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# **Chapter-2**

## **Information Technology Industry- An overview**

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## 2.1 INTRODUCTION

The Indian Information Technology industry popularly known as software industry has remarkable success story. It has gained recognition in the early eighties, as companies took up posting of trained software manpower, especially to USA. Very soon several companies started taking up software projects at customer sites, and sent their professionals to carry out the task. Starting with routine jobs, most companies graduated to more and more sophisticated tasks and India started getting recognized as having special talent for software development and management of software projects. It has grown more than 30 percent annually for last 25 years, with 2500+ exports projected at close to \$75 billion. India provides software services to more than 60 countries, with two-thirds to the United States which includes 50% to Fortune-500 companies<sup>[9]</sup>.

Initially, the Indian software industry has been concentrated in a few major cities such as Pane, Bangalore, Chennai, and Hyderabad. Soon, Indian Government recognizes that IT will influence economic development extensively in the years to come. The Government constituted a Task Force on IT industry, which was given the responsibility to recommend the steps that the Government needs to take to remove the bottlenecks and boost the Information Technology industry within the country. The proactive initiatives taken by various State Governments have resulted in many software companies with their development centre across the country. They were making available the land and other resources needed by the IT organizations. The procedure of issuing license and clearance to start the new organizations had been made simple through the “Single Window Clearance” systems – chief among these states were Karnataka, Andhra Pradesh, Tamil Nadu, Maharashtra, Haryana, Madhya Pradesh, Orissa, Pondicherry, West Bengal, etc. and new clusters had taken shape.

Additionally, IT committee was set up by the Ministry of Information Technology, Government of India, comprising of Non Resident Indians (NRIs) Professionals from the United States to seek expertise and advice and also to set up U.S. investments in India’s IT Sector. The Committee is chaired by Minister of Information Technology and the members include Secretary, Ministry of Information Technology and a large number of important Indian American IT entrepreneurs. This group is expected to:

- Monitor global IT development and refine Indian IT policy to meet global requirements. Specifically, to help angel investors, venture creators and incubators.

- Promote the growth of human resource development in the IT sector with the aim of creating quality-based education.
- Promote R & D in the sector by identifying thrust areas and drawing up a blueprint for action.

The Information technology as an industry today occupies a strategic place in Indian economy and business. Its origin and growth in India have been phenomenal during the last two decades. Not only the economic and business environment has undergone a change but one can also see changes in the social sector as well. The education and employment fields have changed. It has played a key role in putting India on the global map. It has contributed substantially to the economic power of the country – it is envisioned to become a US\$ 225 billion industry by 2020. With the new millennium, this industry has become the country's premier growth engine, crossing significant milestones in terms of revenue growth, employment generation and value creation in addition to becoming the global brand ambassador for India <sup>[10]</sup>.

## **2.2 THE IT SECTOR IN INDIA**

The information technology industry in India basically consists of the software development sector. The industry consists of a large number and growing number of firms. According to NASSCOM the number of Indian software firms has grown from around 432 in 1996-97 to over 1300 in 2010. Many of these firms entered the industry after the economic liberalization and globalization of 1991. Today the industry consists of very big and leading companies like the Tata Consultancy Services (TCS), Infosys Technologies, and Wipro technologies. The top 25 companies account for over 60 % of software exports revenue.

The market leaders among the Indian Software firms are, for the most part, relatively new. With a few exceptions, notably Wipro, these firms specialize in software alone. This is in marked contrast to early entrants who had close links with computer hardware development. TCS was the first firm to agree in 1974 to export software in return for being able to import hardware. TCS, currently the largest Indian software firm, employs over 100,000 persons. Once the software exports gained ground a large number entrepreneurial firms entered the industry.

The profile of the Indian IT industry has been undergoing a change in the last few years, partly as it moves up the value chain and partly as a response to the market dynamics. Ten years ago, most US companies would not even consider outsourcing some of their IT

projects to outside vendors. Now, a vast majority of US companies use the professional services of Indian Software engineers in some manner, through large, medium or small companies or through individuals recruited directly.

The Indian IT industries have built up valuable brand equity over years. India is emerging as one of the most preferred destination for the business process outsourcing (BPO). The importance of IT industry in the Indian economy can be gauged from the fact that its contribution to the national gross domestic product (GDP) has increased by seven fold in a span of just one decade from 0.6% in 1994-95 to 2004-05. Although industry figures are not directly comparable with GDP as they are based on revenues rather than value added, they provide an indicator of growing importance of the IT sector in the country. Assuming that the Indian economy and IT sector will replicate the past six years performance during the next six years and value added in IT sector is two third of its sales revenue, the contribution of IT sector to national GDP will be around 8.5% during the year 2010-11, quite similar to that in the United States (US) today. The IT sector revenue has increase from Rs. 1276 billion in 2004-05 to Rs. 6435 billion in 2010-11<sup>[8]</sup>.

The Indian IT industry broadly categorized into IT services, software development, ITES-BPO, and Hardware segments. Although IT services and software development continues to remain the key contributor to the IT sector’s revenues, ITES- BPO is emerging as the fastest growing segment of the sector. Between the years 2000-01 to 2004-05, the contribution of ITES-BPO was significant to the IT sector and total revenue increased from 7.4% to 20.2%, whereas the corresponding figure for IT services and software development fell from 64.5% to 58.5%. Presently, ITES-BPO segment of the industry is almost as big as the hardware segment<sup>[10]</sup>.

## 2.3 SWOT ANALYSIS OF THE INDIAN SOFTWARE INDUSTRIES

The Indian software industry has a great deal of inherent strengths that local majors have efficiently used in the past. However, there still continue to be areas of weakness that need to be addressed. Also, apart from the traditional areas, new areas are emerging all the time and this need to be addressed by Indian majors to sustain their high growth rates.

*Table- 2.1: A SWOT Analysis of the Indian Software Industry*

<b>Strengths</b>	<b>Weakness</b>
<ul style="list-style-type: none"> <li>- High quality and value for money</li> <li>- Proposition</li> <li>- Skilled and knowledgeable, English speaking work force</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of significant presence in the global packages market</li> <li>• Inadequate PC penetration levels that has resulted in a smaller domestic market</li> </ul>

<ul style="list-style-type: none"> <li>• Flexibility in operations</li> <li>• Successful offshore model</li> <li>• Experience in working on large projects</li> <li>• Presence of good educational institutions</li> <li>• Inherent strength in the areas of math and science</li> <li>• Proactive government policies</li> <li>• Time difference between the domestic and global markets</li> </ul>	<ul style="list-style-type: none"> <li>• Lack of original product development</li> <li>• Inadequate marketing skills</li> <li>• Inadequate localization efforts in the area of Development</li> <li>• Barring a few cases, alliances with global majors mostly for technology and not for strategic purposes</li> </ul>
<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Increasing demand for IT professionals despite the ensuing slowdown</li> <li>• Rapid proliferation of the Internet in the domestic and global markets</li> <li>• Shift in the business model from the bracken- mortar to the click-n-mortar one</li> <li>• Shift in the global markets from legacy systems to more of web-based systems</li> <li>• Indian government's thrust towards increased computerization of offices, banks etc</li> <li>• Global outsourcing market is all set to boom (especially under the current circumstances)</li> <li>• IT enabled services in the country and across the globe is forecasted to explode</li> <li>• Shift in focus towards other markets such as Europe, Japan, Australia etc</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Telecom infrastructure is relatively poor when compared to other global markets</li> <li>• Other infrastructure problems such as power, lack of commercial space etc</li> <li>• Government policies could change and result in greater interference</li> <li>• China, Ireland, Philippines etc are fast catching up</li> <li>• Entry of not-so-serious players, wishing to cash in on the boom</li> <li>• Protectionist measures such as tightening of Visa rules etc by other countries</li> <li>• Complacent attitude by domestic majors</li> <li>• Continued reliance on organic growth and an over-dependence on the exports market alone</li> </ul>

(Source: NASSCOM/ Industry Sources)

## 2.4 THE INFORMATION TECHNOLOGY IMPACT ON INDIAN ECONOMY

The IT sector coupled with BPO sector has become one of the most significant growth catalysts for the Indian economy. In addition to fuelling India's economy, this industry is also positively influencing the lives of its people through an active direct and indirect contribution to the various socio-economic parameters such as employment, standard of living, and diversity among others. The industry has played a significant role in transforming India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs and a global player in providing world class technology solutions and business services. The industry has helped India to transform itself from a rural and agriculture-based economy to a knowledge based economy. The efforts of the industry towards the holistic development of

the Indian economy and society will continue making a positive impact and changing lives as it has done so far. Further, the industry has acted as socially responsible corporations playing an active role in regional development across India, empowerment of diverse human assets, driving technology and innovation to transform client business, and enhancing the overall brand image of India.

The Indian Information Technology industry account for a 5.19 % of the country's GDP and export earnings as of 2009, while providing employment to a significant number of its tertiary sector workforce. More than 2.5 million people are employed in the sector either directly or indirectly, making it one of the biggest job creators in India and a mainstay of the national economy. In 2010-11, annual revenues from IT-BPO sector are estimated to have grown over US \$ 76 billion compared to China with US \$ 35.676 billion<sup>[8]</sup>.

The economic impact of information technology has been a subject of a great deal of debate. For business economists, it is useful to identify how information technology (IT) is likely to impact the economy, because IT (defined as computer and communications technology and its applications) is likely to have a substantial impact on the economy's growth during the coming decades. The reason for this is the use of IT by nearly all industries in the economy's base, so that IT becomes a universal input to nearly all other outputs. If IT costs decline, they can create substantial economic gains for many of the industries that use IT, because money spent on IT can be invested in other inputs and improvements in production or services. Furthermore, because business relies upon IT to do a wide range of tasks and to create competitive advantage, by facilitating these tasks for end users, important gains are achieved that are difficult to measure in a classic input-output framework. In addition, IT, seen in a larger context, should have even wider impacts on the economy, because new channels of communications, such as the Internet, cellular, television, and broadband applications, will provide business with new channels to reach customers and suppliers.

The global economic depression of 2009 did not affect much the Indian IT industry. It was a temporary setback or a passing phenomenon for the Indian Software companies in general affecting the manpower to certain extent. Despite the global economic slowdown, the Indian IT software and services industry is maintaining a steady pace of growth. The industry while did not go for fresh recruitment during this period sparsely resorted the lay-offs of employees. Many adopted redeployment measures to retain the employees. When demand returned in 2010, the combined effect of all the factors helped India grow faster than its competitors, accounting for almost 90 % incremental growth in the global sourcing market.

### 2.4.1 NASSCOM Report On Indian IT Industries

According to “IT-BPO Sector in India: Strategic Review 2011” a report brought out by the NASSCOM and McKinsey combine recently, the sector is estimated to aggregate revenues of US \$88.1 billion in FY 2011 with the IT software and services sector (excluding hardware) accounting for US \$ 76.1 billion revenues. The Report estimates export revenue to gross US \$59 billion in FY 2011 and contribute 26 % as its share in total Indian exports, employing around 2 million employees. Over FY 2010 the growth of IT services was fastest – growing by 22.7 % and aggregating export revenues of US \$ 33.5 billion, accounting for 57 % of total exports. Today India exports software and services to nearly 95 countries around the world. The share of North America (US and Canada) in India’s software exports is about 61 %. In 1999-2000, more than one third of Fortune 500 companies outsourced their software requirements to India. As a proportion of national GDP, the sector revenues have grown from 1.2 per cent in FY1998 to an estimated 6.4 percent in FY 2011. Its share of total Indian exports (merchandise plus services) increased from less than 4 per cent in FY1998 to 26 per cent in FY2011 <sup>[12]</sup>.

### 2.4.2 Exports Market

Export revenues are estimated to gross US \$ 59 billion in FY2011 accounting for a 2 million workforce.

- **Geographic focus:** The year was characterized by a consistent demand from the US, which increased its share to 61.5 per cent. Emerging markets of Asia Pacific and Rest of the world also contributed significantly to overall growth.
- **Vertical Markets:** While the sector’s vertical market mix is well balanced across several mature and emerging sectors, FY2011 was characterized by broad based demand across traditional segments such as Banking, Financial Services and Insurance (BFSI), but also new emerging verticals of retail, Healthcare, Media and Utilities.
- **Service Lines:** Within exports, IT Services segment was the fastest growing segment, growing by 22.7 per cent over FY2010, and aggregating export revenues of USD 33.5 billion, accounting for 57 per cent of total exports. Indian IT service offerings have evolved from application development and maintenance, to emerge as full service players providing testing services, infrastructure services, consulting and system integration. The coming of a new decade heralds a strategic shift for IT services

organizations, from a 'one factory, one customer' model to a 'one factory, all customers' model. Central to this strategy is the growing customer acceptance of Cloud-based solutions which offer best in class services at reduced capital expenditure levels.

The BPO segment grew by 14 per cent to reach USD 14.1 billion in FY2011. The year also witnessed the next phase of BPO sector evolution - BPO 3.0 – characterized by greater breadth and depth of services, process re-engineering across the value chain, increased delivery of analytics and knowledge based services through platforms, strong domestic market focus and SMB centric delivery models. During the year, the BPO sector growth was affected by delayed decision making and deal restructuring in the first half of the year, though it picked up momentum in the second half. Changing demand patterns led to revamp of operations for service providers - high focus on client relationships, mining existing clients and restructured operations to provide focused vertical solutions. Further, the industry focused on achieving excellence in business process management, and delivering strong transformational benefits creating revenue impact for clients<sup>[12]</sup>.

### **2.4.3 Domestic Market**

Domestic IT-BPO revenues excluding hardware are expected to grow at almost 16 per cent to reach ` 787 billion in FY2011. Strong economic growth, rapid advancement in technology infrastructure, increasingly competitive Indian organizations, enhanced focus by the government and emergence of business models that help provide IT to new customer segments are the key drivers for increased technology adoption in India:

- IT services is one of the fastest growing segment in the Indian domestic market, rising by 16.8 percent to reach 501 billion dollar, driven by localized strategies designed by service providers.
- Domestic BPO segment is expected to grow by 16.9 % in FY2011, to reach US \$ 127 billion, driven by demand from voice based services, in addition to adoption from emerging verticals, new customer segments, and value based transformational outsourcing platforms Indian software product segment is estimated to grow by 14 per cent to reach US \$ 157 billion, fuelled by replacement of in-house software applications to standardized products from large organizations and innovative start-up's<sup>[12]</sup>.

## 2.5 GOVERNMENT POLICIES FOR IT INDUSTRIES.

The central and the state governments noted the growth of the IT industry in the 1990s as an exchange earner and a creator of incomes and employment, and responded with policies to help it. In the 1998 government had given acceleration to give importance to IT industry. It decided to give priority to the industry, set up a ministry of information technology, and appointed a Task Force to find out what the industry needed and to translate it into policy. Although the industry used the process to ask for many special favours, the reports of the IT Task Force provide a good picture of the obstructions faced by the industry<sup>[7]</sup>.

Customs and import control was the subject of many complaints. Import duties on computer hardware were substantial; although an exporter could avoid them, industry's thereby subjected them to vexatious policing. Exporting companies were allowed to hold dollar accounts, but there were many restrictions on how money in the accounts could be spent; here too, investigations by Reserve Bank of India or the Enforcement Directorate could lead to much worry and loss of management time. The companies wanted greater freedom investing and divesting abroad, in incurring expenses and using credit cards abroad.

The industry had a problem in raising finance: banks required a material asset as collateral, and a large proportion of the IT companies' assets were immaterial, such as programming work in progress and credit to customers. The government's financial institutions were prepared to fund on the basis of fixed assets; but computers and equipment were often leased, and when they were not, they were subject to rapid obsolescence. Hence the industry wanted the lending rules to be changed, and to be given credit on the basis of their turnover<sup>[3]</sup>.

The following are the various setup and initiatives taken by the Government for Information Technology Services in India:

**National e-Governance Plan (NeGP):** The Government of India accords high priority to improve the quality of the citizens by providing basic services at their doorstep and has formulated a NeGP covering 27 mission mode projects and eight support components to be implemented at central, state and local Government levels, at an estimated cost of US \$ 4.71 billion. Department of Technology has issued guidelines for Capacity Building and Institutional Framework for e-governance under NeGP.

**State wide Area Networks (SWANs):** The Government has approved a scheme for establishing SWANs across the country in 29 states and 6 Union Territories with a total

outlay of US \$682.27 million over a period of 5 years. During 2008, SWAN has been implemented in 5 States/UTs. Department of Information Technology has issued guidelines for Technical and Financial Support for establishment of State Data Centre.

**State Data Centres (SDCs):** SDCs have been identified as one of the important elements of the core infrastructure for supporting e-Governance initiatives under NeGP. It is proposed to create data repositories/data centres in various states and Uts so that common secured data storage could be maintained to serve host of e- Governance applications. The scheme for establishment of SDC in 29 States and 6 UTs has been approved by the Government of India in 2008.

**Common Serviced Centres:** The objective of CSCs is to develop a platform that can enable Government, private and social sector organizations to align their social and commercial goals for the benefit of the rural population in the remote corners of the country through a combination of IT-based as well as non-IT-based services. CSC requests for proposals (RFPs) have been issued for 25 States and UTs. Of these, 23 States and UTs have completed the service centre agency (SCA) selection process covering 1,02,827 CSCs<sup>[8]</sup>.

**National Knowledge Network:** National Knowledge Commission has recommended setting up of high-speed digital broadband network with adequate capabilities and access speed to encourage sharing of resources and collaborative research. The primary objective of the proposed integrated National Knowledge Network is to provide gigabit broadband connectivity to all institutions of higher learning and research in the country. An allocation of Rs. 100 crore was made in the year 2008 for implementing the scheme.

**Electronics Hardware Manufacturing:** Electronic hardware manufacturing continues to be a thrust area for the Government. The special incentive package scheme (SIPS) to encourage investments for setting up semiconductor fabrication and other micro and nano technology manufacture industries in India. Sixteen proposals involving an investment of the order of Rs. 1,55,000 crores, over a period of 10 years covering setting up of semiconductor fab, LCD panel manufacturing and solar photovoltaics including poly-silicon, have been received under the scheme.

**Software Technology Parks of India (STPI):** Software Technology Parks of India (STPI) is all society set up by the Department of Communication & Information Technology (DIT) in 1991, with the objective of encouraging, promoting and boosting the software exports from India. STPI maintains internal engineering resources to provide consulting, training and implementation services. Services cover network design, system integration, installation, operations and maintenance of application networks and facilities in varied areas. The

Scheme integrates the concept of 100 per cent export oriented units (EOUs), export processing zones (EPZs) of Government of India and the concept of Science parks/technology parks, as operating elsewhere in the world. A distinctive feature of STP/EHTP Scheme is that it provides single-point contact services for member units.

1. Community Information Centre (CIC)
2. Open Technology Center (OTC)
3. Other Initiatives: Nano Technology
4. High Performance/Advanced Computing - High Performance Computing
5. Grid Computing.

## **2.6 STPI AN OVERVIEW**

The idea of setting up dedicated Software Technology Parks was born in the wake of the policy adopted in 1986 by the Government of India, identifying IT as a potential growth driver and focusing on "Software Exports, Software Development and Training" as a key area for strategic development. Further, identification by the Government of the factors hindering the growth of the software industry, led to the creation of the "Software Technology Park" (STP) scheme in order to encourage and enhance software exports from the country.

To achieve above goals, a suitable framework was designed based on key aspects such as:

- a. Simplification / rationalization of procedures;*
- b. Providing single-point contact services to the industry;*
- c. Providing basic amenities needed for export operations with very short gestation periods; and*
- d. Sharing of captive infrastructure facilities like computing resources and data communication services in a cost-effective manner.*

The framework was evolved in a manner aimed at facilitating the software export industry in general and Small and Medium Enterprises (SMEs) in particular, thereby accelerating the economic growth of the country by maintaining a competitive edge in the global market. Software Technology Parks of India (STPI) was set up to implement the STP scheme for promotion and development of software industry and enhancement of software exports by providing infrastructure facilities including High Speed Data Communication (HSDC) links.

### **2.6.1 The Background**

Software Technology Parks of India was established and registered as an Autonomous Society under the Societies Registration Act 1860, under the Department of Information Technology, Ministry of Communications and Information Technology, Government of India on 5th June, 1991 with an objective to implement STP/EHTP Scheme, set-up and manage infrastructure facilities and provide other services like technology assessment and professional training.

### **2.6.2 Objectives of the STPI**

The objectives of the Software Technology Parks of India are:

- a) To promote development of software and software services.
- b) To provide statutory services to the exporters by implementing STP/EHTP Scheme.
- c) To provide data communication services including various value added services to IT industries and corporate houses.
- d) To provide Project Management and Consultancy services both at national and international level.
- e) To promote small and medium entrepreneurs by creating a conducive environment in the field of Information Technology.
- f) To promote Bio-informatics/Bio-technology industries by providing infrastructural and statutory support.

### **2.6.3 Functions of the STPI**

The STPI performs all functions necessary to fulfil its objectives, including the following:-

- To establish Software Technology Parks at various locations in the country.
- To establish and manage the infrastructural resources such as communication facilities, core computers, buildings, amenities etc. in these Parks and to provide services to the users (who undertake software development for export purposes) for development and export of software through data link and to render similar services to the users other than exporters.
- To undertake other export promotional activities such as technology assessments, market analysis, market segmentation etc.
- To organize specialized training in the field of software technology for skill development
- To work closely with respective State Governments and act as an interface between Industry and Government.
- To create incubation with plug and play facilities with low operation cost in order to promote small and medium entrepreneurs.

- To promote secondary and tertiary locations by establishing STPI facilities to promote the STP/EHTP Scheme.
- To encourage entrepreneurship, by regularly organizing Entrepreneur Development Program.
- To assist State Governments in formulating IT policies and liaison for promoting IT industries in the respective states to achieve higher cumulative growth of exports from all parts of the country.
- To enhance quality and security standards in the IT industries.
- To work jointly with venture capitalists for providing financial assistance to the IT industries.

#### **2.6.4 STP Scheme and Highlights**

Specially designed for development and export of computer software, the STP scheme is essentially an export-oriented scheme with focus on quality initiatives and facilitates export of professional services as well. This scheme is unique in its nature in that it focuses on one product/sector i.e., computer software. The scheme integrates the concept of 100 percent Export Oriented Units (EOUs), Export Processing Zones (EPZs) of Government of India and the concept of Science Parks/Technology Parks, as operating elsewhere in the world.

A distinctive feature of STP/EHTP scheme is that it provides Single-Point Contact Services for member units, enabling them to conduct exports operations at a pace commensurate with global standards.

**Highlights of STP Scheme:** Approval's under single window clearance mechanism.

- 100% foreign equity permitted.
- Goods imported / procured locally by the STP units are completely duty free.
- Second hand capital goods may also be imported.
- Sales in the domestic market are permissible up to 50% of the export.
- Income tax benefits under sections 10 A / 10 B of Income Tax Act Minimal
- Export Obligation with positive Net Foreign Exchange <sup>[3]</sup>.

## **2.7 CHANGING ROLE OF HUMAN RESOURCE DEPARTMENT IN IT INDUSTRIES**

Human Resource has therefore become a huge investment for medium and large companies across industries, with people-related costs averaging over 60 percent of total corporate expenditures. The leading firms have been taking steps to ensure that they extract maximum value from their HR investments, introducing models that go beyond basic HR functionality to embrace new ways of improving the quality, efficiency and productivity of their workforces. These businesses recognize that, to be fully effective, HR programs require new processes, supported by leading technologies.

For these companies, the siloed HR department, focusing predominantly on basic administrative, record-keeping and transactional duties, is a thing of the past. Businesses now realize that a strong foundation of information about individuals is a highly valuable organizational resource that can be used to drive efficiencies throughout the business.

Of course, "People are our greatest asset" is a mantra that companies have been chanting for years. Yet it is only relatively recently that businesses have started putting HR systems in place that support this philosophy. As a result, the information that sits inside the HR department is being made available for effective use throughout the wider organization, helping companies align their workforces with long-term business objectives.

The backdrop to the introduction of these new systems is the uncertain business conditions that followed the economic downturn. This situation has resulted in a relentless drive for cost control, which affects the HR department as much as any other. HR now has to demonstrate that it can develop and deliver programs as efficiently as possible, providing greater value at a lower cost.

The current economic environment has also forced firms to become more nimble. The time to evaluate before taking action has decreased dramatically; organizations now have months or quarters instead of years to modify and execute business plans to take advantage of opportunities. As a result, increasing workforce flexibility and responsiveness is a key objective for HR departments in leading companies.

These competitive conditions have led stakeholders throughout enterprises to demand an end to the siloed nature of employee data and quicker, more frequent access to information that can help all levels of leadership make better business decisions. According to the Chartered Management Institute, 80 percent of a company's worth is tied to the value of its

employees, yet there has traditionally been limited access to such workforce data outside the HR department. Managers have lacked visibility into even the most basic characteristics of their workforces, yet alone been able to answer more detailed questions about areas such as staff certification and training levels.

Yet with increased access to information on their employees, organizations can incorporate processes for leveraging worker skills across the enterprise, which in turn allows them to be more flexible. Firms with an in-depth view of employee competencies across regions or markets can immediately locate "best-fit" candidates, identify and resolve skill shortages, and re-allocate resources in response to changing conditions. In doing so, they often avoid expensive layoff/rehire cycles that sap morale, productivity, and profits.

Take Trintech, a provider of transaction management and payment infrastructure solutions to financial institutions, payment processors, enterprise retailers and network operators <sup>[11]</sup>.

## **2.8 PUNE –AN IDEAL DESTINATION FOR IT**

The IT Industry in Pune has come up a long way over the years. From a modest \$20 million exports in 1995-96, today IT industry from Pune region exports over \$5 billion. The IT industry began with huge talent pool drawn from manufacturing industries and Engineering colleges and Professional Training Institutions. The Industry continues its growth with the entry of more and more IT companies from India and abroad. Those who have been here have been expanding tremendously.

### **2.8.1 Policy Initiatives for IT and ITES sector at Pune.**

A conducive Policy Framework rolled out by the Central, State and Local Governments for creating Infrastructure, incentives for setting up IT units such as exemption from customs duty, VAT and octroi, electricity duty and extra Floor Space Index, permission to operate in residential areas and concessions in Property Tax encouraged many companies from India and abroad to set up and expand in Pune.

### **2.8.2 Corporate Presence in Pune**

Indian IT companies have made a mark on the world map such as TCS, Infosys, Wipro, Persistent, Zensar, KPIT Cummins Infosystems, Geometric, L&T Infotech, Patni, Neilsoft and many more are located in Pune.

MNCs like IBM HSBC Software Development, Siemens, Capgemini, Yardi Software, Maersk, Accenture, Symantec, PTC Software, BMC Software, Cognizant, EDS Ventura,

BNY Mellon, WNS, EXL, Oceans Connect, Sybase, SAS Global Services, Oracle Financial Solutions, Amdocs, Tech Mahindra, Atos Origin, Sungard, nVidia, Credit Suisse, Eaton, HP, and SAP have chosen Pune as one of their major bases in India.

Their presence has resulted in generating sound revenues to Government Agencies, huge employment for the skilled professions, youthful workforce for the ITES sector and education, real estate, hospitality, retail and banking sectors.

### **2.8.3 Strengths of Pune's IT Industry**

Pune's IT strengths comprise of the following sectors: CAD/CAM/CAE, Process Control and Automation, Design Engineering, VLSI Design, GIS, MIS, Network Protocol, Internet and Intranet Applications, Client Server Architecture, systems Programming, Embedded Systems, Digital Signal Processing, Multimedia, Web Hosted Tools, E-Education, ERP Applications, Tools and implementation, Software Testing, software Products, BPO, KPO in a wide range and more...

Pune's IT sector serves sectors such as Automotive, Airlines, Engineering, Automation, Networking and Hardware, Electronics, Energy, Telecom, Oil and Petroleum, Hospitality, Healthcare, Financial Services, Logistics, Retail, e-Governance, Education etc.

### **2.8.4 IT: Enhancing City Landscape**

#### **I. Government IT Parks**

- a. Rajiv Gandhi Infotech Park Hinjewadi phase- I,
- b. Rajiv Gandhi Infotech Park Hinjewadi phase- II,
- c. Talawade Techno Park
- d. Kharadi Knowledge Park

#### **II. Prominent Private IT Parks**

- a. ICC Tech Park
- b. Magarpatta Cyber city
- c. Marisoft- Vason
- d. Cerebrum
- e. Sharada Center
- f. Pune IT Park
- g. Commmer Zone
- h. Weikfield Infocity
- i. SP Infocity
- j. EON SEZ and many more

### **2.8.5 Efforts for sustaining growth of IT and ITES sectors in Pune**

Pune has strong educational institutions offering courses as per the needs of IT Industry. IT has many IT Parks, ever growing residential and commercial complexes and residential and commercial complexes and recreational facilities, many hostels and restaurants, ideal social environment and therefore continues to be an attractive destination for companies and their existing and potential employees.

Many initiatives in improving the power, transportation, road network have been made over the last few years. Pune has been made over the last few years. Pune has been one of the biggest beneficiaries of the Jawaharlal Nehru Urban Renewal Mission Programme sponsored by Government of India. This has ensured additional road network, improved waste water management, public transportation etc.

The strengths of IT sector in Pune have prompted many potential customers, and multi sector delegations from other countries to visit Pune and explore possibilities of doing business with Pune<sup>[13]</sup>.

## **2.9 SUMMARY OF INFORMATION TECHNOLOGY AND SOFTWARE INDUSTRY.**

The Indian information technology and software industry has a number of characteristics making it interesting. First, from its beginnings, the industry has focused on international markets. Briefly, in the early 1970s, the Indian government was highly protectionist and bureaucratic, making it difficult and expensive to import hardware, as well as time consuming to obtain approval for software exports. Yet, the setting up of the Santa Cruz Electronics Exports Processing Zone (SEEPZ), near the airport in Mumbai, at Adhere (East), was the trigger that led a number of arms to start export-oriented information technology and software firms. The Indian information technology industry was born there.

Infrastructure issues, such as the lack of power and good communications throughout the country, had made it difficult for Indian software arms to compete. Then, in the mid-1970s and early 1980s, import duties were reduced, and export applications were cleared faster. In 1984, the government created the Computer Policy, which called for the development of different agencies for software promotion, as well as for the liberalization of imports for necessary inputs<sup>[8]</sup>.

The government also established seven Software Technology Parks to be resource centres for software exporters<sup>[2]</sup>. In the 1990s, liberalization continued, with more reductions

on import duties and income tax exemptions for software exports. This liberalization of software policy during a time of low-cost labour in India, as well as increased worldwide demand, allowed Indian firms to develop and grow through exporting abroad. In contrast, the domestic market has not been a focus of the industry. The Indian software industry has limited links to the domestic Indian market, with a large proportion of its sales arising from exports.

The reasons for low domestic sales are the Indian government's focus on the exporting market, and the limited domestic demand for such products and services. Firms comprising the Indian software industry, therefore, have been born as global firms, with a focus on international markets. Moreover, these firms originated in India. Also, domestic Indian firms, those resourced and set up by Indian entrepreneurs operating from India and that are not subsidiaries of foreign firms, have been principally responsible for the growth of the Indian software industry<sup>[8]</sup>. In sum, two major reasons for the development of an originally global software industry in India are the external environmental factors of policy-making to encourage exports in the Indian software industry, as well as the increased international demand for such services.

Apart from its global original nature, a second reason to focus on India's software industry has been its success. The Indian software industry has been recognized as one of high growth, at more than 50% a year. The output value in this industry has increased more than 18 times in a decade. In 1999, the Indian software industry was estimated to have 18.5% of the world market, and in 1996, it was the source for outsourcing of more than 100 Fortune 500 companies<sup>[4]</sup>.

Five years ago, the industry was expected to account for 20% of India's exports, to contribute about 20% to India's incremental GDP between 2001 and 2008, and to account for an estimated 7% of India's GDP in 2008<sup>[5]</sup>. The latest data from NASSCOM<sup>[11]</sup>, the industry trade association, shows that the information technology sector, with services valued at more than \$70 billion, has accounted for almost 6% of India's GDP. Direct employment has reached over two million, with 226,000 employees added in the last year, while indirect job creation has been estimated at almost eight million persons. Since organized sector employment in India is low<sup>[12]</sup>, the information technology sector is turning out to be one of the most important sectors for employment in India.

By studying such an industry in an emerging economy, important insights into the characteristics of a highly competitive and growing industry can be generated. In addition, a reason for studying the Indian software industry is the interest in high technology, originally

global firms. “A significant portion of the current literature on these businesses, deals directly with, high-tech businesses”<sup>[6]</sup>. By focusing on the Indian software industry, further insights can be provided into the strategic behaviour of originally global arms in the high-technology area.

## **2.10 CONCLUSION:**

The Indian software industry has been concentrated in a few major cities such as Pune, Bangalore, Chennai, and Hyderabad. The Indian Government recognizes that IT will influence economic development extensively in the years to come. The global economic depression of 2009 did not affect much the Indian IT industry. It was a temporary setback or a passing phenomenon for the Indian Software companies in general affecting the manpower to certain extent. Despite the global economic slowdown, the Indian IT software and services industry is maintaining a steady pace of growth. The industry while did not go for fresh recruitment during this period sparsely resorted the lay-offs of employees. Many adopted redeployment measures to retain the employees. When demand returned in 2010, the combined effect of all the factors helped India grow faster than its competitors, accounting for almost 90 % incremental growth in the global sourcing market.

Pune has strong educational institutions offering courses as per the needs of IT Industry. Software Technology Parks of India (STPI) is all society set up by the Department of Communication & Information Technology (DIT) in 1991, with the objective of encouraging, promoting and boosting the software exports from India. STPI maintains internal engineering resources to provide consulting, training and implementation services. Services cover network design, system integration, installation, operations and maintenance of application networks and facilities in varied areas. The Scheme integrates the concept of 100 per cent export oriented units (EOUs), export processing zones (EPZs) of Government of India and the concept of Science parks/technology parks, as operating elsewhere in the world. A distinctive feature of STP/EHTP Scheme is that it provides single-point contact services for member units.

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