

# USING INFORMATION TECHNOLOGIES TO RAISE THE COMPETITIVENESS OF SMES

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## **Abstract:**

*Competition plays an important role - it determines, directs and controls the strategy of the business development. Under competition, the company must be able to adapt to the situation and improve itself to remain competitive and defend its market position from the other players on the market. Competition is the driving force that encourages the business to improve its operating efficiency and innovative solutions. In order to achieve higher level of competitiveness, modern companies use a wide variety of different methods, the most prominent being: reorganization of its business and administrative processes, its employee qualification improvement and application of the new technologies to its products and services.*

*Wide availability of the information technologies (further – IT) is considered as one of the biggest achievements and advantages of our time, as it provides the entrepreneurs with an opportunity to improve the competitiveness of their business. Currently, the only entrepreneurs that are already investing into the IT solutions are those entrepreneurs, who are well-informed about the new advantages provided by the IT and are not afraid of taking up the challenge of trying those innovations. Using the solutions provided by the IT, entrepreneurs are able to achieve higher efficiency and organization of their business processes and information flow, as well as provide them with the means of fine control over their resources and administrative expenses. Right now, current situation of the IT market indicates that there are a lot of solutions available that can be used to improve the competitiveness of the business, which will in turn aid its growth and development.*

*The goal of this publication is to identify and assess the key aspects of the SME's competitiveness improvements and to analyze the benefits and drawbacks of the IT solutions that may affect the competitiveness and development of the business. It will be based upon the situation regarding the SMEs in Latvia in comparison against the situation in Europe. Analysis will be performed using Latvian national statistical data and data provided by Eurostat, the statistical office of the European Union and there will be also used the system dynamic modeling method for evaluating the introduction of IT Management Information System for SME.*

**Key words:** Small and medium enterprises, information technology, competitiveness, improve the business processes, growth.

**JEL classification:** M15

## **INTRODUCTION**

Entrepreneurship is the activity aimed at reaching goals, applying accessible resources, and at gaining profit as compensation for that. From another point of view, entrepreneurship is a basis for the national economy in any country. Namely activity resulting from people's desire for self-fulfillment brings to the nation such benefits as employed population, paid taxes, possibilities for improving welfare level, supplying the society with necessary goods or services. Any entrepreneurship is based on a good idea, accessible resources and skills of the company's head. Good idea defines uniqueness of goods produced or services provided. Accessible resources make it possible to implement what is planned, and skills of the company's head are applied for developing the company's strategic plan reflecting implementation of the good idea. Strategic planning is needed for setting goals and orienting the company at development, improving its competitiveness. By developing a strategic plan, the company's head approaches the company to growth, since at the time the plan is elaborated, the company's prospects are discussed, environmental factors and effects are analyzed, such processes as can facilitate implementation of the long-term plan are singled out (Olsen, 2006.). The company's head plays a valuable role in the company's future, with the company's head knowledge and skills of applying it being an even larger benefit for the company.

According to the latest data of the Statistical Bureau of the Republic of Latvia (for the year 2010), market sector in the territory of Latvia includes about 135 139 active statistical units, of which about 99,7% are the companies registered as micro, small or medium companies [3]. The situation can be explained by the European Union (hereinafter – the EU) policy for supporting small and medium enterprises.

The SME support policy came to Latvia along with the country's joining the EU. In June 2000 there was endorsed the European Charter for Small Enterprises – the document considered to be a cornerstone of the SME support policy. The main idea of the Charter is to assist in adapting the entrepreneurial environment for ensuring existence and development of SME, thus stating that the main emphasis should be laid on small entrepreneurs, since SME is a priority of the national economy. The basic principles of the SME support policy are to promote competitiveness of SME, making more access to the new technologies and ensuring improvement and development of the entrepreneurial environment [24].

Analyzing the current situation, it can be concluded that presently SME and their heads have an opportunity for investing in their own and the nation's future. The EU SME support policy has been pursued in Latvia for 11 years, and it is important for the merchants to realize its benefits for developing from a small company, to occupy good positions in the market, to attract new and to retain current customers. SME should be competitive for the competition is high in this segment.

The goal of the thesis is to define and provide an opinion on the key aspects of development of SME competitiveness. The author of this thesis planned to analyze the instruments for improving competitiveness of SME, emphasizing IT applied for promoting development and competitiveness of SME. There will be analyzed how IT influence the company's development in general, the author will discuss which companies are potentially able to develop and what is needed for that purpose. Within the framework of the thesis there will be discussed also such aspects as related to the EU SME support policy, to the SME notion and its peculiarities, diversity of IT solutions and their role. The publication will contain a research of the SME situation in Latvia compared with Europe. The analysis will be based on the public Eurostat and national statistical data and there will be also used the system dynamic modeling method for evaluating the introduction of IT MIS for SME.

## EU SUPPORT POLICY FOR SME AND ITS ROLE

According to the European Commission Recommendations of May 6, 2003 2003/361/EC, SME include the companies of the following groups, with the quantitative indicators [12] as follows, see Table 1:

**Table 1. SME Quantitative Indicators**

Company Group	Employed Persons	Annual Turnover, mln.	Annual Balance Sheet, mln.
<i>micro</i>	<= 10	<= 2	<= 2
<i>small-sized</i>	from 10 to 49	<= 10	<= 10
<i>medium-sized</i>	from 50 to 250	<= 50	<= 43

Namely these three groups are supported and singled out as a priority for obtaining the EU-regulated support. The policy is based on the fact that SME is considered to be a cornerstone of any national economy. Namely SME can influence the national economic growth, for it provides people with an opportunity to legally engage in what they know and like best. In this case the State is a beneficiary, since at the time when unemployment is so widespread, the employment level is being stabilized, companies pay taxes, increasing the national budget revenues. New jobs are created, since due to the EU policy, it is not complicated, or expensive, or time-consuming to establish a new micro or small company, and its taxation policy is maximally simplified. The support policy helps arrange the entrepreneurial environment so as it would be possible to form SME, to maintain its existence and even to develop.

Presently the SME percentage in Latvia is 99% of the total number of enterprises [3], and the larger portion of SME works exactly in the national area, furthering increase of the gross domestic product. Analyzing statistics of the number of SME throughout the EU, it can be concluded that the situation similar to that in Latvia is observed also in other EU countries [18]. SME as a type of company is currently widespread for being the most beneficial one due to the support policy pursued now. The support policy is applied, since small companies are considered to be the main driving force for entrepreneurship, employment as well as social and local integration in Europe [8]. The main goal of the policy is to properly arrange the entrepreneurial environment, and the EU goal coincides with the key targets in any country. There are singled out the external and the internal entrepreneurial environment. The State can make the largest investments into the improvement of the external entrepreneurial environment, since the State can regulate in the most direct manner the improvement of the external environment factors and they are often related to the general national policy. The external environment is formed by the following factors:

- *legal* – laws and taxation policy implemented in the country,
- *political* – foreign policy of the State, relations with other countries, economic and political situation in the world,
- *institutional and informative* – existence of such enterprises as are engaged in information collection, analysis, market research, banks, insurance companies and all others who can in any manner influence entrepreneur's activity,
- *economic* – loan interest rates, unemployment, inflation, purchasing power of population, welfare level, national economic growth or slowdown,
- *social, cultural, demographic* – level of culture and education, increase in the number of population, social status, religious and morality norms, lifestyle of the population,
- *technological* – development of media and communication technologies, creation of novelties, scientific and technical development (Abizare, 2003).

The aforesaid factors influence development, competitiveness of companies and in case of SME they influence to a large extent the company's existence. All these factors or only some of them can influence the company at various intensity levels. The level of factors' effect depends on, e.g., specifics of the company's industry, size of company, number of rivals and market segment. SME are more influenced by the external factors and not by the internal ones. Some external factors can unexpectedly change and their consequences can have a financially strong effect on the company, thus, it is also important to adapt the entrepreneurial environment to small companies.

In 2008 the European Parliament set out and summarized in the Small Entrepreneurship Act (hereinafter referred to as the SEA) the following basic principles of the policy aimed at improving the entrepreneurial environment:

- free monetary funds oriented at the company's development – motivations to invest profit back into the company's development and at reducing late payment percentage [8];
- facilitated access to public procurements [8];
- entrepreneurship dynamics – simplification of the insolvency and company take-over procedures [9];
- better access to markets – provides for creation of the single euro payment area [9];
- furthering of not only creativity in the entrepreneurship, but also of improvement of the intellectual property protection and strengthening of fight against forgery [9];
- promotion of entrepreneurship – with the main goal being acquiring of entrepreneurial skills, development of necessary way of thinking, education of students and pedagogues [8];
- application of information and communication technologies – motivations to apply for reducing SME costs [9];
- actualization of eco-innovations and energy efficiency [8].

Some of these basic principles have been already applied and for the purpose of sharing experience there are organized annual Charter conferences where countries share their experience in

implementing the basic principles. In 2009 totally 40 European countries were involved, sharing their experience in formation of the SME policy [8].

### COMPETITIVENESS EFFECT ON SME

Competition is of large importance in the merchants segment, since namely competition defines, directs and controls the company's development strategy. In the circumstances of competition the company should adapt to the situation and at the same time develop so as to be competitive, since otherwise, another market participant can occupy its market positions. Competition is a driving force motivating entrepreneurs to improve and raise efficiency of their basic activities, as well as to create innovative solutions. For improving competitiveness merchants apply various methods nowadays, with the large emphasis laid on proper arrangement of the company's business and administrative processes, raising professional qualification, applying the newest technologies in production and provision of services.

The main task of a small company is to conquer the market, to find its place there and to strengthen positions to the same extent as other market participants do, to work and to gain profit. As a result of successful activities, a small entrepreneur will start having free funds, making it possible to improve its company and to increase income. In order to even partially implement such operational plan, an entrepreneur should correctly single out the priorities of the company's activities. In defining the priorities, he should take into account, first, the company's priority activity, e.g.: in trade – preparing and goods sales process, consultations – process for training consultants, in production – production, resource preparing and sales processes. The aforesaid activities are the main activities or business processes, ensuring profit for the company and helping maintain adequate level. Such business processes should be:

- *analyzed* – analyzing each business process separately, it is possible to establish drawbacks, to find defects in the elements forming the process, and
- *optimized* – on the basis of the process analysis, drawbacks found in business processes should be remedied, improving the efficiency.

In carrying out such events, there is ensured development of the company, since the main business processes will be maximally efficient.

In case several companies engaged in similar activity exist in the market, the improved efficiency of business processes can be insufficient. For improving competitiveness there should be implemented innovative solutions, new technologies, essentially furthered improvements of the basic product or service. Innovations will lead to the situation when there will be offered a product or service, which will differ from the rival's offer. In order to differ and make a unique offer, an entrepreneur should know offers in the market, analyze the competitiveness, be aware of what a potential client is interested of – the market tendencies, and should follow the innovative technologies. A small merchant, at the time when there is no more need to fight for the company's existence, should also focus on the company's development strategy, since the company cannot exist without improvements. The reason is time, which is irreversible. In the course of time consumers change their views that is strengthened by improving their lifestyle, striving for comfort and welfare.

According to the data of the EU statistical bureau Eurostat, 33,9% of the total number of enterprises in Latvia are those who base their business processes or products promoted in the market on innovations. [18]. Innovations are highly evaluated by the companies with the number of employees over 250 – large companies. Comparing the situation in Latvia with other EU member states, e.g.: Romania, a difference is observed – 67% of Romanian small companies apply innovative solutions [18]. Data of the research stress the problem in the Latvian entrepreneurship. Latvian small entrepreneurs use innovations less than in other EU member states, where innovations are widely and successfully applied among small companies, thus improving their competitiveness.

The national economic benefit is reached at the time when successful activities of the company lead to the improved situation in the national economy. Improvement of the situation depends on such valuable national resource as population. Each citizen of active employment age and employed increases revenues in the national budget. In Latvia, according to the census of population 2011, the employed percentage among the people aged 15 and over is 47,3% [4]. This is explained by the fact that citizens aged over 62 make up 21,8% [4]. To regret, this proves that the general national population tendency is descending, meaning that in such industries where it is impossible to fully or partly automate business processes, it will be impossible to reach the highest results for lacking labor resources. At the same time, reduced national labor force can affect the GDP growth rate, being 4,5% at the moment [4] with the ascending tendency.

Analyzing the current employment efficiency level, it can be noted that the labor efficiency tendency, despite the employment downturn, grows on a stable basis and its percentage value is 55% per employed person [18]. Compared with other European countries, e.g., Romania, it is 48%, with the average efficiency among the European countries being 93% [18]. It can be concluded that labor efficiency in Latvia is lower than the average European level. Labor productivity depends on the following factors: applied production technologies, organization of work, distribution of work and specialization level, education and qualification of workers (Ciemleja and Lace, 2008). Improvement of efficiency should be based on technological solutions, improved qualification of personnel and proper arrangement of business processes in SME, since the larger portion of companies are namely SME and those who apply innovative solutions at the lowest level. In carrying out such approach, there will be ensured an intensive national economic growth, meaning that current resources, mainly – labor force and latest technologies will be applied more effectively (Bikse, 2011).

### **SME POTENTIAL IN RAISING COMPETITIVENESS**

In raising competitiveness, merchants capable of managing knowledge enjoy more advantages. A key to the company's success can be a well-educated company's head correctly defining the company's orientation, targets to be reached and developing a plan – strategy for gaining targets. SME head should be competent in developing a practicable strategic plan. Strategic plan is an idea of the SME future, which he uses as a guideline throughout all the period of existence of the company. The company's goal at the beginning of its life should be finding its niche, as well as elaborating an efficient and practicable development plan. Large potential belongs to those SME, which heads can plan and set reachable goals.

In the opinion of the management theorist P. Drucker, small companies, which seriously and purposefully determine their future development, do not remain in the status of a small company for a long time. However, SME companies can be classified as those intending:

- to survive and develop, and
- to survive and maintain the positions reached (Jones and Tilley, 2003).

It is difficult to take a correct decision and to select one of the above mentioned development strategies. Selection of the strategy can be effected by the specifics of the environment in which SME operates, thus, it is of utmost importance to analyze not only the aggregation of planned activities, but also the changeability of external factors and probability of their commencement. Future of the company depends on the company's head, his knowledge, experience and individual peculiarities, as well as on accessible resource – the company information. It depends on the company head's abilities to adopt reasonable decisions whether the company will exist. Decisions should be based on the results of the information analysis, for which IT solutions, e.g., business intelligence tools or management information system, can be used. In order to become a successful manager, one should possess not only strategic thinking, ability to analyze the situation and correctly perceive the information received, but also the talent to apply everything in practice (Collis, 2010).

Pre-requisites leading to improving the SME competitiveness:

- company's head, who is well-educated and has creative thinking;
- personnel capable of quick adapting to changes;
- qualitative research of external and internal factors;
- good development strategy;
- ability to invest free funds into the development events;
- qualitative organization, development and implementation of development events;
- collection and analysis of the results of development events (Collis, 2010).

The largest potential in reaching goals belongs to the companies, which heads have higher education (Ciemleja and Lace, 2008). Such heads act more effectively also in the innovation sphere. (Ciemleja and Lace, 2008). Researching the aspect of higher education, according to the Latvian Statistical Bureau data, in 2010 higher education was acquired mostly in such industries as: *social science, commercial science and law* – 54,3% of all graduates, *engineering science, production and construction* – 9,31%, *health care and social welfare* – 9,25%, *education* – 8,31%, in its turn – *in the natural science, mathematics and information technologies* only 5,03%, in other industries – 13,81% [5]. The research reflects irregularity in obtaining qualifications among students. Results may be treated in different ways, however, it is obvious that there is a little number of graduates in the IT sphere, notwithstanding that IT is the industry offering one of the best salaries and experiencing lack of specialists. Lacking labor force in the IT industry means that there will be problems in choosing professional career among students. Entrepreneurs try to avoid the problem by employing less qualified personnel and investing in their education. It is important to involve IT specialists in business processes, because presently namely IT solutions are those as providing an opportunity to develop and improve effectiveness of the company's processes, thus, improving also the company's competitiveness.

Knowledge in the IT sphere should be at the level of the company's head, workers and even users, and the main principles of the national education policy should be aimed at the creation of the information society, for IT is the future. The above mentioned specialists are a portion of the information society, which is actively developed in Latvia. The information society is formed by the educated and creative people [17]. They are competent in applying IT for all needs, e.g., work, rest, purchases, entertainment, social media.

Creation and development of such society provides an investment into the development of the national economy, both offering new services and applying new technologies for the commercial activity innovations, and developing the industry of information and communication technologies [17]. Development of the information society leads to the general national development, for people are offered possibilities for improving their life quality, accessing knowledge and cultural resources, as well as using e-health and distant education services [17]. Currently the aspect of development of the information society is very important worldwide and it is related to the intensive development of IT. The UNESCO Latvian National Committee [19] efficiently furthers the implementation in Latvia of the World Information Society Summit Declaration and the Operational Plan, focusing on the aspects of the information accessibility, as well as on improving the national administrative work in the situation of developing information and communication technologies [20]. There are two international initiatives of high priority nowadays: the World Information Society Summit and the UNESCO programme *Information for All* [21]. Since 2009, Latvia has been elected in the UNESCO programme *Information for All* inter-government council and can represent the national interests at the international level [21].

### USE OF IT FOR IMPROVING COMPETITIVENESS OF SME

IT is an aggregation of methods and tools intended for acquiring, processing, maintaining, protecting and distributing data. There are such IT sub-technologies:

- *software* – management information systems, applications, development environments, utilities, database management systems,
- *infrastructure* – computers, network solutions, office equipment, servers.



are accounting, strategic planning, decision making, customer relations management and resource management systems (Ciemleja and Lace, 2008). According to the data of the EU statistical bureau, in Latvia 11% of all active companies in 2010, with the number of employees exceeding 10 persons, applied the customer relations management system.

Providers of the cloud computing services offer SME to acquire access for using several systems. This service is called *Software as a Service* and service recipient should pay for the duration of using the system (payment calculation method – *Pay-as-You-Go*). Merchant can acquire ownership of relevant system solution fully or also by leasing the solution he needs. Today the MIS and BI solutions can be introduced:

- *as a cloud computing service* – SME only leases the system it needs and pays for its use, thus, merchant should not pay for the introduction or maintenance of the system, for data safety, the service provider will be responsible for the system update installations. The greatest cloud computing benefit is that merchants do not need to invest funds into the IT infrastructure or IT specialists, they need only a computer and the internet;
- *as outsourcing* – necessary solution is introduced and maintained by outsourcing specialists, using the infrastructure belonging to the merchant, data safety should be ensured by the merchant or the company's IT specialists. In this case it is necessary to invest into the IT infrastructure;
- *solution is introduced traditionally* – merchant acquired IT solution, employed IT specialists, introduced and maintains the solution individually. In this case investments are needed into the personnel and the infrastructure.

Such diversity in introduction and maintenance of solutions approaches merchants to using them. Number of computer users among entrepreneurs in Latvia is growing. According to Latvian statistical data in 2011 computers were used by 95,4% of all small entrepreneurs, 94,6% - of all medium companies and 99,5% of all large companies [2]. Computers were mostly used in such industries as: *information and communication services, accommodation and electric power, gas supply, heat supply and air conditioning, water supply* [2]. Internet is mostly used for the purpose of the company's activities: in the medium-size companies 99,1%, in the small companies – 90,8% [2].

## CONCLUSIONS

The national economic situation is directly proportional to the national growth, possibilities of entrepreneurs and population. The higher is the population welfare level, the more they are motivated to work for their nation. The more properly arranged is the entrepreneurial environment, the higher is the return to the nation from the entrepreneurship. In the circumstances suitable for normal life people and enterprises are ready and capable of developing, investing into their knowledge and improving their main activities. The EU policy for SME support provided a great opportunity for enterprising people to create their companies and to work for gaining their aims. Proper arrangement of the entrepreneurial environment is a slow process in Latvia and its first results are the fact that the number of small companies increased over the past years.

The SME potential in promoting competitiveness is knowledge. It is important to educate and create a society possessing knowledge helping correctly use IT. Such society provides a contribution to the national economic development. Along with developing the information society, there is ensured the general national growth, for people are offered an opportunity to improve their life quality.

For the company to be able to fight against competitors, it should overcome the limits defining its existence, following which it can think about its development. A small company, which set an initial goal to develop, will not be among small companies for a long time. Large role in the aspects of the company's development and competitiveness belongs to the company's head and his peculiarities: strategic thinking, thirst for knowledge, ability to evaluate the situation and skills of applying knowledge in practice as required. For orienting the company at development, there should be defined the company's business processes, analyzed their course, current situation,

defined effects of external and internal factors and on the basis of the results there should be taken measures for optimizing business processes. With the business processes optimization based on IT solutions, the personnel, time and administrative costs resources are reduced and the amount of free funds, which in accordance with the properly developed strategic plan can be oriented at raising the company's development potential, are increased. Quality of information on the company's processes effecting correctness of decisions is also improved. All in general leads to the maximized satisfaction of needs of the company's clients.

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