ROLE OF ICT IN KNOWLEDGE MANAGEMENT, RESEARCH AND INNOVATION

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Abstract

This paper defines the knowledge cycle with its processes and outcome. It also looks in detail at how innovation comes about, how ICT plays a role in knowledge management, research and innovation.

Keywords: *ICT, Innovation, Knowledge, Research.*

INTRODUCTION

The Information Communication Technology (ICT) is considered the driving force behind the long unprecedented economic growth period of the last decade. It provided the infrastructure for economic development, helped create the knowledge society, contributed to innovation and created value for the economy. More importantly, it brought the world closer together by improving the dissemination of knowledge, accelerating research, stimulating innovation and facilitating collaboration.

Research is needed to use existing knowledge and to create new knowledge. It is the means for maintaining intellectual leadership. Knowledge management is the solution for sustaining a competitive edge in a knowledge economy. We shall explore the ICT factor in research, innovation and knowledge management. The whole question will be how and where value is created and what ICT contributes to this value creation process.

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ROLE OF ICT

ICT can be both the means and the end in research, innovation and knowledge management. As the end by itself, the advent of ICT emerged through intensive efforts in Research and Development (R&D) and it can demonstrate its value to businesses and society; it was the main cause for the unprecedented economic growth of the last decade.

ICT contributes to resources/infrastructure and tools/assets for innovation, but, at the same time, requires a higher level of human capacity to fully exploit ICT capabilities.

ICT IN KNOWLEDGE MANAGEMENT

As mentioned above knowledge management is the process of managing the knowledge cycle. ICT provides a wide spectrum of tools and means to facilitate value creation. The Intellectual Capital Management (ICM) system is an effective means to preserve and disseminate the experiences and memory of an enterprise. There are a number of collaborative software tools available on the market that can help mobilize collective wisdom and knowledge to improve business performance.

ICT IN RESEARCH

➢ ICT provides the infrastructure (computers, broadband, wireless, etc), data collection and storage, processing, computing power, visualization, simulations.

➢ It helps convert data into useful information then business knowledge, presumably profitable knowledge.

➢ It also helps reap collective wisdom through community collaborations such as Open Sources and community software, wikis, and blogs to enhance quantity, quality, and thoroughness.

However, the collaboration needs to be structured and have well defined orientation to be effective.

➢ Further, it helps accelerate research and innovation with Open Sources and Open Standards For example, the Blue Brain project is the first comprehensive attempt to reverse engineer the mammalian brain, a discipline of computational neuroscience.

ICT IN INNOVATION

Innovation as described above is knowledge development: in particular the application of knowledge or technologies to business or societal challenges, or the intersection between technologies and business or societal challenges as we see in the Global Innovation Outlook .

Conclusion

This paper discussed the knowledge/technology cycle consisting of acquisition, assimilation and value development. The role of ICT in the knowledge management and its involvement in the value development process (i.e. research and innovations) are also illustrated.

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