

Innovation: Principles and Strategies

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Apstract

Competition between companies differentiates a lot nowadays compared to many years before. They compete in "nicety" that are so small but so important. Companies are trying to achieve competitive advantage in order to help them obtain a better and a stable position in the marketplace. The best way for companies to achieve a competitive advantage is through innovation. This paper addresses the meaning of innovation what does innovation present, types of innovation specifically discussing the right way of usage. In order for companies to get the as more innovations as possible it is necessary for them to be familiar with the process of innovation and its principles which innovation was found on. There are several types of innovation or ways in which companies can achieve innovation in a level of whole organization. This paper discusses the ways how that can be achieved, starting from their products and services, ways of selling, supply ect.

Innovation is essential for sustainable growth and economic development. Several core conditions enable innovation and encourage economic growth. In the modern economy, innovation is crucial for value creation, growth and employment and innovation processes take place at the enterprise, regional and national level. Innovation will lead to new businesses as well as to the increased competitiveness of existing enterprises.

In this paper are not covered all the characteristics of innovation but it presents a very good basis for a proper usage of innovation and ways of transforming it in competitive advantage for companies. Also this paper identifies the impact that innovation has on economic growth.

Keywords: innovation, types of innovation, principles and strategies of innovation, sources of innovation

JEL Classifications: G38, G34

1. Definition of Innovation

Enterprises today act under a big pressure by other enterprises, which offer the same or similar production or service, or they are under the pressure of the customers who expect more and more from the product they consume. In order to face with the new conditions and situations, enterprises are made to continuously search for new ways of production, namely offering new

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products or enhancing existing ones. In other words, they should continuously introduce innovations. But, what in fact do innovations represent?

Innovation is a process of transforming the new ideas, new knowledge into new products and services. Joseph Schumpeter defines innovation as an activity which leads to new producing function, new product. He divides this activity in several steps, as follows:²

• *Introducing a new product*: the entrepreneur should produce, namely introduce a new product which can be easily sold and which is not offered in the market

• *Introducing a new method of production*: innovation should offer a new scheme of production which through existing inputs can lead to an increased output, decrease of costs per 2unit product, introduction of new inputs and change of existing ones.

• **Opening new markets**: innovations can increase the sell in new regions, and also increase the number of customers.

• *Finding of appropriate sources of raw materials*: The raw material supplier can often lower raw materials' quality or increase their price and this directly influences over the quality and the selling price of the new product. Therefore, the entrepreneur should find an appropriate source of inputs, which are needed for production of new products.

• *Establishing a new organization in the industry*: Schumpeter describes this step as an entrance of the entrepreneur in the monopoly market, where there has been no competition previously; or creating conditions through which the entrepreneur would take the monopoly position in the market.

Pierre Lionnet³ defines innovation as a process by which a novel idea is brought to the stage where it eventually produces money...It is a dynamic technical, economic and social process involving the interaction of people coming from different horizons, with different perspectives and different motivations.

Innovations represent a process, namely an activity of creating a new product or service, new technologic process, new organization, or enhancement of existing product or service, existing technologic process and existing organization.

According to the given definition, if we analyze its separate elements, we can say that we classify: innovations in production – development or enhancement of a specific product; innovations in services – offering new or enhancing of existing services; innovations in process – finding of new ways of organizing and combining inputs in the process of production of specific products or services; and innovations in management – creating new ways of organizing business resources.

The importance and definition of innovations can be explained from several aspects. From the aspect of *customers*, innovation means products with better quality and better services, which together mean a better way of life. From the aspect of *businesses*, innovation means sustainable growth and development, realization of great profit. For the *employees*, innovation means new and more interesting job, which requires more mental faculty, which results in higher salaries. From the aspect of *whole economy*, innovation represents a bigger productivity and prosperity for all.

1.1. Innovation, invention, creativity – synonymus or something else

In daily conversation, terms like *innovation, invention, creativity* and *science* are often used interchangeably. But, for academics, researchers and policymakers there are important distinctions between these terms and these distinctions give each term a unique, specific meaning. Invention is the first occurrence of an idea for a new product or process, while innovation is the

² Schumpeter, J., in McDaniel A., B, 2002, p.57-58

³ Lionnet, P., 2003, p. 6

first attempt to carry it out into practice.⁴ Creativity is thinking about new things, while innovation is making new things. Creativity is an ability to develop new ideas and ways of facing problems and possibilities, while innovation is an ability to perform creative solutions in order to enhance people's life. Hence, enterprises can be successful only if they invent and make new things, or if they make the old ones in a new way (See table 1).⁵

According to Tom Cannon⁶, the distinction between these terms is as below:

Creativity represents an opportunity to create new appearance, content or process by combining existing inputs or factors of production.

Inventiveness is a process of creating something new, which assigns a contribution to the level of overall mankind knowledge.

Innovation is linked to the definitive marketing of the new product, service or technologic process, which is a result of the inventiveness.

Table 1 – Innovation, creativity, invention and science

INNOVATION vs INVENTION	
<i>Invention</i> is the creation of a new concept.	
Innovation is reducing that concept to practice, and making it a commercial success.	
INNOVATION vs CREATIVITY	
Creativity is coming up with ideas.	
Innovation is bringing ideas to life.	
INNOVATION vs SCIENCE	
Science is the conversion of money into knowledge.	
Innovation is the conversion of knowledge into money.	
Source: Composed according to Feldman, M., The Significance of Innovation, Rotman School of	

Management University of Toronto, 2004, p. 3-5

Innovation represents one of the essential characteristics of small businesses. According to some statistical data, in all countries, small businesses constitute the majority of enterprises, and as a result of this, they face the most severe competition. In order so survive in this competition, they are made to be innovative. Small businesses are centres of initiatives for innovative attempts. Innovations that are ascribed to small businesses are air-conditions, zippers, helicopters, computers, video recorders, cameras, optical scanners, contact lenses, etc.

2. Types of innovations

In the literature about innovation we can meet a lot of types of them. We will present here the basic types of innovation. They are:⁷

• *Incremental Innovation* – Doing more of the same things you have been doing with somewhat better results.

• Additive Innovation – More fully exploiting already existing resources, such as product lines extensions, and can achieve good results. These opportunities should rarely be

⁴ Fagerberg, J., et al, 2004, p.4

⁵ Zimmerer W., T., and Scarborough M., N., 2002, p. 37. ⁶ Cannon T., 1991, p.17

⁷ Drucker, F.P, 1993, p. xx

treated as high priority efforts. The risks should be small – and they should not take resources away from complementary or breakthrough opportunities.

• *Complementary Innovation* – Offers something new and changes the structure of the business.

• **Breakthrough Innovation (Radical Innovation)** – Changes the fundamentals of the business, creating a new industry and new avenues for extensive wealth creation.

Table 2 - Types of innovations	
INCREMENTAL INNOVATIONS	RADICAL INNOVATIONS
Exploits existing technology	Explores new technology
Low uncertainty	High uncertainty
Focuses on cost or feature improvements in	Focuses on products, processes or services with
existing processes, products or services	unprecented performance features
Improves competitiveness within current	Creates dramatic change that transforms
markets or industries	existing markets or industries, or creates new
	one
Source: http://www.1000ventures.com/products/ss_effective_innovation.html	

 Table 2 - Types of innovations

In order not to have a wrong picture about the innovations that they are connected only with the products and services which are offered by enterprises, a complete list of innovations which help enterprises succeed in improving their competitive position in the market is given below:⁸

- operational innovation
- organizational innovation
- Supply-side innovation
- Core-competence innovation
- Sell side innovation
- Product and service innovation
- Innovation of innovation

This situation is called as systemic approach of innovation.

⁸ Fingar, P., 2006, p 78- 89.

Page | 4



Figure 1: Systemic approach of Innovation

Source: Prepared according to Fingar, P., *Extreme Competition: Innovation and the Great 21st Century Business Reformation*, Meghan-Kiffer Press, Florida, USA, 2006, p 78- 89

3. Sources of innovation

IBM made a study about the potencial sources of innovations, which was based on phone interviews with over 750 CEOs and business leaders. This study found "that 76% of CEOs ranked business partner and customer collaboration as top sources for new ideas. This greatly contrasts with internal R&D, which ranked eighth as a source for new ideas — cited by only 14% of CEOs". The top sources can be considered sources outside of the company.⁹ There are the IBM's top sources of innovation: Employees, Business partners, Customers directly, Consultants, Competitors, Associations, Internal Sales & Service Unites, Internal R&D, Academia, Think-tanks and Labs or other institutions.

An analysis of innovation sources (sources of innovation-related information) revealed that they were of relatively similar importance (within the company (28.4%), suppliers (26.4%), customers (25.8%), competitors (24.9%), and exhibitions (24.6%)). Such innovation sources as universities and other non-profit R&D institutions scored just 3.7% and 2.9%, respectively.¹⁰

According to another research, we met these sources of innovations:¹¹

1. The market-Watch it carefully. Unexpected market or industry structure changes can provide potential innovative opportunities. In addition, changes in demographics, social moods, values, norms, even in lifestyle, may require innovative solutions to emerging needs. For

⁹ De Ridder, Ph., 2008.

¹⁰ Ukrainski, K., and Varblane, U., 2005, p. 20-21

¹¹ http://www.ceoforum.com.au/article-detail.cfm?cid=6153

instance, Johnson and Johnson responded to declining birth rates in Western markets by encouraging adults to use their baby products.

2. Existing customers are often a valuable source of innovation. Consider immersing yourself and/or a team of market facing and delivery people in your customer's business to gain greater insight. Observing "a day in the life of....." your client may provide valuable data on unmet needs and point to innovative solutions to existing problems. In addition, disruptions in you customer's industry may also yield circumstances where innovative product or services may be just the answer to new or emerging needs. Working cooperatively with leading or innovative customers may also help foster innovation.

3. Suppliers can also provide valuable input. Your suppliers have a vested interest in working with their market leading customers. The development of strong partnerships with key suppliers will facilitate open discussions addressed at identifying your emerging business needs and identifying possible innovative solutions that integrate the best of both businesses.

4. Learn from experience. Unexpected success and failures can provide new and potentially valuable information. Don't sweep failures under the table but instead use them to explore what learnings may create innovation in current or new markets.

3. Principles and strategies of innovation

The great researcher and professor in the field of management and entrepreneurship, Peter F. Drucker, in his book *Innovation and Entrepreneurship*¹² lists several principles which should be respected by innovators. He has grouped these principles in "Do's" and "Don't's" in the process of innovation.

"Do's" are listed below:

• *Innovation starts with analysis of opportunities*. It starts with the seven opportunities for innovation. They are: unexpected events, disagreements in the process, requirements of the process (the need for a new process), and unexpected changes in industry or market structure, demographic changes, changes in perception, importance and new knowledge.

• *Innovation is a conceptual and perceptual activity*. The second imperative of the innovation is to go out and see, ask and hear. Successful innovators work analytically on the question what should the innovation be like in order to satisfy an opportunity. Afterwards, they go out and see the customers/users and they find out what are their expectations, their values and their needs.

• *Innovation, in order to be successful, should be simple and focused.* If the innovation is not simple, it will not succeed. Everything new gets into trouble: if it's complicated, it cannot be corrected or solved. All the successful innovations are surprisingly simple. In fact, the greatest acknowledgment for an innovation is when people say: This is so obvious. Why didn't I think of this?".

• *Innovation should start as "small"*. Innovation should not be grandiose. It should hold up to something specific, concrete. In the beginning, it requires a little money, some people and a small limited market.

• A successful innovation aims towards leadership. If an innovation at the very beginning does not aim towards leadership, its highly probable that it will not be "innovative" enough.

"Don't's" are listed as follow:

• *Innovations should not be very "smart"*. Innovations should be led by simple people. Everything that is done in a very "smart" way, either for the designing or the completion, is set to failure by high probability.

¹² Drucker, F. P., 1993, p.134-138.

• *Many things should not be done at a time*. Innovations have a need for concentrated energy and common effort. It also requires that people who effectuate the innovation should have mutual understanding.

• **Don't innovate for the future, but for the present.** One innovation can have a long-term impact, but it demands a longer time to reach its maturity. It should be a solution for the problems in the present.

Also we can count and these principles that give life to the process of innovation:¹³

1. Innovation starts when people convert problems to ideas. New ideas are born through questions, problems and obstacles. The process of innovation is indebted to the trouble that comes about when we are surrounded by that which is not solved, not smooth and not simple. Therefore, in order for the innovation process to flourish, it needs a climate that encourages inquiry and welcomes problems.

2. Innovation needs a system. All organizations have innovation systems. Some are formal, designed by the leadership, and some are informal, taking place outside established channels. Informal channels are untidy and inefficient, yet innovation is always associated with them.

3. Passion is the fuel and pain is the hidden ingredient. Ideas do not propel themselves; passion makes them go. Passion, in addition to talent and skill, is a valuable company asset. Passion is what transforms other resources into profits, but it never shows up on a balance sheet. Unfortunately, there seems to be some universal law that says when pursuing a passion or following a dream, pain is part of the process. Innovation leaders need to take the pain with the passion and learn to manage both effectively.

4. Co-locating drives effective exchange. Co-location refers to physical proximity between people. It is a key for building the trust that is essential to the innovation process. It also increases the possibility for greater exchange of information, cross-fertilization of ideas, and stimulation of creative thinking in one another and critique of ideas during their formative stage.

5. Differences should be leveraged. The differences that normally divide people — such as language, culture, race, gender and thinking and problem solving styles — can be a boon to innovation. When differences are used constructively and people move beyond fear, suspicion, mistrust and prejudice, differences can be leveraged to enhance and sustain the innovation process.

The 2007 Booz Allen Hamilton report on Global Innovation 1000 argues that statistical analysis of a representative sample of global innovation 1000 companies divided them into three distinct categories of innovation strategy: *Need Seekers, Market Readers, and Technology Drivers.*¹⁴

1. Need Seekers companies focus on being first to bring new products to markets and base their R&D efforts on getting direct, proactive input from customers. They engange actively current and potential customers to shape new products, services, and processes.

2. *Market Readers* distinguished themselves through their preferences for incremental change and being fast followers into markets. They watch markets carefully and maintain a more cautious approach focusing on creating values through incremental change.

3. *Technology Drivers* focus on a technology forward approach to innovation, while remaining less concerned with direct customer input into the process. They follow the direction suggested by their technological capabilities, leveraging their investment in research and technology to drive breakthrough innovation or incremental change.

There were significant performance differences between the three categories: R&D spending was 40% greater in the Need Seekers group. Each group showed a similar mean values

¹³ http://www.thepracticeofleadership.net/2007/01/28/5-principles-of-innovation/

¹⁴ Komninos, N., 2008, www.urenio.org/.../Intelligent%20Innovation.jpg

for return on assets, but the standard deviation for Technology Drivers was 40% higher, indicating that this group pursue a riskier innovation strategy than the two other categories.

4. Macedonia and the Competitiveness and Innovation Program (CIP) of EU

Page | 8

Republic of Macedonia is a full-fledged partner in *the Programme for Competition and Innovations of the European Union (CIP).*¹⁵ Starting from *January 1st 2008*, Republic of Macedonia officially started with the implementation of this programme for the *2007-2013* period, and in this way, it became the second country after Croatia which is not a member of EU, but has joined this Programme. Through this programme, the European Commission gives an impulse to the entrepreneurship, innovations and the development of small and medium sized enterprises, which in EU are considered a backbone for the national economies. The aim is to encourage the competition and innovations in the European Union, bearing in mind that this could lead to an increase in the economic growth in the member-countries and candidate-countries for membership in EU.

The Programme for Competition and Innovation is especially important for the small and medium sized enterprises in our country, because it will provide them with internationalization, as well as an easier access to the financial assets, more appropriate use of information and communication technologies, development of the IT society and promotion of the importance of new renewable resources of energy and energy efficiency.

The Programme for Competition and Innovation of the European Commission is planned for the 2007-2013 period and it has a *budget of 3.6 million Euros*, and it is divided into *three basic programmes*:

1. Entrepreneurship and Innovation Framework Programme - EIP;

2. Information and Communication Technologies Policy Support Programme - ICTPSP;

3. Intelligent Energy-Europe Programme – IEE.

Entrepreneurship and Innovation Framework Programme - EIP has several defined goals:

- Providing more efficient access to financial resources for the small and medium sized enterprises (SMEs) by co-guarantees and co-investments of the local banks and funds for the capital venture
- Ensuring business and innovation services through a developed network of regional centres;
- Supporting and promoting entrepreneurship and innovation;
- Supporting ECO Innovations

¹⁵For more information, visit: *www.mchamber.org.mk*



Figure 2: Reasons for undertaking innovative activities

Source: Bureau for protection of the intellectual property in the Republic of Macedonia, taken from *Observation for SMEs in the Republic of Macedonia – 2002 Report*, 2004, p. 49

The Programme for Competition and Innovation of the European Commission foresees cooperation among owners of the small and medium sized enterprises, state institutions and organizations, organizations of the civil society. It is specific that co-financing of the projects is conditioned with cooperation through the consortium or network of co-operators.

In regards to the innovations in the Republic of Macedonia, the Bureau for protection of the intellectual property conveyed a *research* in order to find out the reasons of undertaking innovative activities by the enterprises. Examinees have answered that they have undertaken innovative activities because of the following reasons: *improvement of the quality of their products* (15.67% of examinees), reaching access to new markets (13.07%), preservation of existing markets (12.77%), reducing of the production costs (12.57%), improvement of ways of working (9.68%), etc.

In many cases, innovations are understood only as technical-technological term, which is wrong. They appear to be a market and social phenomenon. Many people have developed their businesses without using ways of elaborating any specific technological procedures. As examples for this we can mention the occurrence of newspapers, insurance certificates, fast food, and etc.¹⁶

Conclusion

Innovations represent an activity of creating a new product or service, new technologic process, new organization, or enhancement of existing product or service, existing technologic process and existing organization. According to the given definition, if we analyze its separate elements, we can say that we

¹⁶ See more: Drucker, F., P., 1993, p. 30-33.

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From January 1st 2008 Republic of Macedonia officially started the implementation of the European Union CI Programme for the period of 2007 – 2013, which became the second country after Croatia, which is not part of the EU but is part of this programme. CIP (Competitiveness and Innovation Programme - CIP) is particularly important for small and medium enterprise in Macedonia, which would make them become international, and have a better access to financial resources, better usage of information and communication technologies and development of the technological society.

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