

EMPIRICAL APPROACH TO KNOWLEDGE, KNOWLEDGE ECONOMY AND KNOWLEDGE BASED ORGANIZATIONS

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ABSTRACT: Since the very early stages of human development knowledge, knowledge management have made a difference in who is prevailing and who is not. Driven by the information technology revolution of the 20st century knowledge and especially knowledge management within the establishing knowledge society and knowledge based economies have kicked off a major transformation of classical economical concepts. Economists started to rethink and transform the classical resource based economic theory towards information and knowledge based economy. The 21st century is dominated by the most effervescent transformations of human society. Information and information management through information technology has changed the way business organizations are developing and act and react to the globalized market and competition. The key to success is rapid assimilation and management of information and development through proper usage of accumulated knowledge that is leveraged by increased amounts of new information. There is a decisive transition from the classical economy of the 20st century based on resources towards the next level of economic evolution, towards knowledge based economy. In a knowledge based economy the main commodity is information and knowledge, the classical economy is only a subsequent result of the proper management of knowledge. The key defining concepts of the 21st century are information and knowledge that have had a major impact on business organizations all over the world. Business organizations have to redefine their strategies and their values in order to assure their competitive advantage in the increasing fast moving global market place.

KEYWORDS: knowledge, knowledge management, knowledge based organizations, knowledge economy

1. INTRODUCTION

The 21st century is dominated by the most effervescent transformations of human society. Information and information management through information technology has changed the way business organizations are developing and act and react to the globalized market and competition. The key to success is rapid assimilation and management of information and development through proper usage of accumulated knowledge that is leveraged by increased amounts of new information.

Clearly the 21st century economics is ruled by information and knowledge. There is a decisive transition from the classical economy of the 20st century based on resources towards the next level of economic evolution, towards knowledge based economy. In a knowledge based economy the main commodity is information and knowledge, the classical economy is only a subsequent result of the proper management of knowledge.

The key defining concepts of the 21st century are information and knowledge that have had a major impact on business organizations all over the world. Business organizations have to redefine their strategies and their values in order to assure their competitive advantage in the increasing fast moving global market place.

2. CONCEPT OF KNOWLEDGE

The concept of knowledge has its roots in philosophy and has been a main concern since very early stages of human history.

Studying knowledge is something philosophers have been doing for as long as philosophy has been around. It's one of those perennial topics—like the nature of matter in the hard sciences—that philosophy has been refining since before the time of Plato [1].

Epistemology, one of the most important areas of philosophy, is the branch that studies the theory of knowledge. One of the still unanswered questions that epistemology is trying to answer is “What is knowledge?”.

According to Cambridge Academic Content Dictionary knowledge can be defined and understood as:

- awareness, understanding, or information that has been obtained by experience or study, and that is either in a person’s mind or possessed by people generally
- skill in, understanding of, or information about something, which a person gets by experience or study[2].

The Concept of Knowledge is a multifaceted notion that has its fundamentals in data and information, the same core driving elements of the 21st century.

3. KNOWLEDGE MANAGEMENT

Knowledge Management established itself as a discipline in the 1990s driven by information technology, consulting companies and academic events.

Even though Knowledge Management as a discipline is still young there are some authors and works that had a considerable contribution and can be considered as the classics of knowledge management.

The great classical theory of knowledge management appeared in a fruitful period of five years. At that time, Wiig wrote a great trilogy on knowledge management, Nonaka and Takeuchi wrote *The Knowledge-Creating Company*, and Leonard-Barton wrote *Wellsprings of Knowledge* in 1995. All of them have become the classics of knowledge management. The works from this period continue from Allee’s *The Knowledge Evolution*, Sveiby’s *The New Organizational Wealth*, and Stewart’s *Intellectual Capital* in 1997, to Davenport and Prusak’s masterful *Working Knowledge* and Wenger’s *Communities of Practice* in 1998[3, p. 5].

Knowledge management can be understood as efficient usage of data, information and knowledge though acquisition, development and sharing of knowledge with the goal to achieve certain goals. For business organizations knowledge management can be summarized as a multi-disciplinary approach towards achieving organizational goals by making best use of knowledge.

Knowledge management, as a discipline, must result in better achieving, or even exceeding, your objectives. The purpose of knowledge management must not be to just become more knowledgeable, but to be able to create, transfer and apply knowledge with the purpose of better achieving objectives [4].

Considering the 21st century realities knowledge management, especially in business organizations, is and has to transcend beyond the application of a discipline, it has to become a mind-set of management and works. By transcending towards a mind-set a lot of changes will be initiated and rolled out in the quest for maintaining, achieving and gaining competitive advantage as a business organization.

4. KNOWLEDGE BASED ECONOMY

The OECD economies are increasingly based on knowledge and information. Knowledge is now recognized as the driver of productivity and economic growth, leading to a new focus on the role of information, technology and learning in economic performance. The term “knowledge-based economy” stems from this fuller recognition of the place of knowledge and technology in modern OECD economies. OECD analysis is increasingly directed to understanding the dynamics of the knowledge-based economy and its relationship to traditional economics, as reflected in “new growth theory”. The growing codification of knowledge and its transmission through communications and computer networks has led to the emerging “information society”. The need for workers to acquire a range of skills and to continuously adapt these skills underlies the “learning economy”. The importance of

knowledge and technology diffusion requires better understanding of knowledge networks and “national innovation systems”. Most importantly, new issues and questions are being raised regarding the implications of the knowledge-based economy for employment and the role of governments in the development and maintenance of the knowledge base[5, p. 3].

The Knowledge Based Economy is based on the 20th century information society as an extension and normal evolution of the information revolution supported by the massive development of the IT&C phenomenon. The more the knowledge based aspects of the 21st century society is assimilated and understood the more the classical concepts will change and evolve.

The knowledge based economy is an economy where business organizations are based on production and consumption systems that are primarily built on intellectual capital and knowledge of organizations that is used as a way of maintaining, gaining and achieving competitive advantage on the ever increasing speed of information flow on the today's globalized markets.

It is well-known that in the present the competitive advantage of an economy it is not based only on products or services, natural resources or geographic particularities. The competitive advantage it is obtained today through innovation and the extensive utilization of knowledges [6, p. 1].

Most of the classical economic concepts are already influenced and transformed by the change in paradigm determined by the knowledge economy. The most relevant aspects that have started the transformation of the classical economic concepts are:

- **Speed.** The concept of speed is not only a physics concept that measures the distance covered in a specific time period. We know it took about 100 years for the industrial revolution to become global, it took about 70 years for the productivity revolution to have a global impact. From the 1990s – today we have already ~25 years where the knowledge revolution has been dominating the planet.
- **Method of knowledge usage.** Considering the fundamental goal of business organizations, to create value for its shareholders, knowledge seen know a product is applied and used to generate the new necessary knowledge.

The knowledge economy is deterministic in itself, the accumulated and used knowledge is determining new opportunities and challenges to meet to achieve, maintain and increase the needed sustainable competitive advantage.

In this context one of the most important challenges of the knowledge based economies are the preservation of the competitive advantage through knowledge transfer and safekeeping over time of the acquired knowledge and information maintain and accelerate the change process that is driven by the new data, information and knowledge and that is affecting and influencing the economies accommodate and integrate the “old new” knowledge that comes through obsolescence of new knowledge and is transforming towards common knowledge find new economic models to allow the most efficient “commoditization” of knowledge that allows economies, markets and business organization to follow the fundamental goal of creation of additional economic value for its stakeholders or shareholders.

The world we live in is marked by the fast evolutions of technology and efficiency, it is the world in which information means power. Market globalization, technical and technological revolutions are transforming the contemporary economy into what specialists call knowledge based economy, in which the business world is characterized by new types of organization, which requires developing competences and generalizing the advanced technologies, thorough knowledge and a higher responsibility. Nowadays, in the context of the knowledge based economy, the competitive edge is obtained through science, through the widespread use of knowledge, through innovation and qualified workforce[7, p. 9].

5. KNOWLEDGE BASED ORGANIZATIONS

Even though there is no universally accepted definition of a knowledge based organization it is commonly understood as being the organization whose products and services are knowledge intensive.

A knowledge based organization is an organization where workers use processes and infrastructure to produce, change, manage, use and share knowledge based products and services to achieve the organizational goal.

The characteristics of a knowledge based organization, go beyond product to include process, purpose and perspective. Process refers to an organization's knowledge based activities and processes. Purpose refers to its mission and strategy. Perspective refers to the worldview and culture that influences and constrains an organization's decisions and actions. knowledge based organization exhibit knowledge-intensive processes, purpose, and perspective, regardless of their product [8, p. 2].

In a stable economic environment, the change may be slow, and the organization would have time to react and maintain its competitive advantages. In contrast in a knowledge-based economy, the economic environment changes rapidly and the response is not the best alternative; in order to succeed, the organizations must be proactive, to anticipate, to be directed towards learning and permanently development. The main resource of a knowledge-based organization is the knowledge [9, p. 1].

Large companies and institutions are still attached of the functional hierarchical organization. In small private firms and nongovernmental organizations, managerial and professional practices based on knowledge are already present but still in experimental forms. The characteristics of the small companies are key assets for reshaping them according to the knowledge based economy requirements. The shift to knowledge-based economy is an inevitable process, extremely complex and difficult generating for SMEs simultaneously numerous opportunities and threats. SMEs are those who assume some of the risks associated with this process, have the vision and stubbornness to succeed and to find the success formula. Small and medium enterprises are undoubtedly the "carriers" of knowledge, those who disseminate knowledge within the society and an engine of innovation [10, p. 1].

Currently SME are the main drivers and adopter of the new economy, the knowledge based economy. SME have all the main characteristics of the typical knowledge based organization:

- low fixed assets level determined by most efficient usage of funds towards core activities
- low level of non-core activities within the own organization. The non-core activities are outsourced whereas the important and relevant activities are insourced
- increase in decentral and remote workforce
- internal organization is more oriented towards knowledge and effects and not towards very strict hierarchies
- short "chain of command" that are supported by more and more knowledge managers and not by classical manager roles

SME reacted and acted as the driver towards knowledge based organizations because of their need to "survive" the globalized markets whereas big companies and corporations are already on the market and do not need to change at the speed SME are doing it. Big corporations cannot change very fast their internal organizations and market actions because of their main characteristic, they are BIG and very complex and have complicated business processes that cannot react quick without jeopardizing themselves.

All organizations from the 21st century onwards, regardless of their size, will have to face the challenges and opportunities of the knowledge society and knowledge economy. Business organizations will compete over the most "valuable" knowledge resources, the knowledge workers that are represented by highly skilled and trained potential employees.

Organizations will increasingly be regarded as joint human-computer knowledge processing systems. This perspective has significant implications for the design, management, and success of an organization. A knowledge-based organization is seen as a society of knowledge workers who are interconnected by a computerized infrastructure. Their work with various distinct types of knowledge is supported in a coordinated, cooperative fashion by the computerized infrastructure[11].

The today's organizations must access also the internal inactive knowledge workers that are present in the company's business support services. All companies have an internal inactive knowledge potential that needs to be identified, assessed and made active. Companies need to transform the role and the strategies towards the business support services into knowledge services that drive and support the business.

In this transformation the key role is played by the knowledge workers represented by the organizations own human resources. Human resources need to change from the classical view as being only labour force for the business organization towards the requirements of the knowledge based economy and society.

The knowledge workers possess knowledge and they constantly renew them through continuous learning in order to maintain their title of knowledge workers. The productivity and work performance of the knowledge workers lies in the collection, assimilation, creation, use and exploitation of knowledge. The knowledge workers present high mobility, meaning that they can change their job to another post or function within the same organization or in a different organization, they can change their profession, being available to change their home for their job. Knowledge-based specialists are dedicated people to their job, get high incomes in the form of salaries, bonuses, shares in companies in which they work, concomitantly with a special moral treatment, all these rewards reflecting the knowledge and the intellectual capital they hold. In the knowledge based economy, the specialized workforce is well trained in handling data, information, knowledge, which will lead to demand for careers such as scientists, engineers, chemists, biologists, mathematicians, scientific inventors etc. [12, p. 2].

The main attributes of the 21st century high performance knowledge worker can be defined as:

- possess a high intellectual capital
- is highly educated
- is motivated and driven by lifelong learning and acquisition of new knowledge
- is highly mobile with regards to organization and geographical location
- possess team work -, learning - and critical thinking skills
- has high inclinations towards information technology
- speaks more than one foreign language
- has social and communication skills

When looking at the own knowledge capital organizations have a difficult mission, they have to address an immaterial assets and commoditize it for its own usage and benefits. The commoditization of knowledge can only be assured by employing the best possible knowledge workers that are the sole owners of their tacit and implicit knowledge that has been developed and acquired during the continuous learning process of the individual.

The difficulty lies in the management of tacit knowledge, which are hard to express and codified. Most often the most valuable knowledge that an organization has is in the minds of people and stakeholders. Most often, people are in a constant motion of their desire to find ways to exploit their capabilities and knowledge. To capitalize on the knowledge of its employees, organizations can act in two ways:

- The conversion of tacit knowledge in more explicit form-in documents, processes, databases, etc. This approach is often known as the "human capital decantation in organization structural capital "

- Enhancing the flow of tacit knowledge through better human interaction. In many Japanese organizations, different activities of socialization support this flow of knowledge.

[13, p. 6]

The possession of knowledge intensive assets and knowledge pools, in form of employed knowledge workers, does not imply automatically that the business organization will gain sustainable competitive advantage. This access to knowledge workers will only guarantee that there is an opportunity to use and benefit from the intellectual capital of the employed knowledge workers.

The theory of knowledge is based on a series of assumptions about knowledge characteristics: knowledge is the most productive resource in terms of contribution to value added, different categories of knowledge vary according to their portability so that there is a distinction between tacit knowledge and explicit knowledge, employees are key agents for knowledge creation and in the case of tacit knowledge they are the main holders of it and some knowledge is the subject to scale economies, being incorporated in technologies[14, p. 6].

The knowledge theory states clearly that a series of fundamental changes are needed in order to achieve and sustain the ultimate goal of sustainable competitive advantage in the new knowledge society of the 21st century. The most important change is the re-focus and re-establishment of the role of the existing knowledge workers of the organization. Each business organization has already a huge inactive or partially active knowledge capital represented by the business support services, the indirect staff of the business organization. To capitalize and commoditize the existing knowledge capital it needs a change of mind-set of the existing leadership of the organization towards the awareness and usefulness of the present state of facts. Only through a “tone from the top” given by the management and leadership of the business organization towards knowledge capital and value generation through knowledge the “dormant” knowledge capital can be activated and can build the foundation for future improvements.

6. CONCLUSIONS

The information revolution and the resulting knowledge economies and globalization of the world has started some irreversible and consistent changes in the global mind-set. The knowledge worker role establishes itself as an omnipresent role within organizations all over the world. This presence has determined changes in the classical concepts of management and economics, meaning that some concepts need an update to the requirements of the knowledge society and to the subsequent knowledge economies.

Nowadays, in the context of the knowledge based economy, the competitive edge is obtained through science, through the widespread use of knowledge, through innovation and qualified workforce. In the future, the differences between rich and less rich countries will not reflect in the owning and using the classical production factors, but will be represented by the production, access to and usage of knowledge [7, p. 9].

7. REFERENCES

- [1] P. Pardi, “What is Knowledge,” 22 09 2011. [Online]. Available: <http://www.philosophynews.com/post/2011/09/22/What-is-Knowledge.aspx>. [Accessed 04 04 2016].
- [2] Cambridge University Press, “Meaning of “knowledge” in the English Dictionary,” Cambridge University Press, 2016. [Online]. Available: <http://dictionary.cambridge.org/dictionary/english/knowledge#translations>. [Accessed 04 04 2016].

- 2016].
- [3] M. Terece, "The Knowledge Management Wheel," 2011. [Online]. Available: <http://www.issbs.si/press/ISBN/978-961-92486-3-8/papers/ML11-15.pdf>. [Accessed 12 04 2016].
 - [4] Knowledge Associates International, "Knowledge Management Online," 2016. [Online]. Available: <http://www.knowledge-management-online.com/the-importance-of-knowledge-management.html>. [Accessed 04 04 2016].
 - [5] Organization for Economic Co-operation and Development, "The Knowledge based Economy," 1996. [Online]. Available: <https://www.oecd.org/sti/sci-tech/1913021.pdf>. [Accessed 04 04 2016].
 - [6] M. C. Tocan, "Knowledge Based Economy In Romania," 2008. [Online]. Available: <http://oeconomica.uab.ro/upload/lucrari/1020082/28.pdf>. [Accessed 05 04 2016].
 - [7] R. Todericiu and L. Fraticiu, "Changes And Challenges Of The Contemporary Knowledge Based Economy," 2012. [Online]. Available: <http://economice.ulbsibiu.ro/revista.economica/archive/RE%204-5-63-2012.pdf>. [Accessed 14 04 2016].
 - [8] M. H. Zack, "What is a Knowledge Based Organization ?," 2003. [Online]. Available: <http://www2.warwick.ac.uk/fac/soc/wbs/conf/olkc/archive/olk5/papers/paper62.pdf>. [Accessed 06 04 2016].
 - [9] D. Cusu, "Knowledge Based Company – a Theoretical Approach," May 2011. [Online]. Available: <http://stec.univ-ovidius.ro/html/anale/RO/cuprins%20rezumate/volum2011p2.pdf>. [Accessed 15 04 2016].
 - [10] D. Nancu, "SMEs - The Main Promoters of the Knowledge based Economy," 2015. [Online]. Available: http://stec.univ-ovidius.ro/html/anale/RO/2015/ANALE%20vol%2015_issue_1_pt%20site.pdf. [Accessed 05 04 2016].
 - [11] C. W. Holsapple and A. B. Whinston, "Knowledge-based organizations," 2010. [Online]. Available: <http://www.tandfonline.com/doi/citedby/10.1080/01972243.1987.9960049>. [Accessed 12 04 2016].
 - [12] E. Muscalu and A. Stanit, "Knowledge Workers : The Modern Workers Prototype In Present And Future Organization," 2013. [Online]. Available: <http://anale.steconomieuoradea.ro/volume/2013/n2/055.pdf>. [Accessed 12 04 2016].
 - [13] M. Tocan, "Management Of Organizations In The Context Of The Knowledge Society," 2014. [Online]. Available: http://www.seap.usv.ro/annals/arhiva/USVAEPA_VOL.14,ISSUE_1%2819%29,2014_fulltext.pdf. [Accessed 12 04 2016].
 - [14] D. Gioacasi, "A Theoretical Approach To The Transition From A Resource Based To A Knowledge-Economy," 2015. [Online]. Available: http://www.ceswp.uaic.ro/articles/CESWP2015_VII3_GIO.pdf. [Accessed 14 04 2016].