

Is There a Link Between Competitiveness, Innovation Management and Human Resource Knowledge?

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Abstract

The paper studies the existing correlation between competitiveness, innovation and human resource knowledge by addressing the issue on how the last two factors influence the process of competitiveness development. The paper analyzes the meaning of the concept of competitiveness and how the development level of country's competitiveness depends on the innovation, business environment, qualification and knowledge of human resources supported by favorable government policies for the society in general. The author used the following research methods: observation, document analysis and analysis of the quantitative and qualitative data. The conclusion is that the key factor to increase the competitiveness consists in the implementation degree of knowledge, innovation and technology by the economic agents.

Key words: competitiveness, innovation management, innovation, knowledge, entrepreneurial sector.

At present, the world economy is becoming increasingly sophisticated and globalized, this fact attracts permanent progression of the nations in terms of their competitive advantage. The competitiveness becomes a determining factor for permanent and efficient modernization of the entrepreneurial sector, because that strengthens the competitiveness of these actors with lucrative purpose at local, regional or/and international level.

Jan Fagerberg, professor at the University of Oslo, published extensively in regard with relationship between innovation, transfer of technology, competitiveness and growth [1] states that competitiveness „is not a concept invented by theorists, but by practitioners involved in policy making”. The concept of competitiveness enables to compare the already made performance and the potential for future growth [2]. Generally, competitiveness represents a favourable environment for enterprises activity or vice versa, as the enterprises are those that create value and provide the nation with power to deal with national and international competition.

Before the advent of modern approaches to theories regarding international trade, which is the catalyst of increasing competitiveness level, the evolution of these theories has passed through several stages, starting with the paradigm of competitive forces, based on the acquisition of resources and factors of production up to the competitiveness based on knowledge and innovation. This evolution has occurred because classical theories of competition developed by Adam Smith, David Ricardo, John Mill, John Keynes, Joan Robinson, Joseph Schumpeter, Paul Heyne, Friedrich Hayek, Frank Knight became obsolete and they were not able to offer solutions to the newly rising problems [6]. Based on this finding, the occurrence of modern theories on competitiveness was a foreseeable and necessary stage. Currently, one of the most popular theories is Michael Porter's model [7], which reflects a new trend in the economic thinking.

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Modern methodology and concept based on Porter's model was taken and further developed by the prestigious international institution the World Economic Forum (WEF). It should be mentioned that currently, according to WEF methodology, the position of a country based on its Global Competitiveness Index is calculated depending on 110 indicators grouped into 12 „pillars” of competitiveness, four of which are basic factors, six - factors increasing the knowledge and two - innovation factors. In order to have a better understanding of the correlation between the key indicators necessary to calculate the economic competitiveness and to improve employment opportunities and long-term welfare of nations, the report of global competitiveness is presented annually since 1979 [9]. European Institute of Business Administration (INSEAD) and World Intellectual Property Organization (WIPO) make their contribution completing this report with relevant indicators on innovation.

Global Competitiveness Index is based on a number of key components: factors of production (factor-driven) - stage I, knowledge factors based on investment (knowledge-driven) - stage 2 and factors of innovation (innovation-driven) - stage 3.

Stage I: Competitiveness based on the factors of production – “factor-driven”. At this stage, the use of primary sources predominates: unskilled or low-skilled labour, natural resources and climate conditions. The competitive advantage is due, in particular, to low-priced raw material. The products are less sophisticated or complex, labour intensive and low value-added. The imports and foreign direct investment prevail. The used technologies are simple and inexpensive. At this first stage, the competitiveness is provided by identifying those factors that would ensure a regulatory and quantitative knowledge, offering a basis for further development, that's why the existence of infrastructure, health insurance and insurance of primary education in the society as well as elaboration of development policies are essential [5,8,10].

Stage II: Competitiveness determined by knowledge factors based on investments – “knowledge-driven”. At this stage production is already more qualitative and the products are more attractive to customers. The competitive advantage is related to higher education and continuous training as well as to the ability to benefit from the available technologies and access to new technologies [5,8,10].

Stage III: Competitiveness based on innovation – „innovation-driven”. This stage is characterized by practical implementation of complex processes requiring extensive knowledge in order to obtain new, highly qualitative and innovative products. This competitiveness is achieved through the development and sale of new technologies and innovative products. In order to pass to this stage, one should identify those factors that contribute to the improvement of existing technologies and assimilation of new technologies and knowledge, and also improve interaction between different institutions of the national economy, such as: higher education institutions, R & D institutes, government, entrepreneurial sector and non-governmental organizations. The existence of such premises should generate innovation and creative processes that can be transferred to the production process with the purpose of obtaining new products and technologies that would enhance the competitive advantage of the entrepreneurial sector. Each country chooses its target stage according to its available resources and factors that can best contribute to enhancing the competitiveness and productivity of country's economy. Prioritising activities inconsistent with country's economic conditions could lead to failure in achieving the stated objectives [5,8,10].

According to the Global Competitiveness Index, the most competitive countries in the world are Switzerland, Singapore and USA [11,12,13,14,15]. When it comes to the Republic of Moldova, it could be noted a continuous tendency to improve its position.

Table 1. Global Competitiveness Index of Switzerland, Singapore, USA and Republic of Moldova according to Global Competitiveness Report 2011-2016

Country	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016
Global Competitiveness Index					
Switzerland	1	1	1	1	1
Singapore	2	2	2	2	2
USA	5	7	5	3	3
Moldova	93	87	89	82	84

Source: elaborated by the author based on the Global Competitiveness Report 2011-2012, 2012-2013, 2013-2014, 2014-2015, 2015-2016 [11,12,13,14,15]

Based on the analysis of successful models listed in Table 1, obviously we can notice the close correlation between high performance of competitiveness and excellence in innovation, business sophistication, qualification and knowledge of human resources, supported by efficient and transparent government policies favourable for business environment in particular and society in general. In these countries, all the main components - government, business environment, academia and civil society - collaborate intensively and implement together the goals set in the long-term policy agenda [11,12,13,14,15,16].

Switzerland is considered the world leader in the export of highly sophisticated products and management practices. In the ranking of the Global Competitiveness Index, this country keeps its first position for six consecutive years. It should be noted that in Switzerland, both the private and public sectors allocate significant resources for research and technological development, thus ensuring the transformation of research results into innovative and competitive products and processes. Special attention is paid to the protection of intellectual property rights and strong cooperation between academia and business environment [11,12,13,14,15,16].

Singapore takes the second place in the same ranking for the fifth consecutive year, achieving remarkable results in all dimensions of the index. The country has a very sophisticated business environment and innovative ecosystem [11,12,13,14,15,16].

USA maintain, for the second consecutive year, the third position, due to the improvement of several segments of the national economy, including the institutional framework. The structural characteristics serve as a cornerstone for country in order to ensure good economic productivity. Business sophistication is characterized by a high and innovative level due to the outstanding support of the university system and very close collaboration with business environment and R & D sector [11,12,13,14,15,16].

When referring to the Republic of Moldova, at present, it is considered to have an economy based on the use of primary factors, similar to such countries as Bangladesh, Burkina Faso, Ethiopia, Kyrgyzstan and Tajikistan [9], which are situated preponderantly at the first stage described by Porter's model.

However, the pace of economic development based mainly on primary factors doesn't have to be accepted neither by the society nor by the state representatives. In those circumstances, the only solution is to skip stages and put greater emphasis on the accelerated growth, i.e. to focus on intellectual development based on the knowledge of human capital and innovation. The stimulation of innovative processes requires significant changes by putting emphasis on the instruments helping to skip and move to other development levels, which as a result will ensure country's competitiveness on the international level.

Therefore, speaking about national competitiveness, in fact, we make reference to the competitiveness of the entrepreneurial sector, which is directly involved in competition both on the internal and external market [9]. The entrepreneurial sector consists of all physical and juridical persons developing different types of activities independently in order to obtain an income according to legal provisions in a certain moment on the territory of a given state [17]. The entrepreneurs are those innovative and proactive individuals, who assume risks creating or developing economic activities [17]. In other words, we can argue that at microeconomic level “the entrepreneurship can be defined as the process of value creation that connects entrepreneurs’ attitude and skills with two types of events: pursuing and/or creating opportunities in the external environment of the company and consequently taking advantage of the identified opportunities while assessing them in terms of allocated resources and associated risks” [18]. In addition, the organizational culture, qualified human capital and management style are crucial factors affecting the development of entrepreneurial behaviour within the organizations [19]. In this context, it becomes clear that, currently, the great world powers create all necessary conditions for economic agents to use some instruments producing national and international socio-economic benefits. These instruments are defined as the knowledge of human capital, innovation management and advanced technologies. In the opinion of many international scientists, the above-mentioned components represent the basic way to reach high competitiveness, economic growth and prosperity representing the economy based on knowledge and innovation [20, 21, 22].

The economists Paul David and Dominique Foray, [21] describe in their work four major changes that have led to the emergence of knowledge-based society:

- Accelerated production of knowledge in the contemporary world;
- Increased share of intangible capital at micro and macro-economic level;
- Innovation has become a dominant activity and its sources became increasingly diverse;
- The revolution of instruments of knowledge.

This society replaces progressively the industrial one, which, in turn, once replaced the agricultural one, the latter two being focused on the production of material goods [20].

Conclusions

It was proved that successful transition to the competitive knowledge-based economy typically involves such elements as long-term investments in: education, innovation capacity building, upgrading the information infrastructure, creating an economic environment conducive to market transactions [22]. These elements have been named by the World Bank as pillars of the knowledge economy and all together represent the framework of this competitive economy. In this context, the new knowledge-based economy is clearly developing. Also, due to the fact that information and knowledge have become essential to economic progress, management is transforming into a social key function, responsible for achieving the highest results. In the “post-capitalist society” there is a shift in “emphasis from material structures to the immaterial ones, which requires new operational management tools that will meet the requirements of managing a company based essentially on advanced human skills and not on huge physical capital” [24]. This fact urges restructuring the production process so far mainly based on such criteria as process standardization, strict hierarchical control, division of labour, reducing production costs, increasing labour productivity etc. Further development of activities based on the same reasoning will inevitably lead to the rapid depletion of knowledge reserves and direct labour intensification. Therefore, process rationalization through standardization and capital accumulation can’t continue to be the only source of increasing economic knowledge of an economic agent. The main solution used by the new economy is “flexibility” meanwhile maintaining the correlation between fixed costs, a greater diversity of products or activities and indirect labour intensification based on flexible models of organization and coordination of workers [24]. To conclude, it may be stated that the key factor to improve the competitiveness of the entrepreneurial sector within the new

economy consists in the degree of knowledge implementation, the culture of employee organization approach and the use new technologies [16].

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