

THE INNOVATIVENESS OF SME ACTIVITY IN THE CONTEXT OF GLOBALIZATION IN LITHUANIA

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Abstract

The future of the European Union members states (EU-27), including Lithuania, depends on education, including higher, employment in small and medium sized business (SME) and innovations. The practice shows that, small states are focusing on higher education on one hand and on SME on the other, seeking to increase entrepreneurship. Higher education directly effects knowledge-based economy, which impacts SME, increasing the competitiveness within the market and forcing to perform innovations. The importance of innovativeness of SME becomes more and more significant in all levels of analyze (micro, mezzo and macro) in country, in this case in Lithuania, and in the European Union level. The analysis of the questionnaires answered by executives – students of higher education – EMBA studying in the Institute of Business Strategy at Kaunas University of Technology allowed detecting study motives of the middle-aged executives, their position in the firm as well as their cooperation with other firms and the role of innovations.

Keywords: small and medium business (SME), innovation, globalization.

Introduction

Currently, Lithuanian economy experiences high productivity growth; however, the productivity per person is 56.2 % of the EU-27 average (EU-27=100 %) and 54.1% of the EU-25 (EU=100 %). The theoretic analysis (Rakauskienė, 2006; Stripeikis, Zukauskas, 2004; Barsauskas, 2002; Pacesa, Pukas, 2002) shows that the sector of SME is the core value, which is the key for economic growth and regional development. The Vice-President of the European Commission G.Verheugen emphasized the fact that “entrepreneurs are the economic DNA which we need to build competitiveness and innovation in Europe” (Putting Small Business First, 2008, 17).

The success within competitiveness is determined by knowledge, defined as the most important factor of productivity within the age of knowledge-based economy. There is a large amount of theoretical and empirical analysis on knowledge-based economy (Ginevicius, Paliulis, Chlivickas, Merkevičius, 2006; Daugėlienė, Kriščiūnas, 2006; Daujotis, Radžvilas, Sližys, Stumbrys, 2002 et all.). The development of knowledge impacts the development of innovative activity within business including SME. The development of knowledge determines the key factors of success of small and innovative firms. As such factors, K.Brzozowska (2008) analyzes two types of factors: managerial and strategic. Having these knowledge SME can evaluate their own prospects and potential gains. SME in the context of current changes in the market seeks to be stable in the economic development processes, therefore it is an important for them to seek exclusiveness by innovation and to achieve success of economic development. Successful diffusion and adoption of innovation, according to J.Banyte and Salickaite (2008), is as the means to increase competitiveness of enterprises.

Developing Lithuanian SME it is important to highlight the possibilities and directions of innovative activity and identify the differences of innovative activity both in districts and regions. The role of SME and their role within innovative processes and problems of management are analyzed by R.Strazdas, K.Gečas, B.Melnikas (2003), B.Melnikas, A.Jakubavičius, R.Strazdas (2000). The impact of SME on economic development is differently assessed. Some economists (Serger, Hansson, 2004) state that “jet SME are young, both individually and as a sector, and do not currently contribute as much as large companies to national innovation. Besides, it is argued that economic development could be impacted only by critical mass of SME that are innovative, competitive, and able and willing to grow (Serger, Hansson, 2004). From the other hand, according to R.Daugeliene, a core importance element of SME competitiveness in the knowledge-based economy is the infrastructure of research and development, which is a part of National innovation system. In this case essential responsibility depends for government – to create favourable environment for creation and application of innovation. This goal can be achieved using fiscal policy, education system, including higher education. The analyses of state subsidies to SME shows that the aid can effect on the development of the projects in such areas as production, research, experiments, and education. R.Ginevicius, V.Podvezko, S.Bruzge (2008) found, that the best ratios of investments to the fact, was found in the area of education projects. The another proposal for development of SME is extended and dynamic

clustering, which describes T.Damaskopoulos, R.Gatautis and E. Vitkauskaite (2008), can give a possibility or to improve entrance into global markets, aggregating capabilities of clustered SME at regional, national, cross-regional or international levels.

This article seeks to demonstrate the link between R&D, innovations and SME while activating further economic development on theoretical and practical levels, based on the exploratory structured questionnaire. The research object of the paper focuses on innovations in SME within knowledge-based economy. Research methods, that are applied, are based on the synthesis of official European Community publications, scientific literature and systematic statistical data analysis as well as identification of main study motives of the middle-aged executives, their position in the firm as well as their cooperation with other firms and the role of innovations.

The role of SME in economic development

In Lithuania, SME sector started to develop only from economic the period of restructurization in 1991; therefore, all SME are new and young. The economic restructuring of 1991 created a variety of property forms, including small and medium business for active investment and economic growth. The following phases of the principal economic development and small and medium enterprise formation, described by particular features, are identified ('Lithuanian Macroeconomic Review', 2003; 'Review of Lithuanian Economy', 2004):

1. The period of 1989-1990, identified as centralized economic regulation. GNP structure is composed of: state property – 79 %, collective-farm property – 11 % and private property – 10 %;
2. The period of 1991-1994 is identified as the first stage of transition from planned to market economy and the creation of preconditions for economic welfare: private property produced 65% of the GDP at the end of 1994;
3. The period of 1995-1997 is marked by the expansion of the market infrastructure with the appearance of welfare elements and adverse effects of sector crisis (the crisis of bank system); private property produces 68 % of the GDP in 1997;
4. The period of 1998-1999 is known as the crisis in banking system (the crisis of Russian banking system). This crisis produces an external shock on national economy. Private property develops (72 % of the GDP by the end of 1999);
5. The period of 2000-2007 is defined as the continuous economic development. Private property produces 80.7 % of the GDP at the end of 2007 ('National accounts of Lithuania' 2005, 2007).

Seeking to restructure enterprises and create SME it was necessary to perform a number of steps such as to change the type of economic activities and the system of work organizations. Since the first days of independence the government of the Republic of Lithuania promoted the development of small and medium business in Lithuania as well as participated while working out the strategy for small and medium business for the period up to the year 2015. The basic objectives of this period seek to ensure high priority development of small and medium business; to increase the competitiveness of SME and to promote international cooperation of SME by increasing export of goods and services.

The analysis of the Lithuanian economic sector shows that the structure of enterprises by the number of employees is similar to that in the EU. In Lithuania, 99.4 % of all enterprises are SME; they employ 70.8 % of all labor force in the country ('The statistics of small and medium business sector', 2007, 8). In the EU, 99.8% of all enterprises are SME; they employ 66.2 % of all labor force in the EU. The penetration of SME (the number of SME per 1000 of population) in Lithuania is 2-4 times lower than the penetration of SME in the EU (Kaunas region, 2005). The share of GDP produced in SME in 1999-2006 grew up. This growth was especially significant in the year 2003. The total share of the GDP produced by SME rose from 60.2 % in 1999 to 68.2 % in 2003. A higher GDP share produced by SME is due to growing efficiency of SME. Since 2004 when the rules of taxation of SME changed the calculated share of gross added value (GVA), created by small and medium enterprises increased from 57.5 % to 60.1 % (the period form 2004 till 2005). In 2005 the most rapid increase of GVA share according economic activities was observed in the area of wholesale and services.

Comparing Lithuania with the EU, the following differences of SME within the basic areas of economic activities (industry, constructions and sales), analyzed according the age of groups of businessmen, were indicated:

- businessmen till the age of 30 make up 59.8% in Lithuanian and 64% in the EU;

- businessmen in the age group of 30-39 make up 65.3% in Lithuanian and 58% in the EU;
- businessmen in the age group of 40 and elder make up 68.8% in Lithuanian and 58.3% in the EU.

Comparing Lithuania and the EU, the businessmen in the age group of 30 and younger are eager to establish business, related with the activity in the area of transport, storage, telecommunications, real estate and rent market making up 38% in Lithuania and 27.1% in the EU. More thorough analysis reveals the fact that small enterprises in Lithuania are bigger in comparison to enterprises of the EU according the number of employees. SME of EU employ 7 employee on average, while Lithuanian – 13. This difference is determined by the fact that macro-enterprises in Lithuania (hiring up to 9 employees) perform insignificant role (Statistics Lithuania, 2007). In addition to this, it is important note that analysing the behaviour of Lithuanian and EU businessmen of different age groups it was noticed that they act in a different way as well. The increase in number while hiring businessmen in the age group under 30 is lower in comparison to the age groups of 30-39 and 40 and elder in Lithuania and the age group under 30 in the EU.

The role of SME in the economy of Lithuania grew significantly in 1999-2006 ('The statistics of small and medium business sector', 2007; Statistics Lithuanian, 2007):

- the GDP share created by SME grew from 60.2 % in 1999 to 68.2 % in 2003; the GVA share, created by SME, grew from 57.5 % in 2004 m. to 60.1 % in 2005;
- the penetration of SME in Lithuania grew up to 17.3 % (from 15 of SME per 1000 of population in 2000 to 17.6 of SME per 1000 of population in 2006);
- the total number of active SME that were registered in 2006 was biggest in the economically strongest regions of Lithuania: in Vilnius 35 %, Kaunas – 21 % and Klaipėda – 13 %. SME establish the biggest number of wok places and in the most economically strongest regions such as Kaunas unemployment rate was 5.9 %, and Klaipėda 6.8 %. In 2006 the biggest unemployment rate was in Panevėžys region, reaching 8 % and Utena region reaching 5.9 %;
- the share of export by small and medium enterprises grew from 23 % in 1999 to 48.7% in 2006; the share of import by small and medium enterprises grew from 39.1 % in 1999 to 59.8 % in 2006;
- SME labour force grew from 64.6 % in 1999 to 70.8 % in 2006 of total labour force in the country.

The productivity growth in Lithuania could be further enhanced by knowledge-based economy. The preconditions for higher productivity consist of further development of education and training systems; however, despite the public spending on education and a high number of qualified specialists there is still a mismatch between skills and competence needed in business sector; higher sponsorship of R&D; generating of new ideas, recognition of opportunities and implementation of innovations into the market. Forming the further economic development, Lithuania identifies the development of knowledge-based economy and information society as the long-term priority that is based on the development of science, technologies and innovations, the development of investments into human recourses and the economic activity, directed towards export.

Knowledge based entrepreneurship

The Lisbon strategy (March, 2000), underlined the need for European societies to become more entrepreneurial. The President of the European Community J.M.Barosso, emphasizing the role of SME stated that "The small business Act" approved in 2008 is a crucial milestone for the implementation of the Lisbon strategy, for economic growth and jobs" (European Commission, 2008). This Act proposes the preparation of favorable environment for SME, the partnership between the EU and its member states and new chances to improve the financing conditions of SME by investing (SEC, 2008). The strategy points out the need to create a friendly environment for starting up and developing innovative business, based on knowledge-economy. The SME is based on society's recognition of entrepreneurs, owners of SME, positively influencing both the employment and the economic growth. The top priority of the EU is to stimulate within the population a positive evaluation of SME activity at micro, mezzo macro and mega economic levels as well as the desire becoming entrepreneurs (European Commission, 2008).

The analysis of SME policy under Lisbon strategy showed that Lithuania, other member states and the EU fulfill the requirements in creating friendlier business environment for SME (COM, 2007). The difference among the EU and the USA self-employed population remains stable and big as only 56 % of the population in the EU prefers self-employment in comparison to 61 % in the USA.

Lithuanian economic development in the period of 1999-2006 was determined by very high expenditures on Information and Communication Technology (ICT), making up 131% of the EU-25 average, and by strong export performance in lower-tech and lower value added sectors. The dynamics of expenditure for GERD/GDP in Lithuania and both EU-15 and EU-27 shows the changes in the period of 1999-2006 estimated by slow growth of expenditures in Lithuania and very slow growth in the EU. The target for 2010 in the EU-27 is to reach 3 % of GERD/GDP and employment rate 70.

Innovation challenges in the EU-25 are similar; however, practical policies are focused on national needs (European Commission, 2004). Despite the rapid economic growth, innovations in Lithuania are at a lower level than in the EU-25, and only 3 % of the labour force is employed in medium to high-tech manufacturing, and only 1.7% in high-tech services. Therefore, further development requires sustained investment in human resources. Transition to knowledge-based economy permits further integration of Lithuania into the EU economy. Higher competitiveness can be achieved due to diffusion of knowledge and technology, and due to personnel mobility as the main source of knowledge. Strong partnership between universities and industry, and wide international collaboration enables forming effective knowledge infrastructure.

SME condition development of labour resources is related with life long learning or continuous learning (intellectual capital, information and communication technologies), technological and knowledge (education and skills, scientific and technological (S&T) base; employment and social changes (demography, health, cohesion). SME implement the goal set by the Lisbon summit of the European Council for Europe to become the most competitive and dynamic knowledge-based economy. Research institutions provide a wide range of knowledge-intensive services such as ICT support, training programmes and assist in finding foreign partners as well as disseminate advanced technologies and channel innovations. Innovations involve tighter connection between theoretical research and practical implementation. Successful economies in the 21st century will be open, flexible and innovative economies, capable of rapid change.

Innovative activity is usually perceived in a narrow sense as the implementation of the latest technologies and production of new products. In other cases it is perceived as one that has implemented technologically new or significantly improved products or processes or combinations of products and processes (OSLO manual, 2005). However, it is better to analyze innovations in a wider way, perceiving them not only as new or improved products or services (product innovation), new manufacturing processes and methods (technological innovation) and new organization of enterprise management (organizational innovation) but a new way of selling goods and services (marketing innovation).

The innovativeness of economic activity of the state as well as effective collaborative networks of SME could be a powerful factor of SME competitiveness and act as a driving force of new innovations. The Summary Innovation Index (SII) shows the aggregate national innovation performance (PROINNO, 2007). SII is grouped into two main groups – inputs and outputs – and their detailed structure is presented in Table 1. The data of Table 1 shows that the US performs better than the EU according 11 indicators. The EU scores are above the US in 4 indicators such as new S&E graduates, employment in medium-high and high-tech manufacturing, community trademarks and community designs. Japan performs better than the EU in 11 indicators. The EU scores are above Japan in 3cases: share of medium-high and high-tech R&D, community trademarks and community designs.

Lithuania scores according the group of innovation drives indicator are better in comparison with the EU-25 or the EU-15 in three cases: new S&E graduates, tertiary education and youth education. According to ICT expenditures (Innovation and entrepreneurship indicator group) Lithuanian score is leading in comparison with the EU-25 or the EU-15. Analyzing other twelve indicators of SII Lithuania falls behind the EU. In addition to this it is impossible to compare Lithuania with the EU according other nine indicators as there are no data.

Research methodology

The article, employing the data, provided by the Department of Statistics of Lithuania, attempts to summarize the scope of innovative activity in the country according the regions of the country. In addition to this, the paper seeks to characterize the directions of innovative activity according the types of economic activity in the year 2006 and 2007. The sample of the research consists of 2000 enterprises, established in 2003 (inactive, non-profit and agricultural enterprises were eliminated from the sample). The innovative activity was examined according the following indicators:

- product innovation (launching of a new product or services in the market);
- technological innovation (new processes or methods of production);
- organizational innovation (new organization of enterprise management);
- marketing innovation (new way of selling goods and services).

Aiming to find out the attitude of students, studying in the programme of Executive Masters of Business Administration (EMBA), towards the factors of study motives, their position in the firm, cooperation with other firms and innovations, a questionnaire was made and the exploratory research was accomplished. The analysis of the questionnaires, answered by executive EMBA students studying at the Institute of Business Strategy in Kaunas University of Technology Institute of Business Strategy (N=56) was carried out.

Table 1. Innovation performance in Lithuania and EU in 2005

Indicators	EU-25	EU-15	Lithuania	US	JP
1. Innovation drives					
1.1 S&E graduates	12.7	13.6	17.5	10.2	13.4
1.2 Tertiary education	22.8	4.0	26.3	38.4	37.4
1.3 Broadband penetration rate	10.6	12.0	5.0	14.9	16.3
1.4 Life – long learning	11.0	12.1	6.3	...	..
1.5 Youth education	76.9	74.1	85.2	...	..
2. Knowledge creation					
2.1 Public R&D expenditures	0.65	0.66	0.61	0.68	0.74
2.2 Business R&D exp	1.2	1.24	0.16	1.87	2.39
2.3 Share of medium-high/high-tech R&D	...	85.2	70.8	89.9	86.7
2.4 Share of firms receiving public funding	...	...	3.6	...	...
3. Innovation and entrepreneurship					
3.1 SMEs innovating in- house	...	...	22.1	...	15.3
3.2 Innovative SMEs co-operating with others	...	...	14.8	...	6.9
3.3 Innovation expenditures	...	...	1.57	...	...
3.4 Early-stage venture capital	...	0.023	...	0.07	...
3.5 ICT expenditures	6.4	6.4	7.8	6.7	7.6
3.6 SMEs using organizational innovation			23.6	...	...
4. Applications					
4.1 Employment high-tech services	3.35	3.49	2.12	...	...
4.2 High tech exports	18.4	17.7	2.7	26.8	22.4
4.3 Sales share of new-to-market products	...	...	4.4	...	...
4.4 Sales share of new-to-firm products	...	...	5.3	...	...
4.5. Employment in medium-high/high-tech manufacturing	..	...	2.57	...	...
5. Intellectual property					
5.1 EPO patents	136.7	161.4	5.8	142.6	174.2
5.2 USPO patents	50.9	60.2	1.0	277.1	304.6
5.3 Trial patents	32.7	38.9	0.6	47.9	102.1
5.4 Community trademarks	100.7	115.7	14.7	33.8	11.7
5.5 community designs	110.9	127.6	17.5	17.5	13.2

Reference: PROINNO Europe, 2007, 13, 43-44.

The demographic characteristics of the respondents include 33 women and 23 men. The analysis of student answers showed that the average age of students in 2004 and 2005 was 35.5 for men and 37.5 for women. It appeared that the biggest part of the students - 66.08 % were from the SME.

The results of research

Within macro-economic analysis it was indicated that in the year 2007 less enterprises participated in innovative activity and their percentage was 42.7 %, in comparison with 44.4 % in 2006. The innovative activity extremely decreased in Utena region (from 60.5 % in 2006 to 32.3% in 2007) and Tauragė region (from 57.9 % to 34.2 % correspondingly).

Significant changes within innovative activity were observed in two areas of economic activity: financial intermediation and other activity of utility, social and personal services. The number of businessmen, implementing innovations within the area of financial intermediation decreased from 80.8 % up to 24.6 %. In other activity of utility, social or personal services the number of businessmen, implementing innovations increased from 33.3 % up to 62.5 %.

SME presented the market with many product innovations and it made up 58.8 % in 2007 in comparison with 54.3% in 2006. This type of innovations prevailed within all types of economic activity, except for the activities of electricity, gas and water supply as well as transportation, storage and communications. Technological innovations were prevailing within the latter activities mentioned before. Marketing innovations were observed within the activity of 45.3 % of real estate, rent and other enterprises and 47.1 % of financial intermediation companies. The marketing innovations were implemented by 80.0 % of other companies that provide utility, social and personal intermediation services and 62.3 % of transport, storage and communication companies.

The directions of innovative activity spread according different regions indicate that:

- product innovations are most widespread in enterprises of Vilnius (66.8%), Kaunas (57.8 %) and Marijampolė (57.1 %) regions;
- technological innovations were selected by SMEs in Alytus (46.4 %), Marijampolė (42.9%) and Klaipėda (42.2 %) regions;
- organizational innovations were implemented in enterprises of Alytus (46.4%), Utena and Telšiai (40.0 % each) regions;
- marketing innovations were widely implemented in enterprises of Alytus (64.3 %), Panevėžys (59.5 %) and Marijampolė (57.1 %) regions.

The analysis in microeconomic level, according to the facts listed above, reveals the fact that middle age executives (the age group of 35-50) dominate in executive EMBA studies in Lithuania. The main motive of men to study in EMBA is internal needs for better activity. The per cent of students mentioning this motive increases up with age, namely, from 50 % with <30 age group to 65% with the age group of 35-50. Future perspective motive was also important for men: it made up 40 % for men in two age groups (<30 and 30-35) and 30 % in the age group of 35-50. The recommendation of employer was not important for men.

The main motive of young women to study in EMBA was also an internal need for better activity (75 % of all women answered positively). However, this motive decreased with the age to 25 % in the age group of 30-35 and 42 % in the age group of 35-50. The importance of future perspective motive for studies of women in EMBA was increasing from 52 % in the age group under 30, to 75 % in the age group of 30-35, and to 48 % in the age group of 35-50. Only 10 % of women in the age group of 35-50 came to study with the recommendation of employer.

The research showed that men, studying in EMBA, had higher carrier positions than women: bigger per cent of men appeared to be owners, general directors, administrative directors, vice directors. The analysis showed that only 35 % of men started business partnership among EMBA students during their studies, whereas 65% of them did not start any partnership. On the other hand, only 36 % of women did not start partnership and 64 % of them started business partnership. It shows that women are more communicative in this case.

The survey also indicated the fact that the importance of innovations was emphasized for employees in enterprises. The bigger part of the respondents (48, 5 %) stated that they are reliant on their companies and that it is quite important while fulfilling the innovative activity because the opposition of employees to innovations becomes smaller. The research carried out revealed the fact that 53 % of the respondents never organized any campaigns for generation of new ideas. A part of the respondents – executives (18 %) never talk about innovations with their subordinates and another part of the respondents (32%) seldom talk about innovations with their subordinates. However 50 % of executives surveyed often talk about innovations with their subordinates and devote 30-45 % of their time to improve their activity (learning and teaching, offering suggestions and generating ideas.

Companies represented by the respondents, implemented marketing innovations quite often - 10.7 %, technological innovations - 8, 9 % and organizational innovations 5.4 %. Summarizing it is possible to state that the activity of the companies, represented by the respondents was quite active as 19.6 % of SMEs carried out innovative activity.

Conclusion

Successful activity of SME is one of the most important factors of economic development. Within the conditions, favourable for business development within macroeconomic environment, the quantity of SME in Lithuania grew.

Seeking to implement the principles of Lisbon strategy, the formation of positive attitude to business and businessmen as well as the implementation of technologies are necessary both in Lithuania and the entire Europe. The most significant factors, determining the implementation of innovations in SME under the conditions of knowledge-based economy are employees, collaboration and financial resources.

The innovative activity of SME in Lithuania was active considering the group of innovation drive indicator (sub-groups: new S& E graduates, tertiary education and youth education) and enough active considering the indicator of innovation and entrepreneurship (sub-group of ICT expenditure). According to SII indicators, Lithuania belongs to the group of catching-up countries.

The results of empirical exploratory research of EMBA students showed that education in EMBA is an important tool for the activity (more than 60 % of the students declared that the internal needs for better activity was the main motive for EMBA studies) of executives (more than 60% of them were middle aged (the age group of 35-50)) in SME (the biggest part of students (66 %) were from SME). The students – executives that were questioned stressed the importance of innovations for employees, however, the amount of time, assigned to improve the activity is used inefficiently due to too heavy work load, weak relationship with consumers, capable of providing good suggestions. The activity of the companies, represented by the respondent-executives was quite active as 19.6 % of SME performed innovative activity.

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