CHAPTER 13

INFORMATION TECHNOLOGY

13.1. In less than two decades, advances in information technologies have revolutionized government, scientific, educational, and commercial infrastructures. Powerful personal computers, high-bandwidth and wireless networking technologies, and the widespread use of the Internet have transformed stand-alone systems and predominantly closed networks into a virtually seamless fabric of interconnectivity. During this period, Indian IT industry has also built up an enormous confidence for itself in the global markets. IT industry in India comprises of software industry and information technology enabled services (ITES), which also includes business process outsourcing (BPO) industry.

13.2. India is considered as a pioneer in software development and a favorite destination for IT-enabled services. The Indian IT-BPO sector including the domestic and exports segments continue to grow from strength to strength, witnessing high levels of activity both onshore as well as offshore. The companies continue to move up the value-chain to offer higher end research and analytics services to their clients. India's leadership position in the global IT and BPO industries are based primarily on the following advantages. India accounts for around 28 per cent of IT and BPO talent among 28 low-cost countries. It has a rapidly growing urban infrastructure fostering several IT centres in the country. Offshore service centres are spawning in the country due to operational excellence with low delivery cost, quality leadership and a conducive business environment. Favorable policy interventions, enabling infrastructure and augmenting a wide skill base from the government has further enhanced India's brand image.

13.3. Measuring the impact of IT is critical to better understanding the role of IT for economic and social development. With the rapid growth of the IT sector in India, there is an important demand from the research community and policy makers for better data to ensure that research findings are representative for the entire country or the state in order to inform policy makers about IT developments and its impact and have meaningful interpretations of policies. In particular, there is a real need to measure the digital divide in the country, including the urban-rural and gender divides, and the use of community Internet access centers by low-income users.

13.4. Certain data, in particular, data on the telecommunication sector, the IT industry and business process outsourcing (BPO) and data on the information society at large, are produced on a regular basis. A significant amount of data exists on the IT service industry, collected by National Association of Software and Services Companies (NASSCOM), reflecting their members' data. In India, the indicators related to workforce, value added, imports & exports respectively are not strictly measured as per the International Standard Industrial Classification (ISIC). However, the information related to workforce & exports for this sector is maintained in National Association of

Software and Services Companies (NASSCOM) for the IT-BPO sector. Similarly, data on IT manufacturing is captured by another private body, the Communication and Manufacturing Association of India (CMAI).

13.5. NASSCOM is a premier trade body as well as the Chamber of Commerce of IT-BPO sector in India. It is a not-for-profit organization and has emerged as an authentic voice of this industry in India. It publishes an annual edition of its strategic review to disseminate the latest status of the industry based on the survey of large companies of this sector.

13.6. The data related to production, exports and imports of this sector is also maintained by the Ministry of Communication and Technology in terms of electronic hardware, computer software etc. The information of production, imports and exports are shown in Table 13.1 and 13.2.

13.7. National Sample Survey Office (NSSO) of the Ministry of Statistics and Programme Implementation, which conducts multi-subject integrated sample surveys all over the country, will conduct survey on the basis of a 10 year time frame on the number of household using computers (HH5).

13.8. Similarly, Central Statistics Office (CSO), which conducts Annual Survey of Industries (ASI), collects information related to the use of ICT.

13.9. Recently Govt. of India, Ministry of Statistics and Programme Implementation (MOSPI) has signed an MOU to participate in the project on "Statistical Compilation of IT Sector and Policy Analysis" undertaken by Orbicom, the network of UNESCO Chairs in Communication. In this project an attempt has been made to compile data on the contribution of IT sector to the Gross Domestic Product (GDP) and employment to the Indian economy following internationally accepted and harmonized definitions and concepts emerging from the OECD and United Nations. The value added has been compiled from the existing data holdings of the MOSPI.

13.10. The important indicators of IT required to be collected by our Statistical System are:

- Computers per 100 inhabitants
- Internet subscribers per 100 inhabitants
- Broadband Internet subscribers per 100 inhabitants
- International Internet bandwidth per inhabitant
- Internet access tariffs (20 hours per month), and as a percentage of per capita income
- Percentage of localities with Public Internet Access Centres (PIACs) by number of Inhabitants (Rural/Urban)
- Proportion of households with a computer
- Proportion of individuals who used a computer (from any location) in the last 12 months

- Proportion of households with Internet access at home
- Proportion of individuals who used the Internet (from any location) in the last 12 months
- Location of individual use of the Internet in the last 12 months:
  (a) At home; (b) At work; (c) Place of education; (d) At another person's home;
- (e) Community Internet access facility (specific denomination depends on national practices); (f) Commercial Internet access facility (specific denomination depends on national practices); and (g) others
- Internet activities undertaken by individuals in the last 12 months·
- Proportion of households with access to the Internet by type of access: Categories should allow an aggregation to narrowband and broadband, where broadband excludes slower speed technologies, such as dial-up modem, ISDN and most 2G mobile phone accesses. Broadband will usually have an advertised download speed of at least 256 kb/s.
- Frequency of individual access to the Internet in the last 12 months (from any location): (a) At least once a day; (b) At least once a week but not every day; (c) At least once a month but not every week; and (d) Less than once a month.
- Proportion of businesses using computers
- Proportion of employees using computers
- Proportion of businesses using the Internet
- Proportion of employees using the Internet
- Proportion of businesses with a Web presence
- Proportion of businesses with an intranet
- Proportion of businesses receiving orders over the Internet
- Proportion of businesses placing orders over the Internet
- Proportion of businesses using the Internet by type of access: Categories should allow an aggregation to narrowband and broadband, where broadband excludes slower Speed technologies, such as dial-up modem, ISDN and most 2G mobile phone accesses. Broadband will usually have an advertised download speed of at least 256 kb/s.
- Proportion of businesses with a Local Area Network (LAN)
- Proportion of businesses with an extranet
- Proportion of businesses using the Internet by type of activity
- total business sector workforce involved in the ICT sector
- Value added in the ICT sector
- ICT goods imports as a percentage of total imports

13.11. The Highlights of this Chapter are as under:

- Electronics and IT Production including Software production has become more than 6 times in the last ten years. It has increased from ₹ 68,850 crores in 2000-01 to ₹ 4, 70,090 crores in 2010-11. Growth rate during this period varies from 11.6% to 28.8 %. Maximum growth is observed during 2004-05 over 2003-04 (28.8%) and 2006-07 over 2005-06.

- Share of Consumer Electronics, Communication and Broadcast Equipments and Electronics Components to Total Electronics and IT Production in 2000-01 was 38.4%,14.5% and about 2%, contribution of these areas have changed over the period and have become 27.4%,26.7% and 12.3% in 2010-11.

- In the last ten years i.e. from 2000-01 to 2010-11, software for exports has become more than 9 times, however the share of exports of software to total software varies between 75% to 78%.

- The Electronics and IT Exports including the Computer Software exports has become around 9 times in the last ten years. Share of software exports in the exports of Electronics and IT and software exports has become more than 90% in 2010-11 and it is growing steadily over the period. It was 85.5 % in 2000-01.

This chapter contains the following tables:

Table 13.1: Electronics & I T Production (Financial Year)

Table 13.2: Electronics & I T Exports (Financial Year)