

THE KNOWLEDGE BASED ECONOMY AND KNOWLEDGE MANAGEMENT

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Abstract: For the past years, information and knowledge are replacing capital and energy as the primary wealth-creating assets, generating a new type of economy, and called knowledge based economy (KBE), within knowledge management is the main instrument for the companies to obtain competitive advantage. Given the goal of EU established at Lisbon and the perspective of Romania's accession to EU, Romanian companies must align their management practices with knowledge management in order to survive on a broader and international market and in order to obtain competitive advantage.

Key words: knowledge management, knowledge based economy

The importance of knowledge to economies has been much debated in recent years; information and knowledge are replacing capital and energy as the primary wealth-creating assets. In addition, technological developments in the 20th century have transformed the majority of wealth-creating work from physically-based to "knowledge-based" and the concept of "knowledge-based economy" thus results from a fuller recognition of the role of knowledge and technology in economic growth. Knowledge has always taken a central role to economic development, but only over the last few years has its relative importance been recognized, just as that importance is growing. Thus European Union has established that it must "become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion" (strategic goal for 2010 set for Europe at the Lisbon European Council - March 2000).

A knowledge-based economy is one in which the generation and exploitation of knowledge, as embodied in human beings (as "human capital") and in technology, play the predominant part in the creation of wealth. The term "knowledge-based economy" was coined by the OECD and defined as an economy which is "directly based on the production, distribution and use of knowledge and information" (OECD 1996). The Asia-Pacific Economic Co-operation (APEC) Economic Committee extended this idea to state that in a KBE "the production, distribution and use of knowledge is the main driver of growth, wealth creation and employment across all industries" (APEC 2000).

According to this definition, a KBE does not rely solely on a few high technology industries for growth and wealth production. Rather, all industries in the economy can be knowledge intensive, even so called 'old economy' industries like mining and agriculture.

Technology and knowledge are now the key factors of production. With increased mobility of information and the global work force, knowledge and expertise can be transported instantaneously around the world, and any advantage gained by one

company can be eliminated by competitive improvements overnight. The only competitive advantage a company will enjoy will be combining market and technology know-how with the creative talents of knowledge workers – defined as "symbolic analysts", workers who manipulate symbols rather than machines and including architects and bank workers, fashion designers and pharmaceutical researchers, teachers and policy analysts - to solve a constant stream of competitive problems and its ability to derive value from information. The world is now evolving to a knowledge-based economy where knowledge management is essential.

Changes which have highlighted the increasing importance of knowledge have been observed in several economies (Houghton and Sheehan 2000; OECD 2001a; Gera and Weir 2001). Such changes are: growth in demand for high-skilled workers, with an increased emphasis on cognitive skills, the development of ideas and life-long learning; increased openness of the world economy, leading to increases in trade (especially in knowledge-intensive exports), foreign direct investment (FDI) and knowledge transfer; prevalence of information and communications technologies resulting in: emergence of new arrangements of work, production, shopping and education, increased codification of knowledge, and decreased costs of knowledge dissemination; internationalization of production requiring increased knowledge to control and integrate business units; changing composition of production in more advanced economies, with movements towards services and away from manufacturing, and a movement towards higher value-added services; increased participation in international and domestic networks (and/or geographic or industry clusters) for the exchange of products, capital and knowledge, e.g. joint ventures, non-equity agreements and less formal inter-firm collaborations; and increased interest in R&D and other aspects of innovation.

In order to globally estimate the possibility of knowledge development but also the effective utilization of the environment that is favorable to knowledge, World Bank Group uses a system of 80 variables for classify 128 countries on a top based on these two coordinates.

World Bank Group methodology to establish the ability of one country to generate, adopt and diffuse knowledge, representing the possibility to develop the knowledge of the analyzed country, consists in calculating a knowledge index (KI) and in order to establish the effective utilization of the environment that favors the knowledge for economic development of that country WBG calculates the knowledge economy index (KEI). The index establishes the global level of development through a knowledge based economy of one country.

Using the interactive instrument of benchmark, offered by WBG, the following were concluded:

- ◆ from the point of view of KEI, in 1995 Romania was placed on the 51 place on the top from 128 countries, with a value of 5.37 compared with Sweden, being on the first place on top, with a value of KEI of 9.2. The situation for Romania has improved in 2003-2004 when the value was 5.27, representing the fact that the effective utilization of the environment that favors the knowledge for economic development had improved.
- ◆ in 1995 Romania was placed on the 54 place on top 128 with a value of KI of 5.41 and in 2003-2004 was placed on 47 with a value of 5.58, improving thus its possibility to develop knowledge.

Table no. 1 – Romania’s status. Source: The Knowledge Assessment Methodology (KAM) website (www.worldbank.org/kam)

1995	Country	KEI	KI
1	Sweden	9.20	9.47
51	Romania	5.37	5.41

2003-2004	Country	KEI	KI
1	Sweden	9.17	9.54
48	Romania	5.27	5.58

Knowledge management within companies and the bound between knowledge management and knowledge based economy is determined also by the number of Internet users, because of the workers necessity to be able to use the Internet, because most of knowledge bases – instruments of knowledge management – have the for of websites. Thus, in 1990, there weren’t any Internet users at 1000 population, but in 2003, there were 184 Internet users at 1000 population, according to The World Bank Group, thus the capacity of Romanian economy to be transferred to a knowledge based economy being increased

Given that knowledge management is important for a knowledge-based economy and the different forms of knowledge and knowledge flows are likely to be relevant to a knowledge-based economy (KBE), defining knowledge is an imperative. There are a number of ways of viewing and defining knowledge, for instance, a number of authors distinguish knowledge from information (and information from data). Alan Burton-Jones (1999) defines knowledge as "the cumulative stock of information and skills derived from use of information by the recipient". He distinguishes knowledge from data (signals which can be sent by an originator to a recipient) and information (data which are intelligible to the recipient).

Related to knowledge, knowledge management is another term specific to knowledge-based economy. “Knowledge management is concerned with the exploitation and development of the knowledge assets of an organization with a view to furthering the organization’s objectives. The knowledge to be managed includes both explicit, documented knowledge, and tacit, subjective knowledge. Management entails all of those processes associated with the identification, sharing, and creation of knowledge. This requires systems for the creation and maintenance of knowledge repositories, and to cultivate and facilitate the sharing of knowledge and organizational learning. Organizations that succeed in knowledge management are likely to view knowledge as an asset and to develop organizational norms and values, which support the creation and sharing of knowledge” (Rowley, 2000).

In brief, KM is the management of processes that govern the creation, dissemination, and utilization of knowledge by merging technologies, organizational structures and people – composing a knowledge management system - to create the most effective learning, problem solving, and decision-making in an organization.

European Committee for Standardization has published in march 2004, after a workshop, a resolution consisting in five parts, called CEN Workshop Agreements (CWA 14924). According to European Guide to good Practice in Knowledge Management - Part 1: Knowledge Management Framework (CWA 14924-1), the framework for knowledge management is represented by three levels: processes that generate added value, central activities and enablers. According to European Guide to

good Practice in Knowledge Management - Part 3: SME Implementation (CWA 14924-3), five steps must be followed in order to implement knowledge management: launching a knowledge management project, measuring the present stage of knowledge, development, implementation and sustainability.

Knowledge management is the future type of management used by the companies in order to acquire the competitive advantage. The Romanian companies, from the perspective of EU accession and given its priority established at Lisbon, must start to apply knowledge management principles in order to become competitive on a broader and international market, and the presented guide would be a good starting point to understand and to implement knowledge management.

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