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Knowledge Society and Digital India Program as a Venture to Demolish the Wall of Digital Divide

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Abstract

The article focuses on how the concept of 'knowledge society' came and what does the term mean. It is evident that a rapid and conspicuous change in the societal process has been identified day by day. We, now in the 21st century, are facing a great and abrupt transition globally. Through the different phases of evolution, the world (especially, developed countries), is entering knowledge society. India being a developing country is yet to walk further to be flourished instead of having its own assets. But, India's recent initiative, Digital India program, is a significant effort to formulate balanced Knowledge economy. It would become a knowledge society if all the pillars of the DI program can be erected.

Key words: Knowledge society, knowledge economy, digital divide, Digital India, Third wave

Introduction

It is conceived that the 'third wave' arriving and entering the society made a great transition in the process of civilization. The world was on the verge of Information Society in the second half of the 18th century and now in the 21st century, it has crossed the threshold of the Knowledge Society. The jargon was made coalescing two words 'knowledge' and 'society'. Each of the words has individual entity. 'Knowledge' defines the fact or condition of knowing something with familiarity gained through experience or association; or the circumstance or condition of apprehending truth or fact through reasoning and 'society' means people in general thought of as living together in organized communities with shared laws, traditions, and values. But, what does the terminology 'Knowledge society' as a whole connote? It implies a society based on knowledge and to define more explicitly, a society that generates, processes, shares and makes available to all members of the society knowledge that may be used to improve the human condition. Now a day, knowledge assumes the central role in bringing about a radical change in societal progress. A knowledge society differs from an information society in that the former serves to transform information into resources that allow society to take effective action while the latter only creates and disseminates the raw data. The concept "knowledge society" evolves based on the term 'knowledge worker' used by academician, Peter Drucker, in 1969 and it came into its own in the 1990s, in particular with the detailed studies by researchers such as Robin Mansell, Nico Stehr.[12]

If we look back to the phases of evolution of the society, we would distinguish different phases characterized by different elements or factors that has dominated contemporary period respectively. From the sociological point of view, society has been categorized mainly into three broad phases which are –

- *Pre –industrial or Agrarian Society:* In the Agrarian Society, agriculture was the predominant occupation of people who created the knowledge base. The process and the progress were quite slow. The power foci were the landed gentry.
- *Industrial Society:* The Industrial Society was triggered by the Industrial Revolution that started in Great Britain and moved to most part of Western Europe. The changing society was organized around energy as the main source of production of goods and services on a mass scale. A new class of blue

collared factory workers emerged. Trade and commerce flourished. There was a dramatic change in the social structure. There was a remarkable improvement in the standard of living of people.

- *Post –industrial Society:* Post-industrial societies are societies dominated by information, services, and high technology more than the production of goods. Though, the first segment of the Post-industrial era was characterized by information but, due to escalating growth of information and information overload, it is intended to be more definitive and as a consequence, the emergence of knowledge society is perceptible.

In the emerging Knowledge Society, the time span of changes is recognized within decades. In this Society, it has been observed that human knowledge is the basis of power that has been instrumental in ushering shocking changes in society. Different people have termed this rising society in a different way such as the Post-industrial Society, the Third Wave, the Information age, the ICT Era, Information Society and so on.

A sea change has been taking place in Knowledge Society. According to Peter Drucker, no century in recorded history has experienced so many social transformations and such radical ones as the twentieth century. Alvin Toffler mentioned in his 'Third wave' that "humanity faces a quantum leap forward. It faces the deepest social upheaval and creative restructuring of all time. Without clearly recognizing it, we are engaged in building a remarkable new civilization from the ground up. This is the meaning of the Third Wave."[11]

Now it is to identify the factors that have contributed to the changes that have led to the emergence of a knowledge society. Some of the factors are: exceptional growth of new knowledge, its propagation, distribution, accessibility and availability; Globalization of Trade, Commerce and Business; Polity, governance, levers of power; Development planning and process of Implementation; Emergence of a professional class termed as 'Knowledge worker' and their prime role; and more substantially the technological innovations and accelerated progress in ICT.

Knowledge Economy

Another facet of far reaching changes towards Knowledge society is the new thinking that is establishing a new dimension to the factors of economic production. Knowledge now is deemed to be a prime factor of production. Recently, perceiving the invasive and dominant role of information and knowledge in micro and macroeconomics, economists have considered information / Knowledge economics as an area of expertise.

Lamberton, a specialist in Information Economics, says that the speciality has emerged "as a response to the deficiencies of economic theory built on unrealistic assumptions about the richness and sureness of information available to decision makers, failures of governments and business policies and the spectacular advent of intelligent electronics with its greatly enhanced capacities for communication, computation and control." In fact, he claims, 'the emergence of this new paradigm is transforming economics and probably other social sciences."[8]

Economic success is increasingly based on upon the effective utilisation of intangible assets such as knowledge, skills and innovative potential as the key resource for competitive advantage. The term 'knowledge economy' is used to describe this emerging economic structure (ESRC, 2005). The knowledge society is a larger concept that just an increased commitment to R&D. It covers every aspect of the contemporary economy where knowledge is at the heart of value added – from high tech manufacturing and ICTs through knowledge intensive services to the overtly creative industries such as media and architecture (Kok Report, 2004).

The developed world has shifted from an agricultural economy to industrial economy and then to post-industrial economy (mid-1900s, largely the service sector) and thereafter to knowledge economy (late 1900s – 2000s, largely the technology/human capital sector). This latest stage has been marked by the upheavals in

technological innovations and the globally competitive need for innovation with new products and processes that develop from the research community (i.e., R&D factors, universities, labs, educational institutes). This transition came holding the hand of Knowledge worker who are considered as the intellectual capital of the society.[10]

Knowledge Society in Developed Countries

In knowledge society, common man's life and culture have been radically changed due to the summative result of industrial and information revolution. These changes are mirrored in every dimension of life. The most evident changes are: high standard of living; instant access to information and recorded knowledge through internet; escalating movement towards consumerism; influence of mass media, leisure industry utilizing scientific and technological innovations and more evidently Information and Communication Technology.

Challenges for Developing Countries:

The United Nations Commission on Science and Technology for Development report (UNCSTD, 1997) concluded that for developing countries to successfully integrate ICTs and sustainable development in order to participate in the knowledge economy they need to intervene collectively and strategically. Such collective intervention suggested would be in the development of effective national ICT policies that support the new regulatory framework, promote the selected knowledge production, and use of ICTs and harness their organizational changes to be in line with the Millennium Development Goals.[6]

Now, it is obvious that evolution of knowledge society pertains mainly to the western industrial society i.e. developed countries of the world. But, it is very unfortunate to think that the benevolent touch of knowledge economy is yet to reach the edge of all the developing countries. The oath of making 'global village' is yet to be accomplished in the developing country like India. If we consider the world population, it would be measured that a nominal percentage of the total population are able to get access to knowledge and henceforth there is small part of the world entered the knowledge society.

Digital Divide

This disparity is a matter of discussion under the terminology 'Digital divide' which describes the fact that the world can be divided into people who do and people who do not have access to the end -products of Information Communication Technology. Kenniston, identifies four different kinds of Digital Divide. They are:

- It exists within every nation, industrialized or developing, between rich and poor, educated and uneducated, powerful and powerless.
- The Second type of digital divide is linguistic and cultural.
- The third digital divide is the growing digital gap between the rich and the poor nations.
- The fourth digital divide is the emergence of a new elite group, which is called the 'digirati'. [7]

According to Kenniston, Information Technologies should be introduced when (and only when), they constitute the most effective available away of meeting basic human needs and fulfilling fundamental human rights and Information and communication technology projects must build on an assessment of local needs, as locally defined by local people. Information poverty of developing nations is not the cause of their deficiencies. [5]It is rather the consequences of other forms of poverty, social inequalities of resources, illiteracy, corruption, injustice, poor health and lack of basic public services.

A knowledge society promotes human rights and offers equal, inclusive, and universal access to all knowledge creation. The UNESCO World Report establishes four principles that are essential for development of an equitable knowledge society: ,Cultural diversity, Equal access to education, Universal access to information (in the public domain) and Freedom of expression

However, they acknowledge that the digital divide is an obstacle to achievement of genuine knowledge societies. Access to the internet is available to 39 percent of the world's population. This statistic represents growth as well as a continued gap. Among the many challenges that contribute to a global digital divide are issues regarding economic resources, geography, age, gender, language, education, social and cultural background, employment and disabilities. [7]

Indian Scenario

While there is an immense blow of knowledge society perceived throughout the world, especially in developed countries, India being a developing country is lacking behind the edge instead of having its own knowledge assets. It is therefore necessary to work towards connecting the forms of knowledge that societies already possess and the new forms of development, acquisition and spread of knowledge valued by the knowledge economy model. Very recently, India has taken into consideration the impact of knowledge economy and henceforth its genuine attempt to reach the knowledge society has been discerned.

Digital India Programme: a new paradigm

'Digital India', an umbrella concept, is a programme to transform India into a digitally empowered society and knowledge economy and from now on it is a vital footstep taken by the Govt. of India to integrate the government departments and the people of India and it is great initiation for moving towards Knowledge society. **Digital India is an initiation to prepare India for a knowledge future. It aims to make every household digitally literate with a goal to make India the Global Knowledge hub, with IT being a major driver and engine of growth.**The project endeavours to ensure the government services are made available to citizens of India electronically by reducing paperwork. Majority of Indian citizens live in the rural areas. One of the main targets of the Digital India initiated by Government of India is to reach them in an effective manner connecting rural areas with high-speed internet networks and providing proper ICT infrastructure. This will be for preparing the India for the knowledge based transformation and delivering good governance to citizens by synchronized and co-ordinated engagement with both Central Government and State Government.This programme has been envisaged by Department of Electronics and Information Technology (DeitY) and will impact ministry of communications & IT, ministry of rural development, ministry of human resource development, ministry of health and others. It will also benefit all states and union territories. The ongoing e-Governance initiatives would be refurbished to support them with the principles of Digital India.

The introspective vision of Digital India endowed with the intensified impulsion for further energy and advancement of e-Governance and it would promote inclusive growth that covers electronic services, products, devices, manufacturing and job opportunities. Digital empowerment of citizens would lay emphasis on universal digital literacy and availability of digital resources / services in Indian languages. DI project has been targeted to get in touch with its zenith point by 2019. A two-way platform will be created where both the service providers and the consumers stand to benefit. Digital India Advisory group chaired by the Ministry of Communications and IT has been dispensed with the project for monitoring and controlling it in an effective manner. To implement this government is planning to strengthen National Informatics Center (NIC) by restructuring it to support all central government departments and state governments. It will cost INR 113,000 crore to complete the project as estimated by the Government.[2]

Core component of Digital India

The vision of the promising project centred on three key areas which are as follows:

- *Digital infrastructure as a utility to every citizen:* It focuses on the issues such as
    - High speed internet is to be made available in all gram panchayats;

- Cradle to grave digital identity which is unique, lifelong, online and authentic;
- Mobile and Bank account would enable participation in digital and financial space at individual level;
- Easy access to common service centre within their locality; Shareable private space on a public cloud; and Safe and secure cyber space in the country.

- *Governance and Services on Demand:* It includes
  - Single window access to all persons by seamlessly integrating departments or jurisdictions;
  - Availability of government services in online and mobile platforms;
  - All citizen entitlements to be available on the Cloud to ensure easy access;
  - Government services to be digitally transformed for improving ease of doing business;
  - Making financial transactions above a threshold, electronic and cashless; and Leveraging Global Information System for decision support systems and development.
- *Digital empowerment of citizens:* The last but not the least key component focuses on the following: Universal digital literacy,All digital resources universally accessible, All government documents/certificates to be available on the Cloud, Availability of digital resources/services in Indian languages,Collaborative digital platforms for participative governance and Portability of all entitlements for individuals through the cloud.

Nine Pillars of Digital India Project

To make it a successful project, nine pillars have been identified to give emphasis at the Digital India Week program. The nine pillars are as follows:

- *Broadband Highways*: all rural and urban areas including 2.5 Gram Panchayat are to be facilitated with communication infrastructure through National Optical Fibre Network (NOFN).
- *Universal Access to Mobile connectivity*: remaining uncovered villages (approximately 42,300) are to be brought under a single roof i.e. access to mobile connectivity by 2018.
- *Public Internet Access Programme:* to implement the objective of Nation Rural Internet Mission, it is necessary to expand the coverage of Common Services Center (CSC), making it viable and multi-functional end-points for service delivery in every panchayat by2017 and Post –offices to become multi-service centre in future.
- *e-Governance* – Reforming government through Information Technology: Business process re-engineering using IT will be undertaken to improve processes and service delivery. Services will be integrated with UIDAI, payment gateway and mobile platform. Electronic databases; workflow automation inside government; Public Grievance Redressal using IT to automate, respond, analyse data to identify and resolve persistent problems are to be implemented.
- *e-Kranti* – Electronic delivery of services: e-Kranti focuses on electronic delivery of services in the following sectors: -
  - *Technology for Education – e-Education:* All Schools are to be connected with broadband and free wi-fi. Digital Literacy program and MOOCs – develop pilot Massive Online Open Courses
  - *Technology for Health – e-Healthcare***:** Online medical consultation, Online medical records, Online medicine supply, Pan-India exchange for patient information are to be prepared and maintained effectively.
  - *Technology for Planning:* GIS based decision making; National GIS Mission Mode Project are to be considered for planning.

- *Technology for Farmers:* Real time price information; Online ordering of inputs; Online cash, loan, relief payment with mobile banking are to be handled carefully to make it more easy accessibility to the farmer.
- *Technology for Security:* Mobile Emergency Services must be generated for effective security system.
- *Technology for Financial Inclusion:* Mobile Banking, Micro-ATM program, CSCs/ Post Offices would be the main outlet for maintaining financial inclusion.
- *Technology for Justice and security:* It is through the creation of e-Courts, e-Police, e-Jails, e-Prosecution and National Cyber Security Co-ordination Center, Indian citizens would be assisted in their need for justice and security.

- *Information for All:* This pillar focuses on online hosting of data and proactive engagement through social media and web based platforms like MyGov.in and two-way communication platform between common man and government is very necessary. Online messaging to citizens on special occasion/program is good initiative satisfy 'Information for All' program.
- *Electronics Manufacturing:* Target NET ZERO Imports is striking demonstration intent. Its focus is on set top boxes, VSAT, mobile, consumer electronics, medical electronics, smart energy meters, smart cards and micro ATMs in one hand and skill development, government procurement in another hand.
- *IT Training for Jobs:*The government is planning to train one crore students from small towns and villages for IT sector jobs. Besides, ICT enabled growth in North East states is a focal point of this pillar. To make skilled Service Delivery Agents who would provide viable IT service through CSCs, it is necessary to initiate IT training.
- *Early Harvest Programmes:* There are already many programmes harvested earlier and those ongoing programmes are to be tuned finely keeping with the view to attain the goal of Digital India program. Those programmes are as follows:, IT platform for messages targeted mass messaging, Government Greetings to be e-Greetings,Biometric attendance in government offices, Wi-fi in All Universities on National Knowledge Network (NKN), Secure email within government considering email to be the primary mode of communication,Standardize government email design, Public wi-fi hotspots to make Digital cities,School Books to be eBooks,SMS based weather information, disaster alerts and National Portal for Lost & Found children.

Status of DI program

Digital India is in the progress mode. The Apex Committee is going to analyse its progress very soon. Other reports generated by mass media, have also hinted at progress of policies for Digital India very soon. If correctly implemented, Digital India project can change the way public services would be delivered in India and it would be seen that the people's life and culture will be drastically changed in the near future.

Digital India aims to make every household digitally literate with a goal to make India the Global Knowledge hub, with IT being a major driver and engine of growth. The manifesto has a strong focus on e-Governance as it is supposed IT is a great enabler for empowerment, equity and efficiency.

Challenges and changes needed

Digital India is indeed a promising project. Program on this large scale has never been conceived before. So, to accomplish the goal of the project there may be so many inconveniences and impediments to be faced at the time of pursuing but, it is to handle with efficiency and strategic planning. Each Pillar/program has own challenges. So, various issues are to be considered like Human Resource Issues; Financial Resource Issues; Coordination

Issues. Mostly structured ongoing programs need some restructuring and better focus. In every juncture of the program, commitment and effort must be needed.

Conclusions

Before concluding, it is to reminisce again the words of Alvin Toffler what he says in his Future Shock (1980) – "We need, however, a yardstick that makes it possible to compare highly diverse processes, and this yardstick is time. Without time, change has no meaning. And without change, time would stop"[10] and "Technology makes more technology possible, as we can see if we look for a moment at the process of innovation. Technological innovation consists of three stages, linked together into a self reinforcing cycle. First, there is the creative, feasible idea. Second, its practical application. Third, its diffusion through society."[10] So, it is only time that would give all answers to our questions like where we will be in near future; whether it is possible to build digitally empowered society; whether India becoming a knowledge-society in true sense or not.

To conclude, it is to admit that the real progress into a knowledge economy will not come without a substantial development of India's human potential. The Indian vision of a knowledge-based economy will be realized when it is based on the foundation of a robust industrial economy. To be truly beneficial, the rain of ICT must fall at the right place, in the right quantity, at the right time and for the right purpose. Last but not the least; India would have to go through respective stages of Digital India program strategically to become a knowledge society.

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