# KNOWLEDGE MANAGEMENT AND SCIENTIFIC INCLUSION ON AN INTERNATIONAL LEVEL

CASE STUDY: THE BILATERAL PROGRAM REPUBLIC OF CROATIA -REPUBLIC OF MONTENEGRO IN THE PERIOD 2015-2017

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#### Abstract

Every national economy and its competitive advantage depend on the quality of their own human resources. The use of these resources and investment into their quality are the main factors of development.

The project presented in this paper is important for further development of the Republic of Croatia and the Republic of Montenegro as knowledge societies through different segments of national and international cooperation among scientists.

Keywords: knowledge, management, inclusion, project, bilateral program

JEL Classification: D8, D83, J53, M15, O32

## 1. KNOWLEDGE - A DRIVER OF CHANGE

Quality education system, more precisely education itself, is an important participant when it comes to enhancing the competitiveness of the national economy through the provision of the necessary quality and quantity of human capital, as the main resource of progress. Education is essential in all this because it enables the acquisition of knowledge, skills, attitudes and values necessary for an individual to fulfil his job and social role in all segments of everyday life.

Over the last decades, intangible assets such as knowledge, patents and innovations have been identified as the key sources of wealth and prosperity. (García-Ayuso, 2003)

Since knowledge promotes national economic growth and has a significant impact on future national value and innovations, both learning and gross domestic product (GDP) represent the fount of a nation's competence and capabilities that are deemed essential for economic growth, competitive advantage, human resource development and quality of life. (Malhotra, 2003)

Consequently, countries rich in intangible assets are the leaders in the national wealth more than those countries whose assets are limited to land, labour and capital. (Malhotra, 2003)

The development of information and communication technologies has significantly reduced operating costs and also facilitated interaction for knowledge exchange, which has become a fundamental factor in the production of goods and services. For material productivity, to produce something old (already perfected) is no longer relevant. Instead of that, something new has become more important and for that, knowledge is necessary. (Sundać, Švast, 2009)

Knowledge brings profit to the business system and provides prosperity of the national economy. Short-term goals of the business systems are still based on making a bigger income by minimizing expenses, i.e. to achieve the greatest possible profit. It is no longer possible to achieve that in the classical way, but through the creation of added value using intellectual capital, retaining loyal customers (20% of the customers create 80% of the income), increasing the value of brand names, as well as introducing the collective knowledge management in the business systems and collecting data. That way, a competitive advantage at the national and global level would be achieved and maintained. The share of intangible assets (knowledge in its various manifestations) in the final products or the companies' and corporations' total market value frequently indicates a higher growth rate.

## 2. PERCEIVING THE IMPORTANCE OF KNOWLEDGE AS A PREREQUISITE FOR THE DEVELOPMENT OF A KNOWLEDGE SOCIETY

Nowadays literature accompanied by neoclassical economic theories for the most part is actually focused on the knowledge-based economy, while the knowledge society itself is viewed as a by-product of the knowledge-based economy because it is very difficult to define some of the aspects, such as: politological aspects, sociological, cultural and others, whereas in the knowledgebased economy the share of knowledge-based sectors in the national economy it can be measured. (Švarc, 2009:43).

In the knowledge society, the human intellect, cognition and knowledge have intrinsic values that arise from their uniqueness and rarity. Even though no explicit price is set for the knowledge in the market, knowledge has a value in itself and that value only keeps growing.

Having that in mind, Professor Velimir Srića emphasizes two basic types of learning that not only affect the business strategy, but are also the result of the latter: (Knežević, 2007:159)

1. Learning to survive - based on their own and others' mistakes, following the relevant sources of commercial, scientific, financial and other information, an individual or an organization creates the presumption of survival by removing errors and making behaviour adjustments in the environment.

2. Learning to create (it is also called the generic learning) - it is the higher phase of learning that aims at creating something new or at further improvement of the already existing solutions, it results in the active participation of individuals and organizations in changing their environment.

In today's business conditions, in terms of knowledge-based society, it is exactly the creation of new knowledge and the use of existing ones, in addition to continuous innovation, that have become an imperative in order to achieve a competitive advantage in the market. Nonaka and Takeuchi introduce a simple model that shows the components on which the competitive advantage of today's operating system is based on. The model is also focused on knowledge.

#### Figure 1: The source of competitive advantage



Source: Adapted from Nonaka, I., Takeuchi, H., The Knowledge Creating Company, Oxford University Press, 1995, p. 6

A few changes have been made from 1995 until today, but the initial setting has remained constant (Figure 1).

#### Case Study: The bilateral program Republic of Croatia -Republic of Montenegro in the period 2015-2017

Bilateral cooperation of the Ministry of Science, Education and Sports in the field of education and scientific research is based on bilateral agreements, programmes and other implementing acts, and it is structured as:

- Cooperation in the field of higher education and science
- The field of education at the primary and secondary school levels.

Cooperation in the field of higher education and science includes scholarship exchange and implementation of international projects in the field of scientific research.

#### Cooperation in research projects of the Croatian Ministry of Science, Education and Sports and the Ministry of Education of Montenegro

Based on bilateral programmes and in accordance with common interests and priority fields, the Ministry usually supports two-year international scientific research projects with the following countries: Albania, Austria, France, India, China, Hungary, Macedonia, Germany, the USA and Slovenia.

Currently there are around 200 active bilateral scientific research projects in all scientific fields. The Ministry of Science, Education and Sports covers only travel costs of Croatian scientists abroad and costs of stay of foreign partners (mobility) in Croatia according to the criteria determined by implementation programmes. The most represented fields are the fields of natural, biomedical, technical and biotechnical sciences. This paper analyses the observed project and its goals.

Cooperation with many countries and foreign partners with whom the Government of Croatia, i.e. the Ministry of Science, Education and Sports, has not signed any international legal acts is implemented solely based on direct agreements between institutions.

### Theoretical ground of the project "Knowledge management in the function of development strategy"

The habit of concluding agreements at the government level is being abandoned in the light of globalisation processes; therefore, mainly highly developed countries support direct cooperation of institutions in the field of education, higher education, science and technology.

With the aim of accelerating integration of the Republic of Croatia in the European Higher Education Area (EHEA) and the European Research and Innovation Area (ERIA), the task of the Ministry is to create prerequisites for free movement of students, teaching staff, scientists and researchers in the field of higher education and science, which is in accordance with the European policy aimed at creating the common educational and scientific area.

Overall, international cooperation of educational, academic and scientific institutions implies the exchange of various forms of scholarships in all categories, implementation of common (scientific research) projects and organization of international conferences and seminars (Ministry of Science, Education and Sports, 2015).

Exponential and continuous growth of total human knowledge opens new opportunities for its creative application and it countinues to generate new needs. The EU accession process has accelerated changes in economic development in both the Republic of Croatia and the Republic of Montenegro. The process of harmonisation with the European Union in the field of science and education started with the Bologna process. Being a full member of the European Union, the Republic of Croatia continues to strengthen regional and global recognisability of its higher education system, with neighbouring countries playing a significant role. New educational environment is partially placed in the field of information and communication technologies. Successful teaching in such an environment is ensured through mastering parts of the knowledge and learning management systems.

Knowlege and learning management systems rely on at least three different, but necessary aspects of knowledge and learning, and these are:

- : Learning content management system
- : Course management; and
- : User rights management.

Being a component of the scientific and technological cooperation, the research itself has a certain applicative character related to the teaching process and development of cooperation with associates in the Republic of Montenegro.

The project can further be applied to projects co-financed by the European Union. It is certainly also applicable in practice and it can contribute to knowledge-based development of business entities and encourage entrepreneurs to exchange tacit knowledge, which is today's driving force leading to better business performance, particularly important in today's global economy hit by recession.

# Reasons for cooperation (with special emphasis on the complementary character of partner institutions)

- The emergence and development of blended learning, along with Web 2.0 tools, present a modern solution for the development and acquisition of key competences that are in the function of business development.
- The goal is to present the role and application of management in institutions of higher education through integration of the e-learning system in the existing infrastructure to adapt education programmes to the needs of business entities and the labour market.
- Based on the conducted analysis, the methods for implementing educational measures, i.e. educational activities will be defined and the model of e-learning system will be proposed that will be implemented in the existing programmes for the development of education, thus contributing to the development of higher education institutions and business entities.

As a result and respecting the characteristics and potentials of both the Croatian and Montenegrin economy and their complementary character, it is concluded that the areas of significant potential for cooperation, which require intensive focused activity, are processes of higher education, lifelong education and blended learning.

### **PROJECT OBJECTIVES**

One of the main objectives of the project is to create a model of knowledge management (theoretical and/or applicative) through the process of lifelong learning with the aim of improving knowledge, skills and competences aimed at the development strategy through scientific and technological cooperation between the Republic of Croatia and the Republic of Montenegro. Knowledge management today means explicit and systematic management of vital knowledge and related processes of creation, collection, organization, diffusion, use and exploitation. Knowledge management requires transformation of personal knowledge into corporate knowledge that may and must be shared in the process of searching for adequate application aimed at an applicative development strategy. Knowledge management is a growing management discipline that includes locating, organization, transfer and use of knowledge and expertise within an organisation with the aim of carrying out business operations. Knowledge management means application of the processes of creation, maintenance, application, sharing and renewal of knowledge to improve organizational performance and create value. Accordingly, the objective of the project is:

Improvement of knowledge and skills in the field of management as well as potential building of a new LMS system (Learning Management System) that will integrate both theoretical and practical experience through an interdisciplinary approach to issues recognised in the environment by using efficient evaluation and monitoring techniques.

A special module for making comments in the form of public discussion is also envisaged. It will be further developed with the aim of encouraging new opportunities for cooperation between the two parties, and potentially third parties, such as business entities, non-profit organizations, etc. Information gathered in this way would provide an excellent foundation for further learning, development and new projects.

#### Expected advantages of the cooperation for both the Republic of Croatia and the Republic of Montenegro – instead of conclusion

Expected advantages of mutual cooperation are linking and networking processes during cooperation in the field of higher education and science, through a common system for distance learning and exchange of knowledge and experience.

The project will additionally achieve the following benefits:

- Increased mobility of scientists between the two countries;
- Participation of young researchers in the project as a guarantee for future cooperation on similar projects;
- Improved knowledge and skills of scientific and teaching staff and students in the field of human resource management and project management;
- Cross-evaluation of the current curriculum by using efficient monitoring and evaluation techniques on partner institutions.
- Cooperation on the project between equal partners creates conditions for all other forms of international cooperation, whereas the national programme is linked to the research throughout Europe and the world.

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