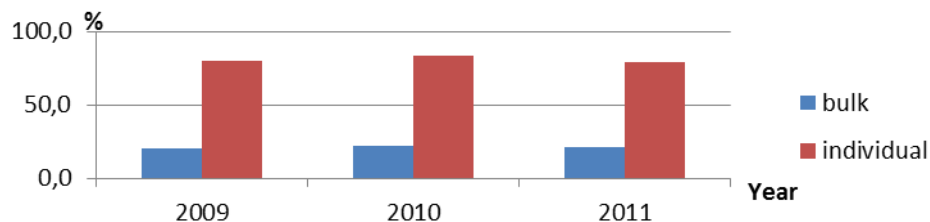


Figure 8 - The form of micro-evaluation

Source: own figure, data from Table 4

As can be seen from the results of the questionnaire, all respondents used at least one way of assessing their employees. More than half of them carry out assessments on a regular basis. This is higher than those with the implemented quality management system. We see this as a signal that companies are aware of the need for regular monitoring and evaluation of their staff without having implemented TQM system.

In the next two issues are issues of human resources examined from the perspective of what evaluation criteria the companies use and if the trial is subsequently reflected in the remuneration of workers.

Table 5 - Evaluation Criteria in business

Question: What criteria for evaluation of employees do you use in your company?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises
based on increased qualifications	16.7	31.6	21.4	33.3	22.5	38.9
based on the work results	85.7	89.5	88.1	94.4	92.5	94.4
other	16.7	0.0	9.5	0.0	5.0	0.0

Source: own data from questionnaire survey

From the results we found that only 22.5% of SMEs used as a criterion for assessment the increase of employee skills. In our opinion, this figure is very low. Most of these companies admit that the evaluation results reflect primarily working.

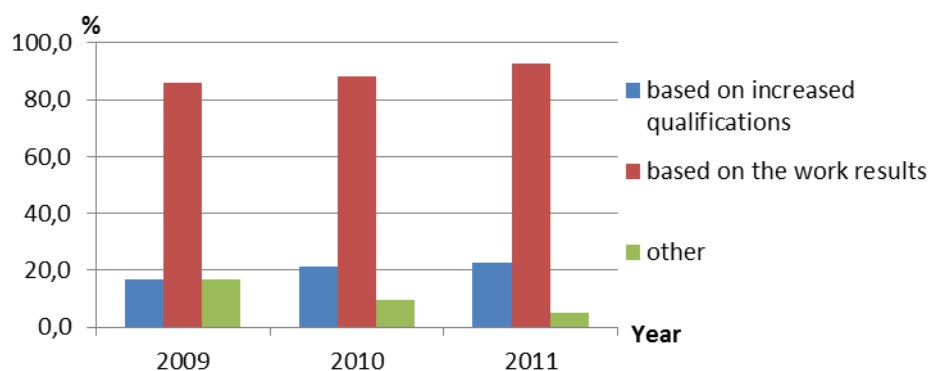


Figure 9 - Criteria used in the evaluation of workers in SMEs

Source: own figure, data from Table 5

Of all respondents, 10 were those who said they had used both criteria simultaneously in the evaluation. Only one company said that in addition to the two mentioned criteria it used also the third - the overall performance of the company during the period. This criterion was mentioned most often by those companies that did not use the first two criteria (or career or job performance). The positive information is the fact that while in 2009 a factor "increasing skills" was just used by about 17% of firms, in 2011 it rose to already 22.5% of firms. Improvement of education can become a motivating factor for employees.

In the case of micro-companies the results are similar. However, a larger percentage of companies used in the evaluation the advancement of employee qualification.



Figure 10 - Criteria used in the evaluation of workers in micro-enterprises

Source: own figure, data from Table 5

As we can see in the graph, also in this category there is such trend that companies are gradually getting used to incorporate career development into the overall picture of their workers. Stronger focus on their job performance is understandable. The only 5 micro- companies indicated that they use both criteria at the same time and no other company gives other criterion for evaluation.

As we mentioned earlier, the assessment of workers should present mainly motivational element. The motivation, however, happens only when the workers see that their assessment is not on paper, but their increased efforts is reflected in the funds or other benefits provided by the company. We therefore wonder if the assessment is then taken into account when rewarding employees.

Table 6 - Implementation of workers evaluation in company compensation system

Question: Do you use the evaluation results in remuneration of employees in your business?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises
yes	70.7	73.7	81.4	77.8	84.0	77.8
no	29.3	26.3	18.6	22.2	16.0	22.2

Source: own data from questionnaire survey

The results in both categories have the same trend. SMEs in the last three years moved from 70.7% of companies which include the assessment results in remuneration system to 84% of such companies in 2011.

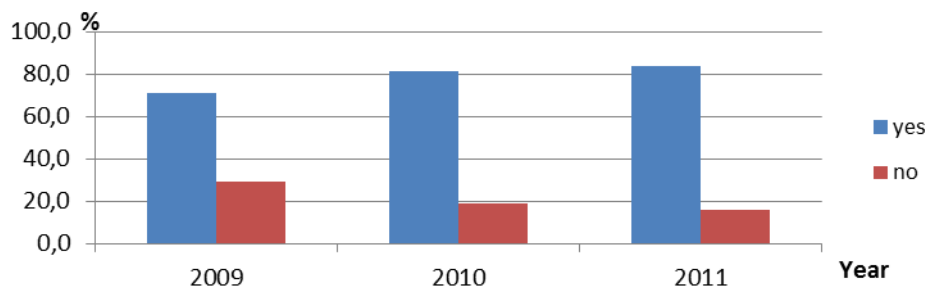


Figure 11 - Use of performance evaluation as a factor of payment in SME

Source: own figure, data from Table 6

The 14% difference in a short time can be considered as a significant step forward in this field. It indicates the efforts of managers of companies for more accurate remuneration criteria, but also attempt to

motivate workers to their own intellectual development.

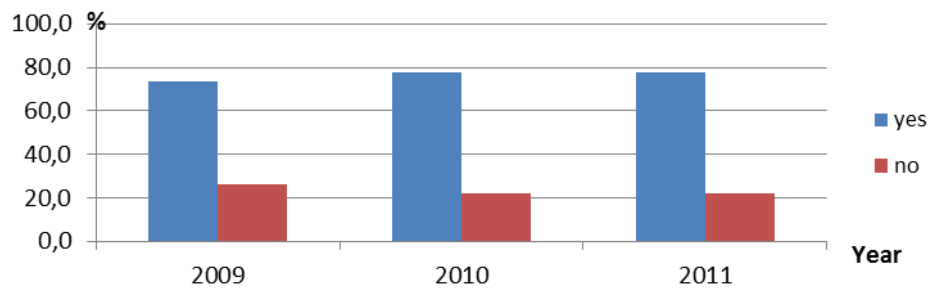


Figure 12 - Use of performance evaluation as a factor remuneration of workers in micro-enterprises

Source: own figure, data from Table 6

As the chart shows, the situation is similar in the case of micro-enterprises. There is, however, the relatively high percentage of those who do not take into account assessment in the remuneration and in this period there was not any significant decrease (approx. 4%). The positive is that the micro-companies gradually integrate qualification of their workers into their remuneration procedure, although in this field they are much slower than the SME.

TQM IN COMPANIES IN PRESOV REGION

In the last part of the questionnaire we let business managers to self-assess the criteria that most helped them achieve successes that year. (In the context of the obtained results which were analyzed earlier, this deals with the important selection of criteria). Respondents had the option of multiple choice - they could choose more than one answer. Options from which they could choose are listed in Table 7.

Table 7 - Criteria affecting business results

Question: What factors did success or failure of your business affect in the examined year?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises
quality management	61	47.1	68.3	42.9	68.9	41.2
labour force quality	63.4	67.7	68.3	85.7	66.7	64.7
technology	29.3	29.4	39	42.9	48.9	23.5
information systems	9.8	29.4	22	28.6	22.2	23.5
technical equipment	36.6	29.4	51.2	57.1	51.1	52.9
innovation	24.4	17.6	26.8	42.9	35.6	35.3
other (what?)	2.4	5.9	9.8	7.1	11.1	5.9

Source: own data from questionnaire survey

SMEs accounted “quality management” and “labour force quality“ as the greatest benefits. These two factors were high in all three years. The most interesting development was marked in “technology” and

“information systems”. While in 2009 only 29.3% of SMEs identified “technology” as being beneficial to their success, in 2011, it was 48.9% of respondents. A similar trend was recorded in the case of a factor “information systems”. In 2009, only 9.8% of companies identified this factor as helpful in creating the company's success. In 2011, 22.2% of managers thought that this factor is important in building a successful business. Despite the fact that managers of companies have changed significantly insight into the contribution of this factor, in the years 2009 – 2011 the least number of managers considered this factor to be important for the development of the company's success.

From the perspective of micro-managers, the "the labour force quality" was in the first place in all three years. Between 2010 and 2011, the factor "technical equipment" was located on the second place and then "quality management" factor. While SMEs initially did not consider "information systems" as important to them, and only later they began to value this factor, for micro-enterprises it gradually lost importance in building a successful business. On the contrary, “innovations” became important for them. Micro-enterprises marked the biggest number of the factors in the year 2010. Their managers reported the most numerous combinations of selected factors that year.

Through the last question in this section, we looked for an answer concerning strategy used by managers in their business. Overall results are shown in Table 8.

Table 8 - Overview of strategies applied in enterprises

Question: What strategies have been implemented in the reporting year in your company?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises
strategy to increase earnings	41.5	36.8	48.8	50	68.9	55.6
strategy to reduce losses	12.2	15.8	18.6	22.2	11.1	5.6
strategy to maintain the status	31.7	42.1	20.9	33.3	11.1	44.4
strategy to gain greater market share	26.8	26.3	32.6	27.8	31.1	22.2
competitive strategy for decommissioning	2.4	10.5	9.3	5.6	8.9	11.1
strategy to penetrate foreign markets	9.8	5.3	20.9	0	17.8	11.1
strategy to survive	9.8	10.5	7	0	4.4	0

Source: own data from questionnaire survey

In both categories of firms, we note that the most frequently used strategy was "a strategy to increase profits." In the case of SMEs “strategy to gain greater market share” followed. In the case of micro-enterprises the “strategy to maintain the status” was the second and then the “strategy to gain a larger market share”. It is interesting that while a certain percentage of SMEs each year wanted or was forced to use a “strategy of survival”, in the case of micro-enterprises none of them used this strategy in 2010 and 2011.

The last issue of this series was the question of profit achieved in the given period.

Table 9 - Profit of Companies in the set period

Question: What was the profit of your company in the reporting year?						
%	2009		2010		2011	
	SME`s	Micro-enterprises	SME`s	Micro-enterprises	SME`s	Micro-enterprises
profit	85.0	63.2	85.7	72.2	98.0	72.2
loss	15.0	36.8	14.3	27.8	2.0	27.8

Source: own data from own data from questionnaire survey

Respondents' answers to this question have produced quite surprising results. While in 2009 over 85% of SME concluded the year with a profit, in 2011 the number grew to 98% of the SMEs.

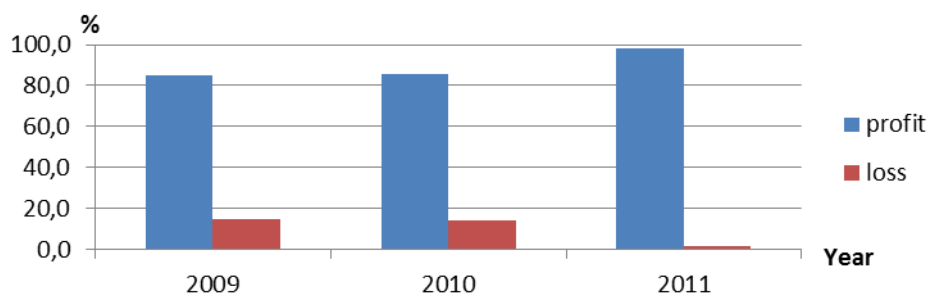


Figure 13 - Profit of SME

Source: own figure, data from Table 9

In the case of micro-enterprises there was a slight change in each category. As in the case of SMEs, the number of micro-enterprises completing the year with profit grew in the examined period.

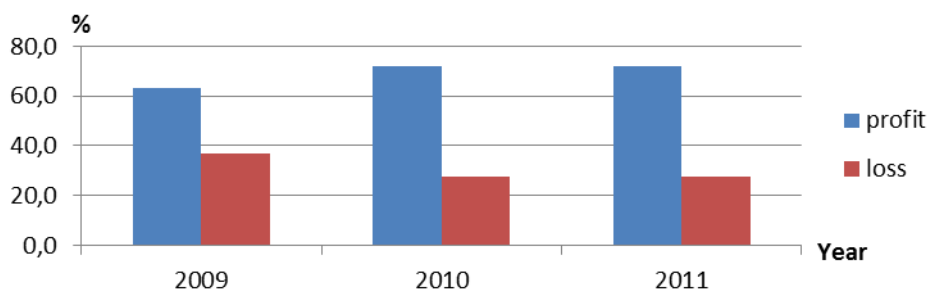


Figure 14 - Profit of Micro-enterprises

Source: own figure, data from Table 9

CONCLUSION

Small and medium enterprises represent the driving force of most developed economies in the world. They are a barometer of the success of implemented measures and procedures in the economy. They are also most flexible element of the economy. That is why we used the small and medium enterprises of Presov region as a basic subject of our research. The aim of this part was to see if the SMEs managed advancement of their intellectual capital by random processes and to what extent they implemented certain internationally recognized standards of quality control to their activities.

The survey found that only a third of respondents had implemented some of the quality management systems. Despite the relatively small proportion, we came to the conclusion that the companies which did not implement a quality management system directly, also tried to comply with the criteria for such systems. An example is the gradual transition of companies to individual staff evaluation and subsequent incorporation into the evaluation of employee compensation. However, a relatively low percentage of firms using qualification advancement as a criterion for assessment of their employees is considered to be a problem. Incorporation of this criterion in the company would, in our opinion, lead to higher motivation to improve their qualifications, and it would allow enhancement of not only the intellectual capital of the company, but in a broader context the whole society.

Interesting information that resulted from the research findings is that 90% of businesses in Presov region were able to conclude in a crisis year with a profit. This is a very positive fact that was certainly connected with the right selection of strategies in businesses. These were primarily focused on generating profit and to expand the scope of business. It was therefore a choice of progressive strategies and not stagnation ones. It is a sign that company managers as well as their staff concentrate on growth. A quite significant problem, however, can be considered the fact that businesses are still not identified with information technology and its exploitation for the benefit of the company. We comprehend this as one of the reasons of lagging and slower trend of Presov region toward the information society.

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E-LEARNING – THE OPPORTUNITY FOR SMES**ABSTRACT**

The use of Information and Communication Technologies (ICT) and a progress in accessing and using the Internet, highly influence the way that enterprises run their business. Every business is unique and has the basic framework of knowledge; it decides which technologies are suitable for it and how to use them. Any new technology that could contribute to enhancing the business is worth attention. The enterprises have to be able to identify key skills for their business and to support their development for all employees. Enterprises are forced to develop their human resources permanently. Massive growth of the Internet provides suitable channel for education and trainings. In this paper we will analyze the opportunity of implementation and use of e-learning in small and medium-sized enterprises (SMEs) in Presov region.

Keywords: e-learning, small and medium-sized enterprises, employees.

JEL Classification: D83, M53

INTRODUCTION

Education brings development of the organization in terms of improving the quality of the workforce, managing know-how and the overall general level of informedness at all levels of management, manufacturing and service of each enterprise. Enterprises have to keep the skills and competencies of their workforce current. Many past and traditional training practices are unable to meet these challenges. Many times courses are given and then forgotten, often without improving the performance of workers. Implementation of e-learning in education of employees presents new opportunities and challenges for SMEs. E-learning has brought new ways how to react to changes requiring re-training of employees - inform all competent employee, train them and test them. It can well adapt to pressure of improving the quality of the educational process in a business environment.

E-learning is changing the way enterprises gain competitive advantage through improved human performance. Especially small and medium-sized enterprises have to face the problem that e-learning technologies, methods and strategies have mostly been developed for the needs of large enterprises and cannot be exactly transferred to their needs (Reich, 2012).

SMALL AND MEDIUM SIZED ENTERPRISES

Three classes of SME are distinguished: micro enterprises, small- and medium scale enterprises. Micro enterprises are enterprises that employ up to 9 people. Small enterprises employ between 10 and 49 people. Medium enterprises employ between 50 and 249 people. Large enterprises are thus defined as having 250 or more employees (Wymenga, 2012).

Small and medium sized enterprises play a central role in the European economy. They are a major source of entrepreneurial skills, innovation and employment. SMEs are characterized by a transparent organizational structure which allows the direct implementation of control and flow of information without any significant impact of negative aspects. SMEs have considerable potential for the national economy and fill several important functions (e.g. social, economic, export - import, etc.) (Huttmanová, 2010).

The category of micro, small and medium-sized enterprises is made up of enterprises which employ

fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro (Extract of Article 2 of the Annex of Recommendation 2003/361/EC).

According to Annual report “EU SMEs in 2012: at the crossroads”, SMEs are very important entities in Europe with some 20.7 million firms accounting for more than 98% of all enterprises, of which the lion’s share (92.2%) are firms with fewer than ten employees (Wymenga, 2012).

Table 10 Number of enterprises, employment and gross value added in EU-27 by size class 2012 (estimates)

	Micro	Small	Medium	SMEs	Large	Total
Number of enterprises						
Number	19,143,521	1,357,533	226,573	20,727,627	43,654	20,771,281
%	92.2	6.5	1.1	99.8	0.2	100
Employment						
Number	38,395,819	26,771,287	22,310,205	87,477,311	42,318,854	129,796,165
%	29.6	20.6	17.2	67.4	32.6	100
Gross value added						
Number	1,307,360.7	1,143,935.7	1,136,243.5	3,587,540	2,591,731.5	6,179,271.4
%	21.2	18.5	18.4	58.1	41.9	100

Source: Wymenga, 2012

SMEs play a major role in economic growth in EU-27, providing the source for most new jobs. In employment terms, SMEs provided an estimated 67.4% of jobs in the non-financial business economy in 2012. However, SMEs provided a slightly smaller share of GVA in the EU in 2011 and 2012 (58.1%).

E-LEARNING

In present days, learning becomes more and more important competitive weapon. High-quality labor force presents factor of success of each business. It requires high-quality training. Corporate managers are beginning to understand that increasing employee skills is the key to creating a sustainable competitive advantage. Thanks to advances in technology, companies can train their employees more rapidly, more effectively, and with spending less than in the past (Bachman, 2000).

Lifelong learning and the acquisition of knowledge for work tasks which have to be organized within SMEs is more complex than the provision of access to courses and traditional learning opportunities. In regard to fact, that e-learning offers many benefits within the process of lifelong learning, it should be firmly embedded with the idea of lifelong learning especially in the small and medium companies (Hamburg, 2005).

There are several definitions of e-learning in regard to technological, communicational and educational character of this learning form. Ruth (2011) defines e-learning as instruction delivered on a digital device such as a computer or mobile device that is intended to support learning. E-learning is the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media. The electronic medium could be the Internet, intranets, extranets, satellite TV, video/audio tape, and/or CD ROM (Koochang, 2005). Sangra et al. based on their research built an inclusive definition of e-learning according to which e-learning is an approach to teaching and learning, representing all or part of the educational model applied, that is based on the use of electronic media and devices as tools for improving access to training, communication and interaction and that facilitates the adoption of new ways of understanding and developing learning (Sangra, 2012).

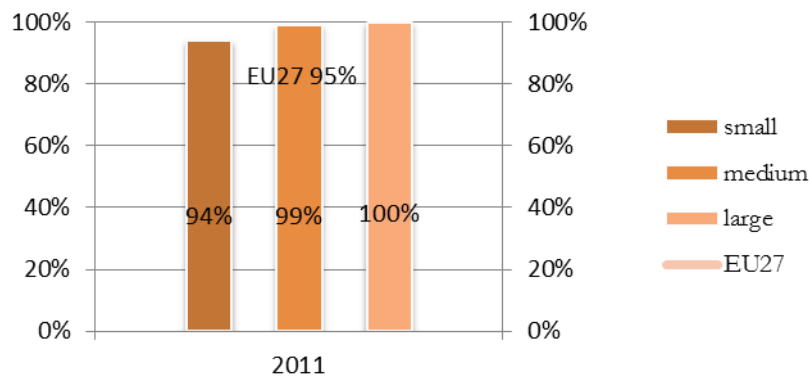
The EU defines e-learning as “the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services as well as remote exchanges and collaboration” (elearningeuropa.info, 2012). E-learning can be seen as providing universal access to

information and a new flexible and ubiquitous learning environment open to all (Admiraal, 2009).

Given the wide availability of Internet and other ICT tools, these technologies became a key instrument for lifelong learning, innovation and learned-centered forms of education (Pal'ová, 2011).

The large majority of SMEs is now connected to Internet for their business needs. According to Eurostat Statistics (document "ICT usage in enterprises 2011") in January 2011, more than nine out of ten enterprises in the EU27 had access to and used the Internet.

Figure 15 Internet Access by size class, January 2011



Source: Giannakouris, 2011

All large enterprises have access to Internet. We can assume that in the near future medium-sized enterprises will reach same status as 99% of them have access to Internet. The "worst" results were achieved small enterprises (94%). However, majority of SMEs are equipped with the basic configuration needed for e-learning: a PC and the Internet. Some already adopted e-learning, but they still are a minority that is concentrated in specific regions of Europe.

ADVANTAGES AND DISADVANTAGES OF E-LEARNING IN SMES

Through learning, small firms may expand their core competencies and improve their ability to assimilate and utilize new information (Admiraal, 2009). The development of skills through e-learning has many advantages for the SMEs in comparison with standard training techniques.

Here are some of the most outstanding advantages of e-learning in enterprises. The employees can learn at a time that suits them best, at their own pace and in the comfort and the environment which means better concentration and faster acquisition of learning content (Online, 2012).

E-learning enables to introduce individual access to education and simplify the organization of education. Reduced overall cost is the single most influential factor in adopting e-learning. The elimination of costs associated with instructor's salaries, meeting room rentals, and student travel, lodging, and meals are directly quantifiable. The reduction of time spent away from the job by employees may be the most positive offshoot.

Next table summarize advantages and disadvantages of e-learning from the company's point of view:

Table 11 Advantages and disadvantages of e-learning from company's point of view

Advantages	Disadvantages
"Mass" training (unlimited number of learners)	Companies sometimes ill-informed and hesitant with respect to new technologies
Savings relative to classroom-based training indirect costs (travel, accommodation, etc.)	No control over motivation, involvement and course management by learners
Flexibility and adaptability according to learner availability (time, location)	Investment in computer hardware and software

Customization and adjustment of training courses to predefined skills and teaching goals	E-learning content occasionally difficult to design for training in highly specific fields (to be checked)
Low logistical constraints (no room booking, employee travel, accommodation, etc.)	Change management to implement within the training department
Precise course reporting and automated results analysis thanks to tracking	
Durable and updatable teaching materials	

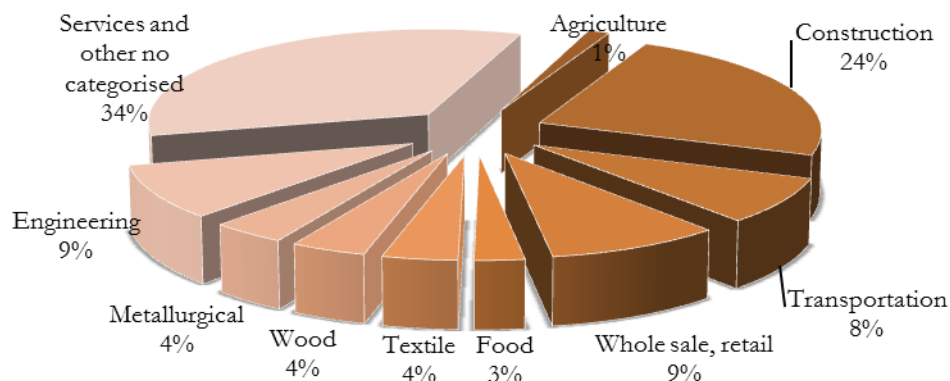
Source: E-learning, 2011

One major potential drawback of using e-learning in small firms is the technology infrastructure. E-learning initiatives can require considerable investment in both information technology and staff. Specific costs include developments costs to design and build a learning environment and actual courses as well as hardware and software costs to allow users to access the learning environment or training (Admiraal, 2009).

DATA AND RESULTS OF THE SURVEY

The main objective of this survey was to investigate the use of ICT in enterprises on regional level, using the Presov region as an example. Presov region is one of the largest regions of the country (over 800,000 inhabitants). The data was collected from enterprises in April - June 2012. The mode of collection was a structured questionnaire survey. 120 questionnaires were either mailed or delivered personally to small and medium enterprises from various sectors (for industry classifications of enterprises participating in this survey see Figure 2). Altogether 62 enterprises took part in the survey and fulfilled the questionnaire (51.7% of the distributed questionnaires). All results of the questionnaire survey are not reported here. They are available upon request from the author.

Figure 16 Enterprises by sector of activity in 2011



Source : own data from questionnaire survey

The results obtained were used to describe the possibility of implementing e-learning in SMEs of Presov region. Through questions in a questionnaire we investigated, the extent to which surveyed enterprises provide to their employees education and training. We examined what is the computer equipment of all employee groups, what is their access to the Internet. The results gave an overview of the current situation and possible future development and trends for Presov region.

Educational structure of employees and staff trainings

The greatest asset a company possesses is its employees. Regardless of number of employees, they move the whole company, give the final form to products or services and create company profit. Workers, managers, administrative staff - it is they who bring values. Qualified, properly structured and professionally motivated workforce is essential to the success of any enterprise (Majtán, 2007).

For the purposes of this study, employees were divided in four categories - the highest management, middle management, administrative staff and workers. Table 3 provides an overview of the employee structure

in surveyed enterprises in Presov region.

Table 12 Educational structure of employees (in %)

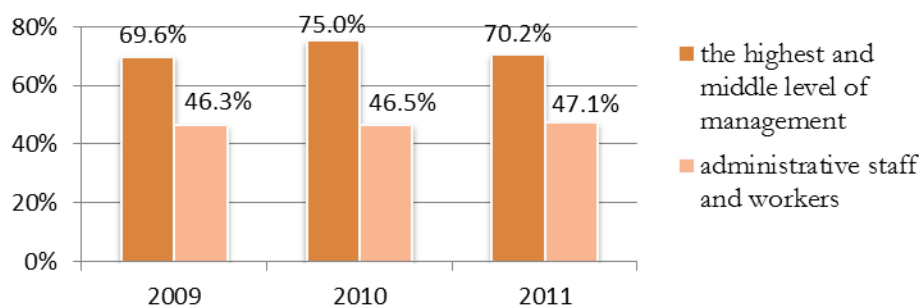
		The highest and middle management			Administrative staff and workers		
		2009	2010	2011	2009	2010	2011
Secondary education		26.0	30.5	31.5	85.7	84.6	84.8
Higher education	Bachelor level	13.9	12.3	13.8	4.3	5.2	5.3
	Master level	56.3	54.1	50.8	10.0	10.1	9.8
	PhD.	3.8	3.1	4.0	0.1	0.1	0.2

Source: own data from questionnaire survey

When we compare management with administrative staff and workers, we see significant differences. More than half of employees on managerial position have higher education on Master level and 4% achieved PhD. Vice versa, almost 85% of administrative staff and workers achieved secondary education. During the reporting period there was an increase of managers with secondary education by 5.5%.

Presov region has a high unemployment rate. This may cause that people often seek work outside their educational attainment. Therefore an important issue related to educational structure of employees is the consistency of achieved education with requirements of job position.

Figure 17 The consistency of achieved education with requirements of job position (in % of employees)



Source data: own data from questionnaire survey

As we see, approximately 70% of managers have consistency of education attainment with current job position. However, less than 50% of administrative staff and workers in small and medium-sized enterprises have a work corresponding to their education.

The quality of human capital can be increased through formal education or various forms of education and training on the workplace. In terms of businesses, education and trainings belong to the most important investment in human capital. Table 4 presents the participation of employees in the courses provided by small and medium-sized enterprises in Presov region. The final measure of each course was created as a percentage average of employees (of all enterprises).

Table 13 Employee participation in the trainings/courses (in % of employees in enterprises)

Type of training/course	2009		2010		2011	
	The highest and middle management	Administrative staff and workers	The highest and middle management	Administrative staff and workers	The highest and middle management	Administrative staff and workers
Workplace Safety and Health Courses	53.8%	45.6%	52.0%	43.9%	52.6%	47.9%
Finance and Accounting	18.0%	4.9%	20.3%	7.6%	18.9%	10.0%
Administrative and Legal Matters	17.7%	4.6%	21.5%	7.6%	20.9%	10.3%
Sales and Marketing	18.6%	2.7%	22.7%	5.4%	21.1%	8.3%
Increase of Interpersonal Skills	21.6%	5.0%	26.5%	7.9%	24.6%	10.3%
Computer Training	18.6%	3.9%	17.4%	6.6%	18.0%	9.5%
Language Courses	15.6%	3.5%	18.9%	6.2%	13.1%	9.7%
Other	12.0%	14.4%	16.0%	13.7%	16.6%	15.4%

Source: own data from questionnaire survey

Employees participate mainly in required courses. As for Workplace Safety and Health Courses, it is about 50% of all employees. A quarter of managers invest their time to increasing interpersonal skills. In monitored period, there is a decrease of participation of the highest and middle management in Language Courses. It could be due to the fact, that most managers already have sufficient language skills. What is more, most employers pay for Language Courses of their employees only to certain level. As for administrative staff and workers, 15.4% participate in other courses and trainings; these were mainly Welding, Forklift and Crane Courses and First Aid Course.

We observe the noticeable differences (more than 10%) between two surveyed groups of employees in the following courses: Administrative and Legal Matters, Sales and Marketing and Increase of Interpersonal Skills. The differences are mainly based on different workload of each category of employees.

People of all ages in the workforce need to raise continually the level of their skills what can improve their earnings prospects. Thanks to sufficient skills, it is easier for them to find new work if they lose their jobs. Unfortunately, adult training is not spread evenly across the workforce. Employees who are younger and have higher levels of existing qualifications are more likely to receive training from their employers. In effect, those who need training the most – older employees and those with limited education – have the slightest chance to receive it (OECD, 2007).

Continued learning after initial education and training is required to maintain and develop skills, to adapt to structural changes and technical developments, for staying in jobs, for career advancement or to get back into the labor market (European Commission, 2012).

Table 14 Participation of adults aged 25-64 in lifelong learning (in %)

	2006	2007	2008	2009	2010	2011
EU-27	9.5	9.3	9.4	9.3	9.1	8.9
Slovakia	4.1	3.9	3.3	2.8	2.8	3.9
Western Slovakia	2.5	2.5	2.3	2.0	2.2	3.4
Central Slovakia	4.1	3.8	3.2	2.3	2.7	3.5
Eastern Slovakia	1.6	1.8	1.8	2.0	2.2	3.4

Source: European Commission, 2012

In 2011, the EU-27 participation rate was 8.9%. In general, we observe a relatively stable development without fluctuation of participation of adults (aged 25-64) in lifelong education. Another situation is in case of Slovakia, where only 3.9% of adults participate in lifelong learning. As for Eastern Slovakia (which includes the Presov region), we see the largest increase in monitored period.

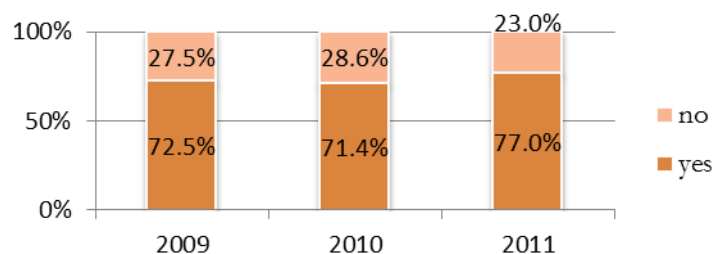
However, questionnaire survey realized in Presov region brought somewhat different results.

Table 15 Employee participation in life-long learning (in %)

		The highest and middle management			Administrative staff and workers			All employees		
		2009	2010	2011	2009	2010	2011	2009	2010	2011
Secondary education		2.4	2.3	2.3	1.0	1.1	1.4	1.2	1.3	1.6
Higher education	Bachelor level	1.8	2.6	1.7	1.3	1.2	2.1	1.4	1.4	2.0
	Master level	5.4	5.5	4.0	1.0	1.2	1.6	1.6	1.8	1.9
	PhD.	1.2	2.0	2.3	0.2	0.3	0.2	0.4	0.5	0.5
Postgraduate education		2.1	1.7	1.4	0.5	0.3	0.7	0.7	0.5	0.8
Total		12.9	14.2	11.7	4.2	4.1	6.0	5.4	5.4	6.7

Source: own data from questionnaire survey

Table 6 shows that only low percentage of employees participate in life-long learning. In total, 6.7% of employees participate in life-long learning; there has been growth of 1.3%. The highest and middle management is more involved, mainly in higher education – Master level (4.0%). As for administrative staff and workers in 2011, we can see increase in all levels of education except for PhD. study. Their participation is the largest for category of Higher education – Bachelor level (2.1%).

Figure 18 Staff training provided by enterprise (% of enterprises)

Source: own data from questionnaire survey

More than 70% of enterprises provide staff trainings. Specifically in 2011, 77.0% of surveyed SMEs

provided staff training. This number means that majority of enterprises are aware of the importance of continuous learning and increasing skills of workforce. Compared to short-time courses, life-long learning is showing a lower participation. We assume that this proportion will increase in coming years.

COMPUTER EQUIPMENT AND INTERNET ACCESS

As we said above, the basic configuration needed for e-learning is: a PC and the Internet. Therefore next questions of the survey are dedicated to computer equipment and usage of the Internet by all categories of employees.

Table 16 Computer equipment of employees (% of enterprises)

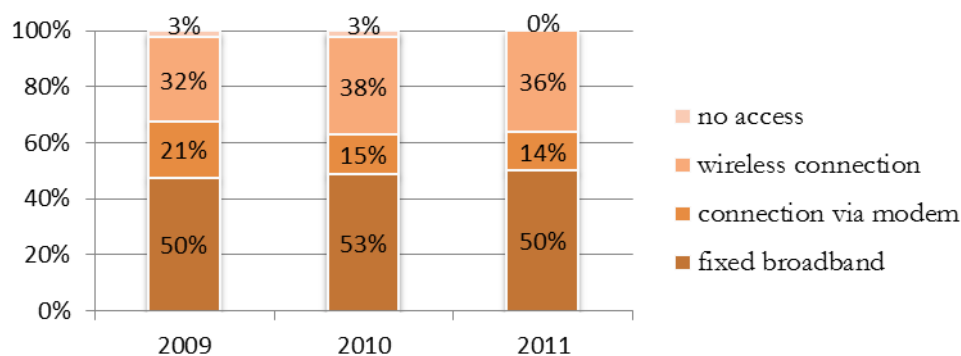
	The highest management			Middle management		
	2009	2010	2011	2009	2010	2011
1 computer for 1 user	83.3	88.6	89.0	65.8	72.5	76.0
1 computer for 2-3 users	11.9	9.1	11.0	21.1	20.0	15.0
1 computer for more than 4 users	4.8	2.3	0.0	13.2	7.5	9.0
	Administrative staff			Workers		
	2009	2010	2011	2009	2010	2011
1 computer for 1 user	84.2	87.5	90.0	23.5	33.3	32.0
1 computer for 2-3 users	7.9	7.5	2.4	23.5	19.4	19.0
1 computer for more than 4 users	7.9	5.0	7.6	52.9	47.3	49.0

Source: own data from questionnaire survey

Table 7 shows that the highest management and administrative staff have the best computer equipment; in about 90% of enterprises these employees have their own computers. This result corresponds to character of their work, where a computer is often a necessity. In reported period, there is high increase in computer equipment of middle management (10.2%). In 2011, 76% enterprises reported that employees of this category have 1 computer for 1 user. As we see, situation is different in case of workers, where “only” 49% of enterprises reported that 1 computer is used by more than 3 workers.

As for surveyed enterprises, all of them had an Internet access during monitored period. Figure 5 presents types of Internet connection in percentage of enterprises.

Figure 19 Type of internet connection (% of enterprises)



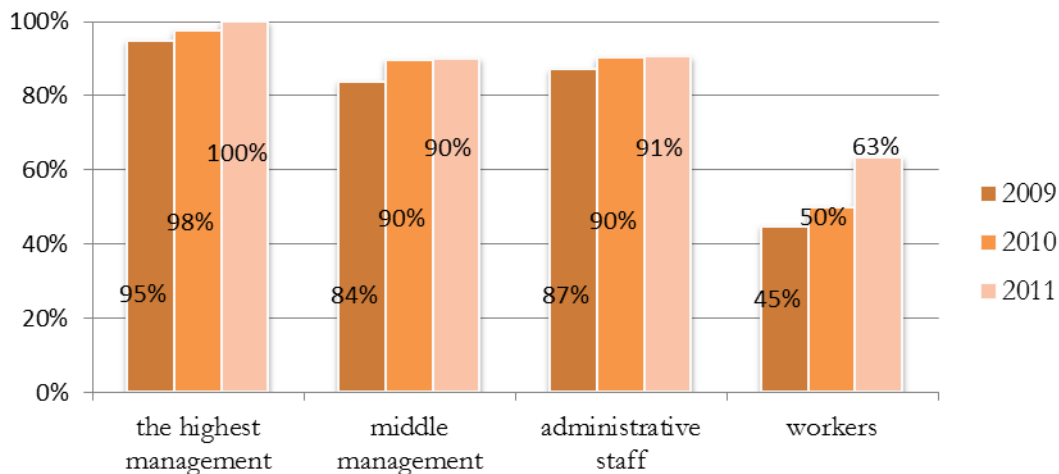
Source: own data from questionnaire survey

When we compare the types of the Internet connection in SMEs in Presov region, approximately half of surveyed enterprises had a fixed broadband connection. Wireless connection is second most used type of

connection (36%). The connection via modem as older type of Internet connection recorded decrease about 7% in monitored period.

An important issue in the Internet access is the usage of the Internet by employees.

Figure 20 Use of the Internet by categories of employees (% of enterprises)

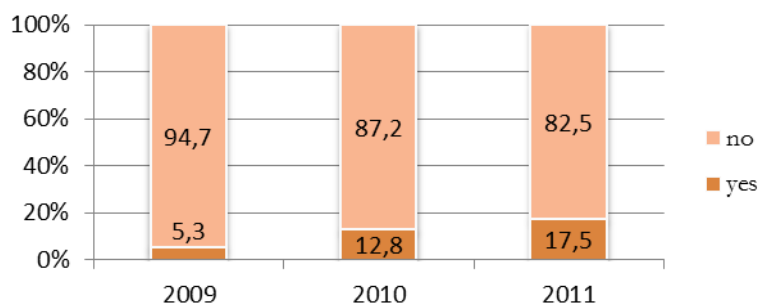


Source: own data from questionnaire survey

A closer look at the results reveals that all representatives of the highest management use the Internet. In 2011, about 90% of middle managers and administrative staff use Internet for their daily work. Although only 63.4% workers use Internet, this category of employees recorded 18.7% increase. A comparison of the average results for all groups of employees indicates increase, from 77.6% (2009) to 86.0% (2011) in average. Given the above results of the survey we can say that small and medium enterprises in the Presov region have good starting conditions for the realization and the implementation of e-learning.

However, based on result of the next question we see that enterprises in Presov region do not use their potential to its full extent.

Figure 21 Use of Internet for e-learning (% of enterprises)



Source : own data from questionnaire survey

In 2011, only 17.5% of surveyed enterprises use Internet for e-learning. Compared to 2009 and 2011, the share of enterprises that used Internet for e-learning increased sharply by 12.2%.

CONCLUSION

E-learning offers a wide range of applications and is characterized by creativity. Enterprises around the world are increasingly oriented to e-learning and all indications are that this trend will continue in our country. With the development of information and communication technologies and the advent of enterprise information systems and applications the level of use of these technologies may grow.

Based on the findings from our questionnaire survey, we can sum up that SMEs in Presov region dispose with quality human capital. Among categories of employees there is a difference in achieved education - 85% of administrative staff and workers have secondary education and 50% of the highest and middle managers achieved higher education on Master level. Lifelong learning and training becomes very important and a necessary component of any business. These forms of education and development increase the quality of already achieved education, abilities and skills. Majority of surveyed enterprises (70%) allow employees to participate in various qualification and re-qualification courses and specialized trainings. In general, employees participate in specific trainings directly related to their job performance. Although most employees will participate in mandatory training, we assume that total participation in the training will be even higher in the future. Only 6.7% of SMEs employees are involved in lifelong learning. When compared to EU27, this result is below average what creates room for further improvement. Based on the analysis of computer equipment and the possibility of access to the Internet, we observed conditions for implementing of e-learning in SMEs in Presov region. In spite of good conditions for e-learning, surveyed enterprises do not use this potential. It is important that companies follow new trends in employee education. In general, e-learning is still not a common form of education in Slovakia.

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Sziget (island) EYE a 65 m ferris wheel stands in Budapest at the Erzsébet Square for 6 weeks.

Photo © by Antal Szabó

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INNOVATIVE ACTIVITIES OF SMALL AND MEDIUM-SIZED ENTERPRISES IN SERBIA¹

ABSTRACT

Small and medium-sized enterprises are the backbone of innovation in developed economies. In transitional countries small and medium-sized enterprises are becoming increasingly important for economic growth and development but are significantly lagging behind in terms of their propensity to innovate. The main objective of the paper is to perceive the attitude of Serbian small and medium-sized enterprises towards innovative activities in order to determine the type, the scope and the quality of these activities. This paper also aims at analyzing institutional support for enhancing SME innovation in Serbia. A set of recommendations for strengthening the capacity of small and medium-sized enterprises for innovative activities is provided. Furthermore, few possibilities for removing the main barriers to small and medium-sized enterprises' wider use of innovation and research are discussed in the paper.

Key words: small and medium-sized enterprises, innovative activities, attitude, institutional support, capacity, barriers

JEL Code: L26, M13, O31

INTRODUCTION

In today's global economy competitiveness of enterprises depends mainly on the ability to innovate i.e. bring new products to the market and make new cost saving improvements. Job creation and economic growth of national economies depends crucially on the ability to convert technological and scientific innovations into commercial and practical solutions. For that reason, creating a culture of innovation followed by incentives for strengthening the capacity of small and medium-sized enterprises (SMEs) for innovative activities has become one of the policy makers' key priorities.

SMEs are the engines of economic growth and employment in both developed and transitional economies. Due to their flexibility and ability to adjust to constantly changing market needs, SMEs are the backbone of innovation. They are considered to be the most important source of innovations and provide channels for the development of new technologies. However, SMEs are facing numerous barriers to innovation.

The main objective of the paper is to perceive the attitude of Serbian SMEs towards innovative activities in order to determine the type, the scope and the quality of these activities. This paper also aims at analyzing institutional support for enhancing SME innovation in Serbia. A set of recommendations for strengthening the capacity of small and medium-sized enterprises for innovative activities is provided.

¹ This paper is a part of research projects numbers 179015 (Challenges and prospects of structural changes in Serbia: Strategic directions for economic development and harmonization with EU requirements) and 47009 (European integrations and social and economic changes in Serbian economy on the way to the EU) financed by the Ministry of Science and Technological Development of the Republic of Serbia

Furthermore, few possibilities for removing the main barriers to SMEs' wider use of innovation and research are discussed in the paper.

I INNOVATION AND INNOVATIVE SMALL AND MEDIUM-SIZED ENTERPRISES - SIGNIFICANCE FOR ECONOMIC GROWTH

Back until the mid-1950s it was generally believed that the output of the economy could be increased by adding more inputs, particularly capital, into the productive process. However, the rapid progress of industrialization in developed countries brought about the need to search for other more sophisticated sources of economic growth. Numerous researches (Abramovitz 1956, pp. 1-23) in the field of economic growth were conducted by using different methodologies. By measuring the growth in inputs (of capital and labor) and the growth in the output of the American economy over the 1870-1850 period of time, prof. Abramovitz showed that only about 15% of the actual growth of the economy was due to the growth of inputs, i.e. there was an unexplained residual of 85%. Soon after that Robert Solow, who was awarded the Nobel Prize in 1987 for his contributions to the theory of economic growth, showed that an increase in capital and labor account for only half of economic growth. The other half called the "Solow residual" he attributed to technological innovation. Consequently, the assumption among economists that capital and labor were the main causes of economic growth was no longer relevant.

The 21st century is characterized by the advancement of knowledge-based economy in which innovation, technology and information rather than labor and capital are becoming the most important sources of competitiveness. Innovation is the leading driver of economic growth and a fundamental prerequisite for achieving smart and sustainable development. Only new products and services or new ways of their production and deliveries create value and provide better living standards (Eric et al. 2011, pp. 61). It is high-quality research that will provide the knowledge and technology necessary for good health and the overall well-being of population, the environmental protection and the future competitiveness of economies.

Innovation can be defined as a process of transforming an idea into a good or service that creates value or that a customer is willing to pay for. As a mean to harvest fruits of scientific achievements, innovation requires much more than the ability to convert new ideas into commercial products. It requires financial resources, appropriate business skills, an adequate intellectual property protection system as well as enhancing entrepreneurial innovation activities. A culture needs to be developed that is dynamic and which fosters innovation as a key factor of economic growth and development.

Owing to their flexibility and ability to adjust in a much more efficient manner to constantly changing circumstances and market demands, SMEs have the ability to undertake innovative activities and commercialize innovation much faster than large enterprises. Because of their propensity to continuous innovation, these enterprises play a significant role in securing creative technologies. SMEs are considered to be the backbone of innovation in developed economies and an increasingly important factor in driving economic growth and creating quality jobs in transitional and developing countries as well. Innovative SMEs are SMEs which continuously seek for innovative activities and create value by improving existing products or services or producing and distributing new ones.

SMEs make the biggest single contribution to increasing employment and improving competitiveness, innovation and dynamism. It is widely assumed that the existence of a vibrant private sector in which businesses invest, increase productivity and create jobs contributes to economic growth. The contribution of SMEs to economic growth of national economies is particularly relevant observed in the medium and long term. These companies provide on average about 50% of productive employment and 50% of private sector turnover, they are flexible, innovative and able to quickly and efficiently respond to changes in consumer demand.

Along with the globalization of national economies, investments in knowledge are becoming a major source of competitive advantages and a driving force of economic growth. However, knowledge is a necessary but not sufficient condition for achieving economic growth and high employment rates. Investments in knowledge need to find a way from organizations and institutions in which they occur to those that commercialize and transform them into innovative activities. By acting as a mechanism for the dissemination

of knowledge, SMEs are an essential factor in achieving economic growth.

According to the OECD Working Party on SMEs and entrepreneurship² the contribution of innovative SMEs and entrepreneurship to job creation and economic growth can be characterized by the following facts:

- SMEs account for the majority of all enterprises and employment across the OECD countries. They make up more than 99% of all businesses and generate two-thirds of employment.
- New firms play an important role in job creation. In 2005 and 2006 new firms generated between 1% and 6% of employment. The majority of new firms remain in the SME sector.
- In the longer term new firms, high-growth SMEs and SMEs can help raise productivity and introduce innovations.
- A select group of innovative SMEs are initiators of breakthrough innovation. They are often but not always high-growth SMEs. New firms represent a significant proportion of all patents filed by businesses, but this share varies strongly by country.
- The contribution of the SME sector to national R&D is also highly uneven, and is often greater in small economies than in large ones.
- Globalization appears to be impacting on entrepreneurship. For example, increases in market access have been associated with increases in the stock of SMEs.

As it was described in the research conducted in Korea³, innovative SMEs in general show better performance in job creation, revenues and research and development investments. Also, they are more successful in management performance as well as regarding performance in growth potential, profitability and stability thus improving the competitiveness of the entire economy and increasing GDP. A chart on economic impacts of innovative SMEs is shown in the figure below.

In Serbia, the SME sector is the most effective segment of the economy and the main driving force for economic growth, employment, innovation and competitiveness. By generating an average of two thirds of employment, turnover and GDP and about 50% of exports, imports, investments and profits of the non-financial sector, these enterprises represent one of the single most important factors of the recovery of domestic economy. According to the Report on small and medium-sized enterprises and entrepreneurship in Serbia⁴, in 2011 the SME sector accounted for 99.8% of all enterprises and generated 45.1% of employment, 46.5% of exports, 52.7% of imports, 61.7% of foreign trade deficit, nearly 33% of GDP and 51.7% of investments of the entire economy. A better picture of the overall performance of Serbian SMEs is provided by the comparative analysis of the achieved level of development of the SME sector in Serbia and in selected EU countries. Serbia is at the EU level in terms of the share of SMEs in total number of enterprises and in total employment and totally generated turnover and GDP. However, this in no case suggests that SMEs in Serbia are at the same level of development as the EU ones, but rather indicates that their contribution to economic development of the country is significant. Domestic SMEs are significantly below the EU average for most of the selected countries in terms of turnover per employee, profit and GVA per employee, investment per employee and investment per company.

The significance of innovative SMEs for job creation and economic growth has been broadly recognized by policy-makers in both developed and transitional countries. However, there are a number of barriers to innovative SMEs and entrepreneurship that stand on the road to achieving their full potential role in national economies. The most important barriers, according to the OECD, refer to inappropriate

² "Bologna+10" high-level meeting On Lessons from the global crisis and the way forward to job creation and growth, Issue Paper 1: Innovative SMEs and Entrepreneurship for Job Creation and Growth, November 2010, pp. 4, available at: <http://www.oecd.org/cfe/smes/46404350.pdf>

³ www.apec-smeic.org/_file/.../Economic_Impacts_Eng_02summary.p...

⁴ Report on SMEs 2011, Ministry of Finance and Economy, Ministry of Regional Development and Local Government, National Agency for Regional Development, Belgrade, 2012

framework conditions for entrepreneurship, barriers to SME access to international markets and knowledge flows, weak intellectual asset management by SMEs and lack of entrepreneurial human capital.

Table 1.1. Comparative analysis of the level of development of SME sector in selected EU countries and Serbia, 2010

	EU	BG	CZ	HU	PL	RO	SI	SRB	
	2008							2009	2010
Number of enterprises in 000	20,727	303,4	899,0	532,0	1563,0	440,0	102,0	314,8	318,5
Number of employees in 000	90,006	940,2	2,505	1,767	5,880	2,663	424,0	872,5	814,6
Turnover in billion EURO	14,284	58,3	245,0	163,0	421,0	268,0	51,0	46,6	45,4
GDP in billion EURO	3,262	10,5	49,0	25,0	81,0	37,0	11,0	8,3	7,9
Profit in billion EURO	977	4,0	9,0	1,0	19,0	19,0	1,0	2,7	2,9
Number of SMEs per 1,000 citizens	41.6	41.4	86.6	53.0	41.0	20.4	50.7	43.0	43.5
Number of enterprises per employee	4.3	3.1	2.8	3.3	3.8	6.0	4.2	2.8	2.6
Turnover per employee in 000 EURO	158,7	62,0	97,8	92,2	71,6	101,8	120,3	53,7	55,7
GDP per employee in 000 EURO	40,3	11,1	19,6	14,1	13,8	14,1	25,9	9,5	9,7
Profit per employee in 000 EURO	10,9	4,2	3,6	0,6	3,2	7,2	2,4	3,1	3,5
Profitability rate	27.0	38.1	19.0	2.0	23.0	52.0	9.0	32.8	36.1
Share of SMEs in non-financial sector									
Number of enterprises	99.8	99.7	99.8	99.8	99.8	99.6	99.7	99.8	99.8
Number of employees	67.4	74.1	67.6	71.1	68.9	63.6	67.0	66.7	66.4
Turnover	57.7	65.1	58.8	58.8	59.2	58.7	63.2	67.8	65.3
GDP	57.7	54.1	54.8	51.9	51.7	42.2	59.8	57.4	55.9
Profit	49.4	45.4	31.5	-	33.6	34.8	29.1	54.1	51.6

Source: Report on SMEs 2010

II INNOVATIVE ACTIVITIES OF SMALL AND MEDIUM-SIZED ENTERPRISES IN SERBIA

In Serbia it is only recently that more attention has been given to innovative SMEs even though they have been known to contribute significantly to dynamism and innovativeness of the economy. Only with raising awareness of the importance of innovative SMEs, institutional support measures appeared which were primarily related to the development of incubators, clusters, innovation centers, as well as to fostering competition in technological innovation and financing innovation projects.

According to international standards, the total level of research and development in Serbia is very low.

The largest investment is in higher education, while only 10% of total investment is realized in the corporate sector (60-65% in EU-15) (Eric et al. 2011, pp. 63). According to the European Innovation Scoreboard, which is an instrument set up by the European Commission with an aim to monitor and comparatively analyze innovative performances in the member and associate member states, Serbia belongs to the category of "catching-up countries". Namely, all countries are divided into four categories: innovation leaders, innovation followers, moderate innovators and catching-up countries. Serbia was included in the European Innovation Scoreboard for the first time in 2009 which was considered to be a positive step forward in attempt to measure the innovative potential of the economy and particularly of the SME sector. Serbia significantly lags behind the EU level in terms of the Summary Innovation Index (22.7, 47.8 respectively) which is calculated on the basis of aggregate indexes of national innovative performances.

The SME sector in Serbia is characterized by a number of problems which are reflected primarily in the lack of competition, poor product quality, the chronic lack of liquidity, sectorial and territorial discontinuity, unfavorable structure of the sector and limited access to affordable finance. Innovative SMEs are in even more difficult position since they are always associated with higher risk and uncertainty. The effects of the global economic crisis further deepened the problems which are considered to be the major obstacle to a better utilization of SME's potentials and their contribution to economic growth of the country.

In order to perceive the attitude of Serbian SMEs towards innovative activities and determine the type, the scope and the quality of these activities, the results of the Research on innovative activities of SMEs in the 2008-2010 period⁵ conducted by the Statistical Office of the Republic of Serbia were analyzed. The survey provided data on the activities of enterprises in the innovation of products/services, innovation of processes, innovation in organization of a business entity, and marketing innovations. Most of the questions were related to new or significantly improved products or services, the use of new or significantly improved processes, logistics and distribution methods. A survey was carried out based on a representative, two-phase sample allocated on the territory of the Republic of Serbia to the level of the region, proportional to the number of SMEs. The sample covered 3,500 SMEs out of which the largest number was in the region of Belgrade (64.97%).

According to the results of the survey, 40.32% of medium-sized and 29.10% of small enterprises were engaged in innovative activities. When looking at how much the introduction of a certain type of innovation is represented according to the size of business entity i.e. innovator, it can be observed that the largest share of innovations is in the field of organization (31.27% in total, 29.10% in small and 40.32% in medium-sized enterprises). Enterprises engaged in manufacturing sector reported the highest share among innovators (36.46%), while the lowest share was reported among enterprises engaged in real estate (0.26%).

Table 2.1. Representation of the type of innovation according to territory and size of business entity in %

Territory	Business entity - innovator					Non-innovators
	innovation of product/service	innovation of process	innovation abandoned or still in progress	innovation in organization	innovation in marketing	
Serbia - total	26.49	27.25	14.46	31.27	28.50	53.19
Small enterprises	33.30	36.30	21.10	40.32	37.51	42.78
Medium enterprises	24.86	25.09	12.87	29.10	26.34	55.68

Source: Report on SMEE 2010

⁵ Research on innovative activities of SMEs in 2008-2010, available in the Report on SMEEs 2010, Ministry of Economy and Regional Development and National Agency for Regional Development, Belgrade, 2011

In order to analyze characteristics of innovative SMEs, all enterprises are divided into three categories: technological innovators, other innovators and non-innovators. Technological innovators are defined as business entities who introduced innovations in products/services or in business processes including unrealized or innovations still in progress. Other innovators refer to business entities who introduced innovations in organization or marketing. Non-innovators are business entities who introduced no innovations at all.

Table 2.2. Technological innovators according to type of innovative activity in %

Size of business entity	innovation of product/ service	innovation of process	innovation abandoned or suspended	innovation still in progress
Total	28.67	36.20	4.20	13.97
Small	24.86	31.15	3.64	10.51
Medium	33.30	43.54	3.80	8.40

Source: Report on SMEE 2010

Innovation of products/services refers to launching products or services that have new or significantly improved features or usability. This includes significant improvements in technical specifications, components and materials, embedded software, customer orientation or other functional characteristics. Innovation should be new to the business entity, and does not necessarily have to be new to the market. Innovation can be developed in the reporting business entity or elsewhere. Innovation of business process is the implementation of a new or significantly improved way of production or delivery. This includes significant changes in techniques, equipment or software.

Innovative activities related to product were carried out by 71.86% of small and 28.14% of medium-sized enterprises i.e. technological innovators. Innovative activities in the field of services were conducted by 76.98% of small and 23.02% of medium sized enterprises, while innovation of production methods was conducted in 70.79% i.e. 29.21% of SMEs respectively. New ways of supply and delivery were introduced in 72.21% i.e. 27.79% and new support activity for process was realized in 73.73% i.e. 26.27% of SMEs respectively.

Table 2.3. The structure of technological innovators according to type of introduced innovation

Size of business entity	Innovation of product/ service		Innovation of business process		
	innovation of product	innovation of service	innovation of production methods	new way of supply and delivery	new support activity for processes
Total	100.00	100.00	100.00	100.00	100.00
Small	71.86	76.98	70.79	72.21	73.73
Medium	28.14	23.02	29.21	27.79	26.27

Source: Report on SMEE 2010

The analysis of the markets where enterprises i.e. innovators sold their products/services indicates that 30.74% of technological innovators, 33.74% of other innovators and 45.41% of non-innovators sold on

local markets in Serbia. The most common market was the local, regional one.

Table 2.4. Markets where enterprises sold their products/services

Markets	Technological innovators	Other innovators	Non-innovators
Local, regional	30.74	33.74	45.41
National	24.04	26.14	27.12
EU countries, EFTA	12.40	12.18	8.32
Other countries	10.43	10.01	7.62

Source: Report on SMEE 2010

The survey indicated that nearly 60% of new products or services and 43% of business processes were introduced by business entities themselves or within the group they operate. 36.46% of innovations of products/services were new to the market, while 63.54% were new only to the enterprises.

Table 2.5. Innovative activities of technological innovators and expenditure for innovation activities

Activity	Participation of business entities	Value
Internal research and development	62.29	6.02
External research and development	26.16	5.01
Purchase of machinery, equipment and software	87.13	75.81
Purchase of other forms of knowledge	26.39	6.79
Education and training for innovation	63.11	...
Innovation to the market	52.95	...
All forms of design	44.45	...
Other	35.53	6.37

Source: Report on SMEE 2010

The largest share in the total expenditure for innovative activities refers to the purchase of machinery, equipment and software. About 10% of all business entities received some financial aid out of which 2.79% received support from state funds and 1.03% from the EU.

The ability of SMEs to respond quickly to changing market needs and to exploit new technologies depends not only on financial resources and business skills but also on the existence of culture of innovation in which there is a flow of information, research results are disseminated, data on innovation practice are collected and analyzed at national, regional and company level and best practices are identified and spread. Performing innovative activities often require cooperation with other enterprises, faculties, research institutions and other entities engaged in research and development projects.

The survey showed that in Serbia when forming new or implementing existing innovative projects,

more than 30% of SMEs rely predominantly on information within the business entity or the group to which they belong. Furthermore, there is a low level of cooperation among business entities and various agencies and institutions in the field of research and development, higher education, consulting, etc. The most important partners for Serbian innovators are suppliers and customers (78.69%, 73.39% respectively). According to the partner location, the largest share of enterprises cooperate with domestic partners (95.16%) and partners from Europe (51.50%), while significantly lower share cooperate with partners from the US and China/India (10.25%, 9.22% respectively).

Table 2.6. Sources of information of technological innovators in %

Sources		Total	Small	Medium
Internal	Within a business entity or a group it operates	32.25	31.06	35.88
	Suppliers	16.86	15.53	20.89
	Clients or customers	24.60	22.99	29.50
Market	Competitors or business entities from the sector	10.07	8.58	14.60
	Consultants, agencies for business research or R&D	6.28	5.84	7.64
	Faculties, Higher education institutions	4.58	3.60	7.54
Institutional	Public research institutions	2.59	2.17	6.58
	Conferences, fairs, exhibitions	14.75	14.64	15.09
Other	Scientific journals, technical publications	9.86	9.76	10.15
	Professional associations	5.49	4.69	7.93

Source: Report on SMEE 2010

The survey placed special emphasis on the effects of innovation in the observed period of time, as well as on the major obstacles to conducting innovative activities. According to the results of the survey, the most significant effects were achieved in the area of improving the quality of products/services (28.82%), while the worst effects were achieved in reducing the cost of materials and energy per unit of product (11.21%).

The effects of innovative activities are reflected in the increased flexibility and quality of products and services, reduced direct material costs per unit out of output, increased competitiveness on both domestic and international markets. As it was indicated by the survey, the effects of the introduction of technological innovations are presented in the following table.

Major obstacles to innovative activities of Serbian SMEs refer to cost factors i.e. lack of financial resources in the enterprise, lack of funding from sources outside the business entity and prohibitive costs of direct innovation. Obtaining finance is the most important factor that determines the survival and development of SMEs in general. Internal funds are often limited and using external funds is associated with many difficulties. Financing SMEs is risky and uncertain and for innovative SMEs it is even more difficult to obtain finance from various sources of financing for several reasons. First, the returns on innovative activities are often skewed and highly uncertain. Second, entrepreneurs may possess more information about the nature and characteristics of their products and processes than the potential financiers. Third, innovative activities are usually intangible thereby making the assessment of their monetary values difficult before they become commercially successful.⁶

Table 2.7. The effects of the introduction of technological innovations

⁶ 2nd OECD Conference of Ministers Responsible for SMEs, Promoting Entrepreneurship and Innovative SMEs in Global Economy: Towards a more responsible and inclusive globalization, Istanbul, Turkey, 2004, pp. 5

Effects	Small enterprises	Medium enterprises
Increase in range of products	21.77%	29.69%
Replacement of obsolete products	18.95%	21.33%
New markets and increase in market share	13.11%	21.09%
Increase in quality of products and services	28.17%	30.94%
Increase in flexibility of products and services	17.60%	15.86%
Increase in production capacity/volume of services	16.32%	23.75%
Reduction of labor costs per unit of product	13.98%	18.05%
Reduction of cost of materials and energy per unit of product	10.31%	14.14%
Reduction of the environmental impact	12.50%	17.19%
Improving health and safety	15.38%	20.70%

Source: Statistical Office of the Republic of Serbia

In Serbia, debt financing is the most widely used source of external finance by SMEs but it is still unreachable for many, especially innovative enterprises, because of high interest rates, high banking costs and high collateral requirements (Eric et al. 2011, pp. 67). Obtaining necessary finance is the major obstacle for innovative activities of the Serbian SMEs because of an evident shortage of both debt and equity financing.

Table 2.8. Obstacles to innovative activities of technological innovators in %

Factors	Total	Small	Medium	
Cost factors	Lack of financial resources in an enterprise	36.60	37.17	43.77
	Lack of funding from sources outside a business entity	26.04	26.57	24.30
	Prohibitive costs of direct innovation	30.09	30.34	29.30
Factors of knowledge	Lack of trained staff	5.66	6.08	0.00
	Lack of information on technologies	3.32	3.62	2.34
	Lack of information on markets	3.87	3.64	4.61
	Difficulty in finding partners for cooperation	11.51	12.62	7.89
Market factors	Markets dominated by ranking businesses	14.27	13.98	15.23
	Uncertain demand for innovative goods or services	13.92	14.48	12.11

Source: Report on SMEE 2010

SMEs who reported no innovative activities at all as major obstacles besides the lack of financial resources stated the lack of trained staff, lack of information on technologies and uncertain demand for innovative goods and services.

III INSTITUTIONAL SUPPORT FOR INNOVATIVE SMALL AND MEDIUM-SIZED ENTERPRISES IN SERBIA

National programs for supporting SMEs to enhance innovative activities include the following two programs: the Program for strengthening innovativeness and the Program for supporting the development of innovative clusters. Both programs are implemented by the Ministry of Economy and Regional Development

in cooperation with the National Agency for Regional Development and accredited network of regional development agencies.

The Program for strengthening innovativeness aims at providing support for the development of a culture of investing in innovation in order to enhance competitiveness. National agencies reimburs up to 50% of eligible costs of innovative activities, while the remaining amount of funds is financed from an enterprise's own resources. A public call is announced for co-financing innovative activities:

Table 3.1. Eligible costs based on innovative activities

Activities	Eligible costs
development of new product/service	<ul style="list-style-type: none"> • preparation of technical documentation for new product/service • prototyping of products/services • testing/examining prototypes
significant improvement of the existing product/service	<ul style="list-style-type: none"> • preparation of technical documentation for new product/service, • prototyping of products/services • testing/examining prototypes
development of new collections in the fashion industry	<ul style="list-style-type: none"> • development of design expertise
development of industrial design/redesign of products	<ul style="list-style-type: none"> • development of design expertise • development of conceptual design solutions with a description of the technical characteristics and • prototype product designs in real or adequate material or in digital form
development of new product packaging	<ul style="list-style-type: none"> • preparation of preliminary design and • creation of the test sample of the new packaging
marketing planning of products/services	<ul style="list-style-type: none"> • development of a marketing plan for new products/services
improving existing and introducing new production processes	<ul style="list-style-type: none"> • preparation of technical/technological documentation and • development of constructive documentation tools, equipment and working
purchase of the patent / utility models and patent documents	<ul style="list-style-type: none"> • purchase of rights to a patent / petty patent

Source: According to data contained in the Public call for grants under the Supporting measures for SMEs and cooperatives for enhancing innovativeness announced in 2012, available at: <http://www.merr.gov.rs/sr/javni-pozivi>

The decision on the selection of activities whose costs will be co-financed is made by the Commission for evaluation and selection of applications. The decision is made on the basis of exactly defined criteria. Some of those criteria refer to the following (Eric et al. 2011, pp. 156):

- The quality of the proposed innovative activity and its effect on increasing competitiveness,
- Investments in innovative activities in the past and cooperation with certain companies and organizations,

- Results of business operations in the last two years,
- The criterion that applies to employees,
- The recommended amount of costs to be funded from an enterprise's own resources,
- Reality of supply,
- The level of development of the local government unit where the company is registered and
- Previous funding from the budgets of national agencies that was used by the company to finance innovative activities.

In order for an enterprise to be able to participate in the funding it has to be under majority local ownership. Legal entities that are registered in the Republic of Serbia but are under majority foreign ownership have no right to use the grant.

Another way the state contributes to enhancing the innovative activities of SMEs refers to the Program for supporting the development of innovative clusters. In Serbia, due to its specificity and significant contribution to economic growth, promoting clusters and cluster policy development has become more intensive in the previous decade (Đuricin and Beraha 2010, pp. 40). The Program aims at increasing productivity and competitiveness of domestic SMEs by linking them into a cluster. Other objectives of the Program refer to the development of material and human resources and infrastructure, as well as to an increase in the value of turnover of enterprises at domestic and international markets and the development of regional clusters through the implementation of joint projects. Special emphasis is on strengthening the cooperation with scientific-research institutions by improving the capacity of enterprises for technological development and innovation (Eric et al. 2011, pp. 164).

SMEs have the right to use the grant funds if they manage innovative clusters and their activities. The following clusters have the right to have activities for the development of innovative cluster co-financed:

- The newly established innovative clusters in the initial stage and
- Existing innovative clusters in the developmental stage.

Innovative clusters that applied for grant funds may be eligible for co-financing of up to 50% of eligible costs of projects, while the remaining amount of funds they are required to finance from their own resources.

Table 3.2. Activities that can be co-financed

The newly established innovative clusters	Existing innovative clusters
<ul style="list-style-type: none"> • Operating costs incurred for the purpose of internal and external member linking 	<ul style="list-style-type: none"> • Covering the costs of developing joint services of a cluster
<ul style="list-style-type: none"> • The costs of attracting new members 	<ul style="list-style-type: none"> • Co-funding of feasibility studies and other project technical documentation for joint infrastructure projects
<ul style="list-style-type: none"> • The cost of the program, training and development, in order to introduce EU rules 	<ul style="list-style-type: none"> • The costs of developing and /or implementing joint innovative projects related to the development of new or improvement of existing processes or effects
<ul style="list-style-type: none"> • Costs arising from seminars and conferences that encourage knowledge sharing 	<ul style="list-style-type: none"> • The costs of manufacturing and testing of prototypes and new product design and packaging, testing and introduction of new production processes

<ul style="list-style-type: none"> • The costs of connecting the cluster members and the promotion of clusters 	<ul style="list-style-type: none"> • The costs of intellectual property protection
	<ul style="list-style-type: none"> • Cost of purchase of patent rights and patent documentation
	<ul style="list-style-type: none"> • Cost of training, specialized training and familiarization with the technical regulations applicable to the EU market
	<ul style="list-style-type: none"> • Costs of organization of conferences that encourage knowledge sharing, networking and promotion of clusters

Source: According to data contained in the Public call for grants under Program for supporting the development of innovative clusters announced in 2012, available at: <http://www.merr.gov.rs/sr/javni-pozivi>

The decision on the selection of projects to be co-financed is made by the Commission on the basis of the following criteria (Eric et al. 2012, pp. 167):

- For newly established innovative clusters in the initial stage: the cluster profile, the operating result of the member companies and results of the cluster in the area of research and development;
- For innovative clusters in the developing stage: the joint activities of a cluster, the cluster profile, operating result of the member companies and results of the cluster in the area of research and development;
- For projects of newly established clusters and clusters in the developing stage: the financial and operational capacity, relevance, methodology, sustainability and budget and cost efficiency.

The Program for supporting the development of innovative clusters in Serbia is significant for it contributes to economic growth, job creation and export growth. Since entrepreneurship is expected to contribute significantly to economic and social development of Serbia, having national support measures for innovative activities of SMEs means that the focus is put on the development of competitive, knowledge and new technology based economy. For this reason, the vision of developing an entrepreneurial economy based on knowledge and innovation which will create a strong, competitive and export-oriented SME sector and contribute to increasing the living standard of the people is created and contained in the Strategy for the development of competitive and innovative SMEs in 2008-2013 period of time.

IV CONCLUDING REMARKS –RECOMMENDATIONS FOR STRENGTHENING THE CAPACITY OF SMALL AND MEDIUM-SIZED ENTERPRISES FOR INNOVATIVE ACTIVITIES

SMEs in Serbia show considerable propensity to undertake innovative activities. According to the previously mentioned survey, 40.32% of medium and 29.10% of small enterprises were engaged in any kind of innovative activity. Enterprises that belong to the manufacturing sector have the largest share among innovative enterprises (36.46%), while the largest share of innovations is in the field of organization (31.27% in total). Among technological innovators, innovation of process i.e. implementation of a new or significantly improved way of production or delivery is the most represented type of innovative activity. According to the type of introduced innovation, innovative activities in the field of services were carried out by the largest share of technological innovators.

The most common market where Serbian innovative SMEs sold their products and services referred to the local, regional market. This indicates that one of the barriers to innovation that domestic enterprises are facing is related to access to international markets and knowledge flows. Export orientation is one of the preconditions for achieving rapid SME growth. Limited internalization is mainly a result of low quality of domestic products and services, missing market know-how in terms of meeting customers' needs and entering foreign markets, lack of information on foreign markets and supply chains, lack of managerial knowledge and

skills for international engagement, lack of workforce skills and knowledge, shortage of investment and working capital and administrative and technical difficulties. Another barrier refers to limited source of information and low level of cooperation among business entities and various agencies and institutions in the field of research and development, higher education, consulting, etc. and insufficient dissemination of research results.

Accordingly, future priorities of Serbian policy makers should include actions to promote innovation and encourage the participation of SMEs, develop a conducive entrepreneurial business environment, address financial and administrative and technical barriers to internalization of SMEs, enhance entrepreneurship skills and access to sources of information, increase the cooperation among SME sector and institutions and agencies in the field of higher education, research and development, as well as increase the exploitation of public and private research. Innovation networks are always associated with rapid growth of SMEs in general and particularly of innovative ones. More emphasis needs to be put on the dissemination of research results and innovation practices and on the analysis of innovation data on company, regional and national level. Institutional measures are needed to address the problem of insufficient exploitation of knowledge generated by the public research. Financial support should be directed towards better involvement of SMEs in collaborative research projects, the creation of science parks, incubators, clusters and technology centers. Furthermore, improvements are necessary in the field of intellectual assets management, entrepreneurship skills development, simplification of bureaucratic procedures and adjustment of laws and regulations to the needs of SMEs.

Discussions on innovative activities of SMEs often focus on limited access to finance. The analysis of the structure of total expenditure for innovative activities showed the largest share of purchase of machinery, equipment and software. Major obstacles to innovative activities are related to cost factors i.e. lack of financial resources in the enterprise, lack of funding from sources outside the business entity and prohibitive costs of direct innovation. SMEs are facing an evident shortage of both debt and equity financing. For that reason, policy actions directed towards promoting equity financing, creating competitive banking sector and raising awareness of available financing options are necessary (Eric et al. 2011, pp. 73). Beside the existing, new institutional measures aimed at providing financial support for enhancing innovative activities should be introduced.

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MEB 2013

11th International Conference on Management, Enterprise and Benchmarking 31 May – 1 June 2013, Budapest

On behalf of the Organizing Committee of MEB 2013, I welcome the participants to the 11th International Conference on Management, Enterprise and Benchmarking that is our traditional university event in Budapest.

The success of this conference series is based by tireless work of Professor Dr. György Kadocsa, who has been organizing and managing the tasks related these event. In the future, we can build upon the achieved results and good reputation of the conference. We are grateful to him.

This year MEB is a good opportunity again for professionals in higher education to share their research and education experiences on small and medium enterprise sectors.

The European Commission has formulated five domains in “Europe 2020 Strategy” : employment, innovation (R&D), education, poverty reduction, as well as the management of energy consumption and related climate change.

In my opinion, our conference mayí contribute to fulfil these ambitious aims whith scientific analysis of the competitive and innovative European enterprises and their environment.

The studies in this brochure (*Editor:In the Proceedings*) concern several different areas such as taxation, measurement, knowledge management, controlling and decision theory. Though these areas are apparently widely separated, their relationship becomes obvious in formulating the strategy and adapting to the environment of enterprises or firms.

I recommend this conference brochure of reviewed studies to all readers interested in development of small and medium sized enterprises.

This is already the third occasion we organize this nconference in cooperation with ERENET (Entrepreneurship Research and Education Network of Central European Universities). Some lecturers of this conference are members of this organization. I hope that this relationship can be sustainable for a longer term and the MEB-conferences of Óbuda University will be considered to be a semi-official ERENET forums as well.

I would like to thank all my colleagues who participated in organizing the conference, especially Professor Dr. András Medve, Dean of our Faculty. This event would not have been taken without his support.

Finally, we looking forward to meeting You on the next Management, Enterprise and benchmarking Conference at Óbuda University in Budapest in May 2014!

Pál Michelberger
General Chair

INSTITUTIONAL PROFILE

TURKISH INDUSTRY AND BUSINESS ASSOCIATION - TÜSİAD

Headquartered in Istanbul the Turkish Industry and Business Association (TÜSİAD) is a civil society organization established by industrialists and businessmen in 1971 in order to represent the business world. TÜSİAD aims to contribute to the formation and development of a social order based on the adoption of the universal principles of human rights, freedom of thought, belief, and action, a secular state of law, as well as the concepts of participatory democracy, a liberal economy, the rules and regulations of



competitive market economy and environmental sustainability.

As a volunteer-based civil society organization TÜSİAD comprises leading entrepreneurs and executives from the Turkish business world. Some 600 members represent Turkey's foremost industrial and service sector institutions; these members in turn represent some 3,500 companies.

TÜSİAD's positions are formed through the work of 8 committees and 1 platform chaired by members of the TÜSİAD Board of Directors, 33 working groups under the umbrella of these committees, and special purpose ad-hoc "task force" groups, all of which meet regularly.

TÜSİAD employs a professional cadre of 55 administrative staff at the Secretariat General, Representative Offices, and the University Partnership Forums.

Source: <http://www.tusiad.us/headquarters/>

CALL FOR PAPER



INTERNATIONAL SUMMER ACADEMY

Edition 2013: 7 – 14 July, Tirgu-Mures, Romania;

Theme: Gastronomy in Europe – culture & business, traditions & trends

Introduction:

A unique project in entrepreneurship education issued from 8 years of partnership between the University of Strasbourg – IUT Louis Pasteur -, France and “Petru Maior” University of Tirgu-Mures, Romania. Founders and co-presidents: Prof. agg. Jean-Claude Million & Senior lecturer Liviu Ciucan-Rusu, PhD

Background:

Entrepreneurship is one of the main factors for the development of a community, from local to global scale. Entrepreneurship is about the creation of value, about open minded people that work hard to grab an opportunity and to turn it into a functional organization. Entrepreneurship means also jobs, taxes, investments, in other terms sources of growth. Entrepreneurship involves freedom, following a dream, passion and sacrifice for finding and keeping a good way in life, responsibility for those who you work for and who you work with.

Mission: To build strong entrepreneurial skills of European students.

Objectives:

- To develop the entrepreneurial mindset of participants;
- To support positive attitudes and entrepreneurial behavior;
- To exploit students' knowledge, creativity in order to create value;

Methods and techniques - complementary pedagogical approach based on:

- workshops, team work, interdisciplinary & transversal approach; cross-cultural behavior;
- case studies, interviews, debates, project management, coaching;
- public presentation and defense of a project;

Expected results:

- Business Projects on specific topic chosen from the main theme, presented and defended in front of an international jury ;
- ion and collaboration between students from different countries with different specialization, a basic network for future ventures and partnerships;
- Cultural exchanges and experiences that will enhance mobility, adaptability and proactivity of students

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**The Second International Scientific Conference
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Sub-themes:

- (1) Workforce and Economic Development
- (2) Green jobs and green economy
- (3) Climate changes and their impact on the sphere of work
- (4) How do climate change and employment influence each other?
- (5) Best practices in green jobs creation for ensuring sustainability of rural development
- (6) Rural entrepreneurship: opportunities and challenges
- (7) Ecology and tourism
- (8) Sustainable and organic agriculture, food and other products
- (9) Clean energy manufacturing
- (10) Renewable energy and energy efficiency
- (11) Globalization processes and economy
- (12) Innovation and entrepreneurship in global economy
- (13) Leadership and gender aspects
- (14) Patterns of leadership for effective project management
- (15) How opportunities develop in social entrepreneurship
- (16) Innovations in Higher Education
- (17) New information technologies and new media in education
- (18) Pedagogy of lifelong learning and the development of professional competences of teachers and educators in general
- (19) Global internet marketing strategies and their implications for SMEs
- (20) Finance and banking

Detailed Programme see at http://eng.vspep.edu.rs/s77_eee_2013.html

BOOK REVIEW

Рагиб Кулиев, Турал Гулиев, Тогрул Гулиев

**ФОРМИРОВАНИЕ МЕХАНИЗМА ОТНОШЕНИЙ ТНК-МСП: ВОПРОСЫ
КОНЦЕПЦИИ И ЛУЧШЕГО ОПЫТА ДЛЯ ВНЕДРЕНИЯ В АЗЕРБАЙДЖАНСКОЙ
ЭКОНОМИКЕ.**

Баку, 2013, 320 с.

Ragib Guliyev, Tural Guliyev, Togrul Guliyev

**FORMATION OF THE MECHANISM FOR TNC-SME RELATIONS: QUESTIONS OF
CONCEPTION AND IMPLEMENTATION BEST PRACTICES FOR
IMPLEMENTATION IN THE AZERBAIJAN ECONOMY**

Baku, 2013,

ISBN: 978-9952-460-73-5

This book contains a wide range of searchers and discourses on conceptions and practical issues TNC-SME relations in developing countries and in the CIS arena.

First of all, develops the expediency of a substantial expansion of a framework for understanding of significance and role TNC-SME relations in new economies. The formation of a more successful approach to this problem is considered in releasing the «narrow corridor» of existing criterions and some practical interests. The correction of widespread priorities and the definition of suitable composition and stable structure in this plane could be contributed to choice of an effective strategies and appropriate applied activation.

Secondly, the disparity between the growth of the SME sector, the implementation of top TNC in the local economy, the efforts on the formation of the national-based TNC and the extension of TNC-SME linkages is intensification. This process to be subject of an adequate estimate.

The growth of different TNC segments in local markets is reflected not always in the development of TNC-SME linkages with SME-based enterprises. The formation of national-based TNC is not accompanied by the necessary stimulus for internationalization of local SME. The transition processes to local small suppliers for TNC and increase its as sustainable subject relations with TNC entail great difficulties, among them not the last role belongs to the mechanisms of activities of power structures. The participation of state structures in these processes usually is wearing dual and some times triple character.

Thirdly, a promotion policy for development TNC-SME relations mechanisms in developing countries and in the CIS region is formed unevenly. Evidently, this situation has tendency to increase. There are three groups of countries, which occupy different positions to policy activities:

- 1) countries have some conceptual framework, implementation mechanisms and fragile obvious results;
- 2) countries, which organized applied searchers, discussions of political priorities and with unstable practical results;
- 3) countries, which occupy a zone of uncertainty.

Fourthly, an actuality of TNC-SME integration indicators consistently increases in the macroeconomic and microeconomic dimensions. The connections between the growth of TNC-SME cooperation and the increase of export potential, the development of local suppliers for TNC and the rise of competitiveness are very various. It is not surprising, that this book makes offer on thirty TNC-SME

integration indicators. That approach facilitates, in particular, to adequate assessment of not only evidently tendencies, but also capacity building and resources for this process.

Fifthly, a correct interpretation and estimation of problems «unlinked enterprises» enhances the conceptual preconditions for the multiplication of searches on activation of expansion factors for building TNC-SME relations mechanisms. This is one of the real, but too difficult ways to create conditions for raising the competitiveness of local SME sector. The capacity building process in SME sector for cooperation with TNC is penetrated with various obstacles. The significant part of roots of the unsuitable situation in local SME sector for cooperation with TNC lies far beyond of the SME sector.

Sixthly, UNCTAD, UNECE, UNIDO and OECD working papers, discussions and recommendations maintain their enduring relevance for formation selecting and adopting tools to create of TNC-SME relations mechanisms in developing countries and the CIS region. The practice acknowledges the viability of foresights UNECE, which were adopted by «Expert Meeting on How to Become a Supplier of Large Enterprises and Transnational Corporations», in 2003. It is fact, that there are widespread indifferent groups and forces, which as usually keep passive and waiting in developing countries and the CIS region position to activities of international organizations on creation TNC-SME cooperation mechanisms. At the same time, this case gives «fresh materials» to actuality of debates on large spectrum.

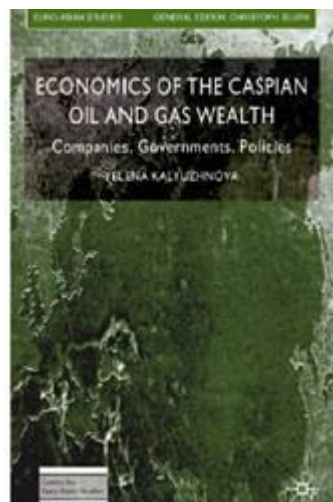
Professor Ragib Guliyev

ECONOMICS' DR YELENA KALYUZHNOVA RELEASES BOOK ON ENERGY ECONOMICS

The School of Economics' Dr Yelena Kalyuzhnova has released a new book on energy economics.

Titled 'Economics of the Caspian Oil and Gas Wealth: Companies, Governments, Policies,' the book focuses on three Caspian economies - Kazakhstan, Azerbaijan and Turkmenistan – and explores the economic challenges involved in managing hydrocarbon wealth – ultimately the most important issues facing a resource-rich economy as it develops an exploration and production strategy.

Professor Jonathan Stern, Director of Gas Research, Oxford Institute for Energy Studies, UK says of the book, 'At last we have a book which places the role of government and policy where it belongs: at the centre of the oil and gas development story. This is an impressively researched study; a sober and well-informed appraisal which does not attempt to over-hype the oil and gas potential of the Caspian region.'



Dr Yelena Kalyuzhnova is the Director of the Centre for Euro-Asian Studies and a Senior Lecturer in the School of Economics at the University of Reading, UK. Her research centres on transitional economies and macroeconomic issues. Dr Kalyuzhnova is the author of the first major study of the Kazakhstani economy (1998) and has contributed to a wide variety of economic studies for international organisations.

For further information please contact **the Centre for Euro-Asian Studies (CEAS)** at enquiries@henley.com



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