ICT AS A TOOL FOR BUILDING INNOVATIVE KNOWLEDGE SOCIETY

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Abstract

This paper attempts to highlight the role of ICT in building innovative knowledge society for the 21st century. The paper has argued that ICTs have impacted on various fields of society. In a today's globalization era where information is considered as a planned resource, building the knowledge society is very significant for every single nation. Now a days the development of societies has shifted from an idea of information to knowledge society. "Knowledge Society" refers to a society where knowledge is the principal creation resource instead of any other resource like capital and labor etc. The real use of the Information Communication Technology offers real visions for human, sustainable development and the building of more independent knowledge-based societies.The new information and communication tools including internet, social networking, Big data network have created new opportunities for the formation, preservation, distribution and use of information and knowledge. The present revolution in information technology and networks makes communication systems of different significance to native peoples – for educating, sharing, informing, generating income and strengthening independence. In fact new information and communication technologies have considerably increased communities' capacity to access information and to share experience and practices in almost any part of the world. These ICTs have enough potential to break through geographic and social hurdles.

Thus the paper suggests that ICT in knowledge society is a way of socio-economic development of the nation. With the support of ICTs the consequences really could be revolutionary in various fields like education, agriculture, human resources, health, environmental management, and transport and business development. ICT is the enabler for innovative and knowledge Society. A knowledge society cannot be realized, supported or further developed without the ICT.

Keywords : Knowledge society, education, innovation, information technology

INTRODUCTION

The knowledge society represents new quality of life support systems. It is a human structured organization based on contemporary developed knowledge. It indicates the necessity to fully understanding distribution of knowledge, access to information and capability to transfer information into knowledge. The main challenge is understanding of knowledge while defining a knowledge society. The knowledge society signifies a new model for future development. Knowledge is more than information. The worldwide authentication of information is intrinsic to the knowledge society. The main driving force for the development of knowledge society is access to the global information pool. The ability for information transformation into knowledge is represented by the capability of the cultural system to convert available information into scientific and technological values used in everyday life. The notion "knowledge society" emerged toward the end of the 90s and is used as an alternative to the "information society". Coming up with new ideas about how to do things better or faster is the Innovation. It is about that no one had thought of before. It is basically putting new ideas to work in innovativeness and having a skillful work force that can use those new ideas. The success of enterprises, and of national economies, becomes increasingly dependent on the information communication technology infrastructure that is necessary for the gathering and utilization of knowledge.

The term knowledge society was first introduced by Peter Drucker in his book "Post Capitalist Society". At his book, Drucker says "we are entering the era of knowledge society in which economic resources are no longer in the form of capital, natural resources, or labor, but of knowledge and knowledge workers will play an important role".The role of knowledge society in contemporary life depends on the level of the new development of the

information communication and technology. With ICT the modern society will reach its essential level, giving opportunity to the public at large to take advantage of the knowledge society development.

J.Figel formulate a concept called the "triangle of knowledge" which consists of creating knowledge, disseminating knowledge, and apply knowledge. In addition to the above two indicators, there are four pillars that formed the knowledge society namely:

Infrastructure, ICT (Information and Communication Technology), content information, and infrastructure beside ICT and human resource capacity.Technology is one of the major determinants in the development and growth of a knowledge society. By ICT investment economic growth of any country can be improved. ICTs are a means to advance the knowledge society by serving in the dissemination of knowledge and best practices at all societal levels and recognized as the key determinant in the development process. ICT is a term that is being used worldwide and accepted as the catalyst for national development. Information technology is a tool so the information flow and applications on the Internet are crucial to economic growth and improving the quality of citizen's lives.

LITERATURE REVIEW:

A core sustainability science research program examines that the various questions related to the role of ICTs in knowledge society for sustainable development must be developed (Devex, 2013). The goals for ICTs in knowledge society are by numerous stakeholders, including government, NGOs, aid-givers, and citizens, must be engaged in balancing human needs with conservation and alleviating poverty (Clark & Dickson, 2003). However, low performance in areas such as encouraging consumer and business adoption of ICT continues as a socioeconomic obstacle hindering deployment (Dirks, Keeling, & Lyons, 2008). Government will play a key role in public-private partnerships to promote the role of ICTS in development of innovative knowledge society, especially in developing countries where infrastructure is mostly in the public sector. The World Information Technology and Services Alliance ICT research focuses on measuring ICT spending and trends (WITSA) and the UNDP Technology Achievement Index measures countries' ability to create and diffuse technologies to build a human-skill base (UNDP, 2001).The revised indicator considers various factors including IT infrastructure quality, government policies, consumers' and business's ability to use internet to their benefit and efficiency (Economist Intelligence Unit, 2010). According to Cash etal. (2003), "active, iterative, and inclusive communication" between policy experts and ultimate decision makers or resource allocators is desirable in order to build the knowledge systems that embrace salience, credibility, and legitimacy. Experts and decision makers must also use the same metaphors so as to avoid losing knowledge in translation. Mutual understanding, therefore, is required. In summary, successful knowledge systems must be implemented in order to promote the effective use of ICTs for innovative knowledge society.

INFORMATION SOCIETY VS. KNOWLEDGE SOCIETY

"Information Society" was first used in Japan by Kohyama (1968) and used as a rationale for national policy. In the 1970s, the authors of computer-related texts were not likely to refer to an "Information society" but instead used words like "Information age" and a "computerized society". By the late 1980s "information society" captured the essence of a culture flooded by information and dominated by information technology. The definition of a knowledge society is not a fixed one; it constantly evolves to reflect developments in the field as they unfold. The term "knowledge society" was first used in 1969 by Peter Drucker, at the same time where similar notions evolved such as "learning societies" and "lifelong education for all" (UNESCO, 2005, p. 20).

The concept of a knowledge society is wider in scope than the concept of an information society.
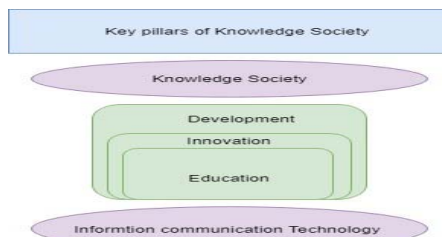

Fig. 1: Key Pillars of Knowledge Society

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UNESCO argues that progression from Information Societies to Knowledge Societies requires the 'use of Information communication Technology which must be linked to the recognition that knowledge is the principal force of the political, social, institutional and cultural dimensions of development founded on human rights. The UNESCO's first phase of the World Summit on the Information Society (WSIS, 2008) argues that the concept of a knowledge society is more empowering than the concept of technology and connectivity where "knowledge societies are about capabilities to identify, produce, process, transform, disseminate and use information to build and apply knowledge for human development. They require an empowering social vision that encompasses plurality, inclusion, solidarity and participation". The knowledge society refers to a second-generation information society aiming to generate knowledge through a culture of sharing, and develop applications that operate via emerging ICT like the Internet (ESCWA, 2005). A knowledge society with the help of ICT is one where the economy is a 'knowledge based one' and society is predominantly based on horizontal networks and "democratic participation" (Arab Knowledge Report, 2009, p. 33).

ICT Infrastructure

ICTs encompass technologies that can process different kinds of information (voice, video, audio, text, and data) and facilitate different forms of communications among human agents, among humans and information systems, and among information systems. ICT "consists of the hardware, software, networks and media for the collection, storage, processing, transmission and presentation of information (voice, data, text, images), as well as related services". ICT is regarded as tools which may provide a new potential for combining the information embedded in ICT systems with creative potential and knowledge embodied in people. ICT application relates to the web sites and other related applications such as blogs, television programs and censorship. Many developing countries still suffer from a lack of basic infrastructure needed to build a solid ICT base, such as electricity, buildings and roads. The needs for ICT infrastructure has long been highlighted, whether in economy, social, politics, culture etcetera.

ICT FOR KNOWLEDGE SOCIETY:

ICT provides an essential platform in developing a knowledge society and allowing for exercising freedom of opinion, expression and of knowledge sharing. The gradual move towards a knowledge society is irreversible and expanding, involving massive developments in information and communication technologies that have revolutionized knowledge production and sharing. ICTs have been the catalyst for this transformation from vertical to horizontal platforms of knowledge production characteristic of dynamic knowledge societies. ICT is a fundamental component of a knowledge society. The evolution of ICT indicators to encompass the different aspects of the knowledge society reflects its growing impact on business and socioeconomic development. Technology innovations could have remarkably positive implications for developing nations if they are properly implemented. Thus ICT can help to build the innovative knowledge society in the following areas:
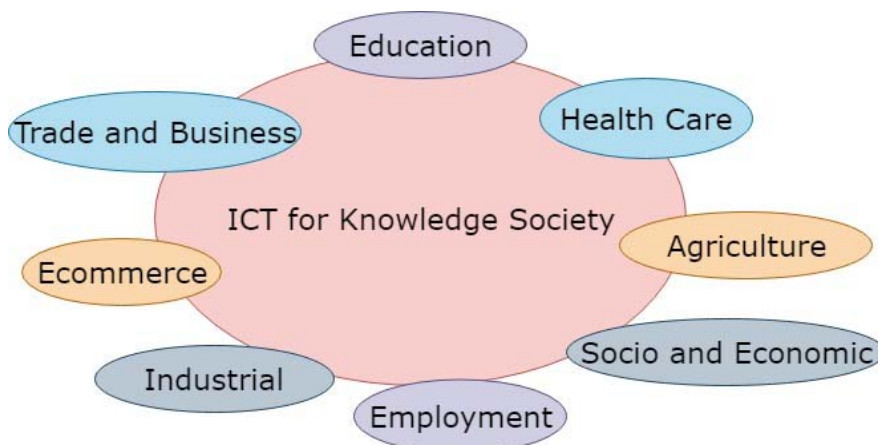

Fig. 2: ICT for Knowledge Society

ICT and E-commerce: The majority of commercial transactions are taking place on advanced communication networks, including the Internet. The costs of business transactions can be reduced by electronic commerce. E-commerce can reduce the importance of firm size, as the competitiveness of firms becomes much less a function of the scale of their capital or tangible assets. In innovative knowledge societies e-commerce is becoming a precondition of conducting business. If developing countries do not adopt electronic business networks, businesses in these countries will be disadvantaged in trade and in finance.

ICT and Trade opportunities: Innovation in the ICT sector is radically affecting global trading patterns. ICTs helps to generate significant rewards for developing countries. Software industry is profiting from new corporations that are providing new prospects for trade in software and related software-development activities. Similarly, ICTs are contributing to dramatic changes in the cost structure and the basis for delivering services in the public and private sectors. For e.g. tour operations, banks, airlines, and other alike service providers can launch customer-service centresin different time zones so as they can provide cost-effective 24-hour service.

ICTS and Employment: The impact of ICTs on employment and on the distribution of different kinds of low- and high-skilled jobs in the knowledge societies of the future is widespread. In the new information-service sectors employment willbe affected by growth in productivity and output. ICTs contribute to economic transparency in so far as they bring to light the cost advantages of alternative locations, international capital mobility, and international outsourcing of particular activities. Essential to ICTs generation of employment, as well as to the scale and pervasiveness of job losses, are the training, retraining, and lifelong learning opportunities for all workers.

ICT and Health care: ICTs support more efficient exchanges of information between health professionals, saving both time and money. The transfer of patient records between sites and to improve the responses of medical staff is very common in new information-service sectors. . With greater autonomy and improved social integrationICTs can help the disabled and elderly persons to achieve independent lifestyles. People with disabilities and knowledgecomplicationsICTs offer access to education curricula and informal learning. Visually impaired or blind people can enable to record their work by the use of ICTs. Access to environmental information for citizens; local, regional, and national authorities; and businesses can be facilitated by ICT.

ICT and Agriculture: Information systems gather information on soils, hydrology, and rainfall in agriculture.It provides socioeconomic information on communication, value ratingsand utilities to support decision-making and planning activities at various administrative levels. To improve access to information and for sharing knowledgeICT applications provide new tools.

ICT and Industrial: With the help of ICTs manufacturers are enabling to speed up whole process chains or target them for removal. The systematic capture of information at all stages of design and marketing can be facilitated.by ICTsFrom computer-aided design and interactive graphicsboth machine tools and manufacturing parts are benefit.

To support the social and technological competencies in developing countries and build innovative knowledge societiesICTs offer a variety of tools. Both types of capabilities accumulate through formal and informal learning, and these capabilities can be combined in ways to facilitate knowledge-based development. If digital information is to be transformed into useful knowledge for development then these competencies are vital. To make this transformation, developing countries will need to invest in generic and specialized education and training, including selected areas of ICT-related R&D. Synchronized ICT investment approaches can yield economic returns and social benefits. The full benefits depend on the types of technologies selected and the model of access for individuals in their homes, work-places, or communities. Communication network technologies and services have been moulded in most cases by economically and politically powerful actors in the industrialized countries. The ability to develop ICT applications that are meaningful for people in the least-developed countries is crucially important. In education, for example, the initial focus is often on side-stepping the inadequacies of existing institutions by experimenting with distance learning and using networks to access external professional

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competence. However, major progress is not possible until the new information is absorbed into local education systems, with extensive programs for training and support.

CONCLUSION:

This article examines the potential transformation role of ICTs in the development of innovative knowledge society. Although the article is introductory, we identify a number of contributions to the literature and provide direction to country-level policy makers in governmental and non-governmental organizations and in the private sector regarding the role of ICTs in the development of innovative knowledge society. The transition towards a global knowledge society needs to be coupled with an understanding and implementation of information communication technology that would direct it towards a desired outcome i.e. innovative knowledge society. Efforts should not only be focused on expanding and enhancing connectivity and technology but educational opportunities to equip people with the tools to best use the technology available, deploy ICT in every day's life of people and other steps towards an enabling environment towards an effective and efficient knowledge society.

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