KNOWLEDGE, INNOVATIONS, AND INTELLECTUAL PROPERTY - SOURCES OF ENTERPRISES’ COMPETITIVE ADVANTAGES

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Summary: This paper deals with key determinants of creating enterprise competitiveness in the knowledge economy. Therefore, special attention is going to be paid to the following: knowledge, innovations and intellectual property.

Key words: Knowledge, innovations, intellectual property, competitiveness, knowledge economy.

1. INTRODUCTION

In the age of knowledge economy, nature of business activities has been changed and competitive environment becomes more demanding caused by changes influenced by numerous factors. Under these circumstances dependence of different elements of intellectual resources has been increased. Those intellectual resources should create and provide competitive products and services. The growth of intellectual capital of the enterprise has strategic importance for its future business success. Effective intellectual capital management is supposed to be the base for creating competitiveness in knowledge economy era.

2. FROM KNOWLEDGE TOWARDS INNOVATION, FROM INNOVATION TOWARDS INTELLECTUAL PROPERTY

Competitive advantage of enterprise is caused by performance of intellectual resources. Those performances incorporate their operative and strategic characteristics. Therefore intellectual resources have to be constantly improved, developed, and increased. It is important for all free its components - "human capital, structural (organizational) capital and relational capital" [1, 2]. The competitive advantages are going to be achieved by integrated intellectual capital components through knowledge, innovations, and intellectual property: a) in the

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area of products/services; b) in the area of supplying in the market; c) in economic efficiency and effectiveness of the enterprise.

Intellectual resources performance and capabilities of an enterprise which are built up under these performances, as well as their distinctions comparing to competitors intellectual resources and capabilities depends on what barriers an enterprise can create for rivals in contents of the whole package benefits which are given to the consumers. Competitive advantages are derived directly from performance of intellectual resources and performance of their productive usage, which is evident in growth of production/service potential and enterprise growth. Intellectual resources, as a matter of fact knowledge in the largest sense is contained in new products/services, in innovation of internal processes, technologies, ways of realizing business activities, marketing methods and intellectual property. The enterprises compete on distinctions of products/services, their quality, reliability, easy to used, esthetic impression, and costs. Combination of these product characteristics which make them more valuable and superior comparing to rivals product and legal protected intellectual property, create relative advantage towards to others enterprises in the market. Those advantages are finally affected in better strategic position and then in increased enterprise market value.

![Cycle of creation and sustained competitive advantage](image)

**Figure 1. Cycle of creation and sustained competitive advantage**

Cycle of creation and sustained competitive advantages means knowledge creation. Knowledge is the key input for product and process innovations. Some innovations have been legally protected in a form of intellectual property (Figure 1). Therefore, innovation process can be treated as the process of knowledge reshaping and its combination. Through this process some product and internal process innovations are arisen and they should be kept from coping of competitors for a while. Considering this fact it is necessary to constantly innovate and increase knowledge, which can be explicit (visible) and implicit (tacit or invisible/hidden).

3. KNOWLEDGE AS A FACTOR OF COMPETITIVENESS

In the 21st century knowledge has been the key economic resource and factor of competitiveness of enterprise. The knowledge has been incorporated in
products, services, processes, and capabilities of enterprise. The nature of creating customer value has been reshaped by changes in globalization era of contemporary economy. Knowledge is a factor of creating value for suppliers and strategic partners, community and shareholders too. The reason of this statement lies in the fact that in information era the knowledge is non material component of product which very quickly becomes obsolete. Economic strength of an enterprise becomes stronger and competitive position has sustained on desirable level thanks to programs for realizing competitiveness based on growth of knowledge as the key resource. Knowledge in an enterprise has its material and immaterial form. Material form means explicit knowledge which can be contained in plans, projects, programs, patents, methodologies, and data bases. Knowledge has been the result of the experience, and it is constituent element of an organization as business system. An enterprise which has fast transfer of explicit knowledge through organization creates competitive advantage towards to rivals which transfer explicit knowledge among their organizational or business units more slowly.

Immaterial form of knowledge means implicit knowledge, as well as employees’ knowledge, their ideas, visions, suggestions, experiences, skills, abilities, culture, judgment, intuition and engagement. This knowledge component is particularly important for building up and sustaining competitiveness because it can be more difficult for coping. On the other hand, the enterprise as business system can be easily remained without this component of knowledge in the case when key professionals leave organization. Competitive advantage can be supported by successful conversion of implicit knowledge into explicit knowledge.

By developing both knowledge components management of an enterprise can contribute to increase “organization memory”. It consists of systems of collecting and storing knowledge in order to make it usable and available for combination in products, processes, practices, and procedures. Enterprises increase their knowledge by creating innovations and taking the activities on the market in order to commercialize innovations. Besides, enterprises learn from experiences of other participants on the market. Both forms of enterprise learning are as a matter of fact the forms of increasing organizational knowledge.

Competitive advantage can be reflected and get stronger in the ways such as: 1. Existing knowledge in enterprise should be transferred and shared through organizational units and by better collaboration and inter-department coordination management should provide more effective and efficient operating business processes and activities; 2. To create new knowledge based on own resources which can enable better differentiation supply of enterprise product and services comparing to rivals; 3. To achieve new knowledge by using external sources and opportunities (relations with customers, suppliers, universities, consultants, specialized research organizations, laboratories, and strategic alliances).

An enterprise can realized competitive advantage based on its knowledge, as well as how this knowledge can be used (commercialized), and how quickly something new may be learned from external environment. Therefore, nowadays it has been especially pointed out that business performance of firm are mainly
caused by its capabilities to provide (buy) and transfer knowledge faster and more effective owing to rivals. Sustainable competitive advantage, today, besides others factors, can be achieved by effective and efficient knowledge management. Under circumstances when situation on market becomes more complex, technology standards which are the base for new products can be quickly changed, and number of competitors is increasing, successful enterprises constantly create new knowledge, spread it through organization, and materialize it in the form of innovative products and processes and others innovations [3].

4. INNOVATION AS A FACTOR OF COMPETITIVENESS

The innovation is a source of competitiveness in all branches – traditional industry and industries of high technological and dynamic development. Innovation is a new product, process, technology or service with special characteristics which has appeared: a) by implementation of own discoveries and results of scientific and research work or some others results in these fields; b) through concept, idea, or method for its creation and c) which has been disposed (placed) in the market. Besides, innovation means implementation of new production, supply and distribution methods, as well as introduction of changes in management, organizing activities in an enterprise and also work conditions.

In order to make the innovation to be the sources of competitiveness of an enterprise, its management should efficiently and effectively operates innovation process. Innovation must be treated as a daily and constant activity. This activity has been directed based on innovation strategy which should be compatible to current competitive situation, as well as desirable future strategic position. Innovation strategy determine the ways of usage innovation potentials of an enterprise and others complementary resources in order to improve business performance and to achieve desirable competitive position. Competitive advantage can be realized by combining numerous innovation projects which may enable achieving goals defined by competitive strategy. Portfolio of innovation projects which management have realized must be balanced in the aspect of priority, resources and risk. Different innovation strategies are going to have distinctive influence on competitive position of an enterprise. In that sense, it is necessary to take a lot of strategic options into consideration, in order to choose the option for realization which provides the biggest contribution to competitive strength of an enterprise.

Competitiveness in the market can be strengthened by the following: 1) Product innovation which has been directed towards to satisfaction of needs and customer requirements (demands); 2) Process innovation which has been directed towards improvement of ways for efficient operating business processes; 3) Innovations in ways of doing business in the sense of creating new business areas; 4) Technology innovation or technology novelties which are going to be base for new standard in production of new or innovative products or product lines.
Product innovation is most important way towards the competitiveness. Characteristics of product innovation increasingly have defined its future competitive position and its success on the market. Generally speaking, it is necessary for these characteristics to be analyzed, as well as relative product advantage, the level of novelty of product or similarity with existing products and costs connected to new product (I&R, production, distribution, propaganda, etc.). There is relative product advantage comparing to products of rivals a) if the product is unique about all quality dimensions, b) if the product cannot be copied by rivals for a short time, c) if the product has good opportunities for selling in the market.

Radical innovation or innovation of high level of novelty mean better source of competitive advantage comparing to innovation of lower level of novelty (“so called” incremental innovation). The higher level of novelty can be provided by improving of the ways for more adequate informing and “learning” from consumers, suppliers, distributors, strategic partners, consultants and specialized scientific and research organizations. Besides, the very important dimension of competitive product position is its costs, because the relation between costs and market price determine its profit potential.

Hypothesis of enterprise growth based on innovation is developing innovation culture. It points out following values: originality, open communication, confidence, sharing of knowledge, tolerant to mistakes, affinity to changes, and affinity to challenges. Innovative culture of an organization contributes to sense that every idea which brings a change in the business context and activity providing building up competitive advantages. “The only way to preserve once gained competitive advantage and sustain it, means constantly generated ideas which bring changes – innovate in business activity.”[4, p. 129]

5. INTELLECTUAL PROPERTY AS A FACTOR OF COMPETITIVENESS

Some innovations treated as organizational knowledge have been legally protected in the form of intellectual property. Therefore, knowledge and innovations have been protected by intellectual property of an enterprise. Intellectual property is very important resource of enterprise which has influence on its economic strength and competitive position. A portfolio of intellectual property consists of: copyrights and other related rights, invention elements (patents, technological improvements, industrial designs – models and samples), know-how/business secret, and distinctive marks (geographical mark of origin and trademark) [5].

Portfolio of intellectual property of an enterprise has two basic purposes: protection of products of intellectual creation, and increasing value and competitiveness. Intellectual property can contribute to competitiveness by the following: 1. Protection of organizational knowledge which is incorporated in products, services, procedures, systems, patents, designs, data bases, and documents; 2. Control and reduction of expense for obtain protection, because
these costs can have the important share in the total costs in high technology
enterprise; 3. Intellectual property provides a base for gaining income which derive
from licensed technologies, as well as income from selling of products and services
contains the following own knowledge, experience, inventions, and etc.; 4. Creating of intellectual property means integration and functional coordination
R&D, design development, improving human resources, marketing, and others
departments which contribute to inter-departmental coordination, connecting
capabilities and increasing efficiency processes within departments.

Identification the strategic relevance of intellectual property components and
intellectual property valuation means evaluation benefits and economic effects
which be gained from portfolio of intellectual property. Different elements of
intellectual property portfolio have distinctive importance for maintaining
competitiveness, as well as its own economic value which may be object of
measurement and evaluation. Besides, intellectual property as economic resource
provides gaining the profit and in that way it contributes to increase the firm value.
Patents have been the most important element of intellectual property portfolio for
technological intensive firms. Creating the competitive advantage based on this
resource mean analysis the patent number in patent portfolio and analysis of
patents’ quality. The more number of patents in portfolio means the bigger
possibilities for their commercialization or selling. However, it is more important
the quality of patents in portfolio which incorporates technical or technological
actuality and applicability in production of product which the market requires. The
better competitive position can be achieved if the enterprise by its innovative
potentials and R&D activities realizes the production of technological applications,
but enterprise does not neglect the activities of commercialization technologies as
direct selling its own protected knowledge. Distinctive marks (geographical mark
of origin and trademark) have great importance for maintaining the
competitiveness of an enterprise. Protection of organizational knowledge (business,
market, technological, etc.) by the intellectual property rights is important action
for preserving competitive advantages of an enterprise. Misunderstanding of
relevance of intellectual property in the enterprise and inadequate management of
intellectual property may jeopardize its competitive position.

6. CONCLUSION

Success of the enterprise means formulating and implementing strategies
which are basically going to have creation of the unique organizational knowledge.
It is such knowledge, if rivals want to copy it, they will be faced with high costs.
Effective knowledge management, as a matter of fact its productive usage brings to
knowledge transfer into market value of innovative products/services and business
processes. Constant creation of new ideas and implementation of innovations are
crucially important for achieving and maintaining the enterprise competitiveness.
Accumulated knowledge can lead to increased success in innovating and creating
valuable intellectual property. Protected intellectual property is actually increased
new knowledge which is base for maintaining competitiveness in the future. The cycle of creation and sustained competitive advantage confirms the relevance of effective knowledge management, innovation management and intellectual property management. All three areas mentioned above have been directed to value which contributes to desired level of competitiveness. Knowledge management has been connected to value creation, innovation management for extracting more value, and intellectual property management for maximizing the value of intellectual resource usage.

REFERENCES