CHAPTER -1

INFORMATION TECHNOLOGY
IN INDIA
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1.1. THE INDIAN IT SECTOR – INITIATION AND GROWTH

1.1.1. Introduction

The INFORMATION TECHNOLOGY (IT) services and IT enabled services (ITeS) industries in India have become highly visible nodes of the global economy, attracting substantial attention from international media and business interests as a prime destination for outsourcing and off shoring. The successes of these industries, as well as the recent anti-outsourcing backlash in the U.S. have produced a new global image of India as a rising economic power. It has also created the figures of the Indian ‘techie’ and call center agent as low cost (but ‘high quality’) technical workers who represent the main threat to American and European IT-related jobs in the current decade. IT has come to be regarded as a model for India’s future economic growth and development, based on the policies of liberalization and globalization.

While much has been written about the history, growth and structure of India’s IT industry, there have been few critical analysis of its significance or implications for India’s overall social and economic development. There have been few sociological studies about the ‘work’ in these outsourcing industries, or of their most crucial ‘resource’, the workforce. IT has become the career option for many young educated Indians, for whom it offers salaries unknown in other sectors and an opportunity to live and work outside India. Software engineers, BPO workers, and others employed in IT-
related occupations constitute a new kind of workforce: they are highly educated, well-paid, mobile, and closely linked into the global services economy. Work in IT industry is distinctive in that it is catering to the global market, and often performed ‘virtually’, giving rise to new kinds of workplaces, work cultures, and employment issues.

Before the economic liberalization policy of the Congress Government (1991) in India, the scenario in organizations was completely different from that which exists now in terms of stability of workforce. In the 50’s and 60s more government/semi-government organizations and very few private players existed. People preferred to work in government/semi-government organizations, as it provided job security and quality of work life. Those who entered the job market often remained with one employer. In the 70’s and later, external mobility increased dramatically posing a great threat to the organizations. The government is also encouraging entrepreneurship, helping many domestic players also to enter the Indian market. Voluntary turnover has now increased drastically, as the Indian market is opened to foreign players as well. This situation has resulted in stiff competition for competent workforce. Poaching and job-hopping has become the order of the day.

IT contributed a major share towards the GDP (6.4 percent in 2011) of India is faced with the challenge of retaining people as the attrition rate is high. In FY12, IT industry has witnessed an average attrition rate of 17-25 percent as compared to other sectors in India like manufacturing, banking etc., which is about 8 percent. It was also observed that the attrition has dipped down in FY12 from FY11 (55-60 percent) according to a recent industry specific research carried out by the Associated Chambers Of Commerce and industry of India (ASSOCHAM).

1.1.2. Background of IT Industry in India

Though some IT firms like TCS was established in late 60’s, India did not see development in IT industry during mid-70. This period was not so effective due to restricting imports of computer peripherals, high import tax etc. A notable turning point
in the Indian software and IT industries policy environment was when Mr. Rajiv Gandhi became PM in 1984. The major policy reforms recognized software as an industry to invest and made it eligible for incentives as other domestic industries, reducing import tariffs and announcement of CSDT policy which liberalized exposure to the latest technologies to compete globally and to capture a share of global software exports.

The liberalization policy of the Indian Government in 1991, further gave a boost to the IT industry in India. In the recent decades, the Indian IT industry has gained visibility globally, as it has attracted substantial attention from the international media and business interest for its high potential, high quality and cost effective manpower resources, proactive policy framework, specialized Organizations and facilities, state-of-art infrastructure and quality of service. The Indian IT professionals are the most sought after by IT Companies all over the globe. In India also the IT professionals are well paid and are offered world-class benefits. Therefore job in IT sector is a ‘dream come true’ for many young educated professionals in India and they strive towards this goal. They also get an opportunity to live and work abroad in addition to attractive pay package and benefits. The rise of IT industry in India brought in drastic changes in lifestyle, sociality, family structure, self-identity and attitude of the urban middle class in India. IT professionals were looked upon with respect as they enjoyed better social status and were envied lot.

In India, IT companies are concentrated in certain places like Bangalore, Hyderabad, Pune, Mumbai, Chennai, Delhi, Bhubaneswar, KOCHI, Noida, Chandigarh, Gurgaon, Coimbatore, Calcutta, Mysore, Madurai, Maneshwar, and Thiruvananthapuram. Out of these Bangalore is considered to be the Silicon Valley of India as it is the leading IT exporter, housing many domestic as well as Multinational IT Companies.

The Organizations are competing with one another in terms of their employee friendly policies and practices aimed at attracting and retaining potential workforce. This situation has bred highly demanding and egoistic workforce who leave or threaten
to leave the organization even at the slightest discomfort. Job-hopping is a common phenomenon among IT professionals.

1.1.3. **Information Technology In India**

The IT industry in India has gained a brand identity as a ‘knowledge economy’ due to its IT and ITeS sector. The IT - ITeS industry has two major components: IT Services and business process outsourcing (BPO). The growth in the service sector in India has been led by the IT–ITeS sector, contributing substantially to increase in GDP, employment, and exports. India’s IT growth in the world is primarily dominated by IT software and services such as Custom Application Development and Maintenance (CADM), System Integration, IT Consulting, Application Management, Infrastructure Management Services, Software testing, Service-oriented architecture and Web services.

This sector has also led to massive employment generation. From a base of 6,800 Knowledge Workers in 1985-86, the number increased to over 1 million in 2005. The industry continues to be a net employment generator - expected to add 250,000 jobs in FY2013, thus providing direct employment to about 3.0 million, and indirectly employing 8.9 million people. However, the sector continues to face challenges of competitiveness in the globalized world, particularly from countries like China and Philippines.

India's growing stature in the Information Age enabled it to form close ties with both the United States of America and the European Union. A joint EU-India group of scholars was formed on 23 November 2001 to promote joint research and development. India holds observer status at CERN while a joint India-EU Software Education and Development Center is due at Bangalore. However, the recent global financial crisis has deeply impacted the Indian IT companies and global companies as well. As a result, hiring has dropped sharply, and employees are looking at different sectors like the financial service, telecommunications, and manufacturing industries, which have been growing phenomenally over the last few years.
1.1.4. Recent Developments

The Indian information technology sector has been instrumental in driving the nation’s economy onto the rapid growth curve. According to the NASSCOM-Deloitte study, the IT/ITeS industry’s contribution to the country’s GDP has increased to a share of 5.2 percent in 2007, as against 1.2 percent in 1998. The economic effect of the technologically inclined services sector in India is summarized by the Indian Minister of State for Communications and IT, Mr. Milind Deora: The total number of professionals working in India's $100 billion IT-Information Technology Enabled Services (IT-ITeS) sector grew by 7 percent to 2.97 million in the FY 2012-13.

Today, Bangalore - the Silicon Valley of India, contributes 33 percent of Indian IT Exports. India's second and third largest software companies are headquartered in Bangalore, as are many of the global SEI-CMM Level 5 Companies. Mumbai too has its share of IT companies that are India's first and largest, like TCS, Reliance, L&T Info tech, I-Flex, etc.

Given below is the brief description of the major IT Companies and IT Hubs in India.

Table.1. Top Four IT Services Companies in India

<table>
<thead>
<tr>
<th>Firm</th>
<th>Revenues</th>
<th>Employees</th>
<th>Fiscal Year</th>
<th>Headquarters</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCS</td>
<td>$10.17 billion</td>
<td>254,076</td>
<td>2012</td>
<td>Mumbai</td>
</tr>
<tr>
<td>Wipro</td>
<td>$7.30 billion</td>
<td>140,569</td>
<td>2012</td>
<td>Bangalore</td>
</tr>
<tr>
<td>Infosys</td>
<td>$7.00 billion</td>
<td>153,761</td>
<td>2012</td>
<td>Bangalore</td>
</tr>
<tr>
<td>HCL Technologies</td>
<td>$4.3 billion</td>
<td>85,335</td>
<td>2012</td>
<td>Noida</td>
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</tbody>
</table>
Table 2. Major IT Hubs In India.

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bangalore</td>
<td>Popularly known as the ‘Silicon Valley of India’ and leading software exporter. Considered to be a global technology hub, headquartering prominent IT companies.</td>
</tr>
<tr>
<td>2</td>
<td>Chennai</td>
<td>The second largest IT destination and the BPO hub of India. Has the largest operations center of TCS and COGNIZANT. It is the headquarters of technology startups with global customers.</td>
</tr>
<tr>
<td>3</td>
<td>Hyderabad</td>
<td>The third largest Information technology hub housing notable companies like Microsoft, Google, Facebook, EA Mobile etc.</td>
</tr>
<tr>
<td>4</td>
<td>Mumbai</td>
<td>The Financial capital of India, but recently many IT companies have established offices.</td>
</tr>
<tr>
<td>5</td>
<td>Delhi</td>
<td>The National Capital Region comprising Delhi, Gurgaon and Noida are clusters of software development.</td>
</tr>
<tr>
<td>6</td>
<td>Pune</td>
<td>Major Indian and International Firms present in Pune. Pune is also C-DAC Head-Quarter.</td>
</tr>
<tr>
<td>7</td>
<td>Kolkata</td>
<td>Contributes significantly to IT exports.</td>
</tr>
<tr>
<td>8</td>
<td>Kochi</td>
<td>The commercial and financial capital of Kerala. Houses all major IT companies.</td>
</tr>
<tr>
<td>9</td>
<td>Thiruvananthapuram</td>
<td>The IT hub of the state of Kerala. Houses all major Indian and many Foreign IT Companies.</td>
</tr>
</tbody>
</table>
1.1.5. Contribution of IT Industry to India’s Growth.

IT-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 transform from a rural and agriculture-based economy to a knowledge based economy. Following chart (Figure.1) precisely explain how the IT-BPO sector contributes to the growth of India.

![Figure.1. IT-BPO Sector in India](image_url)

The Indian IT industry has not only transformed India's image on the global platform, but also fuelled economic growth by energizing higher education sector
The industry has employed almost 10 million Indians and hence, has contributed a lot to social transformation in the country. Furthermore, Indian firms, across all other sectors, largely depend on the IT & ITeS service providers to make their business processes efficient and streamlined. Indian manufacturing sector has the highest IT spending followed by automotive, chemicals and consumer products industries. Industry body NASSCOM predicts that the ITeS industry will bring in around US$ 225 billion by 2020, wherein 80 percent of the growth would come from the presently untapped sectors and regions.

The contribution of India's IT industry to economic progress has been quite significant. The rapidly expanding socio-economic infrastructure has proved to be of great use in supporting the growth of Indian information technology Industry. The flourishing Indian economy has helped the IT sector to maintain its competitiveness in the global market. The IT and IT enabled services industry in India has recorded a growth rate of 33 percent in 2008 with exports crossing US$ 40 Billion and the domestic market clocked over US$ 23 Billion. Simultaneously, the Indian IT services market is estimated to remain the fastest growing in the Asia Pacific region with a CAGR of 18.6 percent. IT-ITeS exports are estimated to have risen by 23.4 percent at about Rs. 4.11 Trillion in 2012-13 fiscal years against Rs. 3.32 Trillion in the 2011-12 fiscal years. In Dollar terms, exports are estimated to be up by 10.2 percent to about $75.8 Billion in 2012-13, from about $68.8 billion in 2011-12.

India is home to a huge pool of English-speaking IT professionals, who have the necessary skill and expertise to meet the demands and expectations of the global IT industry. The cost of skilled Indian workforce is reasonably low compared to the developed nations. This makes the Indian IT services highly cost efficient and helps the IT enabled services to expand significantly in the Indian market.

The emergence of Indian IT sector offers a host of employment opportunities. With major IT Companies operating in some of the key Indian cities, there is no dearth of job opportunities for the Indian software professionals. The IT enabled sector of
India absorbs a large number of graduates from general stream in the BPO and KPO firms. The average purchasing power of the common people of India has improved substantially. The aggregate demand has increased as a result. All these have improved the gross production of goods and services in the Indian economy. So in conclusion it can be said that the growth of India's IT industry has been instrumental in facilitating the economic progress of India.

India – A trillion dollar economy with GDP growth rate projected at 8-10 percent in recent years is fast emerging as a growth story driven by a growing middle class, consumer spending, and technology innovation. Increasing adoption of technology and Telecom by consumers and focused Government initiatives – leading to increased Information and Communication Technology (ICT) adoption.

1.1.6. **India as a Knowledge Economy: Aspirations versus Reality**

The success of Indian firms and professionals in the IT arena during the last decade has been spectacular. Entrepreneurs, bureaucrats, and politicians are now advancing views about how India can ride the IT bandwagon and leapfrog into a knowledge-based economy. The Indian IT-BPO industry has proved to be a premier source of mass employment across the country. However, to attain ‘industry-ready’ status, organizations were required to equip their employees with a new set of skills – foreign language capabilities, global business process knowledge, sales and marketing skills, research (business, market, financial) and business analytics. Service providers are effectively utilizing India’s talent pool by designing large scale talent re-engineering initiatives and employee engagement activities. This is enabling the industry to provide both end-to-end and high-end value-added services across sectors.

On the other hand, 79 percent of India’s population lives in villages without the basic amenities and infrastructure that can sustain a knowledge economy. Yet, the central and state governments in India are investing millions of dollars in promoting IT-based initiatives and the IT industry as vehicles of social and economic transformation.
Think-tanks point out that India should aggressively pursue traditional manufacturing and agriculture based industries to build a robust industrial economy that can be made more efficient and productive with IT. Proponents of “new growth theory” have convincingly argued that ideas and knowledge, rather than scarce physical resources, increasingly fuel economic growth. Ideas and knowledge are, in turn, endogenously generated within an economy, as a function of the prevalent levels of education, the skills of the workforce, and proper market incentives. The message in the Indian context is straightforward —progress into a knowledge economy will not come without substantial, widespread development of India’s human potential.

1.1.7. The Indian IT Workforce

By 2006, the Indian IT industry had generated employment for an estimated one million people, which is expected to cross 3 million by the end of 2013. As per the Indian Minister of State for Communications and IT, the IT-ITeS sector, which contributes about 8 percent to the country’s economy, provided employment to 2.77 million professionals in FY 2011-12. For the entire FY 2012-13, 640,000 professionals were employed in the domestic market, while, the number of persons working in the foreign markets in the IT-ITeS sector stood at 2,324,000.

The rapid growth of the industry, and the lucrative job opportunities that it provides, has made IT a premium career option for young people, and there is stiff competition for entry into software companies. Every year hundreds of new Engineering collages are opening up all over India. India retains its dominant position as the leading country to churn out ‘Ready-to-hire’ pool of over 450,000 Engineering graduates every years and the number will continue to increase. Even people from Civil and Mechanical engineering are entering Software. There are additionally Lakhs of MCA, B.Sc. Computer Science and others from NIIT, Aptech etc., coming out. India’s talent base is expanding rapidly with an annual addition of nearly 4.4 million undergraduates and postgraduates in FY2012 (See Figure.2 below). Government is taking initiatives to
enhance long-term employability through finishing schools, mentorship programs, setting up industry benchmark and IT-BPO Sector Skill Council (SSC) initiative.

Figure 2. India’s Talent Pool (FY-2012)

Majority (81.5 percent) of the IT professionals are in the age group between 22 to 30 years and the mean age of the employees is 26 years (Jobs with justice, 2012). The unfavorable media coverage on ‘night shift’ is causing social problems for the IT professionals. These younger generation workers are techno-savvy, aware of market realities and opportunities, they in general have a different mindset towards job and career. Factors like lack of advancement in career, high workload, employee morale, risk involved in decision making, and organization climate leads to stress among them (Viven, 2010). They have high aspirations for career, expectations from job and are ready to take risk. Salary, like other sectors, is still one of the prime drivers for switching jobs. The average starting compensation given to IT professional in India is around Rs. 15,000 per month, which is high compared to other sectors. The salaries and career advancement are by market dynamics of demand exceeding the supply of skilled
workforce. Employees tend to build career by job hopping, which raises attrition rate averaging 30-40 percent in the industry (Total Rewards Study, 2011). Most of the work in this sector continues to be low-end, creating a high level of job dissatisfaction as many employees who believe they are over-qualified for the job.

Identifying the reasons for mismatch between the supply and demand for IT workers, and developing strategies to produce more qualified ‘knowledge workers’, has become a central concern of the industry as well as the government. The focus has been on the quality of education and the need to produce more workers with the appropriate skill sets. Global services outsourcing companies look for certain ‘soft skills’ in their employees as well as technical knowledge. The ‘cultural capital’ possessed by potential employees may be crucial to their success. This includes not only the obvious skills such as fluency in English but also more subtle ones such as the ability and confidence to interact easily in cosmopolitan and multicultural settings – skills that are acquired from one’s family and social background as much as from the education system. Although India churns out a large number of engineering and computer science graduates as well as diploma and degree holders in IT-related subjects each year, a sizeable proportion of them are not considered suitable to be absorbed by the industry, or are employable only in low-level jobs.

1.1.8. IT – Population, Education and Values

It is almost fashionable now to say that India’s population constitutes one of her greatest assets. People are assets only when they can meaningfully participate in the cycle of value creation and consumption - either by exercising buying power, or creating products and services of value to others, or by creating and harnessing knowledge. India can transform its people to real assets by building two pillars that have supported the growth of every successful economy, i.e., a reliable infrastructure core, and widespread access to education and training. Distance learning and e-learning are already being touted as solutions to India’s education challenges. IT can enable the
cheap and widespread delivery of education. An IT-based learning environment will advance the cause of Indian education in any substantial way.

A knowledge economy is characterized by a culture of innovation with key characteristics like incentives for innovation, and intellectual property protection. Ideas, unlike property, cannot be protected by building a fence around them. The protection of intellectual property is not a purely economic issue - it has important cultural aspects as well. The economic angle can be addressed by stronger patent laws and punitive procedures. The cultural issues will decide whether such protection can be enforced meaningfully. Addressing the cultural angle is a challenge - it requires that even without the threat of punishment, people must learn to draw a clear, disciplined boundary in everyday life between what is theirs to take and keep, and what is not.

1.1.9. IT Industry in India (IT & ITeS) - Latest Developments

India’s Information Technology industry growth is unparalleled in the history. No other industry in India has grown at such fast and scorching pace as the IT industry. India’s IT industry started blooming together with the widely welcomed strategic shift in its national policy in the early nineties and was estimated at US$ 150 million in 1990-91. By 2006-2007, the industry has grown to US$ 50,000 million, that is a 330 fold increase in just 15 years! It stands at US$75,800 Million in 2012-13. The annual growth rate of the industry in India is estimated at 30 percent.

The contributing factors for the growth of IT in India includes the technically qualified manpower with skills in English language, the inexpensive labor and operations cost, favorable government policies, cheap and best Internet Bandwidth, and active participation of local governments by setting up dedicated IT parks with all infrastructure and power for the smooth business functioning in these IT parks.

Latest Government Initiatives: As a part of the National Electronics Policy, the Government of India is planning to set-up 15 new laboratories under public-private-partnership (PPP) model for hardware and software testing. The labs, for which the
locations are yet to be decided, will facilitate registration and testing of IT products before they are launched in the market.

Among all the SEZs across various sectors, the IT-related ones contribute the most to the exports. Thus, the Ministry of Commerce plans to streamline the incentives to encourage such zones to establish their set-ups in tier-II and tier-III cities. FDI up to 100 percent under the automatic route is allowed in data processing, software development and computer consultancy services, software supply services, business and management consultancy services, Market Research Services, Technical testing & Analysis services.

The major initiatives taken by the Government to promote IT and ITeS sector includes:

- The Government of West Bengal plans to spend Rs. 41 crore (US$ 7.54 million) to roll out citizen-centric services electronically across 19 districts.

- Kerala has set an ambitious target of becoming a cent percent digital state in governance. The State has around 600 small, medium and large IT firms employing over 80,000 professionals directly and nearly 250,000 indirectly.

- The Cabinet has recently approved the National Policy on Information Technology 2012. The policy aims to increase revenues of IT and ITeS industry from US$ 100 billion to US$ 300 billion by 2020 and expand exports from US$ 69 billion to US$ 200 billion by 2020.

- The Government of India plans to set up 15 new laboratories for testing hardware and software products under public-private partnership.

- To boost investments in Indian Special Economic Zones (SEZs), the Government is likely to announce incentives for the IT-oriented export hubs. The incentives would majorly aim at simplifying standards for setting up SEZs and not have any direct revenue implications.
• The Ministry of Finance has issued a circular to chairmen of public sector banks and regional rural banks that all payments to customers, staff, vendors and suppliers as well as disbursement of loans and payments towards investments should be made only through the electronic mode.

Following are some of the major initiatives in Indian IT and ITeS sector:

• Tata Consultancy Services (TCS) has set up a new delivery center in Liverpool, expanding its operations in the UK.

• Mumbai International Airport Ltd (MIAL) has entered into a 10 year contract with Wipro Infotech for the new integrated terminal T2.

• Mahindra Satyam has acquired 51 percent stake in Complex IT, a SAP consulting provider in Brazil.

• Mu Sigma plans to set up a development center in the US. The company plans to increase their staff strength from 2,300 to 3,300 by December 2013.

• Wipro has partnered with New Zealand-based Pingar and gained access to areas such as artificial intelligence and data mining.

• HCL Technologies has entered into a multi-million dollar agreement with UK-based Cobham for engineering support services across the globe.

1.1.10. Challenges before Indian IT Industry

At present there are a number of challenges that are facing the Indian IT Industry. One of the major challenges was to keep maintaining its excellent performance standards. It is high time to create an environment for innovation in business models, ecosystems and knowledge that are connected to the IT Industry and could be carried for a long time. The IT sector of India also has to spread the range of its activities and also look at the opportunities in other countries.
The improvement however, also needs to be qualitative rather than just being quantitative. The skill level of the information technology professionals is one area that needs improvement and presents a considerable amount of challenge before the Indian IT industry. It also needs to co-ordinate with the academic circles as well as other industries in India for better performance and improved productivity. The BPO service providers in India need to change their operations to a way that is more oriented to the knowledge process outsourcing.

One of the most important crises facing the Indian IT industry concerns the human resources aspect. The problems with outsourcing in countries like the United States of America are posing problems for the industry as well. In the recent times a bill has been passed in the state of New Jersey that allows only the citizens or legal non-Americans to be given contracts. This legislation has also affected some other states in the U.S. This is supposed to have an adverse effect on the outsourcing that is the source upon which the IT industry of India thrives. The IT professionals who aim at working in the country are also likely to be hindered by the legislation as a significant amount of these professionals have been going to work in the USA for a long time.

In case of falling Dollar, the business advantage in India will be lost because of the high salaries of IT professionals. India's cost advantage will also disappear soon, because of the high rate at which the wages are rising. Since salaries have peaked, when other sectors offer similar salary, the job seekers tend to change their direction and preference towards them. There are issues with difference in time zones including a lack of real time communication since majority of team on outsourced projects are at different locations. The quality and competence of new-generation Indian Engineers, except those produced by IIT and a selected few Institutions, is always a question mark in the international labour market. Increasing awareness on the risks to confidential data and personal data is another challenge. Finally, the increase in international competition is seriously challenging the Indian IT industry. Several Indian companies
have already opened their offices in other countries where the cost of doing business is cheaper. In near future the IT industries might relocate to countries like China, Vietnam, Philippines or other countries.

1.1.11. Trade Unions in Indian IT Industry.

The importance of trade unions in India descended because of negativities associated with them, but off late it is again gaining momentum in manufacturing and service industries. IT industry is one of the high growth service industries in India, which has contributed significantly to the upsurge in the Indian economy and has created a huge base of white-collar occupations. The industry known for its knowledge workers is distinct in comparison to other industries with no organized union activities.

Indian IT industry has carved a niche for itself in the international arena with its global offshore delivery model and competence. The labour laws applicable to the industry have been simplified as a requirement for growth and development of the industry. Employers are now playing with these simplified laws by taking advantage of the existing loop holes. Employees thus have an array of unsettled demands due to which have warmed up to the idea of trade unions in recent years. There has been a reverberating voice of employers and associations against the formation of trade unions in the IT industry. However, in the long run the repugnance to the employee demands and international labour standards can be serious trouble for Indian IT industry.

1.2. SOCIO-ECONOMIC IMPACT OF IT INDUSTRY IN INDIA

IT-sector offers great opportunities. After a strong recession in European countries, India has not been strongly affected. Along with the great opportunity that IT-industry has brought with it, there is a grave threat to those employed. Almost all the IT-projects work with a very tight schedule. It is noticed that employment in IT-industry poses serious threat to the long-term welfare of the employees. One of them is
infertility. Most of the professionals-men or women-who work for long hours suffer from stress, obesity, irregular body cycles, rise in triglyceride levels, lethargy and above these, emotive ones such as frustration and psychosomatic problems. Due to stress at the workplace, if they had deferred having a family at a younger age, they find that they are unable to conceive naturally.

The rapid growth of IT-BPO and IT industry as a whole is having a profound impact on the socio-economic dynamics of the country. The IT workforce has its own distinct forms of work, employment, organization, and management. Along with its distinct work culture emerged a distinct lifestyle, attitude, sociality and identity. Lifestyles of BPO workers lead to various health hazards. The alarms on health hazards led India to formulate India's first dedicated health policy for the BPO sector.

This sector has emerged as the biggest employment generator. For each person employed in IT sector, around four people were employed in the rest of the economy (NASSCOM News line, 2007). Every rupee spent by IT sector (on domestically sourced goods and services) translates into a total output of Rs.2.00 in the economy. In addition, for every job created in this sector, four new jobs are created in the rest of the economy.

With the number of jobs steadily increasing and has resulted in creation of new class of young consumers with high disposable incomes causing changes in lifestyles, forms of sociality, family structure, and self-identity. These changes fuel the rapid upward socio-economic mobility experienced by employees in this industry. This workforce has been identified as a distinct occupational group, which affects their identity, attitude, interest, colleagueship, collective actions, power, status and work consciousness (Orlikowski & Baraudi, 1989, p.23).

The Indian IT industry caters to the global informational economy primarily as a provider of low-end services. Mobility, flexibility, and employee relationship management are the three major characteristics of work and employment in IT industry.
This sector requires its workforce to be highly mobile and open to travel between locations. Within companies, flexibility is maintained through resource management systems such as 'the bench' along with certain variables in computing salary of the employees. The third characteristic of this sector is the employee relationship management, in which a lot of emphasis is given to attraction, development, and retention of the workforce. Currently, managing stress is the focus area for IT organizations to address the significantly high attrition rate in the industry.

The evolution of computer and IT is perhaps one of the most dominating factors in the ever changing work-life today. IT industry in India got tremendous boost in the past decades due to factors like liberalization and globalization of the Indian economy coupled with favorable government policies. The Indian workforce in IT has earned an image of 'low cost' but 'high quality' technical workers, helping Indian IT industry to keep a promising growth rate. The Indian IT industry has brought a fundamental change in the market of IT services globally by presenting a tough competition to American and European IT-related jobs in the current decade.

1.3. HR PROBLEMS OF INDIAN IT PROFESSIONALS

The IT revolution is sweeping the world, particularly the western world in for nearly a decade now, creating enormous employment opportunities in this area. India joined the bandwagon well in time and smoothly. Though it is yet to entrench itself strongly in terms of corporate identity and significant share of global revenues in IT. The sudden eruption of opportunities in this area left no time for development of human resources in a planned manner and also software solutions which tended to be more ad hoc than being assured of quality.

With the enormous opportunities for employment, entrepreneurship with low capital investment and low gestation period for turning profitable, higher returns per employee and large return on investment/EPS, sustained encouragement from government, a very large number of organizations - large, medium, small - have been
established. Correspondingly a large number of training establishments and cyber cafes have come up, most of which are in the cities and towns to cash in on the enthusiasm of the urban middle class. A number of higher level courses have also been started mainly through private organizations besides the existing government (State/Central), university and autonomous institutions. There are about 500 private engineering colleges besides IITs, RECs, Universities, Collages offering courses such as MCA, M.Sc., M.E., and M.Tech. In view of the apparent demand that appears to be exaggerated, most of the programs are very expensive, almost beyond the reach of a middle-class student. Yet candidates and their parents strain themselves financially to pursue the courses hoping to get an attractive job (financially) which remains a mirage by and large. The problems are further compounded by a lack of proper teaching faculty in most collages and franchises.

Except in well-established institutions, job-placements are poor. Even those trained in reputed institutions find their jobs monotonous, leading to depression. Jobs offered by the software industry have demonstrated the above factors as they are able to carry out the projects with persons of any background and levels of attainment, but with a few months training either prior to employment or a short training during probation.

Despite these deficiencies, students prefer software jobs mainly with an eye on the pay-package and urban locations. The employee- retention period even in good companies has been shrinking and is found to be three to six months. The companies also try to devise methods to make their employees almost captive with surety bonds, bank guarantees, employee's stock option (ESOP) and housing facilities, among others. The employees, for their part, resort to innovative methods to wriggle out of their contracts. There does not appear to be any respectable ethics even among companies as well as the employees in this type of free for all market. To go abroad and become rich has become the motive of most of the employees even if the job does not offer any intellectual satisfaction. The manufacturing and hard-core engineering sector has also shrunk in terms of job opportunities and attractiveness.
Even those software professionals, who are offered good financial packages, spend their earnings on expensive lifestyles, vehicles, and credit card syndrome and find themselves disenchanted on all fronts including the intellectual front. It should also be a cause for concern to project beyond the present software boom as to what happens to all these if the opportunities decline. The scenario appears to be quite fluid with a predominant western bias in all the activities concerning software profession with scores of Indian boys getting lured and sucked into the vortices created by the opportunities in this area.

The workforce in IT faces its unique challenges. Work-related stress is currently one of the greatest challenges to the health of working people and to the healthiness of their work organizations. The IT industry in India brought a new work environment and sea changes in the employment trends. Service providers characterized this sector by adhering to strict deadlines set by their customers, working in different time zones, interdependency in teams, multitasking, increased interaction with offshore clients and extended work hours. IT professionals are constantly under pressure to deliver the services efficiently as well as to remain cost effective. The customer expectation in terms of skills required for processing jobs keeps changing and forces professionals to upgrade/adapt very fast to their demands. At times IT professionals are forced to change the entire paradigms amidst constant uncertainty and high risk. These working conditions lead to high stress in the professionals.

This sector is very volatile and faces the problem of lack of job security and constant upgradation of skills to remain marketable. The skills in this sector are becoming obsolete at a rate of 20 percent per year. States that the lack of control over standardized software products and inflexible deadlines are the biggest causes of stress among IT managers. Stress is the worst hazard of their workplace and repetitive strain as the next greatest problem. The working conditions in the IT profession is becoming very stressful with average working hours extended to 50 hours per week, working on
Saturdays and Sundays and not being able to take leave when sick. Increased workload, constant changes at work, reduced staff and long working hours affect not only employees but also the employers. The widespread nature of stress in IT has given rise to the term 'techno-stress', which is used to explain the phenomena of stress arising due to usage of computers.

1.4. CONCLUSION

Information technology (IT) is playing a crucial role in contemporary society. It has transformed the whole world into a global economy, which is increasingly dependent on the creative management and distribution of information. Globalization of world economics has greatly enhanced the values of information to business organizations and has offered new business opportunities. Today, IT provides the communication and analytical power that organizations need for conducting trade and managing business at global level with much ease. To coordinate their worldwide network of suppliers, distributors and consumers, organizations have developed global information systems that can track orders, deliveries, and payments round the clock. In the broadest sense, information technology refers to both the hardware and software that are used to store retrieve and manipulate information.

This chapter establishes that the IT industry has been successful in India precisely because it has been able to tap the existing social and cultural capital – including educational attainments, knowledge of English, and some degree of westernized social orientation. The workforce that has been created for the industry, and that is its primary resource, is drawn from this social segment – a fact that tends to reinforce the existing class structure. The middle class in India is certainly expanding in size and diversity, and is also being transformed by forces of globalization, and new global industries such as IT are contributing to these processes by providing new kinds of jobs for highly educated workers and pulling at least some people from other social strata into the ‘new middle class’. Yet ultimately the IT industry cannot be said to have
contributed to overcoming the deep social and economic divisions that continue to characterize Indian society, despite its adherence to the ideology of ‘merit’ that claims that anyone can succeed in this industry by virtue of hard work and native intelligence.

Like any other industry, IT industry is also all about demand and supply. At present both go hand in hand. The Indian IT industry has been facing some challenges. Yet, it remains and will remain competitive in the future as well. Some thinks that the growth of IT Industry is sustainable. Others think in long term it is not possible. Though competition is expected to increase and salary growth gets slower, the Indian IT industry, with its lot many advantages will remain healthy. The computer world is expanding and it requires qualified people to maintain its progression. India stands ready to maintain its position as the top IT service provider for many years to come.