

NEW ECONOMY – KNOWLEDGE ECONOMY

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Abstract: *Knowledge and its economic counterpart – intellectual capital – is the key economic and development resource of the new 21st century economy. Knowledge as economic factor does not get reduced by use; on the contrary, the value of knowledge for a certain economy comes from sharing knowledge with others. More and more, we consider knowledge to be the crucial resource for both companies and national states. Today, the key part of any economic strategy is the incorporation of knowledge and competence in order to create a new and sustainable advantage among other competitors. In the days that stand before us, knowledge shall become a personal responsibility. People must accept responsibility for their own knowledge and for the quality of work they perform, without waiting for higher levels of management to put them into action. Answers to the following questions: what, how, where and when, are the most important elements of success in any business.*

Keywords: *knowledge economy, knowledge, intellectual capital, human resources.*

1. INTRODUCTION

Land is the key resource in an economy where agriculture is a prevailing economic activity. In an industrial economy, natural resources such as coal, iron ore, work force, represent main resources. The knowledge economy is an economy where knowledge represents the key resource, an economy where production and exploitation of knowledge has become the predominant factor in production of wealth. It is not simply about expanding the boundaries of knowledge; it is about more efficient use and exploitation of any and all aspects of knowledge with the aim of improving economic activities.

The idea that knowledge plays an important role in economic activities is not a new one. All economies, no matter how rudimentary they might be, are based on knowledge about how, for example, to farm. Use of knowledge has been increasing ever since the Industrial Revolution. But the degree of incorporation of knowledge and information into economic activity is now so great that it is inducing quite profound structural and qualitative changes in the operation of the economy and is transforming the basis of competitive advantage. Growing level of knowledge incorporation into the world economy and our ever increasing ability to distribute that knowledge, have increased its value to all participants in the economic system. The implications of this are significant, not only for the strategies of firms but also for the policies of governments that regulate economic behavior.

Development of information and telecommunication technologies at the end of the twentieth century resulted in increased participation of information and knowledge, both in production technologies and in products, too. Increased participation of knowledge in the new value represents the main characteristic of transition from the industrial age into the new age, into the knowledge economy.

2. KNOWLEDGE AS ECONOMIC FACTOR

New challenges in economic theory and practice set before us new tasks in accordance with modern practice in solving them¹.

What is knowledge? In his book 'New Organizational Wealth' Karl Eric Sveiby from Sweden characterizes knowledge and says that knowledge is individual, invisible, action-oriented and based on rules and constant changes. Knowledge, actually, in every day life appears as competence.

In many aspects, knowledge economy differs profoundly from industrial economy as known to us in the last two, two and a half centuries. Comparative advantages in the twenty first century more often come from implementation of technology, knowledge and skills then from advantages based on natural resources and capital-work force relation. Differences include information revolution, knowledge, skills and learning, innovation, global competition and production.

As Houghton & Sheehan claim, (2000) the knowledge economy stems from two main forces and these are: the rise in knowledge intensity of economic activities, and the rise in globalization of economic affairs. The rise in knowledge intensity is powered by the combined forces of the information technology revolution and the increasing pace of technological change. Globalization is empowered by national and international deregulation, and by the IT related communications revolution.

The same authors feel that the knowledge economy and the increasing role of knowledge as a factor of production are characterized by several things: unprecedented rise in the codification of knowledge with resulting increase of networking and digitalization; increasing codification of knowledge is leading to a relative shortage of tacit knowledge; codification is promoting a shift in the organization and structure of production; information and communication technologies increasingly favor the diffusion of information over re-invention, reducing the investment required for a given quantum of knowledge; the increasing rate of accumulation of knowledge stocks is positive for economic growth (raising the speed limit to growth); knowledge is not exhausted in consumption, on the contrary; codification is producing a convergence, bridging different areas of competence, reducing knowledge dispersion, and increasing the speed of turnover of the stock of knowledge; codification gives more importance to the role of knowledge and skills used for problem solving; ability to distribute knowledge is critically important; learning involves both education and 'hands-on' learning-by-doing and by interacting; learning organizations are increasingly networked; initiative, creativity, problem solving and openness to change are increasingly important skills; if not introduced in a timely fashion, the transition to a knowledge-based system may make market failure systemic; knowledge-based economy is so fundamentally different from the resource-based system of the last century that conventional economic understanding must be re-examined.

¹ Mikić, S., et al., *Economy reengineering at the beginning of 21st century*, International journal of economics and law, Vol. 1, No. 3, Novi Sad, 2011.

Information and communication technologies have greatly reduced costs and increased the capacity of organizations to codify knowledge and to process and communicate information. But, in doing so, they have radically altered the balance between codified and tacit knowledge in the overall stock of knowledge. In essence, they created a shortage of tacit knowledge. Tacit knowledge in the form of skills needed to handle codified knowledge is now more important than ever. Whereas machines replaced labor in the industrial era, the knowledge economy more and more demands tacit knowledge unique to humans. These skills include, first and foremost, conceptual and inter-personal management and communication skills, as well as problem solving skills.

The knowledge economy brings along new ground rules. Knowledge as commodity has fundamentally different characteristics from ordinary elements of production. Unlike physical goods, knowledge is not destroyed in consumption; its value in consumption can be enjoyed again and again. Therefore, we can say that investments in knowledge multiply through distribution of knowledge.

New terms related to the knowledge economy already have a place in economic dictionaries. Those terms include: intellectual capital, organized knowledge, organized learning, information century, age of knowledge, information advantage, tacit knowledge. All these together form a paradigm where competitive advantage is based on individual workers and organized knowledge.

Knowledge is an economic factor which does not get depleted by use; on the contrary, the value of knowledge for a certain economy stems from sharing knowledge with others.

According to the World Bank site, the four pillars of the knowledge economy are: education and training; information infrastructure; economic incentive and institutional regime; innovation systems. These four pillars enable an economy or an organization to realize its value in the knowledge economy. For any nation or organization to be able to create, share or use knowledge, educated and trained employees are essential. Today information revolution takes it for granted that Internet already represents a given basis for business operations. It is the responsibility of governments to create economic environment that will bring about free flow of knowledge, to be supportive of investments in information and communication technologies and to encourage and support entrepreneurship. A whole network of research centers, universities, think tanks, private enterprises and community groups must be created in order to tap into the growing stock of global knowledge. This knowledge, in turn, must be adapted to our local needs in order for the new knowledge economy to create new value.

Economies are focused on how to best use human potential which must be translated into knowledge. The new economy is based on innovation, on human imagination and on creativity as the most important value creators. It should be pointed out that there are no, nor can there ever be, boundaries to knowledge, whether local, regional or national. 'Skies' alone are the limit for human potential. In this regard, there is no other economy but global economy today, and knowledge is its key resource.

Having all this in mind, what can we predict, which states shall thrive as the knowledge economy prospers (and prosper it will, and it will become dominant, we believe that is certain). Those societies (states), organizations and individuals whose knowledge and skills are adequate enough to overcome today's huge challenges – such as the speed of change in today's world, complicated business environment, – only they shall thrive and prosper.

In their book "Accelerated Learning for the 21st century" Rose & Nichols (2001) suggest that future belongs to those who successfully master accelerated learning, develop their memorizing abilities and adopt creative way of thinking. "We live in a world where the

abilities to absorb information rapidly and to think logically and creatively are the most important skills that you can possess.”²

3. INTELLECTUAL CAPITAL AS THE MAIN RESOURCE IN THE KNOWLEDGE ECONOMY

One of the leading scholars in this field, the Editor in Chief of the *Harvard Business Review*, Thomas Stewart, in his book: *Wealth of Knowledge: Intellectual Capital and the 21st century Organization* defines intellectual capital: “Intellectual capital represents employees’ knowledge, skills and abilities; from a research team all the way to manual workforce, all of them have developed a thousand different ways to increase the efficiency of their organization. Intellectual capital means collaboration; companies and clients learning together and this joint learning creates a tight bond between them and insures that their cooperation is successful and lasting.”³

“The concept of intellectual capital first appeared in the nineties when market value of companies was rapidly becoming significantly higher than the accounting value of their total material and financial property as a whole.”⁴

Intellectual capital represents the knowledge of all those employed, but knowledge becomes intellectual capital only if verified or realized on the market.

In his paper “*Explicit Knowledge versus Tacit Knowledge*” Sanchez (2008) describes explicit knowledge as knowledge represented in plans, licences, patents, blueprints, drawings, textbooks, manuals, corporation standards, etc. Contrary to this, tacit knowledge is defined as knowledge that is in the minds of employees, as knowledge presented as capability, vision, problem solving ability, leadership ability.

In that same way, value of any organization and their balance sheets as well consist of both their financial (visible) and their intellectual (invisible) capital.

Answers to the questions: what, how, where and when are the crucial elements of success in business. Therefore, defining knowledge, managing knowledge, measuring and improving knowledge, improving knowledge and its economic counterpart intellectual capital – all those things represent crucial challenge in the new knowledge economy

In his book “*E-Myth*” Gerber claims that knowledge management is the most important condition for creation and development of sustainable growth of intellectual capital in any organization. Successful and useful implementation of knowledge increases intellectual capital. In short, today, manager in any organization is the person who solves problems, period. As those problems and challenges become larger on a daily bases, as their number and variety steadily grow and it is becoming increasingly difficult to foresee them, that much more the need for tacit knowledge becomes obvious to us. Creativity is immanent to tacit knowledge as one of its main components.

According to the classification that is often used (Čubrilo, 2011), intellectual capital consists of three categories, i.e. three different groups of invisible resources: 1) Human capital represents employees’ abilities, not ability *per se* but only when those abilities get translated into actions that create value for that organization; 2) Structural capital consists of organizational routines, procedures, systems, data bases, corporative culture. Certain aspects of this form of capital can be legally protected and they then become intellectual property of

²Rose, C & Nichols, M.: Accelerated learning. <http://www.acceleratedlearning.com>

³Stewart, A. Thomas, *Wealth of Knowledge*, Random House Inc., Washington (2008), pp. 28

⁴http://hr.wikipedia.org/wiki/Intelektualni_kapital

the organization; 3) Relation capital encompasses relations of that organization with others; it is the image of that organization, its relations with customers or suppliers, its relations with financial organizations.

In order for intellectual capital to create value and increase the output of any organization, it is necessary that we provide unobstructed flow of knowledge on all the levels of any organization. Any society and organization must develop strategic plans for creation and development of intellectual capital. Therefore, they first have to obtain a full and balanced view of the existing intellectual capital, and then they have to manage it properly, all that in order to sustain and to develop intellectual capital.

4. CONCLUSION

“Total human knowledge accumulated by the year 1900 had doubled by 1950. Since then, total human knowledge doubles every five to eight years.”⁵ This ‘explosion’ of knowledge results in the fact that national states and individuals who have that newly acquired knowledge at their disposal gain enormous potential to continually increase their standard of living, their quality of life and their wealth in general. These huge, fast and daily changes influence business lives of individuals, organizations, states and world in general in a way that will drastically alter our previous way of life in every single possible way.

Some economists (Arthur, 1996) suggest that increasing returns on investment in nations whose economies are networked and whose leading economic resource is intellectual capital – in the environment of the new knowledge economy – will lead to an increasing concentration of wealth and to the situation where ‘winner takes it all.’ Others (Houghton & Sheehan, 2000) contend that the expansion of knowledge driven economy will create a proliferation of material, firms and activities at all points and at all levels, suggesting that no one can expect to enjoy continued control of markets. “There may be temporary monopolies, but they cannot last.”⁶

Because intellectual capital holds the central position in the knowledge economy and in the process of value creation, it is of utmost importance to create balance between financial and intellectual capital. It is absolutely necessary to manage all the available resources – both visible and invisible. Every organization has a strategy of financial capital management; in that same way, this strategy must always be accompanied by an intellectual capital management strategy. That is the only way for societies and organizations to survive on the market.

Only those individuals who adapt to this new environment, to these new times and to the speed of change, only those individuals who continually gain new and renew their old knowledge, only those who place accent on their own creative thinking and their problem solving abilities, will be in the position to hold their jobs. This prediction might seem gloomy to some, but we firmly believe that for the majority of people it offers a fantastic opportunity to implement their potential. Anyhow, what could motivate you more than the fact that today you do not really need financial means for your own (personal) success. What you do need, however, is will power, energy, self-confidence and ability to solve problems and move forward. Once upon a time someone said: ‘It is better to have knowledge than to have goods.’ Therefore, our destiny is in our hands and in our hands alone.

⁵Stanford University Research, <http://ucomm.stanford.edu/>

⁶Houghton, J. & Sheehan, P.: A Primer on the Knowledge Economy. Centre for Strategic Economic Studies – Victoria University, Melbourne (2000) pp. 15

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