



IT sector in India – Evolution, Growth and a Tool of Economic Development

IDRISH ALLAD

Research Scholar,
Rai University, Saroda, Ahmedabad.

DR. MAHENDRA H. MAISURIA

Research Supervisor,
Rai University, Saroda, Ahmedabad.
Gujarat (India)

Abstract:

The performance of the Indian IT sector has been a success story all over the world. In India, software export had been started around 1974, when TCS was established. Now days, India is referred as the back office of the world owing mainly to IT and IT sector. The revenue growth of the IT sector has been very impressive. Today, more than 66% of revenues for the Indian IT sector come from foreign export. The sector has increased its contribution to India's GDP from 1.2% in F.Y. 1997-98 to 7% in 2014-15. The main aim of this paper has to assess the possible role of IT in broad-based economic development of India. This paper discusses the concept and meaning of IT and ITeS industry, Evolution of IT sector in India, reasons for growth of IT sector in India, future threats, and contribution of IT sector in GDP of India and future development of IT sector in India.

Keywords: GDP, IT, IT-BPO, NASSCOM, Revenue

1. Introduction

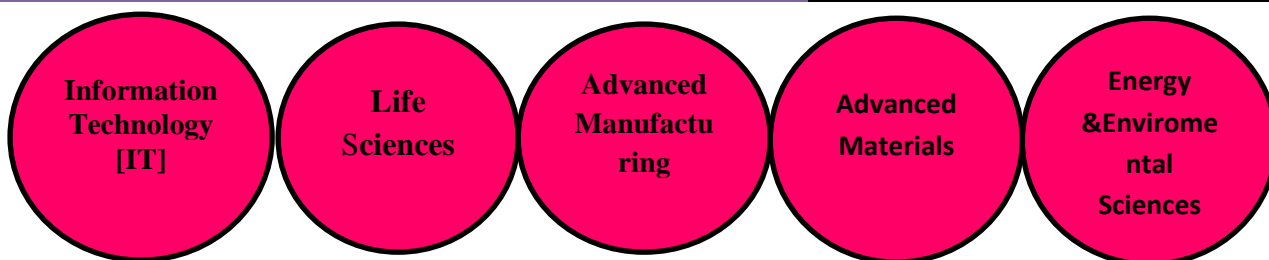
Indian Information Technology (IT) industry has played a key role in putting India on the global map. The IT-BPO sector has become one of the significant growth sector for the Indian economy. In addition to fuelling India's economy, this sector is also positively influencing the lives of its people through an active direct and indirect contribution to various socio-economic parameters such as employment, standard of living and diversity. IT sector has played a significant role in transforming India's image from a slow moving bureaucratic economy to a place of innovative entrepreneurs and a global player in providing world class technology solutions and business services. According to National Association of Software and Service Companies (NASSCOM), "The sector is estimated to have grown by 19% in the F.Y. 2011, clocking revenue of almost US\$ 76 billion. India's outsourcing industry has witnessed a rebound and registered better than expected growth according to NASSCOM."

2. What is IT/ITeS ?

The IT and ITeS sector comprise of services that are related to information technology, research and development services as well as engineering designs, hardware and BPO.

IT: The application of computers and telecommunication equipment to store, transmit, retrieve, and manipulate data, in context of business or an enterprise.

ITeS: Information technology enabled services (ITES), is a form of outsourced service which has emerged due to involvement of IT in various fields such as banking, finance, telecom, insurance among others. Some of the examples of ITES are medical transcription, back-office accounting, insurance claim, credit card processing and many more.



3. Defining the Information Technology (IT) Industry

Technology can be a difficult term to define. It has both broad connotations and specific associations. At a top level, technology commonly refers to society's application of scientific knowledge to solve practical problems in industry or commerce. Technological innovation or the application of technology takes many forms and often involves the interplay of expertise across multiple disciplines and industry verticals. The concept of technology can be arranged into five distinct categories.

Each segment of the technology framework has been vitally important to economic growth and the well-being of society. Over the past decade and half though, the one segment that has arguably had the greatest impact on businesses and consumers around the world is Information Technology (IT).

Information Technology (IT) can be defined as the utilization of hardware, services and infrastructure to create, store, exchange and leverage information in its various forms to accomplish any number of business objectives. Additionally, the term encompasses the workers that develop, implement, maintain and utilize information technology directly and indirectly.

Examples of the Key Elements of the IT Definition

IT Hardware: computers, tablets, mobile phones, printers, servers, etc.

Software: productivity applications, network applications, security applications, etc.

IT Services: integration, maintenance, repair, application development, managed services, etc.

IT Infrastructure: the Internet backbone, fiber optic networks, data centers, etc.

Information: data, documents, voice video and images, etc.

Business Objectives: communication, collaboration, efficiency, insight, production, commerce.

4. Evolution of IT Sector in India

The evolution of the IT sector can be studied in 4 states as follows.

- **Stage 1 Prior to 1980:** In the first stage of evolution, Indian IT sector was basically started with hardware products and software industry did literally not exist in India until 1960. Government protected the hardware sector through high tariff barriers and licensing. In the west, there was a greater demand for software development because the inbuilt software with the systems was insufficient to perform all the operations accurately. So, to earn more foreign exchange, the Indian Government found out the potential of software sector. In 1972, the government formulated a new software export scheme, in which it was decided to import hardware and export software. TCS Ltd. became the first company to accept such scheme. In 1974, the software export was started in India.
- **Stage 2 1980 to 1990 :** During this stage, in spite of government initiatives, the software exports could not be reached at the expected level because of two reasons. First, the export of software was dependent on the imports of hardware and the procedural aspects were too cumbersome. Second, there were no proper infrastructural facilities for software development. In order to encourage more participants in this sector, it was mandatory to reduce import duty and to simplify import and export procedure. To overcome the above problem, a new software policy was formulated. According to this policy, the import procedure was simplified and the import duty for import on hardware for software developers was reduced. In 1986, the government took some

healthy corrective steps to develop IT sector. As a result, Indian Government software policy and liberalized the IT sector. According to this policy, the imports of hardware were de-licensed and were also made duty free for exporters. This policy has reduced a number of entry barriers making the growth in this sector inevitable.

- **Stage 3 1990 to 2000:** This period has witnessed intensified competition in the IT sector. During this stage, there were some significant changes in Indian economy, including trade liberalization, relaxation in the entry barriers, opening up of Indian economy for foreign investments and devaluation of rupee. Due to the liberalization, a flow of foreign investments was come in India and MNCs in India were introduced. “Offshore Model”, “Onsite Model” and “Global Delivery Model (GDM) were also introduced as part of their distinguished services.
- **Stage 4 Post 2000:** The global problems like Y2K, the dotcom crash and the recession in the US economy has forced many US firms to utilize the services of the Indian firms. This has resulted in placing the Indian IT industry on the global map. Post 2002-2003, the industry had registered a robust growth rate. During this stage, there was in increase in the Indian client base, large sized contracted and a strong global delivery model.

1. Factors Contributing to IT Growth in India



5. Future Threats

- Threat of new emerging service economies
- Emergence of China as substitute
- Poor Infrastructure
- Concentrated market and Anti-outsourcing Exchange rate

6. Contribution of IT sector to India’s GDP

IT industry is contributing Rs.63 billion in 1994-95 in the GDP of India and it has increased to as Rs.1276 billion in 2004-05. the contribution in the various years is given below.

Year	GDP at current prices (in Rs. Billion)	IT sector revenue (in Rs. Billion)	IT revenue to GDP ratio (in % age)
1994-95	10128	63	0.62
1995-96	11880	99	0.83
1996-97	13682	137	1.00
1997-98	15224	186	1.22
1998-99	17409	253	1.45
1999-00	19296	362	1.88
2000-01	21043	566	2.69
2001-02	22929	658	2.87

2002-03	24661	780	3.16
2003-04	26954	978	3.63
2004-05	29380	1276	4.34

Source: <http://mospi.nic.in> and <http://www.nasscom.org>

Note: GDP figures are at market prices.

According to NASSCOM, India can reach \$ 130 Billion in IT revenue by 2015, with CAGR of 14%. With this, it would be contributing to 7% of annual GDP and creating 14.3 million employment opportunities.

7. IT a Tool of Economic Development

The IT has potential to raise the long-term growth prospects through increased productivity in almost every sector of the economy. The information technology can play a major role in overall economic development of the country. India has a comparative advantage in the global IT sector at least in terms of cost. With large pool of workers having software and language skills, it is in a position to move toward producing higher value-added goods and services. In fact, it has just started to move towards higher value added goods and services. IT service companies have included new service lines such as package software implementation, system integration, R&D engineering and remote network management whereas, ITES-BPO companies have started offering more complex services such as financial research and analytics, actuarial modeling and corporate and business research. The availability of large number of workers with a combination of engineering and managerial skills will definitely be helpful to move towards higher value-added goods and services.

There are strong complementarities between IT and rest of the economy. IT can enhance the productivity and efficiency in other industries. It can improve efficiency in areas such as accounting, procurement, inventory management, and production and operations management. Moreover, IT implementation may increase the productivity and/or quality more than that is feasible otherwise. The use of IT in rural banking and micro-finance may enhance efficiency in informal sector and can impact broader cross-section of population. Information access to farmers could benefit agriculture sector as well. Farmers can receive weather forecasts, market price quotes, advice on farming practice, offers to buy and sell livestock, and specific trainings. Even basic education could be enhanced in rural areas by the use of IT. The IT sector is one of the largest employers of women, and therefore, can play a crucial role in women empowerment and the reduction of gender inequalities. The sector provides flexibility to its employee of operating from home and in working time, which enables women to carry on with jobs with family life. From the analysis, it is clear that the IT has potential of not only accelerating the growth in the Indian economy but also promoting the broad-based economic development.

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