2.1 - History and Evolution

The IT industry is one of the developing industries in India. The IT industry has carved a niche for itself worldwide. The two major branches of Indian IT industry are software and information technology enabled services (ITES). It is the pioneer in software development and one of the most promising destinations for ITES (“Indian IT Industry,” 2009).

The Indian IT industry has been developed in 4 different stages (Shelke, 2012).

First Stage: Before 1980.

Until 1960, the information & technology was almost unknown in India. In fact the hardware industry was being protected by the barriers of high tariff and difficult licensing. Meanwhile in western world the requirement of information & technology had been increasing rapidly (Sarawgi, 2017).

In 1972, the Software Export Scheme had been formulated by the government of India. The main objective behind the scheme was the provision of hardware imports in return of software exports. Initially the company who agreed to these conditions was Tata Consultancy Services (TCS). And finally, the export of software from Indian market begun in 1974 (Sarawgi, 2017).


Although the software exports were getting all the required efforts and initiatives from the government of India, the software exports were not increasing as per the expectations. These are the main reasons behind this failure:

- The exports of software were directly proportional to the imports of hardware.
- The required infrastructural facilities for software development were not present there.

In 1984, a New Computer Policy had been formulated by the Indian government for resolving these issues. The new policy had reduced the import duty on hardware which was being used by the software developers and also simplified the procedures of imports (Sarawgi, 2017).

In 1986 the Indian government again formulated a new Software Policy to liberalize the IT industry and break the dependence of software upon the hardware industry. The licenses of hardware imports had been cancelled and the duty for the exporters had also been removed in
this policy. The worldwide reduction in the hardware prices and entry barrier was the final outcome of this policy (Sarawgi, 2017).

In 1990, for enhancing the exports of software and services the government of India had initiated the establishment of Software Technology Parks in all over the country (Sarawgi, 2017).

**Third Stage: From 1990 to 2000.**

Many important and significant changes in the economy had been witnessed in this decade. The main economic changes are the liberalization privatization & globalization (LPG) and devaluation of the rupee. LPG was meant to open the doors of Indian economy for foreign investors and it is true that many foreign entities (MNCs) had been attracted to our nation only after these changes. The foreign companies introduced ‘Offshore Model’ for software services. Offshore model means that the companies could provide services to all their clients worldwide from their base country. This model gets further modified into Global Delivery Model (GDM) which is a blend of Onsite and Offshore Model. The Offshore Development Centers are located at various places across the globe (Sarawgi, 2017).

From 1995, the mature phase of Indian IT industry had begun and it increased investments in R&D and infrastructure. In Indian market the competition very difficult due to the entry of many foreign players. Hence it became mandatory for all the players to distinguish them from others and for the sake of ‘something different’ they had started investing in research and development (India Brand Equity Foundation, 2017a).

**Last Stage: Onwards 2000**

The Indian IT industry had been affected badly after facing the well known global problems e.g. the dotcom crash, Y2K, and recession in the US economy. The compatibility issues of the then working software were also a part of the outcome of Y2K problem in the year 2000. It became a blessing in disguise for Indian IT industry. Actually many US based firms especially mid sized firms had been forced to utilize the services provided by the Indian firms because of the increasing crisis of programmers in the local market (Sarawgi, 2017).

By the end of 2015 Indian firms became multinational companies with almost 670 centers in 78 countries. In the financial year 2016, the revenue generated by IT-BPO was almost USD 160 billion and it provided direct employment to almost 3.7 million people whereas indirect employment to over 10 million people. It also supported over 4200 new start ups (India Brand Equity Foundation, 2017a).
2.2 - Industry Segmentation

IT industry can be broadly classified into three sectors:

- Software
- IT Services
- IT enabled Services (ITeS) - BPO

2.2.1 - Software

It forms the smallest sector of the Indian IT industry. It is a blend of software products, engineering and R&D services (Sarawgi, 2017)

a) **Software Products:**

The market for software products has been expanding rapidly over the last decade. The main reason behind this expansion is the utilization of these products by the Small and Medium Enterprises (SMEs) as well as large organizations for simplifying their tasks (India Brand Equity Foundation, 2017a). This sector is further classified in the following:

- **Infrastructure Software:**
  - The Infrastructure software plays an important role in connecting people with the system across an organization. It helps in executing the business processes, share information and manage the various touch points with the customers and the suppliers. Some different kinds of infrastructure software are as follows:
    - Application development
    - Database management systems
    - Operation of IT
    - Software related to security
    - Operating-system software

- **Enterprise Application Software:**
  - The enterprise application software is designed specifically for solving a particular problem only. It performs various activities related to business like accounting, customer
information management, production scheduling, etc. The currently available enterprise application softwares are as follows:

- Relationship management of customer
- Resource planning of enterprise
- Supply chain management

b) **Engineering and R & D Services:**

The engineering and R&D services is a recent concept for India and is in nascent stage. Many players are working to carve a niche for them in this recently originated market. They are developing their engineering capabilities to get the competitive advantage (Sarawgi, 2017).

2.2.2 - **IT Services:**

India is among the leaders in providing IT services and the basic model which is being followed by IT industry is known as off shoring. The efficient projects are being employed by Indian firms to cater the exclusive requirements of their clients. This sector comprises of the following services:

(a) **Project-oriented services:**

These services are delivered for specific projects because these are designed for particular clients according to their needs and wants. The delivery of these services are either onsite or offshore but in some cases it would be a blend of both (NASSCOM, 2017).

The different kind of project-oriented services are as follows:

*IT Consulting:* The vendors under this category advise their clients for streamlining the business with the help of information & technology. Although IT consultation has recently started in India and is in the struggling phase, some prominent companies which are a part of this service are TCS, Infosys and Wipro (NASSCOM, 2017).

*Systems Integration:* It is an exclusive pool of services, for resolving the specific requirements of the particular consumers. These are as follows:

- Integrating the various systems deployed by the organization
- Integrating logistics with business processes
• Customizing the software

• Maintaining the database

*Computer Aided Document Management (CADM):* It includes designing, upgradation and maintenance of software as per the requirement of the users. These services are the most compatible for offshoring i.e. the reason behind the dominance of these services in the export market (NASSCOM, 2015).

(b) **IT Outsourcing:**

It is all about transferring the maintenance and management of information & technology systems from one organization to others. It includes:

*Application Management:* It involves all activities in the maintenance and management of information & technology systems.

*Information System Outsourcing:* It provides various services, depending on the requirement of clients.

The following services are being offered in IS Outsourcing:

• Desktop Management

• Help Desk Support

• Managing Operations

• Managing Applications

• Managing Anti Viruses

(c) **Training and Support:**

It includes three segments:

• Software Deployment and Support: It includes the installation, configuration, and maintenance of all the software which is being used by the clients.

• Hardware Deployment and Support: It involves installing particular hardware devices on the work station of clients.

• Education and Training: It includes all the activities related to educating and skill developing skills related to IT.
2.2.3 - IT enabled Services:

It is related to all the services which are being provided by using information & technology. According to AT Kearney, India is one of the most preferred destinations for outsourcing the work (NASSCOM, 2015). The following features are responsible for the growth and development of off shoring in India:

- Proficiency in English among the youth
- Skilled human capital
- Low cost advantage
- Support from the Government
- Infrastructural opportunities

2.3 - Present Scenario

Information & Technology sector of India is being supposed to bloom at a rate of 12-14 per cent for FY2017-18. The current annual revenue of IT sector USD 350 billion is also expected to become thrice by the end of 2025.

New ventures and start ups are becoming very popular in India. There are almost 4,200 start-ups in our country which helps India to be at the third place across the globe. It is such a motivating force that almost 700 start ups are being owned by the employees of various start-ups.

The information & technology is contributing around 5 percent in the GDP of India and the share of internet in the economy is supposed to become Rs 10 trillion (US$ 146.72 billion) by the end of 2018. According to Gartner - IT consultancy, the public cloud services market of India is expected to reach USD 1.3 billion. India's business to business (B2B) and business to consumer (B2C) e-commerce market are expected to reach USD 700 billion and USD 102 billion by the end of 2020 (India Brand Equity Foundation, 2017a).

The expenditures of Indian banking on IT are expected to increase 8.6 per cent every year and reach up to USD 7.8 billion by the end of2018. The Cross-border online shopping by Indians is being supposed to increase up to 85 per cent by the end of 2018. Whereas the total online spending is expected to grow by 31 per cent and reach up to USD 128 billion by the end of 2019 (NASSCOM, 2017).
The Indian IT-BPM industry is supposed to grow 9.2 per cent since last year & reach up to USD160 billion. The priorities of Indian IT firms have been changed and currently their main focus area is research and development. The outcome of this priority change is the increasing number of patents filed by them (India Brand Equity Foundation, 2017a).

In May 2017, the government approved the proposal of Twin Star Technologies with an FDI investment of USD1.34 billion, through a combination of equity, compulsorily convertible preference shares and debentures. The investment is likely to generate indirect and direct employment for around 30,000 people (India Brand Equity Foundation, 2017a).

The Indian IT sector is focusing on the development of new models such as platform-based BPM services and creation of intellectual property because it is shifting gradually from linear models to non-linear ones. The disruptive technologies e.g. cloud computing, social media & data analytics are providing new avenues of growth for IT companies. The SMAC (social, mobility, analytics, cloud) market is also expected to reach up to USD225 billion by the end of 2020 (India Brand Equity Foundation, 2017a).

**Figure 2.1: Sector wise break up of export revenue during the financial year 2016-17**

![Sales](image)

*Source: Nasscom, Make in India, TechSci Research (2017)*

Figure 2.1 shows the export revenue generation through different sectors of Indian IT industry for the last financial year. The major contribution is from service sector, which is almost 56%. The other two sectors which are software and outsourcing contribute 23% & 21% respectively.
Figure 2.2: Distribution of export revenue across geographies during the financial year 2016-17


Figure 2.2 shows the export revenue generation in different regions of the world in the last financial year. The USA is the largest exporter of the IT business. The UK is at the second position while the third largest exporter is continental Europe.

Figure 2.3: Growth in Market Size of Indian IT Sector (USD Billion)

Figure 2.3 shows the growth in the market share of Indian IT industry since 2010. It is clearly visible that the growth in the export sector has been increasing rapidly while the growth in the domestic sector has increased at a very slow pace. The export sector has grown from 45 Billion USD to 110 Billion USD whereas the domestic sector of Indian IT industry has grown from 20 Billion USD to 45 Billion USD. In fact it is true that the market size of the export sector in 2010 is almost equal to the market size of the domestic sector in 2016.

2.4 - Future Opportunities:

Currently India is among the most preferred destinations for IT companies across the globe. Our country has confirmed its potential in delivering both on-shore and off-shore services to the consumers all over the world. The upcoming technologies would provide a completely new spectrum of opportunities for IT firms in India. It is expected to get the opportunity in the form of USD 1 trillion by the help of Social, Mobility, Analytics and Cloud (SMAC).

Under SMAC, most of the opportunities would be provided by the Cloud which is increasing at 30 per cent and is expected to reach up to USD 650-700 billion by the end of 2020. The social media is second most gainful segment for IT firms which is being expected to reach up to USD 250 billion by the end of 2020 (India Brand Equity Foundation, 2017a)

The Indian e-commerce segment is currently a USD 12 billion industry and the strong growth is also being witnessed. Other prosperous offers for developing product and services are also being provided by e-commerce to IT sector in India (India Brand Equity Foundation, 2017a).

In this chapter a detailed structure of Indian IT industry has been provided. It began with the history of IT industry in India and the way it evolved. It gives a complete bifurcation of IT industry in India. It also shed some light on the present conditions of IT industry in India and also gives some briefings about the future opportunities.