

The role of Intellectual capital in development of small enterprises

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Abstract Leaders in market can be only those who timely implement innovations in various aspects of their business. The goal of the research is to identify factors influencing the efficacy and development of small enterprises. The hypothesis of the present research was stated as follows: intellectual capital is the base of innovative development of small enterprises; its higher value makes financial performance of the enterprise better. The methods used for conducting the research were: literature exploring, expert evaluation, ratio analysis.

Keywords - Small and medium-sized enterprises, innovative development, intellectual capital.

I. INTRODUCTION

After rapid economic growth lasting for several years, economy of Latvia has gone into recession. During the period 2005 – 2007 the GDP grew annually by an average of 10.9 %, including the 2007th year – by 10.0 %. In 2008 GDP volume decreased by 4.6 %. In the first half of 2009 economic recession continued. GDP volume in the 1 quarter of 2009 was less by 18.0 %, and in the 2 quarter – less by 18.7 % than a year ago [1].

An indicator characterising the development of the Latvian business environment is the situation in the sphere of small and medium-sized business, since this is the most sensitive sector with regard to changes in the economic and legislative environment as well as the policy implemented by state institutions. The situation of this sector shows how favourable or unfavourable is the economic and taxation policy of the state, what is the situation in the capital market like, what is the level of development of infrastructure and education, how effective is the state support policy, to what degree the legislation governing business activity is brought into line and how stable it is.

Latvian small and medium-sized enterprises play significant role in national economy. In 2008, there were 69863 economically active business entities (excluding agricultural and fishing farms and self-employed persons, who perform economic activity), 99.3% of which could be classified as SMEs. Total number of persons employed by SMEs constitutes 69.9% of the total number of persons employed in the private sector, which accounts for 63.2% of the gross domestic product (GDP). The distribution of SMEs by size (number of persons employed) is similar to SMEs structure in other EU member states: micro businesses constitute 78.6%, small businesses – 17.3%, medium-sized businesses – 3.5% [2].

According to the statistic data of 'Lursoft' and 'Enterprise register' of the Republic of Latvia, 14,208 legal commercial entities were registered in 2007, which is the highest point for the latest 13 years. It is for 6.0 % more than in 2006 (13,404) [3]. Though it must be mentioned that the number of enterprises closed down in 2007 was also very big – it made 11,186 enterprises [3]. Each year the problem of insolvency, bankruptcy and low financial viability of Latvian and other Baltic companies is getting more and more serious. In 2010 the number of registered insolvent enterprises in Latvia has been the highest among the Baltic States. It speaks of certain problems of Latvian SMEs sustainability.

As stated above small and middle sized enterprises are the main promoters of the Latvian economy. SMEs comparing with large enterprises have a number of advantages covering different business spheres. They flexibly respond to changes in market demand, create new work places and contribute to forming middle class in the society. The most remarkable feature of SMEs is their ability to try new scientific and technical achievements in effective trials of economic innovations.

The analysis of literature has discovered that the level of market development in industrially developed countries doesn't provide a firm's advantage only due to material and financial factors. Individual advantage and leadership become as a result of effective use of unique factors of non-material and intangible character including obtaining, processing, analysis and interpretation of information; forecasting, foresight and modelling of changes; creating, applying and commercialization of knowledge, experience and other intellectual products [4].

For several years, corporate strategy theorists have been paying greater attention to the idea that organizations comprise a body of knowledge. As we move from the Industrial Age into the Information Age, knowledge is becoming a key driver for the competitive success of firms and even nations [5].

Today the main moving force of economical growth is the ability to create new ideas and to use them in a commercial way. This process is important for all national economy's fields in total and for every enterprise individually [6]. The world practise shows that market leaders are those enterprises which are able to implement innovations faster than competitors. The process of innovations is not anymore something similar to a passive diffusion of discoveries in national economy, but it is a continuous planed process with a goal to increase work's productivity, return on resources used in the work, and to decrease production or services costs [7]. So, innovations are a necessary precondition for knowledge-

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oriented business which promote not only the welfare of each enterprise, but also the economic competitiveness of the whole country.

Having analyzed the results of many researches made in this field, the authors of the paper discovered that the most significant factors influencing innovative development and implementation of innovations are the intellectual resources of the enterprise: knowledge, skills, creativity and qualification of employees, their abilities to learn, organization of work process etc., managing and determined improvement of which leads to the growth of enterprises' innovative potential. The ability to create knowledge and to continue learning from it is a competitive advantage, because innovative knowledge developed today will be core knowledge tomorrow.

The goal of the research is to identify factors influencing the efficacy and development of small enterprises. The hypothesis of the present research was stated as follows: intellectual capital is the base of innovative development of small enterprises; its bigger value makes financial performance of the enterprise better. The methods used for conducting the research were: literature exploring, expert evaluation, ratio analysis.

II. THE CONCEPTUAL MODEL OF INNOVATIVE DEVELOPMENT OF SMALL ENTERPRISES

For a long time the traditional understanding of innovation processes was connected with new technologies whereas those were based on research and findings. At present innovations can't be envisaged without social cooperation between enterprises and other market players, where knowledge and skills occupy a decisive role in the promotion of innovations. Innovations take various forms and, alongside with the traditional forms – such as technological innovations, - new business models, business organizational forms, innovative marketing and project solutions are developing, by causing a real challenge for preservation of competitiveness and sustainable development of an enterprise [8].

There are various approaches to the analysis of new venture performance in the literature. For example, the studies Sandberg (1987), Stuart, Abetti (1987) empirically show how the chosen strategy and industry structure influence company performance [9;10]. More recent studies Robinson, McDougal (2001) present the results allowing conclude that company performance is greatly affected by interrelation between company strategy and industry structure [11]. Other factors, such as nature and quality of entrepreneurial team Timmons (1997) and influence of the entrepreneur-founder Roure, Keely (1990), Vitran, Tushman (1986) are considered in the literature as being very important for venture performance and sustainable development [12;13;14]. Although there is a significant body of research rather poorly supporting such findings (Cooper, Gimeno-Gascon, Woo (1994), McGee, Dowling, Megginson (1995) and another research [15;16].

The model of innovative development of small enterprises developed by the authors, is based on the existing models of foreign researches Sandberg (1987), McDougal (1987), Kunkel (1991), Robinson (1995) etc.[9;17], which empirically proved that venture performance influence chosen strategy

and business environment. To these significant elements for company's sustainable development the authors have added one more element – intellectual capital, which includes those intangible assets of an organization that are not recorded in financial statements but which may constitute 80% of the market value of the organization.

$$SMEp = f(S, IC, BE) \quad (1),$$

where *SMEp* - small business performance; *S* - strategy; *IC* - intellectual capital; *BE* - business environment.

In the centre of the model is intellectual capital, which includes: 1) Human capital: the knowledge, skills, etc. of individuals; 2) Structural capital: the property of organization, such as processes, information in a database, etc.; 3) Relational capital: the relationships that an organisation has with its clients/customers and environment [18].

Human capital is important, because it is the source of innovation and strategic renovation. Human capital builds structural capital, which can be seen as a consequence of human creativity, similar to that which occurs with financial capital. Structuring intellectual assets could transform the know-how of the individual into a property of the group. The essence of structural capital is the knowledge embedded in the routines of the organization. An organization would want to transform most human capital into structural capital, as it is then owned by the organization. Relational capital is defined as the ability of a business to positively interact with members of the business community to stimulate potential and thus create wealth, which then increases the human and structural capital. The environment of such organizations changes in the same way that relationship with their clients change. The change in environmental factors forces people to develop new abilities, skills, etc., which allow them to adapt to new situations, relationships, etc. [5]. That is why intellectual capital is connected with all other elements in the model: business environment, strategy and SMEs performance.

The model proposed here interconnects intellectual capital as a way to link the innovative development and financial wealth of the organization. The authors suppose that knowledge, generation of ideas or creativity is a precondition for creation of innovations. Creativity helps to conceive things in a new light; it is the skill to find something new [8]. In knowledge-based economy it has the increasing influence on company's productivity and profit-making. It should be noted that the role of intellectual capital in SMEs is more significant in comparison to large enterprises, because of more expressed competition, lack of financial and other resources in SMEs.

The authors suppose that elaborate control of intellectual capital resources, improvement and management of them are able to maximize venture performance, to increase value of the company as well as its profit. Because the intellectual capital resources are primary factors, which move enterprises to innovations, further development and achievement of competitive advantages.

III. RESEARCH METHODOLOGY

For the evaluation of company's intellectual capital, the authors conducted an analysis of the most common approaches of intangible asset estimation and evaluation, among which is: Scandia Navigator, Index of intellectual capital, Balanced Scorecard, Sveiby matrix etc. Using these theories and taking into consideration today's situation of small enterprises in Latvia, their problems and possibilities of development, the simplified system of intellectual capital's evaluation was created.

Creating the scale of evaluation the intellectual capital the authors of the research have analyzed the structure of intellectual capital and made the conclusion that value of intellectual capital is the function of structural capital, human capital and relational capital, where each kind of intellectual capital consists of many components, which should be defined and measured first of all.

$$TVIC = f(HC, SC, RC), \quad (2)$$

where *TVIC* - total Value of Intellectual Capital; *HC* - Human Capital; *SC* - Structural Capital; *RC* - Relational Capital.

Intellectual capital can be measured in different units of measure: currency, conditional units, points, marks, percentage etc.

For evaluating intellectual capital the authors of the paper suggest to use a conditional scale, which measurement is an appropriated point (0, 50 or 100) depending on a level of development of each component of intellectual capital of the considered enterprise. Taking into account that in different branches different components of the intellectual capital unequally influence an overall performance of the enterprise, each component has been given an importance coefficient ($\alpha_1, \alpha_2, \alpha_3$ etc.) which is usually defined by the expert of the field and later is multiplied for a component points' total sum. Each kind of intellectual capital (human, structural, relational) also has the expert defined relative importance (α, β, γ) in general estimation of the intellectual capital. After the components have been estimated, the results of the estimation are summarized and it's possible to determine the total value of the intellectual capital of the enterprise. The scale of evaluation the intellectual capital developed by the authors is presented in Table 1.

TABLE I
THE SCALE OF EVALUATION COMPONENTS OF
INTELLECTUAL CAPITAL

| Name of the component of the intellectual capital | Importance coefficient | The scale of evaluation components of the intellectual capital, points | | |
|---|------------------------|---|---|---|
| | | 0 | 50 | 100 |
| 1 | 2 | 3 | 4 | 5 |
| <i>Human Capital</i> | | | | |
| Creativity | α_1 | Is not typical for employees – employees are not proactive, don't generate new ideas | Is partially typical for employees – employees are able to offer new ideas if it's necessary | Employees are very creative and proactive |
| Work experience | α_2 | Till 1 year | From 1 till 5 years | More than 5 years |
| Abilities to learn | α_3 | Employees have difficulties in mastering new information | Employees are able to master new information and use it in practice | Employees have willingness and abilities to learn and grow professionally |
| Knowledge and skills | α_4 | Very low level of knowledge – employees don't have higher or special education, they don't have necessary qualification | Average level of knowledge – employees have unfinished higher or special education. Some of them have attended training courses | High level of knowledge – all employees have university degree according to holding positions, as well as attending courses to improve their professional skills |
| Relative density of the human capital | | α | | |
| <i>Structural Capital</i> | | | | |
| Management style | β_1 | Leader doesn't have defined management strategy; leader doesn't seek to interest and motivate employees | Leader is focused basically on the profit maximization and pays a little attention to sustainable development of an enterprise; leader is not quite able to interest and motivate employees | Leader is focused on sustainable development of the enterprise, analyzing all the perspectives; leader has defined particular management strategy; leader motivates employees and promotes interest in work |
| Software | β_2 | Computer programs are not used at all | Computer programs are used just for making some operations | Computer programs are used for making the basic work |
| Information resources | β_3 | Lack of information resources | Necessary information resources are available | Wide variety of information sources, most of which are successfully used |

| | | | | |
|--|------------|--|---|--|
| Work methods and methodology | β_4 | There are no defined work methods and methodology | Existing work methods and methodology are not quite implemented | There are developed and successfully implemented work methods and methodology |
| Website | β_5 | The enterprise doesn't have personal homepage | Homepage of the enterprise is under construction | The enterprise has personal homepage, which is regularly updated |
| Relative density of the structural capital | | β | | |
| <i>Relational Capital</i> | | | | |
| Reputation | γ_1 | Poor | Good | Flawless |
| Clients | γ_2 | The enterprise doesn't have constant clients | The enterprise has some constant clients | Majority of the enterprise' clients are constant |
| Collaboration with other enterprises | γ_3 | The enterprise doesn't have constant business partners | The enterprise has some constant business partners | The enterprise has many reliable business partners |
| Unions and associations | γ_4 | The enterprise doesn't participate in any associations or unions | The enterprise is considering an opportunity to join a union or association | The enterprise participates in association or union and uses this participation to own advantage |
| Relative density of the structural capital | | γ | | |

In the method proposed here, we only consider those components of intellectual capital that allow us to reach our goals. Having estimated human, structural and relational capital in points, it's provided to multiply these points on relative importance respectively of human, structural and relational capital. The authors suppose that the total value of intellectual capital should be calculated using the formula below:

$$TVIC = a * HC + b * SC + g * RC, \quad (3)$$

where α, β, γ – coefficients, which designates the level of importance of each kind of the intellectual capital. Usually these coefficients are defined by the expert.

Analysis that was conducted by using expert evaluations showed, that the coefficients can be evaluated as follows: $\alpha = 0.35; \beta = 0.25; \gamma = 0.4$.

For validation of the presented model the authors of the research have estimated intellectual capital for two auditing companies by using the developed scale and compared its values to each other. The authors also calculated ratios of financial stability of these enterprises to prove the impact of the intellectual capital on the financial performance of the company. Values of the financial ratios were compared with the values of the intellectual capital.

The authors' intent was to find the relationship between values of the intellectual capital and financial results of the enterprise.

IV. RESULTS OF THE RESEARCH

The research process was started with the exploring of the branch of reviewed enterprises – “Audit and partners” Ltd and “Revision” Ltd. Both companies provide audit, tax advisory, accounting, consulting and related services. The analysis of the branch and features of the market is necessary in order to understand the level of influence of different components of intellectual capital on the analyzed enterprises. Human capital and structural capital were found to be almost equal in importance, but relational capital was especially important. The conducted analysis highlighted that the market of auditing and consulting services is dynamic, the competition is growing fast, majority of enterprises are focused on new services implementation, therefore choice, quality and variety of offered services is increasing [19]. So the enterprises, especially small ones, have to be oriented on innovations to develop and work successfully in this market.

The second step of the research was to identify those intangible assets that comprise the intellectual capital of the listed enterprises. The information needed to develop this was identified by the heads of these companies, who were considered experts in this field.

Having identified the components of intellectual capital influencing “Audit and partners” Ltd and “Revision” Ltd, the authors have evaluated intellectual capital for these enterprises by using the developed scale (see Table 1). Valuation of the intellectual capital for two enterprises has allowed displaying graphically a profile of the intellectual capital structure for these two companies (see Figure 1).

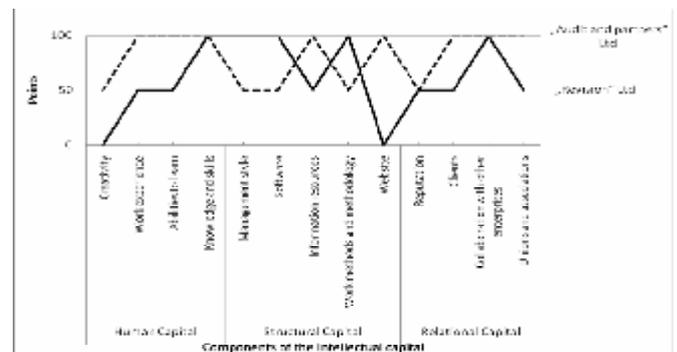


Fig. 1 The profile of the intellectual capital for “Audit and partners” Ltd and “Revision” Ltd

There are visually shown strengths and weaknesses of both enterprises with respect to the intellectual capital structure in the profile. It is seen that development of the components of intellectual capital is not in regular intervals. “Audit and partners” Ltd has very good ratios of relational capital, which is the key factor of the analyzed branch. Quite successfully the enterprise uses human capital, from the profile it is seen that employees of this enterprise are educated, experienced and

able to learn fast. But structural capital is not one's strong point; the profile shows that its parameters fluctuate. Therefore "Audit and partners" Ltd must pay a greater attention on this kind of intellectual capital. In turn, "Revision" Ltd has better developed structural capital. Though the enterprise has insufficient development of human capital; employees of the enterprise are not creative, they have average abilities to learn and are not enough experienced. So the manager of the enterprise has to think about raising their qualification. Considering parameters of relational capital of the "Revision" Ltd, the authors conclude that the enterprise doesn't fully use this resource. For greater success "Revision" Ltd has to be more oriented on attracting new clients and establishment of useful contacts by participating in unions or associations. Comparing total values of the intellectual capital of "Audit and partners" Ltd and "Revision" Ltd, it is seen that "Audit and partners" Ltd has the bigger value of intellectual capital.

The management of intellectual capital has two dimensions. First, there is a need to ensure continuous appreciation in the value of intellectual capital through continuous innovation, providing creative and distinctive solutions to client problems. Such innovations are very much dependent on the competence of professionals and the extent to which organizational structures support/encourage the production of creative ideas, and knowledge building within the firm. Second there is a need to ensure the efficient use of intellectual capital creating value and financial performance for the enterprises and its clients in producing efficient service outcomes and ensuring profitable economic outcomes for the companies [20]. However the intellectual resources can't be separated from the financial resources, because the enterprise is the whole mechanism, where direct connections between employees, means of production and customers are formed, and for which successful functioning are necessary both tangible, and intangible resources. Therefore the authors' task was to compare values of the intellectual capital of two enterprises with values of financial ratios of these enterprises and to examine the impact of the intellectual capital on the financial performance of the company. For the analysis of economic activity of enterprises the authors have used a method of financial ratios calculation. To demonstrate the influence of the intellectual capital on the ratios of financial stability, there were determined influencing components of the intellectual capital for each financial ratio. In the course of the research it has been discovered that the value of the components of intellectual capital is in direct dependence to value of certain financial ratios. It means that the more component of the intellectual capital related with financial ratio is developed, the higher is the value of this ratio and the more efficiently the enterprise is worked. The authors have made a conclusion that development of the intellectual capital is essential for successful and effective work of the enterprise.

IV. CONCLUSION

SMEs play an important role in Latvian economic growth and welfare. Development of this sector is dependent not only

on external environment factors, state provided supporting programmes or created favourable conditions of receiving and application funds, but mainly on manager's capability to conduct business processes effectively. Qualitative managing of technologies, infrastructure and human resources essentially improves prospects of economic growth of every enterprise and consequently all country's economical compatibility. That's why questions of SME's efficient management and innovative development are the basic nowadays.

Today business competitiveness in Latvia requires completely different instruments than some years ago. Nowadays enterprises are forced to think about managing changes, creating and applying new business models, which are more efficient, because of dynamic development of the markets, growth of competition, wide variety of opportunities, change of economic reference points.

It should be noted that innovation process is not always connected with discovery or invention creation. Innovation process may take the form of purposeful novelties to improve the quality of products or the efficiency of processes, the form of an improved organization of work the promotion of creating new relations between suppliers and consumers. Considering the innovative development, the increasing emphasis is conferred to intellectual resources. The experience of foreign enterprises shows that successful companies integrate not only financial, but also intellectual capital in management processes, which often become for a strategic resource in competition. Intellectual resources of the enterprise are a basis of sustainable development and acquisition of competitive advantage. Therefore, the intellectual capital, which unites three kinds of capital, human, structural and relational, is the key element of the provided model of innovative development of small enterprises.

Evaluation and comparison of the intellectual capital parameters and ratios of financial stability of two enterprises have displayed that the level of development of separate components of the intellectual capital influences values of efficiency indicators of the enterprise. By exploring the relationship between intellectual and financial capital of the company, the authors of the research showed that long-range benefits were created by their merging together. That allows drawing a conclusion that development and improvement of intellectual capital is essential for successful and productive work of the enterprise. So the hypothesis that the base of the model of innovative development of small enterprises is the intellectual capital, its bigger value makes financial performance of the enterprise better was proved.

Therefore, the author's recommendations to the managers would be to pay more attention to the intellectual resources. They must be managed effectively in organizations to ensure that wealth-creating capacity is maintained. For effective managing of intellectual resources, they must be clearly defined and assessed. Evaluation of intellectual capital is needed in order to monitor developments and results within the company, because it is possible to manage only something, what is possible to measure. There also can be a necessity to open results of the estimation to external users, for example, to potential investors.

To improve the intellectual capital of the enterprise, the authors of the research suggest forming the integrated structure of intellectual capital, equally developing human, structural and relational capital, because the results of the research demonstrate that intellectual capital is a necessary precondition for sustainable development of the enterprise and achievement of competitive advantage.

For the innovative development the enterprises are required constantly to search for new opportunities for introduction of innovations. The authors consider that making profit depends on the venture capability to make use of favorable external environment opportunity which is either no evident to other market participants or is not accessible to them.

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