

MANAGEMENT OF OPEN INNOVATION IN DEVELOPING SMALL BUSINESSES

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ABSTRAKT: *Open innovation is a phenomenon that is becoming increasingly important for the theory and the practice in recent years. The reasons for this can be found in the new innovation cycles, industrial research and escalation of development costs and also the lack of resources. The phenomenon of open source has attracted researchers and practitioners of innovation. The era of open innovation starts when companies understand that if they want to commercialize their ideas, they should look for a way to bring them to the market of ideas. They need to deploy the roads outside the current businesses and to realize that their center, where the knowledge is created, does not always equal the innovations that need to be found within the company. The approach of open innovation enables innovations to move easily between the external environment and the internal process of innovation of the company. How often open innovation approach is put into practice and whether there are recognized patterns are issues that are examined by our empirical studies.*

KEYWORDS: open innovation, management, suppliers, customers, competition, market.

INTRODUCTION

Successful innovative processes have been extensively discussed and elaborated within the management of innovations. The focus for successful companies however it is not on the themselves innovations, but on the processes used by the organizations in order to be innovative. Although prospects vary within each literature, a common theme is that innovation management can be quite complex. Many authors in this area have set normative perspectives on how organizations should manage innovation processes (Flint; Larsson; Metzger, 2005), and in their works cite that many other authors who studied how innovation happens within certain organizations and markets (for example, Chesbrough 2003; Hargadon 2003; Rogers 1995; Sundbo and Fuglsang 2002).

Decades of research have led to tips for managing with every aspect of innovation from generating ideas to products development and pilot testing, and also studying the process of managing the rate of diffusion of the innovations. One of the most striking features of the types of knowledge, learning and innovation is that they tend to be

cumulative: one a discovery potentially leads to another, by way of evolutionary progress. Conversely, there are important aspects of the modern economy, which are given for searching news, but it doesn't show the cumulative growth of the model on better and more efficient ways of doing things. In general, cultural and manufacturing sectors as a whole, represented by moving images, music, electronic games, architecture or tourism, and also the fashion industry in the closer meaning are engaged most of the time in pursuit of a novelty and in fact they are so called non-growing manufacturing variations. These cultural and manufacturing sectors represent a large part of in the employment and an entrance in the new economy (**Scott, 2006**).

The above statement (conclusion) is that the innovation is difficult to plan, but it appears as a possible result of the creative processes. You also need to consider that the innovation often does not occur in the area where it is expected. Because of that the innovations are not limited only to new products, but they can also occur in other areas, such as the business processes, the infrastructure or the social life.

What distinguishes the closed innovation paradigm from the open one is basically that companies that apply the second communicate with outsiders about the efficiency of the innovation process, and also the performance in general. **Paul Trott** and **Dap Hartmann** often explored open innovation as „*old wine in new vessels*“. Skilled workers, increased access and mobility, and also increasing of the ability of external suppliers cause a change in the innovation paradigm. The external options for unused ideas and capital market, create new conditions and opportunities for innovation of the companies.

THEORETICAL BASIS OF RESEARCH

The causes and the search for new innovation strategies are different. This phenomenon is strengthened by the increasing of research globalization and technologies and innovations of new organizational forms of potential business models. Companies which want to commercialize their own ideas and other forms of innovations are seeking ways to bring their ideas on the market by implementing the process out of their current business, and with that the era of open innovation may begin. They are many examples of products invented for a specific market, which later became a success in other markets - from the TCP / IP protocol which was invented for military use later leads to a worldwide network of Internet, joy stick technology in the industry of the games leads to the development of „iDrive“ navigation in the new vehicles.

Open source software is the most prominent example of a conventional process of innovation worldwide. Several thousand developers develop highly sophisticated software that competes with Microsoft products. The approach of the open source software is a phenomenon of a developing cooperation by independent software manufacturers who, if necessary, develop code lines in order to add them to the initial source code for increasing the use of the program, or to enable new applications. The

idea of this approach is in the cooperation for creating a software outside the company, boundaries which is then freely available. This principle is based on the evolutionary development and improvement of the software. Prominent examples for the development of open source software are Linux, Freemail etc.

Open innovation company mean that the company should open its rigid boundaries and share its knowledge which penetrates both in and out in order to create opportunities for cooperative processes innovation with the partners, the customers and / or the suppliers. It also includes exploitation of ideas and IP addresses to bring them to the market faster than the competitors. Open innovations are principles that describe how the company to should handle with the best strategic assets in order to meet market demands and the requirements of the company. The approach of the open innovation is to win strategic flexibility in the strategic planning process and creating critical impulse in innovation diffusion, in order to generate customer acceptance and to create industry standards.

Analysis and comments on the theoretical approach to research

According to Oliver Gassmann and Ellen Enkel, from Ss. Gallen University in Switzerland in the area of the intellectual property for managing innovations researches are made in more multinational companies during 8 months, through workshops in order to identify strategies and approaches for management within the IP process innovation . Interviews, questionnaires and observation were used for collecting the data. To explore external sources of knowledge, they have also conducted case studies, with the help of 55 semi-structural interviews, in 23 multinational companies, where by listening to the opinions it is approached to innovation clusters. These authors were able to identify three different ways of thinking in accordance with the main objective.

In the last phase of their data collection of open innovations they collected data in two operations research projects. In the area of external innovations they collected data in 10 companies and in the area managing customers in 13 companies.

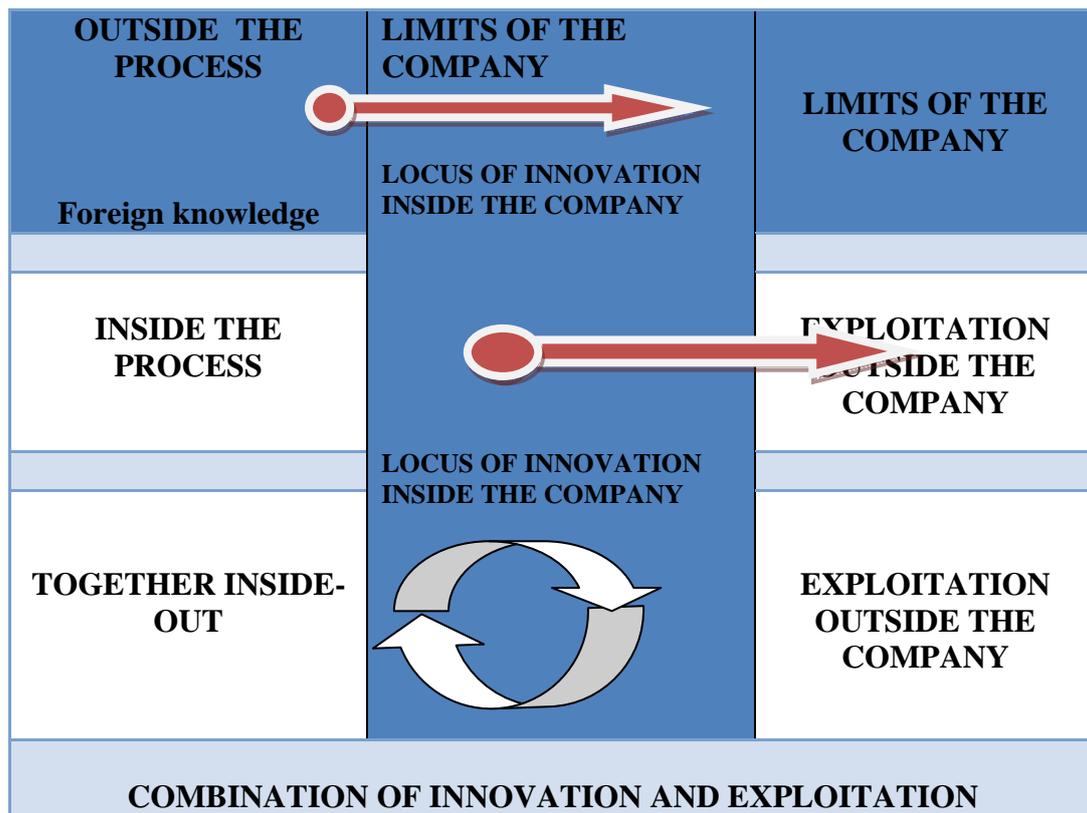


Figure 1: Splitting the locus of innovation process

(adjusted to **Oliver Gassmann, Ellen Enkel**, *Institute of Technology Management, University of St. Gallen, Switzerland*).

The basic principle of the approach of open innovations by Oliver Gassmann and Ellen Enkel (Figure 1), sets out the following research questions: whether his action approach provides evidence that the new strategy for innovation in which the innovations are separated in subprocesses can be used to boost the innovation of the company? Can we notice his action approach in other companies, for example, except in IBM? Whether the open innovation process is a new paradigm of the innovation?

Processes of open innovation are identified:

1. Process **outside-inside** (enriching the knowledge base of the company through the integration of suppliers, customers and external sources of knowledge, can increase the innovation of the company);
2. Process **inside-outside** (enriching by placing the ideas at the market, sale and technology by transfer of ideas in the environment) , and

3. The process of combination (merging the outside-inside process and the process with complementary partners by giving everything that is crucial for success).

All three core processes represent a strategy of an open innovation, but not all are equally important for every company. Based on survey data it can be revealed that not all companies choose the same basic processes of open innovation, or have integrated all three processes in the same degree. Each company chooses a primary process and integrates some elements from the other.

PROCESS OUT-INSIDE

Making a decision for this process means that the company will decide to invest in collaboration with suppliers and customers in the integration of acquired and external knowledge. This can be achieved by listening to options for views innovation, application of innovations in the industry by buying Intellectual property, investment in creating global knowledge and so on. The Innovation process by integrating suppliers is not new and it can be helpful to form differentiated relations with suppliers, if the firms possess required competence and if it they can successfully integrate the internal resources of the company with the critical resources of others. In the supply chain of members such as customers or suppliers, with the expansion of new activities for a product development in the organizational boundaries, suppliers can improve the product through their ability to innovate in the developing of new products.

Researchers tend to be careful with radical innovations through radical integration, which can be considered as the ultimate goal of gaining a competitive advantage. The need for integration of the customers within the innovations of the company is shown by the empirical studies from the 60- s and the and 70 - s of the last century. Then the customers were passive recipients of product development. Now consumers can initiate a dialogue and to be co-creators of values. **Hermes** (1993) proposes using external technology sources in three cases: (a) when the company has no internal resources, (b) foreign technology is in a better position, or (c) when technological knowledge can be easily transferred if market barriers are low.

Integrating external sources of knowledge and competence as well as collaboration with suppliers and customers and / or integrating external knowledge (gained for example through listening to options) in an effort to open the process of innovation is of great importance to the company.

Features of this process (outside-inside):

- Integration of suppliers,
- Customers,
- External sources of knowledge and integration,
- Licensing and buying patents.

PROCESS INSIDE-OUT

Companies that choose this process as a basic process, their knowledge and innovations direct to bringing the ideas to market faster than through their internal development. The decision in this process carries the company through its border, to the outside, generating profits by licensing intellectual property or transferring the ideas of other companies. The placement of ideas in different industries can increase the income of the company immensely. The benefits are gaining access to new areas of knowledge, managing problems (more flexibility), concentration of power, cost sharing and speed (reduced time to market) and so on. The benefits are gaining access to new areas of knowledge management problems (more flexibility), concentration of competence cost sharing and speed (reduced time to market) and so on.

The different approaches of these processes can be summarized as extending of the knowledge of the company, opening the boundaries of the company and acquiring advantages that will allow ideas to flow out. These companies have an aim to reduce fixed costs and share risks. Branding can for example, be a reason to focus on the process inside - out, when there are core competencies for development and commercialization, but not a brand of products intended for the market.

Features of this process (Inside-out):

- Bringing ideas to come onto the market, and
- IP Licensing and / or sale through IP technologies.

COMBINED JOINT-PROCESS

The companies which decide to choose the combination process, as a basic process combine the process outside-in (to obtain external knowledge) and the process inside-out (to bring ideas to the market). In order to do so, these companies collaborate with other enterprises in strategic networks. In order to collaborate successfully the exchange of knowledge is necessary and therefore his required merging of the inside-out processes as the key to success. In they research for open innovations, P. Trott and D. Hartmann, emphasize cooperation which is important for the three archetypes of open innovations. That cooperation concerns the joint development of knowledge through relationships with certain partners, such as **associations of competitors, suppliers and customers, joint ventures and alliances, as well as universities and research institutes.**

As a key prerequisite for work and association in the innovation process is the ability to integrate acquaintance of foreign knowledge and technology of the companies and thus to enable partners to learn more about the companies. Success is based on the company's ability to find and integrate with the right partner who can provide competencies and / or knowledge needed to gain a competitive advantage in the industry.

Features of this process (common - combined process):

- Combining outside-in and inside-out process
- Integrating external knowledge and competencies, as well as their own knowledge and competences.

EMPIRICAL RESEARCH

Competencies related to the open innovation, despite the implementation of the key processes in order to enable the integration of external knowledge, should use ideas that come outside the company or to collaborate in innovative processes. Companies need to effectively apply an open access to innovations. The ability of the company to recognize the value of new and external information and to apply for commercial purposes is crucial for its innovative capabilities, because many companies lack the ability to listen to outside advice and deal effectively with its application. The exploitation of knowledge outside the company is in connection with the company's ability to multiply and pass its knowledge on the external environment. Only if the company is able to codify and share its knowledge with external entity, there will be commercialization of ideas and it will be successful.

Our research is done on **20 small businesses** in the southwestern region of the Republic of Macedonia, whose scope of work are mainly services. For the data collection are used interviews, questionnaires and observation. The questionnaire is composed of a greater number of claims, the respondents were asked to give their assessment of the granted claims **1 to 5**, depending on how much do they agree with the statement. The openness of innovation toward out, was the main topic of the research.

The connection to the customer's needs according to the first process **INSIDE- OUT** can be seen from the following statement: „*For sure I know that I can make adjustments to innovation, whenever i want according to the needs of consumers*“ (Chart 1), for which the highest grade (5) provided 35% of the respondents, and the lowest grade (1) is chosen by 10% of the respondents. The majority of respondents selected the average grade of the claim (3), that is 40%. This means that managers and other employees in small business companies, in our country are rarely facing outward and they always have a difficulty their to make adjustments to innovation, according to the needs of the consumers.

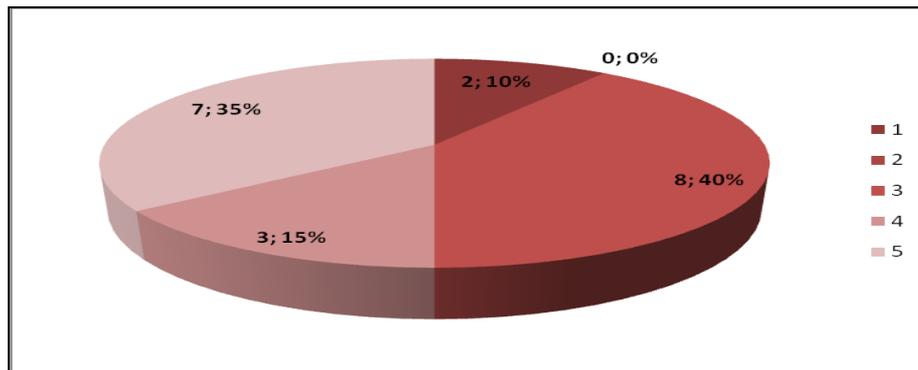


Chart 1

There are many other determinants, such as cultural, technological and political environment affecting the principle inside-out. That explains how these surroundings affect small businesses, which is pointed by the respondents' claims where you can see how much do they adopt new ideas related to this type of surroundings, how much do they generate new ideas taking into account the surroundings and so on.

For example, the statement: *„I know exactly how much it would cost every new product or service before i start to use it “* (Chart 2), the majority of the surveyed managers chose assessment 4, i.e.50% of the respondents, and evaluations 1 and 2 are chosen only 5% of respondents. This means that our small businesses and their managers, in introducing of every innovation take into account the cultural environment (what is the culture of the population to the new product), technological environment (technology that has consumers to follow new ideas) and the political and legal environment. In that part, the principle is fully respected.

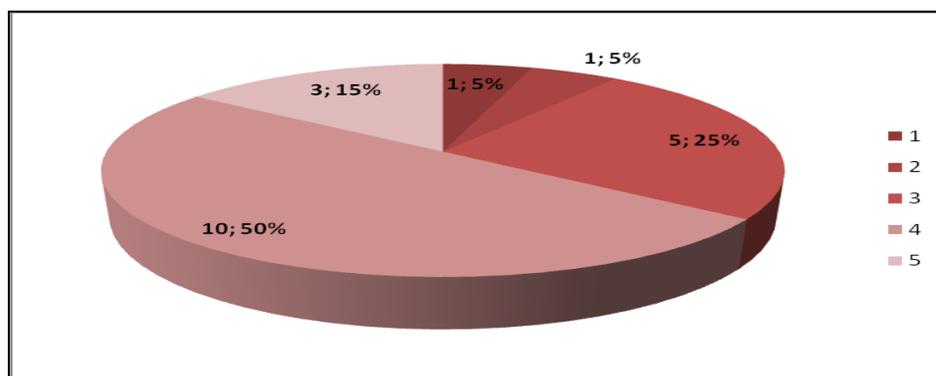


Chart 2

And, lastly, to mention several other determinants such as how our managers act in terms of innovations. They are demographic factors, finance and macroeconomic trends. All these factors speak about the financial strength of the people and the ability to accept new prices, so that managers can bring news from the outside (principle **OUT-INSIDE**). It is seen from the managers' claims how much do they know about

the requirements of our markets and institutions, ie how it helps in the formation of prices of new products and services.

The statement: „*I know exactly which price can be placed on the market or be paid by the users users*“ (Chart 3), most of the managers selected evaluation 5 or 30% of total respondents. Any movements associated with these factors make this process inside-out easier because it is well known to our management, about the conditions of the markets and pricing of new products and services, depending on the financial institutions, demographic environment and domestic macroeconomic developments in the country.

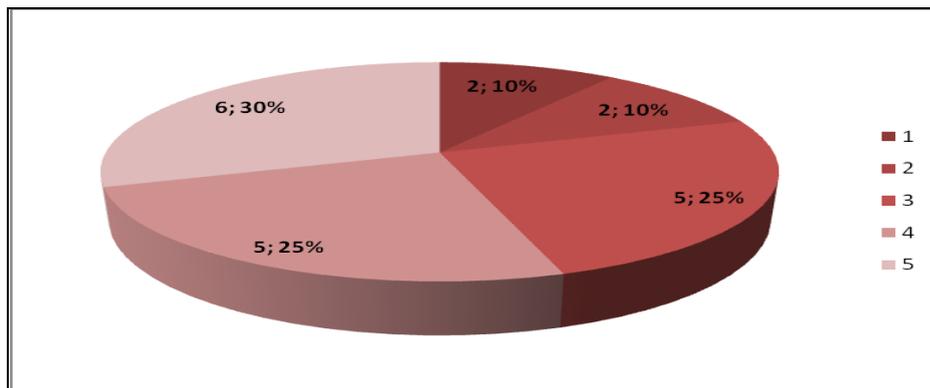


Chart 3

And, in the third process in the innovation management, i.e. **combined process OUTSIDE-IN and INSIDE-OUT**, we will use some of our research, which will prove whether this approach is generally used in our country for sustainable development of small businesses. These will primarily refer to the internal components of the companies, including: strategy, structure, systems and processes, as well as employees, in addition to the desired results of small businesses. The claim in the questionnaire, which reads as follows „*There is no problem to create new ideas*“ (Chart 4), the majority of the respondents selected the evaluation 3 of this claim or 40%. It refers to the component-employees.

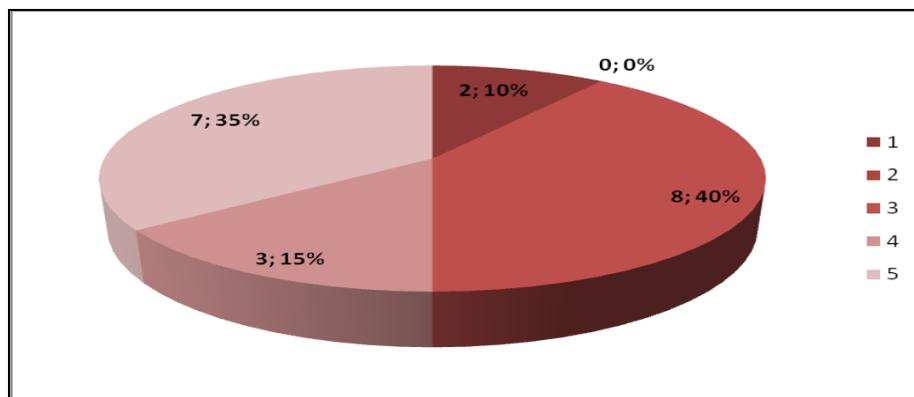


Chart 4

The statement „*In relation to other managers, I feel I can invent more news in the business*“ (Chart 5), most of the respondents assessed 3 and 4, or 35%. It applies to managers who themselves think that they are sufficiently innovative.

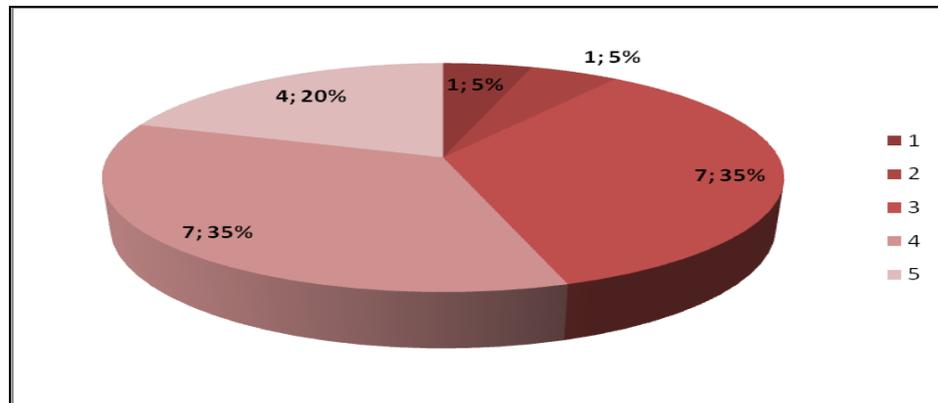


Chart 5

The following statement is: „*I often follow is the opinion of others about my new business ideas*“ (Chart 6), on which 40% of respondents selected the evaluation 4. The question refers to the strategy of small companies in terms of their ideas, how many new ideas go outside the company or how many new ideas enter in the company. That means how often do the employees use a combined approach, of principles inside-out and outside-in.

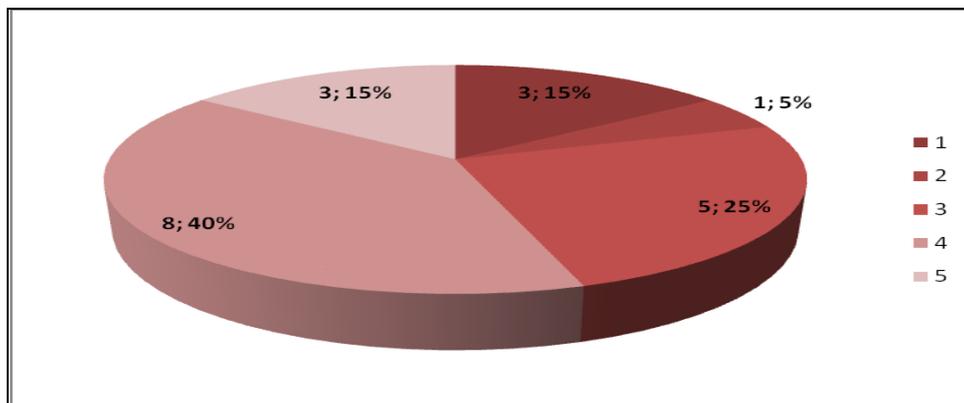


Chart 6

On the statement „*I often " buy " ideas of well-known businessmen*“ (Chart 7), the interviewed managers in their responses are mostly concentrated on of assessment 2 or 30% of respondents chose almost the lowest assessment of this claim.

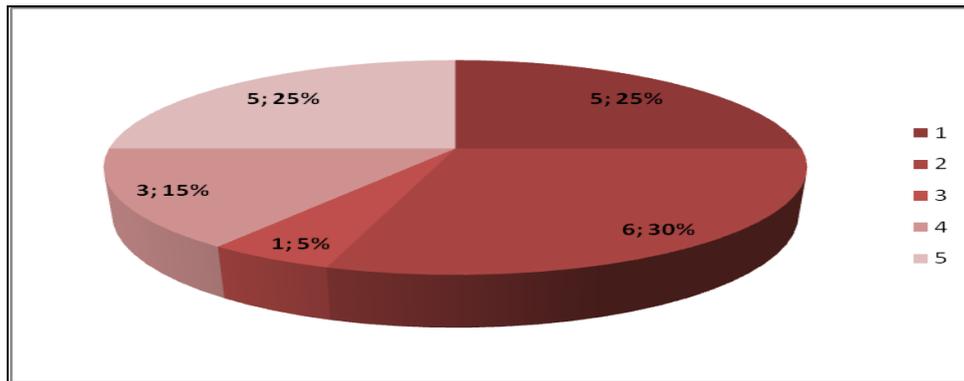


Chart 7

This means that our managers use the principle **inside-out**, and much less **outside-inside** when talking about ideas of well-known businessmen, that is when the **combined principle** is in question in the strategic partnership of small businesses.

CONCLUSION

The domestic companies are not accustomed yet to using a fully integrated solution. Many small businesses today lose their immunity and fall, because of the disobeying the combined principles of cooperation and the companies' open principles.

By the programmes for self-employment, more and more new businesses have started recently and there's a change in this regard in part of the domestic companies, but the process is not as fast as it should be. Maybe the cost of the products and services is one of the reasons why companies do not want to accept this way of promoting. For example, in the area of ICT, companies still have "hardened" attitudes that the billboard and TV advertising are the best solution for advertising, and we all know that today the main tool for promotion, communication and advertising are IT ads and websites. That is the closure of small businesses and utilization of the principles inside-out and outside-in or non-utilization of new technologies and IT licenses.

And one more disadvantage of small businesses in relation to poor utilization of the combined principles is shown through poor strategic partnerships or joint ventures, which are the main factors for success. The ability of our small businesses, to integrate knowledge of foreign and domestic knowledge and technology of companies in order to enable partners to learn about their businesses is weaker. The success of small businesses can be seen in their ability to integrate with the right partner (a company, a department or an institute), which can provide competencies and knowledge needed for a competitive advantage in the industry.

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