ROLE OF ELECTRONICS AND INFORMATION TECHNOLOGY IN THE ECONOMIC DEVELOPMENT OF INDIA

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ABSTRACT

Electronics and IT possess a great role in the economic development of India. Even though there is slowdown in the country’s economic growth, the National Policy on Electronics promises far reaching consequences for every Indian. The factors that are used to accelerate the process of economic development would be e-Innovation such as innovation in processes/products that aid financial inclusion, facilitate the use of IT Networks, as well as e-Social factors that have demonstration effects. A particular industry that has predominant growth in the Indian economy is the IT service sector. Digitalization has a positive impact on economic growth and development.

KEYWORDS: Digitalization, E-Development Index, Electronics and IT, Information Technology.

INTRODUCTION

Electronics and IT possess a great role in the economic development of our country. As a result the government established the Department of Electronics (DOE) in June, 1970 and the Electronics Commission in February, 1991. In 1975, the Government of India strategically decided to take steps for the development of information systems and utilization of information resources. In view of its relevance for all round socio-economic growth, and also to get benefit of the emerging digital economy, the Central Government has created a new Ministry of Information Technology (MIT) in 1999 by merging the DOE, National Informatics Centre (NIC) and Electronics and Software Export Promotion Council. As per economic theory, digitalization of the economy impacts economic growth in two ways: one as an input in to production process and the other through technological process. Various policy announcements like the Import Policy (1983), Computer Policy (1984), Electronic Policy (1985), and Software Policy (1986) laid the foundations for the liberalized growth of IT industry in the country. It was recognized that IT would become strategically as important to the Indian economy as oil. The three main Stakeholders Government, Industry and Individuals use the elements of digitalization to develop
e-Government applications, software products and/or download complex internet products. “Among top exporters/importers of services (with EU-27 taken as a single unit), India ranked among the first five countries in the export of commercial services, computer and information services, communication services & other business services and in the import of computer and information services and financial services in 2008” (Economic Division, Department of Economic Affairs, Ministry of Finance, Government of India, 2010). National policy on electronics aims at addressing the huge gap between locally manufactured electronics and consumer demand for electronics.

EMERGING DIGITAL ECONOMY

In the era of globalization and phenomenal growth in IT, a paradigm shift in productivity and economic development and in management thought is clearly noticeable. There has been a significant growth in Electronics and IT sector during 1980s and 1990s. The outsourcing of IT Enabled Services (ITES) has a great potential for growth and contribution towards employment opportunities in India. Information Technology Act (2000) and Communication Convergence Bill (2001) of the Government clearly show the direction in which the country is moving to facilitate a single communication network catering to all types of technologies (i.e. Internet, Dotcom, Telecom, Wireless, Wireline, Fixed, Mobile, Satellite Communication, etc.), and e-commerce. National Information Infrastructure (NII) is evolving as a network of networks including such nationwide networks as NICNET, ERNET, HVNet & I-Net, in addition to an extensive Fibre Optic Telecommunication Backbone being set up by Department of Telecommunication (DOT), Railways, and the Private Sector. The share of Electronics and Services industry was Rs. 466990 Crores during 2010-11 of which Rs. 125790 Crores (is from electronics industry and Rs. 341200 Crores is from service industry. Production of electronics products and software during 2010-11 had 12 percent growth over 2009-10 when the total production was Rs. 418090 Crores. The total Indian IT industry is worth over USD 70 billion. The global economy is forecasted to grow at around 4% annually through 2015. Over the long term electronics industry will grow at twice that rate.

DIGITALIZATION IN INDIA

The international concept of digitalization is that it is composed of three elements – networks, IT services and digital goods. IT services is expanded to include both human resources (HR) and IT services as the Indian experience shows that appropriate skilled labour is a crucial element in adaptation and dissemination of IT in a developing country. Digital goods are relabeled as content which in the Indian context would mean that users have the information they want available and in the regional language of their choice.

E – DEVELOPMENT INDEX

The measure of extent of digitalization as well as the factors driving the process of economic developed can also be conceived of as a composite index measure of the following sub-indices:

1. E-Readiness (economic): Identification and realization of value-creation opportunities facilitated by ICT for stakeholders.
2. E-Governance (administrative): ICT-enabled governance potential at the State/UT level. Four models of e-Governance are Government to citizen (G2C), Government to employees (G2E), Government to government (G2G) and government to business (G2B).

3. E-Industry (industry and services): Production, exports and employment of IT services (technology embedded), ICT-triggered services (commercial Services), ICT goods and ICT-triggered goods.

4. E-Innovation (innovation triggered by IT): Innovation activities facilitated by IT in technology-embedded and technology-enabled services including banking, services sector development in rural areas, etc.

5. E-Social (Demonstration Effect): Applications of IT in health and education and measurement of disparity in access/usage of IT.

INITIATIVES OF THE MINISTRY OF INFORMATION TECHNOLOGY

Development of IT enabled services, IT education, electronics and computer hardware manufacturing and exports, silicon facility, e-commerce and internet based enterprises has become the thrust area of the Ministry. R&D in emerging technological area has remained a key activity of the Ministry and the promotional efforts in electronics and IT have helped enormously in the laying of solid foundation in the IT industry. The Ministry has initiated about 300 R&D projects at more than 100 institutes including industries, academic institutes and research laboratories.

TECHNOLOGIES FOR INTERNET, E-COMMERCE AND E-GOVERNANCE:

Net master, a software system for traffic monitoring and bandwidth management of the Internet access link has been developed. VOICE, a versatile online information system to address the needs of citizens, civic administration and Municipal Corporation has been successfully implemented. Knowledge management system KMAP has been developed to help people in an organization to have access to context specific information to help them in decision making process.

COMMUNICATION, BROADCAST & TELEMETRY:

Digital mobile radio to provide secure and reliable mobile communications with full duplex voice or data within option for encryption has been developed. System for use in subtitling of feature film telecast in regional languages has been designed and developed. A spread spectrum radio modem has been developed for various networking applications. UHF wireless data modems for high speed data communications have been designed and developed.

AGRO-AND RURAL APPLICATIONS

Various agro instruments like fertilizer testing kit, soil and grain moisture indication instruments, soil nutrient measuring instrument, rice polish measurement system and multichannel choke indicator to optimize seed spacing, using a tractor have been developed. These instruments are...
simple to operate and can be produced at nominal costs. Also IT tools for watershed development have been developed along with irrigation canal control automation. Solar pumps for rural use have been fabricated.

NATIONAL POLICY ON ELECTRONICS

By far the most exciting event on the horizon for the Indian semiconductor and electronics ecosystems is the National Policy on Electronics which is expected to be formalized in 2012. The Policy aims at addressing the huge gap (estimated at Rs.15.31 lakh crore ($300 billion)) between locally manufactured electronics and the consumer demand for electronics that we expect to see by 2020. If immediate steps are not taken to address this gap, it is forecasted that by 2020, electronics imports may far exceed oil imports. The Policy takes a holistic view of developing the Electronics System Design and Manufacturing (ESDM) ecosystem with a view to bridging the demand-supply gap. Its provisions are wide ranging and cover diverse areas such as manufacturing, R&D, IP creation, manpower and training, standards, e-waste management, investments, and the setting up of a National Electronics Mission.

IMPACT OF INFORMATION TECHNOLOGY ON INDIAN ECONOMY

A particular industry that has been instrumental in the growth of the Indian economy is the IT sector. IT stands for Information Technology. The design, development, implementation or management of information systems is referred to as information technology. It describes the production, storage, manipulation and dissemination of information. IT industries account for 6% of the GDP of India and provide employment directly or indirectly for over 2.3 million people. It also contributes very significantly to India’s exports: accounting for around 18% in 2001. India produces roughly 150,000 technically and socially skilled engineers every year. Most of them migrate to developed countries and form an integral part of the workforce there, thus becoming India’s most beloved export.

CONCLUSION

Digitalization has a positive impact on economic growth and development. India is a land burgeoning with youth and life. It is the 11th largest economy in the world by nominal GDP (Gross Domestic Product) and 4th in terms of PPP (Purchasing Power Parity). India is also making very significant steps forward economically to become an economic superpower by 2020. The growth in demand for telecom products has been high, with India adding two million mobile phone users every month, which is one of the main reasons for the growth in production of electronic goods. While agriculture is still the predominant employer and economic mainstay of the nation, industries contribute a very large percentage to the economy. This contribution has increased more rapidly after the government opened up the economy and revised its economic policy to include liberalization and globalization.
REFERENCES

1) www.financialexpress.com, 8th Aug 2012, 5.30 P.M

2) www.eetindia.co.in, 29th Sep 2012, 9.00 A.M

3) www.escindia.in, 2nd Aug 2012, 3.00 P.M

4) indiacurrentaffairs.org – electronics and economic growth, 5th Aug. 2012, 4.30 P.M


6) business.gov.in, 5th Aug 2012, 4.30 P.M