

A Flexible Organizational Structure as a way of Knowledge Management in SMEs

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Abstract: The latest researches and a wide range of literature emphasize that modern society is at a new stage of economic development when the quality and rate of continuous education of people and organizations plays a major role. It is not enough anymore to have visible assets and resources (land, capital and labor); the company's success is determined by the ability and capability to use these resources and, as a result, to gain competitive advantage. Now, intellectual capital of more than 90% of enterprises from Germany, Italy, Japan, Great Britain and USA exceeds the balance value. According to the rating of the biggest companies published by the Financial Times, each year the quantity of companies providing financial and IT services increases. Described by its "greater reliance on intellectual capabilities than on physical inputs" (Powell & Snellman, 2004), the economy places importance on human and intellectual capital. However, intellectual capital associated with knowledge is often very difficult to formalize, describe and manage. Scholars (Lawler & O'Toole, 2006) emphasize that today, more than ever, organizations need research-based knowledge about organizational change, management, and effectiveness. Especially SMEs, which represent the main drivers of a modern economy, due to their innovative nature and fast adaptation to changeable environments. According to the U.S. Small Business Administration (SBA), enterprises with less than 500 employees are 99.7 % of all companies in USA that use hired labor; they produce more than 50 % of GDP except agricultural products. Entrepreneurs and SMEs are an engine in creating new workplaces and implementing technology and innovations. The research objective is to determine the role of intellectual capital and knowledge management in a SME and how a flexible organizational structure can help manage knowledge. We are going to show a set of practices, which were implemented in one particular company and then analyze the results of their use.

Keywords: intellectual capital, knowledge management, organizational structure

1. Introduction

In the last few years scientists pay more and more attention to the questions of how to increase the value (and finally, the worth) of the company not only for owners and investors, but also for stakeholders; and for this purpose they explore different methodologies to increase the efficiency of using capital, resources, assets and so on. However, tangible assets have a limited period of useful utilization, and competitors, therefore, could easily repeat them it is necessary to determine any intangible, unique assets. Predominately, this is intellectual capital (IC) and knowledge.

The success of companies in today's competitive markets is highly dependent to the degree to which they create new knowledge. Integrating different types of knowledge and experiences is vital to foster innovation and learning (Pässilä et al., 2013).

We cannot examine IC and knowledge without the people and companies or enterprises as a community of people where the knowledge is created, developed, transferred, and used.

Nowadays, SMEs play one of the major roles in a global economy. There is no doubt; entrepreneurship and SMEs represent an engine in creating new workplaces and implementing technology and innovations. Through networks of loose, collective arrangements, smaller organizations with high-powered incentives both competitively and cooperatively exchange and produce knowledge (Nejatian, 2013).

As knowledge is dispersed throughout most organizations, managers must deal with the time and resources required to draw together the fragments, deal with the related asymmetries of information, and attempt to reduce the uncertainty associated with decisions for which the decision maker lacks access to all the information necessary (Becker, 2001).

Therefore, we require a special type of organizational design that supports creativity by offering systems that are both adaptive and proactive. "The more dynamic (frequency and intensity of environmental changes), complex (number and relatedness of environmental changes), and unpredictable the environment (extent to which cause-effect relationship are incomplete), the more difficult it is to handle the managerial and organization design tasks" (Volberda, 1996).

As a result, the research objective is to determine the role of intellectual capital and knowledge management in creating the value of a SME and to determine how a flexible organizational structure can help manage knowledge.

The research theoretical and methodology is based on the scientific papers devoted to problems of appraising intellectual capital and knowledge management in SME and organizational structure.

2. Definition of intellectual capital and knowledge management

The idea of Intellectual capital appeared many years ago but serious systematic works in this sphere concerned with Sveiby's researches. He acknowledged as the original pioneer in IC whose works were popularized in last two decades.

Scientists propose different definitions of intellectual capital depending on the purpose of their research. We are going to consider intellectual capital as an intangible resource, which increases the worth of a company as a result of its long-term use. We emphasize that intellectual capital is not the same as intellectual property. Intellectual capital is a wider term which includes not only the results of the company's research and development (such as patents and know-how) and their legislative protection, but also people, organizational structure, formal and informal interactions etc.

In general, intellectual capital can be divided in 3 components, as shown on Figure 1: A) Relationship B) Structure and C) Human capital (Edvinsson, 1997). The main objective of such a division is to systematize and organize the different elements of intellectual capital. This division is recognized in a certain sense over the world, but some researchers propose their own concepts which differs slightly among themselves (Saint-Onge, 1996; Stewart, 1997a; Stewart, 1997b; Gratton, 2003; Gratton, 2007).

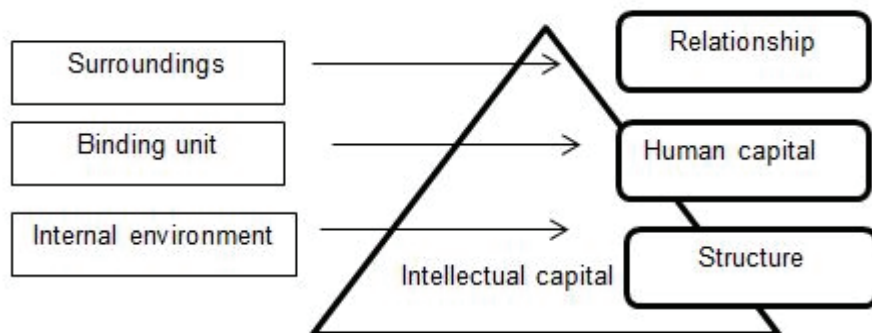


Figure 1: Elements of the intellectual capital

The part "relationship" includes simultaneously the elements of surroundings such as suppliers, customers, competitors, and government. "Structure" encompasses the elements of internal environment such as organizational design, business process, decision-making process, the company's philosophy and so on. The part "human capital" is a binding unit between the first two and it results in the fulfillment of market needs and it operates in conditions of market uncertainty. Human capital consists of workers, managers, top-managers with their knowledge and skills, personality and character. The part "structure" also includes the knowledge management process.

Defined by Davenport and Prusak's (2000, p.5) knowledge is "a fluid mix of framed experience, values, contextual information, and expert insights... It originates and is applied in the minds of the individual. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices, and norms".

According to Duhon (1998), knowledge management is a discipline that promotes an integrated approach to identify, capture, assess, retrieve, and share all of an enterprise's information assets. These assets can include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers.

McKeen et al. identified four key parts of KM: the ability to locate and share existing knowledge; the ability to experiment and create new knowledge; a culture that encourages knowledge creation and sharing; and a regard for the strategic value of knowledge and learning (McKeen et al., 2006).

Therefore, to increase Intellectual Capital in one particular company we need to create (or assist in creating) a system, or organizational structure, in which the knowledge will appear, develop, and be used; and also the productive relationship between all members will be established.

3. Traditional organizational structures and flexible organizational structure

Any designing organizational forms are required to specify “in whose interests an organization should be controlled” and “how decisions and policies ought to be made, by whom, and for whom” (Greenwood & Empson, 2003, p. 912).

The organization structure can encourage or inhibit knowledge management implementation (Hopper, 1990; Ein-Dor and Segev, 1982; Caruana et al., 1998). Ichijo et al. (1998) emphasized that firms should maintain consistency between their structures and how they plan to practically use their knowledge. The organization structure should be designed in such a way that it can create the foundation for knowledge creation and act in line with knowledge management system. It is important that the organization structure is flexible enough to encourage the creation and sharing of knowledge across organization boundaries (Nejatian et al., 2013).

Traditionally, there are five approaches to establishing organizational structure: function, division, matrix, team, and network. Each of these approaches has advantages and disadvantages, which are presented at the Table 1.

The mentioned organizational structures usually exist in large companies where the functions and roles of each worker are already determined and the business is at a more or less stable phase of development. Nowadays however, the growth of the economy depends on SMEs because of their mobility to respond to market’s demands, their ability to implant very fast innovations, and to adapt to changeable environment. Therefore, although the hierarchy may play a more limited role in the knowledge economy, individual autonomy and high-powered incentives are critical (Felin et al., 2009). Therefore, SMEs need and often establish flexible organizational structure in which business processes are no longer stable and functions of workers mix. Many researchers confirm this idea (see Menon and Varadarajan, 1992).

Nonaka and Takeuchi (1995) recognize the decentralized and team based organizational structure as the one that enables knowledge to be shared and transferred. Empirical researches identify that a flexible, lean and team-based structure is the best way to promote knowledge management development. (Bennet and Bennet, 2004; Knapp and Yu, 1999; O’Sullivan and Azeem, 2007).

Scholars show that a decentralized structure has often an important effect on knowledge management success (Damanpour, 1991; Deal and Kennedy, 1982; Gold et al., 2001). High centralization prevents interactions among employees (Gold et al., 2001), impedes the individual growth and advancement (Kennedy, 1983), and reduces imaginative solutions to problems (Deal and Kennedy, 1982). On the contrary, decentralization enables internal communication, the adoption of innovation (Miller, 1971). Chen and Huang said that when the organizational structure is less formalized, more decentralized and integrated, social interaction is more favorable; and that social interaction is positively related to knowledge management (Chen and Huang, 2007).

Table 1: Five approaches to organizational design

Approach	Advantages	Disadvantages
Function	Effective use of resources Economy of scales Profound specialization and development Direction and control from top-managers	Weak relations between functional departments Slow reaction on external changes Delay with implantation of innovation Decisions taken at the top of hierarchy slow down their execution

Approach	Advantages	Disadvantages
Division	Fast reaction and good adaptation to the unstable external environment Stimulate higher attention to the customers' wants Excellent coordination of actions of functional departments	Doubling resources in departments Less higher level of technical development and specialization in departments Weak coordination of actions of other departments
Matrix	More effective use of resources than in traditional hierarchy Adaptation to changeable environment Collaboration of adjacent functions, all departments have access to the obtained experience	Existing double team leads to confusion and disappointment Probable opportunity to conflicts between different sides of matrix A lot of meetings More words, less actions
Team	Elimination of barriers between departments, easy ways to reach compromise Decreasing time for reactions, decision-making process is faster Improvement moral climate Increasing workers' enthusiasm due to more active involving them into working process Strong competitive position	Problem of double subordination, conflicts Time for meetings increases, efficiency of time use decreases Unplanned centralization appears
Network	Flexibility and fast reaction Decreasing administrative costs	Absence of immediate control Probable opportunity of unplanned loss of organization's parts Additional need in managers Decreasing the level of workers' loyalty

Source: Daft (2012, p 315).

Of course, each flexible organizational structure has certain positions such as CEO and general accountant according to the legislative requirements but other positions are adaptable and changeable.

Each flexible organizational structure consists of set of practices and actions within a company that lead to the enhancement of interaction between employees and the dissemination of information. This set of practices and actions creates a system with open frontiers and free migration of knowledge and skills. We need, as C. K. Prahalad has suggested, to focus on those "next practices" and "weak signals" that indicate an organization is achieving success by doing things that are different from accepted practice (Prahalad, 2011).

We introduced some practices into one particular enterprise from the telecommunication's sphere, which develops technology LTE – Long Term Evolution (access to Internet in Russia). The result of these practices we will discuss later during the process of estimation of Intellectual capital.

The set of practices and activities includes:

1) Stager or rotation, meaning every person may work in a different position in the company during some period of time having the same level of salary. For example, a financier goes to the logistics department. This practice helps employees to discover something new about the company, its business, and business tasks in different functional departments. Later the employee could better understand how his or her actions and decisions may influence others and how to improve his or her work. This practice leads to a decrease in the level of routine, makes the job more interesting, and establishes a multidisciplinary approach to business. Of course, people with different backgrounds have a distinctive point of view and could propose something new.

Sharing personal knowledge for development is more likely to appear when employees are permitted to find solutions on their own (Davenport and Prusak, 1998) within an organization that accepts and allows the use of employees' experiences and knowledge (Hasgall and Shoham, 2008).

2) Yota airs, meaning one workday all employees work on whatever they choose. Parks, cafes, museums and so on may be the potential work place. According to research (Cagáňová, D. et al., 2014), people at the workplace do not trust each other and do not want to share knowledge and skills.

It has been shown that distrust leads people to hide or hoard their knowledge (Johannessen et al., 1999). When trust is relatively high in people's interaction, they become more willing to exchange knowledge and participate in social interactions (Hedlund, 1994).

This practice leads to the establishment of a more informal relationship between the employees who get to know each other more closely.

3) Workplace, meaning that each employee may choose his or her place at the office depending on tasks, projects, teams, and meetings. This practice increases the level of interaction. Also, a person may work outside of the office, for example, at home or in a café using telephones, access to Internet, and so on. From the perspective of social capital, it is believed that new knowledge can be effectively developed through the connection and interaction of people, networks, and norms (Gold et al, 2001). Flexibility must be given to employees to choose the most appropriate methods (Herremans et al., 2011). The same practice is used in many companies in Europe and USA (Gratton, 2007).

However, here we should be very attentive to the problem of isolating when people feel upset because of a lack of verbal communication.

4) An internal web-site, meaning an electronic source considering company's news, job opportunities (new vacancies, temporary projects, stager opportunity etc., education and courses, communication).

Many scholars underline an advantage of this practice. The capacity of knowledge creation can be increased by various learning means such as education, training, and mentoring. Krogh (1998) has proposed training programs as a means of knowledge creation.

Library and discussion club, meaning to bring and change books from different topics and themes and have informal meetings to argue about new projects and products in the company, to present skills and knowledge to colleagues. This practice helps to share ideas and knowledge, and also to find a method to do business in the best way "because interest and self-selection also provide key mechanisms for thinking about social interaction and associated knowledge creation" (Felin et al., 2009, p. 564). Individual self-selection and interests are powerful mechanisms of coordination, organization, and knowledge sharing (Felin et al., 2009, p. 564).

5) Project City Manager. This project is more complicated because it includes several Regional Managers (RM) who are responsible for the construction and development of 4G net (LTE) and financial results of exploiting this net in one particular region, and additionally City Managers (CM). The position of RM was permanent and payable rather than the position of CM that was temporary and non-payable. Each employee in the company may become CM. The individual needs to choose the city (and RM) where a company has or wants to construct a net for 4G' technology. Then depending on his or her background and knowledge of technology and work experience pass through a study process (one, two or more months) by RM. Finally, he or she is responsible for the construction and development of a 4G net and the financial results in one city.

The main idea of this project was to provide the opportunity for employees to learn something new, to develop their personal and professional skills such as project management, negotiations, financial models and financial results, and so on, to enlarge their professional sphere, and to involve it into their working process.

Collaborative culture is necessary for effective knowledge management (Hansen et al., 1999; Ein-Dor and Segev, 1982). Collaborative interactions such as open discussion, social interaction, and joint activity can help to create organizational knowledge (Hedlund, 1994). Therefore, many scholars considered collaboration as a key enabler for knowledge creation (Hansen et al., 1999; Graham and Pizzo, 1996; Caruana et al., 1998).

After 15-16 months, we understood that this project was not successful enough and did not reach all goals. The significant problems were: the future motivation of employees (monetary and non-monetary) who were responsible not only of their main functions but also CM, wider career opportunities in the company, obscure rights and rules in the decision making process and the shrinking of RMs because of lack of motivation to share knowledge and skills.

Analyzing experiences of establishing the flexible organizational structure we can determine several advantages:

- Easy to establish in SMEs;
- No limitations of use;
- No routine;
- Free migration of knowledge and skills;
- Cheaper than hiring new people;
- Extra way for non-monetary motivation;
- Increasing workers' enthusiasm due to more active involving them into working process;
- Fast reaction and good adaptation to the unstable external environment;
- Effective use of human resources;
- Adaptation to changeable environment.

Of course, there are some disadvantages but they are not so serious and difficult to minimize:

- Difficult to implement in large enterprises;
- Difficult to motivate people who do not want to study and learn something different from their work, who prefer routine;
- Potential shirking from the job when a person does not apply new skills and knowledge nor has not a strong list of responsibilities.

Leonard-Barton (1992) and Makadok (2001) recognized the importance of the managerial and technical systems, such as organizational structures, for developing capabilities. Levinthal and March (1993) proposed that networks of contacts (relationships) help in storing knowledge about "products, technologies, markets, and social and political contexts". An organization with internal flexibility more likely has greater IC inventories from which to develop capabilities as they are needed (Herremans et al., 2011).

Firms that are flexible can attempt to control their environments and reduce uncertainty, by having a managerial capability and firm response for each competitive change (Volberda, 1996).

4. Estimation of flexible organizational structure

As we said above, each organizational structure and relationships are parts of Intellectual Capital in a company and like the tangible assets creates value of the company. So, evaluating IC and its parts we can see an impact on future financial results or outputs.

To measure IC the experts and scientists propose different models such as Direct Intellectual Capital Methods (DICM), Market Capitalization Methods (MCM), Return on Assets Methods (ROA), Scorecard Methods (SC), Proper Measurement Systems (MS).

These methods used to estimate intellectual capital have some advantages and disadvantages. Methods such as ROA and MCM, which propose estimation of cash flow, might be useful for mergers and acquisitions, as well as for estimation of the stock market. They also could be used to compare peer companies, or illustrate the financial value of intangible assets. Moreover, accountants find them easy to understand because they are based on the principal rules of accounting. Nevertheless, these methods have some disadvantages. The method ROA is sensitive to the interest rate, while MCM can't be used in non-commercial organizations, internal departments or the public sector.

The methods DIS and SC may show us a more comparable picture of the company's financial position, and could be used for different organizations and departments. The results of their estimations are close to reality and derive faster and more accurately than the financial evaluations. We are going to indicate as disadvantages of DIS and SC methods a complexity for comparison, since the indicators are unique for each company. Furthermore, they may require an enormous volume of data that could be difficult to analyze and pass. (Sveiby, 1998).

This is not a full list of approaches to measure the Intellectual Capital. Some interesting ideas are proposed by P. Strassman, F. Matos and others.

After establishing the flexible organizational structure we did not use mentioned models to estimate IC and its impact. We have used surveys such as Organizational Health Indicator (OHI) and 180-degree feedback (feedback that comes from members of an employee's work place), and also career's matrix. These approaches provide the measurement in terms of non-financial output but can help us understand how effective the new flexible organizational structure is and does the system lead to generation, organization, transfer, application of knowledge.

According to results of the survey OHI, employees felt a lack of development and education opportunity within the company. They thought that their work was routine and they spent too much time to complete their tasks and finish work (more than one work day). They do not feel that their work is important and did not see the end results of their job. After this survey, we decided to change the organizational structure immediately and provide more opportunities for employees. We implemented a set of practices mentioned before. Later, the career matrix and 180-degree feedback showed that situation at the workplace changed dramatically and employees feel themselves more satisfied than earlier.

Zheng et al. said that the structure can influence knowledge management processes through shaping patterns and frequencies of communication among organizational members, stipulating locations of decision-making and affecting efficiency and effectiveness in implementing new ideas. Knowledge management can carry over the structural impact onto organizational effectiveness, because the way knowledge is organized, knowledge management activities are coordinated, and the extent to which knowledge management practices are embedded in the daily work processes influence the effectiveness and efficiency of organizational performance (Zheng et al, 2010).

5. Conclusion

Due to the fact that the level of intellectual capital and knowledge management has become a significant part of the competitive advantage of a company we face the necessity to create or develop the systems where they may appear, transfer, and use. As we saw, traditional approaches to the organizational design have some advantages and disadvantages but they more closely match big companies with the more or less stable phase of development. So, if a company has a small or medium size, it is innovative, and it acts in an unstable environment, it requires an alternative structure. A flexible organizational structure is a good way for SMEs because it provides a set of practices to manage knowledge, to remain dynamic and changeable, and, as a result, to do business successfully.

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