Chapter- 1  Information Technology Industry: An Overview

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Chapter- 1  Information Technology Industry: An Overview

1.1  Introduction to Global Information Technology Industry

To understand the process and impacts of a globalizing technology like the Internet, one must account for the historical development of that technology, the process of technology transfer in general, and the local cultural dynamics in unique regions. The internet will diffuse differently in different regions and among different sectors within those regions. Chile, for historical and cultural factors, should demonstrate a different diffusion and use pattern than India or Kenya. This leads to different definitions of how Internet technologies are constructed within distinct regions and poses challenges for the development of a symmetrical global scientific community fueled by new ICTs. This last statement often weaves itself into the “taken for granted” rhetoric found in multilateral conferences like the World Summit on the Information Society (WSIS).

Information technology in India is an industry consisting of two major components: IT Services and Business process outsourcing (BPO). The sector has increased its contribution to India’s GDP from 1.2% in 1998 to 7.5% in 2012. According to NASSCOM, the sector aggregated revenues of US$147 billion in 2015, where export revenue stood at US$99 billion and domestic at US$48 billion by over 13%. India’s Prime Minister Narendra Modi has started “Digital India” project to give IT a secured position inside and outside India.

It is simplistic to assume that the Internet will resolve inequities in social, political, economic and even scientific terms. It is a noble perspective, but the last 50 years of development failures based on other western technologies and protocols does not provide much optimism. The following session review highlights the complex factors involved in Internet diffusion, post war history,
technological culture, case studies in the developing world, and innovations in technology research and development.

The session on History of Information Technology reflected many of the temporal, transnational and developmental dimensions of research in the information society. American Scholars Martin Collins and Janet Abbate retracted the historical contexts of cellular and Internet Technology research and development in the post-war era. Collins discussed the ways, Motorola’s transnational Iridium project was constructed by both Cold War political culture and post Cold War market culture notions of the global. Abbate reminded us that “Internet Culture” finds its roots in the values of the research community that first conceived and then developed it. Brazilian Scholar Celso Candido offered us an overview of the developmental constraints and potentials of Internet Technology diffusion in his nation over the last quarter century. Brazil’s case mirrors many of the diffusion processes unfolding throughout the developing world. The session concluded with Swedish scholar, Mikael Snaprud’s overview of “open source” platform support for collaboration in ICT training and research.

1.2 History of Indian Information Technology Industry

The Indian government had strict control over the private business entities in India before liberalization of economy in 1991. Moreover, the wide area networks and internet lines were completely controlled by the central government. As a result, the Indian IT sector was totally held back due to these restraints on the functioning of the software services providers.

The first major IT reform by the government was the creation of corporation called Software Technology Parks of India (STPI). This corporation provided satellite links to major IT developers enabling them to transmit the work done in India directly abroad. This reduced cost incurred to the Indian IT companies as well as helped the clients in US trust Indian industries outsourcing. Finance minister Manmohan Sinh, introduced the major economic reforms in 1991 to
solve the debt problem creating that time. As per these economic reforms the internation integration became possible. The huge restrictions on overseas business were lifted and foreign investments were welcomed. As a result, the IT industry in India became a free and the business of outsourcing of IT. Also, the inception of Windows and other user friendly operating services made the PC experience even more simple and less time consuming. Coupled with development of high level programming like basic, C and others, the Indian IT brains had the perfect platform to rise in the global arena. The Indian IT sector boomed and grewed at gain of nearly 50% every year.

Another major event for Indian IT industry post the 1991 reforms was the Y2K bug. Fear of a complete service, the US corporations outsourced the equipment and upgrading work to Indians. The task of rectifying the Y2K bug was thrown to the Indians and as a result the modification of all codes and softwares, which were initially designed till a date of 1999 was to be edited and huge work was outsourced to the Indian IT industries. The Indian IT industry has helped provide a national GDP of more than 6% since these economic reforms took place 20 years ago and today, India is known as IT hub of the world.

India’s IT services industry was born in Mumbai in 1967 with the establishment of Tata Group in partnership with Burroughs. The first software export zone SEEPZ was set up here way back in 1973, the old avatar of the modern day IT Park. More than 80 percent of the country’s software exports happened out of SEEPZ, Mumbai in 80s.

Each year India produces roughly 5,00,000 engineers in the country, out of them only 25% to 30% possessed both technical competency and English language skills. Although 12% of India’s population could speak in English. India developed a number of outsourcing companies specializing in customer support via Internet to Telephone connections. By 2009, India also has a total of 37,160,000 telephones lines in use, a total of 506,040,000 mobile phone
connections, a total of 81,000,000 Internet users comprising 7.0% of the country’s population, and 7,570,000 people in the country have access to broadband Internet – making it the 12th largest country in the world in terms of broadband Internet users. Total fixed-line and wireless subscribers reached 543.20 million as of November, 2009.

1.2.1 Phase – 1: 1960s and 1970s: Indigenization and Self Sufficiency

India was motivated to try developing Self sufficiency in computers and electronics largely by national securities concerns related to border conflicts with China and Pakistan. The government created and Electronics Committee which devised a strategy for achieving self-sufficiency in electronics within ten years by “leapfrogging” ahead to absorb the most advanced products and technologies. Whereby India would move away from dependence on foreign technology and produce its own. This approach not only responded to the perceived security risks, but also fit the ideology of self sufficiency which drove much of India’s post – independence political and economic agenda.

The main vehicle chosen to gain access to advanced computers technologies was negotiation with multinational, primarily IBM, which dominated the computer market in India (from 1960-1972, IBM accounted for over 70% off all computers installed in India). From 1966-68, the Indian government tried to get IBM to share equity with local capital in its Indian Operations. IBM said it would leave India before agreeing to equity sharing and the government let the matter drop.

In an attempt to satisfy government’s interest in developing domestic production, both IBM and British-owned ICL began to refurbish used computers in Indian plans and sell or lease them to Indian customers. IBM felt that India should evolve technologically from one level of sophistication to the next. However, a 1966 report by government’s electronics committee stated
that such step-by-step technological evaluation should be avoided and that India should leap ahead to the latest technologies, but at this point the government was unable to impose its will on IBM. The government’s early attempts to regulate the IT sector actually worsened the degree of technological backwardness as Indian users installed the domestically refurbished machines rather than importing newer models.

The government’s inability to effectively regulate the MNCs was due partly to institutional weakness in the agencies assigned the task. In 1966, responsibility for implementing the Electronics Committee Report Strategies had been given to the Department of Defense Supplies, with monitoring by a new agency, the Electronics Committee of India. However, the committee lacked support staff and had no authority to compel action by other agencies. This lack of authority and technical competence left the government unable to negotiate with the MNCs or to regulate the IT sector effectively. By 1971, the Department of defense supplies had a backlog of over 150 license requests for IT projects. After much criticism of the Department by other agencies and the private sector, the government announced the formation of a Department of Electronics Commission. The Commission was responsible for policy formulation and oversight and the Department was responsible for day-to-day implementation of policies.

The Electronics Commission was given authority to direct other government units and to regulate private and public electronics enterprises and it developed a professional staff capable of providing the necessary technical support to effectively regulate the sector. In 1975, the Department of Electronics was given power over the licensing of computer imports. The new Committee and Department of Electronics (DOE) had the authority and capability to establish control over the development of IT in India and they did exactly that.
One of the first steps taken was the establishment of the Santa Cruz Electronics Export Processing Zone (SEEPZ) near Bombay, Foreign and Indian investors were offered incentives to establish an export base in India, including tax breaks, cheap land, duty-free import of inputs and a streamlined permit process. In return, the government required that all or most of the production be exported and that Indian components be used as much as possible.

A second step was the creation of the state-owned Electronics Corporation of Indian Limited (ECIL) as a national champion in minicomputer production. ECIL got almost all of the government’s computer development funding and the DOE made it very difficult for private competitors to get operating licenses. The government’s plan was to allow private firms to compete in the micro sector. Thanks to this support, ECIL’s market share ranged from 40% to 53% of the computer installation in India between 1973 and 1977.

The third action taken by the Electronics Department and Commission was to once again challenge the position of the multinational. Using FERA regulations, the government began to pressure IBM and ICL to dilute their equity to 40% in their Indian operations. In 1975, the Indian cabinet approved a proposal to set up the state-owned Computer Maintenance Corporation (CMC) with a legal monopoly on the maintenance of all foreign computers in the country. This reduced the advantages IBM had with users as a result of its superior service capabilities. The decline of ECIL was partly due to its own inability to produce competitive products but it was exacerbated by changes in policy. The DOE had come under criticism in the late 1970s for blocking the efforts of private sector firms to produce hardware and for protecting ECIL at the expenses of users and domestic competitors.

1.2.2 Phase – 2 The 1970s and 1980s: Software Exports

In the 1970s, there was no separate software industry. Multinational such as IBM and ICL were the largest providers of hardware to the industry, which is
used to be bundled with the operating systems and a few basic packages that were generally written in FORTRAN and COBOL languages.

Larger enterprises (including the Indian defense and public organization) that needed customized applications employed in-house teams that did everything from installing systems to writing software. In fact, when specific software applications become popular, stand-alone boxes were made for them. In 1970s, the concept of stand-alone word processing software did not exist. Later, when local companies grew (after IBM’s exit in early 1980s), these companies also had their own propriety operating systems that generally executed only their computer programs.

India exported its first developing nations to recognize the importance of software, the key driver behind exporting software was foreign exchange. To export software, Indian companies had to design it for hardware systems that were the standard worldwide, which in the 1970s were the IBM mainframe computers. In 1980s the regulatory scenario was not very favorable for software exports and this constitutes the beginning of the Indian software industry.

The first software exporting company from India was Tata Consulting Services (TCS) that started operations in 1968. Fortunately, after a few local orders, TCS bagged its first big export assignment in 1973-74, when it was asked to provide an inventory control software solution for an electricity generation unit in Iran. Despite the tough policy with respect to imports, by early 1980s, India was the only developing nation to have any significant software exports – USD 12 million – a substantial leap over the 1979 level of USD 4.4 million and 30 companies were already beginning to export software. In late 1980s the Indian IT industry witnessed the Indian Government policies becoming more favorable. Representative industry associations getting formed, one of which eventually became NASSCOM (the National Association of Software and Service Companies) and the IT training
and education level gradually become strong enough for creating a full-
fledged industry.

In terms of products and services, there have been continuous exports of
software products since the early 1980s. These include enterprise system,
design software and database management tools. However, such exports have
been and remain dominated by services.

1.2.3 Phase – 3 The 1991s (year of LPG policy) to year 2002

The Emergence of Offshore Outsourcing

Regulated VSAT links became visible in 1985. Desai (2006) describes the
steps taken to relax regulations on linking in 1991. Videsh Sanchar Nigam
Limited (VSNL) introduced Gateway Electronics Mail Service in 1991, the
64kbit/s leased line service in 1992, and commercial Internet access on a
visible scale in 1992. Election results were displayed via National Informatics
Center’s NICNET. The Indian economy underwent economic reforms in 1991,
leading to a new era of globalization and international economic integration.
Economic growth of over 6% annually was seen between 1993 to 2002. The
economic reforms were driven in part by significant the internet usage in the
country. The new administration under Atal Bihari Vajpayee – priorities –
formed the Indian National Task Force on Information Technology and
software Department. Wolcott & Goodman (2003) report on the role of the
Indian National Task Force on Information Technology and Software
helped further liberalize India’s procedures for electronic transactions and e-
commerce. Throughout the 190s, another wave of Indian professionals entered
the United States. The number of Indian Americans reached 1.7 million by
2000. This immigration consisted largely of highly educated technologically
proficient workers. Within the United States, Indians fared well in science,
engineering, and management. Graduates from the Indian Institutes of
Technology (IIT) became known for their technical skills. Thus GOI planned
establish new Institutes especially for Information Technology to enhance this field. In 1998 India got the First IT institute name Indian Institute of Information Technology at Gwalior. The success of Information Technology in India not only had economic repercussions but also had far-reaching political consequences. India’s reputation both as a source and a destination for skilled workforce helped it improve its relations with a number of world economies. The relationship between economy and technology – valued in the western world – facilitated the growth of an entrepreneurial class of immigrant Indians, which further helped aid in promoting technology – driven growth. Today, Bangalore is known as the Silicon Valley of India and contributes 33% of Indian IT Exports. India’s second and third largest software companies are head-quartered in Bangalore, as are many of global SEI-CMM Level 5 Companies. Next to Bangalore Chennai plays an important role in IT. Lot of companies was developed in Chennai, in the last few years. And Mumbai too has its share of IT companies that are India’s first and largest, like TCS and well established like Reliance, Patni, L & T Infotech, i-Flex, WNS, Shine, Naukri, Jobspert etc. are head-quartered in Mumbai and these IT and dot com companies are ruling the roost of Mumbai’s relatively high octane industry of Information Technology. Such is the growth in investment and outsourcing, it was revealed that Cap Gemini will soon have more staff in India than it does in its home market of France with 21,000 personnel in India. On 25 June 2002 India and the European Union agreed to bilateral cooperation in the field of science and technology. A joint EU-India group of scholars was formed on 23 November 2001 to further promote joint research and development. India holds observe status at CERN while a joint India-EU Software Education and Development Center is due at Bangalore.

1.3 Structure of India’s IT Industry

The IT industry has emerged as one of the most important industries in the Indian economy contributing significantly to the growth of the economy. The
IT industry of India got a major boost from the liberalization of the Indian economy. India’s software exports have grown at an annual average rate of more than 50% since 1991. The structure of the IT industry is quite different from other industries in the Indian economy. The IT industry of India is hugely dependent on skilled manpower. Primarily a knowledge based industry, the IT industry of India has reordered significant success due to the huge availability of skilled personnel in India. The industry structure in the IT sector has four major categories. These are

A. IT Services
B. IT Enabled Services
C. Software Products
D. Hardware Products

A. IT Services:

IT services constitute a major part of the IT industry of India. IT services include client, server and web based services. Opportunities in the IT services sector exist in the areas of consulting services, management services, internet services and application maintenance. With a view to improve the quality of IT services such as Web services, Facility Management, Internet, BPO Services and Telecom Services, a certification scheme, accredited by ITSMF, UK based on international standard ISO/IEC 20000-1 has been introduced. Additionally, ITSMF accredited training programs for ISO 20000 auditors have also been conducted by STQC both in India and abroad. STQC has also developed a Lead Auditor program based on ISO 2000. IT Services are undergoing a structural change from client/server to web/package based services. This will form the major chunk of IT services. Growth in IT services will continue to provide the biggest opportunity, while other sectors of IT software industry will also make a significant contribution. IT services, both export and domestic, will grow rapidly as new opportunities are emerging in management/consulting services, application maintenance and Internet
services. The major users of IT services are the government, financial services and banking, manufacturing and retail and distribution. New areas likely to emerge are communication, healthcare and utilities, as these will increasingly be deregulated. However, IT services essentially require high-quality manpower, state of the art skills, world-class telecom and IT – knowledge based environment.

The major users of IT services are –

- Government,
- Banking,
- Financial Services,
- Retail and Distribution,
- Manufacturing.

B. IT Enabled Services:

The services which make extensive use of information and telecommunication technologies are categorized as IT enabled services. The enabled service is the most important contributor to the growth of the IT industry of India. The employment potential in TIES is substantial and the gestation period is lesser than in other sectors of the IT industry. IT is highly quality-oriented, human-resource intensive and requires consistent performance with high standards. Therefore, the success of ITES will mainly depend on the quality of manpower and infrastructure. Knowledge based skill-oriented training I the key to quality of manpower. ITES to succeed requires top-class infrastructure with adequate bandwidth, fault-free and continuous power with two layers of redundancy to avoid any breakdown. ITES, or remote processing, presents a golden opportunity for Punjab. For this, the state has to emphasize on skill formation through world class training and infrastructure building. Punjab needs to garner at least seven percent share of the total revenue of India in ITES. This can provide employment to 77,000 educated youth and generate a
turnover of US$1.26 billion (6,300 crore) by 2007. Some of the important services covered by the ITES sector in India are –

- Customer-interaction services including call-centers
- Back-office services
- Revenue accounting
- Data entry and data conversion
- HR Services
- Transcription and translation services
- Content development and animation
- Remote education
- Data search
- GIS Market research
- Network Consultancy

C. Software Products:

Software products are among the most highly exported products from India. The software industry in India originated in the 1970s and grew at a significant pace in the last ten years. Between 1996-1997 and 2002-2003, the Indian software industry grew more than five times from 2630 crores to 13200 crores. During the same period software and service exports from India grew by almost twelve times. Information Technology (IT), a knowledge based industry, has the tremendous potential of becoming an engine of accelerated economic growth, productivity improvement for all Sectors of the economy and means of efficient governance. It enhances access to information, protects consumers, provides access to government services, makes skill formation and training more effective, improves delivery health services, and promotes transparency. It provides tremendous employment potential and linkages between government and the people both at the rural and urban level. Investment in knowledge based industries will determine the level of the country’s dominant position in the world economy in the next two decades.
Software Product and Technology Services provide a high growth opportunity for the Indian software industry. Indian companies have a market potential of software product development, such as enterprise software (e-business solution, ERP, e-corporate governance), consumer software (personal productivity tools) and embedded software. Indian companies have developed a number of highly acclaimed and popular packages, such as HR management and business accounting by TCS, banking automation packages by Infosys, ERP tools by RANCO, etc.

D. Hardware

The hardware sector of the IT industry focuses on the manufacturing and assembling of computer hardware. The consumption of computer hardware is high in the domestic market. Due to the rise in the number of IT companies, sales of desktops, laptops, servers, routers, etc have been on the rise in recent years. Many domestic and multinational companies have invested in the computer hardware market in India. Another categorization in the structure of India’s IT industry is related to the market. There are two major market, dominates the IT industry accounting for 75% of the revenue. Electronics Hardware Manufacturing continues to be a thrust area for the Government. The Special Incentive Package Scheme that was announced on 21st March 2007 to encourage investments for setting up Semiconductor Fabrication and other micro and nano technology manufacture industries in India has received very positive response from prospective investors. Seventeen proposals involving an investment of the order of 1,57,000 crore, over a period of next ten years covering setting up of Semiconductor fabrication, LCD panel manufacturing and Solar photovoltaic including poly silicon, under the Scheme have been received.

4 Contribution of India’s IT industry to Economic Progress

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 22.4% in the last fiscal year 2007. Out of this figure, the domestic IT market in India accounted for 900 billion rupees. So, the IT sector in India has played a major role in drawing foreign funds into the domestic market.

The growth and prosperity of India’s IT industry depends on some crucial factors. These factors are as follows:

- India is home to a large number of 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 this is also the reason as to why the IT enabled services like business process outsourcing and knowledge process outsourcing have expanded significantly in the Indian job market.

- India has a huge pool of English-speaking IT professionals. This is why the English-speaking countries like the US and the UK depend on the Indian IT industry for outsourcing their business processes.

- The emergence of Indian Information Technology sector has brought about sea changes in the Indian job market. The IT sector of India offers a host of opportunities of employment. With IT biggies like Infosys, Cognizant, Wipro, Tata Consultancy Services, Accenture and several other IT firms operating in some of the major Indian cities, there is no dearth of job opportunities for the Indian software professionals.
1.4 SWOT Analysis of Indian IT Industry:

A. Strengths
   - Highly skilled human resource
   - Low wage structure
   - Quality of work
   - Initiatives taken by the Government (setting up Hi-Tech Parks and implementation of e-governance projects)
   - Many global players have set up operations in India like Microsoft, Oracle, Adobe, etc.
   - Following Quality Standards such as ISO 9000, SEI CMM etc.
   - English speaking professionals
   - Cost competitiveness
   - Quality telecommunications infrastructure
   - Indian time zone (24 × 7 services to the global customers). Time difference between India and America is approximately 12 hours, which is beneficial for outsourcing of work.

B. Weakness
   - Absence of practical knowledge
   - Dearth of suitable candidates
   - Less Research and Development
   - Contribution of IT sector to India’s GDP is still rather small.
   - Employee salaries in IT sector are increasing tremendously. Low wages benefit will soon come to an end.

C. Opportunities
   - High quality IT education market
   - Increasing number of working age people
   - India’s well developed soft infrastructure
   - Upcoming International Players in the market
D. Threats

- Lack of data security systems
- Countries like China and Philippines with qualified workforce making efforts to overcome the English language barrier
- IT development concentrated in a few cities only

1.6 FDI in India’s IT Industry

Foreign Direct Investment (FDI) is now recognized as an important driver of growth in the country. Government is, therefore, making all efforts to attract and facilitate FDI and investment from Non Resident (NRIs) including Overseas Corporate Bodies (OCBs), that are predominantly owned by them, to complement and supplement domestic investment. To make the investment in India attractive, investment and returns on them are freely repairable, except where the approval is subject to specific conditions such as lock in period on original investment, dividend cap, foreign exchange neutrality, etc. as per the notified sectoral policy.

- The information technology industry of India has been attracting considerable amount of foreign direct investment in the recent years. Investments are being made in the four principal sectors of the Indian Information Technology industry online businesses, information technology services, information technology based services and software merchandise.
- Newer investment opportunities are opening up every now and then in the Indian information technology scenario.
- As per the findings of the NASSCOM-McKinsey (National Association of Software and Service Companies) report the Indian information technology is supposed to receive between 4 and 5 billion United States dollars by way of foreign direct investment in the year 2008
There are however other ways in which foreign direct investment is being made in the information technology industry of India. A number of major information technology companies of the world have set up shop in India trying to recruit the skilled information technology professionals of India.

One of the major advantages of this method is that the Indian IT professionals are more viable from the economic point of view since they are at par with the international standards as far as skills are concerned it is pretty easy to extract good work out of them. This has however helped in the expansion of the job market in India as an increasing number of people are landing jobs with the international information technology companies and are living better lives.

Foreign direct investment in India’s IT industry has also been contributed to by the remarkable growth of the industry in the recent years.

The worth of the IT industry was 150 million United States dollars in the financial year 1991-92 and since then it has grown at an appreciable rate to be worth 5.7 billion US dollars in the best as far as rate of growth is concerned. This has lured the investors from all over the world.

1.7 Growth of Indian IT Industry

India’s IT industry has recorded phenomenal growth over the last decade. During the period from 1992-2001, the compounded annual growth rate of the Indian IT services industry has been over 50%. The software sector in India has grown at almost double the rate of the US software sector.

The statistics of the India’s IT industry substantiates the huge momentum acquired by the IT sector in the recent past. During the financial year 2000-2001, the software industry in India accounted for
$8.26 billion. The corresponding figure was $100 million 10 years back.

- As per the report of a study undertaken by NASSCOM-McKinsey, the software export from Indian IT industry is likely to reach 80 billion US dollars in the year 2012. This growth rate of the software sector for the year 2012 has been projected on the basis of the 35% per year growth rate achieved in the last couple of years.

- Export of software and services from India is expected to add almost 41 billion US dollars to the annual revenue of the Indian Government in the current year. The share of technology industry in Indi’s GDP is expected to reach 7.5% in 2012; while the corresponding figure in 1998 was an small as 1.2%. The study of NASSCOM has revealed that the growth of India’s IT industry has prompted the growth of Indian exports by almost 36%. Another favorable effect of India’s IT boom is the expansion of opportunities of employment. By the end of fiscal year 2012, the IT sector of India is expected to employ around 5 million skilled Indian youth.

- The growth of India’s IT sector has brought about many other positive changes in the Indian economy. The purchasing power of a large section of Indian population has increased dramatically. This has resulted in an increase in the average standard of living of the majority of population of the country. The increase in purchasing power of the common people has propelled the growth rate of the other sectors of the economy as well.

- There has been considerable increase in the amount of fund available for venture capitalism and equity financing.

- India is now home to a number of IT giants. The operations of IT firms like Wipro, Infosys, Accenture, Capgemini, Tata Consultancy Services and many more in different locations of India have changed the entire
scenario of the Indian job market. The ITES sector has also come up to complement the growth of Indian IT sector.

1.7.1 Electronics and IT Production Profile

Table 1.1

Production Profile of Electronics and IT
(Value in Rs Crore)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1,90,300</td>
<td>24.9</td>
</tr>
<tr>
<td>2006-07</td>
<td>2,44,000</td>
<td>28.3</td>
</tr>
<tr>
<td>2007-08</td>
<td>2,95,820</td>
<td>21.2</td>
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<tr>
<td>2008-09</td>
<td>3,72,450</td>
<td>25.9</td>
</tr>
<tr>
<td>2009-10</td>
<td>4,15,520</td>
<td>11.6</td>
</tr>
<tr>
<td>2010-11</td>
<td>4,76,180</td>
<td>14.6</td>
</tr>
<tr>
<td>2011-12</td>
<td>5,67,835</td>
<td>19.2</td>
</tr>
<tr>
<td>2012-13</td>
<td>6,81,063</td>
<td>19.9</td>
</tr>
<tr>
<td>2013-14</td>
<td>8,22,530</td>
<td>20.8</td>
</tr>
<tr>
<td>2014-15*</td>
<td>9,33,550</td>
<td>13.5</td>
</tr>
</tbody>
</table>

* Estimated figure,

The Government has identified growth of electronics and IT production as key area for improvement of this industry. The total production of Electronics & IT-ITeS Industry has grown at 13.1 per cent in 2010-11 as against 11.6 per cent in 2009-10.

This increase in growth is attributed mainly to the accelerated growth of software and service industry, which is export driven and continues to dominate the electronics and IT industry. It is estimated that in the financial year 2011-12, the industry will grow at 22.1 per cent and it would produce ` 5,73,770 for electronics and IT related products. In year 2013-14 IT industry will grow at 20.8 percent and it would produce 8,22,530 for electronics IT
related products. It is estimated that in Financial year 2014-15, the Electronics industry will grow at 13.5 percent and it would produce 9,33,550 for Electronics and IT products.

1.7.2 Computer Software Production Profile

Software development is a high tech job that demands skill, time and state-of-the-art technologies and programs. Offshore development and offshore programming is becoming the way of doing software development in India.

Table 1.2
Computer Software Production Profile
(Value in crores)

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1,33,700</td>
<td>21.29</td>
</tr>
<tr>
<td>2006-07</td>
<td>1,78,000</td>
<td>33.13</td>
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<td>2007-08</td>
<td>2,11,410</td>
<td>18.77</td>
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<tr>
<td>2008-09</td>
<td>2,75,190</td>
<td>30.17</td>
</tr>
<tr>
<td>2009-10</td>
<td>3,04,800</td>
<td>10.77</td>
</tr>
<tr>
<td>2010-11</td>
<td>3,48,330</td>
<td>14.28</td>
</tr>
<tr>
<td>2011-12</td>
<td>4,23,500</td>
<td>21.58</td>
</tr>
<tr>
<td>2012-13</td>
<td>5,16,891</td>
<td>26.33</td>
</tr>
<tr>
<td>2013-14</td>
<td>6,42,076</td>
<td>32.71</td>
</tr>
<tr>
<td>2014-15*</td>
<td>7,43,184</td>
<td>37.86</td>
</tr>
</tbody>
</table>

* estimated Figure,


Above table reveals the production of Computer Software during last six years. It also shows the estimated figures for financial year 2011-12. It is very clear from the table that the production shows continuous increasing trend during the last six years. Year on year basis it has increased and also in
financial year 2014-15 it will increase and it will reach at its highest point i.e. `7,43,184. The growth in per cent shows fluctuating during last six years. It ranges between 10.77 percent and 37.86 percent. Here, production in rupees has shown the increasing trend whereas the growth in percentage has shown the fluctuating trend during last ten years.

Chart No. 1.2

1.7.3 Electronics Hardware Production Profile

The convergence of information, communication and entertainment is bringing new momentum in the Electronics Hardware Industry in India. It has experienced rapid changes over the last few years. Changing life styles, higher disposable income and greater affordability is fuelling this growth.
### Table No. 1.3

**Production Profile of Electronics Hardware**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>56,600</td>
<td>19.20</td>
</tr>
<tr>
<td>2006-07</td>
<td>66,000</td>
<td>16.61</td>
</tr>
<tr>
<td>2007-08</td>
<td>84,410</td>
<td>27.89</td>
</tr>
<tr>
<td>2008-09</td>
<td>97,260</td>
<td>15.22</td>
</tr>
<tr>
<td>2009-10</td>
<td>1,10,720</td>
<td>13.84</td>
</tr>
<tr>
<td>2010-11</td>
<td>1,21,760</td>
<td>9.97</td>
</tr>
<tr>
<td>2011-12</td>
<td>1,50,270</td>
<td>23.41</td>
</tr>
<tr>
<td>2012-13</td>
<td>1,64,172</td>
<td>25.57</td>
</tr>
<tr>
<td>2013-14</td>
<td>1,80,454</td>
<td>28.11</td>
</tr>
<tr>
<td>2014-15*</td>
<td>1,90,366</td>
<td>29.65</td>
</tr>
</tbody>
</table>

* estimated


Above table reveals the production of Electronics Hardware during last six years. It also shows the estimated figures for financial year 2014-15. It is very clear from the table that the production shows continuous increasing trend during the last six years. Year on year basis it has increased and also in financial year 2011-12 it will increase and it will reach at its highest point i.e. ` 1,90,366. The growth in per cent shows fluctuating during last ten years. It ranges between 9.97 percent and 29.65 percent. Here, production in rupees has shown the increasing trend whereas the growth in percentage has shown the fluctuating trend during last ten years.
1.7.4 Consumer Electronics Production Profile

The convergence of information, communication and entertainment is bringing new momentum in the consumer electronics industry in India. It has experienced rapid changes over the last few years. Changing life styles, higher disposable income and greater affordability is fuelling this growth. Consumer preference has shifted towards products and devices that come with smart technology, innovative designs and aesthetic looks. Premium products, particularly in the metros, are the growth drivers in the consumer electronics industry.

Consumer electronics is one of the largest segments in the electronics hardware sector in India. In this segment, Color Television is the largest contributor. Market size for color television in 2010-11 is expected to be 16.10 million units, a growth of 5.50 per cent over the previous year. In value terms,
the growth is much higher at 16.40 percent. This growth is fuelled by the sale of flat panel LCD TVs which is increasing in exponential terms. The market for LCD TV has increased from 1.5 million units in 2009-10 to 2.8 million units in 2010-11. Declining prices and low penetration levels is responsible for the growth of this segment. Conventional CRT TV segment on the other hand is stagnant at around 13.30 million units.

The DVD player market continues to decline from 6.20 million units in 2009-10 to 5.40 million Units in 2010-11. Rapid growth and popularity of the DTH sector is impacting the DVD player market. The Home Theatre segment continues to grow from 0.24 million units in 2009-10 to 0.30 million units in 2010-11, a growth of 25 per cent. Production of microwaves oven is estimated to grow by 21.6 per cent to reach ₹ 930 Crore in 2010-11 as against a growth of 7.9 per cent in 2009-10. The overall production of this segment of electronic industry was Rs 55,806 Crore in 2014-15 and grew at about 17.24% over Rs 47,599 crore achieved in 2013-14.

Table No. 1.4
Production Profile of Consumer Electronics

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>18,800</td>
<td>4.88</td>
</tr>
<tr>
<td>2006-07</td>
<td>20,000</td>
<td>6.38</td>
</tr>
<tr>
<td>2007-08</td>
<td>22,600</td>
<td>13.00</td>
</tr>
<tr>
<td>2008-09</td>
<td>25,550</td>
<td>13.05</td>
</tr>
<tr>
<td>2009-10</td>
<td>29,000</td>
<td>13.50</td>
</tr>
<tr>
<td>2010-11</td>
<td>33,400</td>
<td>15.17</td>
</tr>
<tr>
<td>2011-12</td>
<td>39,700</td>
<td>18.86</td>
</tr>
<tr>
<td>2012-13</td>
<td>40,447</td>
<td>19.21</td>
</tr>
<tr>
<td>2013-14</td>
<td>47,599</td>
<td>22.61</td>
</tr>
<tr>
<td>2014-15*</td>
<td>55,806</td>
<td>26.51</td>
</tr>
</tbody>
</table>

* estimated

Above table reveals the production profile of Consumer Electronics during the period of last ten years. It also shows the estimated figures for financial year 2014-15. It is very clear from the table that the production shows continuous increasing trend during the last ten years. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. ` 55,806. The growth in per cent shows fluctuating during financial year 2005-06 to 2014-15. It ranges between 6.38 percent and 26.51 percent. Here, production in rupees has shown the increasing trend whereas the growth in percentage has shown the fluctuating trend during last ten years.

Chart 1.4
1.7.5 Industrial Electronics Production Profile

This segment of Electronics/IT industry includes critical hardware technologies and systems with built-in software. It is a very challenging area which is multidisciplinary in nature requiring high level of technical skill in designing systems for applications in a variety of industrial sectors of the economy. Whereas we have a good amount of expertise in conceptualizing such systems and its erection and commissioning, the sector is very largely dependent on import of critical hardware and associated software. Large projects are implemented with total import of C&I packages from abroad without any knowledge of its design. In most cases, this leads to higher initial cost and a much higher maintenance cost in the long run. This process is continuing for a long time now. The important devices used in this segment relate to power electronics, medical electronics and other intermediates like semiconductor.

Semiconductors are integral part of most medical equipments, starting from high end imaging to small hand held devices.

Table No. 1.5
Production Profile of Industrial Electronics

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>8,800</td>
<td>13.20</td>
</tr>
<tr>
<td>2006-07</td>
<td>10,400</td>
<td>18.18</td>
</tr>
<tr>
<td>2007-08</td>
<td>11,910</td>
<td>14.52</td>
</tr>
<tr>
<td>2008-09</td>
<td>12,740</td>
<td>6.97</td>
</tr>
<tr>
<td>2009-10</td>
<td>15,160</td>
<td>19.01</td>
</tr>
<tr>
<td>2010-11</td>
<td>18,190</td>
<td>19.98</td>
</tr>
<tr>
<td>2011-12</td>
<td>22,120</td>
<td>21.60</td>
</tr>
<tr>
<td>2012-13</td>
<td>25,800</td>
<td>25.19</td>
</tr>
<tr>
<td>2013-14</td>
<td>33,600</td>
<td>32.81</td>
</tr>
<tr>
<td>2014-15*</td>
<td>39,374</td>
<td>38.44</td>
</tr>
</tbody>
</table>

* estimated
Above table reflects the production of Industrial Electronics during last ten years. It also shows the estimated figures for financial year 2014-15. It is very clear from the table that the production shows continuous increasing trend during the financial year 2005-06 to 2014-15. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. 39,374. The growth in per cent shows fluctuating during last ten years. It ranges between 6.97 percent in financial year 2008-09 and 38.44 percent in financial year 2014-15. Here, production in rupees has shown the increasing trend whereas the growth in percentage has shown the fluctuating trend during last ten years.

**Chart 1.5**

![Production Profile of Industrial Electronics](chart.png)
1.7.6 Computer Hardware Production Profile:

India is one of the fastest-growing IT systems and hardware market in the Asia-Pacific region. Most of the prominent global vendors and some locals have strong presence in the Indian market. Most MNCs have their assembly units in India. BFSI (Banking, Financial Services and Insurance), telecom, ITeS (Information Technology enabled Services), manufacturing verticals, Small & Medium Enterprises (SMEs), e-Governance and households are the key drivers of the IT systems and hardware market in India. With significant IT adoption plans on the anvil, the IT systems and hardware market is expected to expand rapidly in the ensuing years. PC sales are expected to record a growth of 12 per cent in 2010-11 to touch 9.7 million. The Notebook sales are estimated to be 3.5 million in 2010-11 against 2.5 million in 2009-10, a growth of 40 per cent. This shows that Notebooks have caught the fancy of the consumers. Desktop sales are expected to reach 6.2 million in 2010-11 against 5.5 million in 2009-10, a growth of 12.7 per cent. As regards servers, sales posted a growth of 41 per cent during second quarter 2010-11 on account of the easing of the Economic slowdown. Establishments which had been postponing their major IT purchases in last few quarters are now ready to invest in IT, which could be the major reason for the growth in the server sales. The Server market is expected to register positive growth in the future as the Server market expands to smaller cities and Small and Medium Businesses (SMBs). The small city growth is largely fuelled by the larger organizations strengthening their base in smaller cities on account of cost advantages. The SMB growth is largely fuelled by the adoption of nontraditional businesses like education, retail, healthcare & hospitality, etc.

Notwithstanding this surge in PC sales, domestic production is estimated to remain flat in 2014-15 at `18,691 Crore. This is largely due to decelerating growth in exports, substitution of domestic production by cheaper imports and rising input cost.
Table No. 1.6
Production Profile of Computer Hardware

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>10,800</td>
<td>12.54</td>
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<tr>
<td>2006-07</td>
<td>12,800</td>
<td>18.52</td>
</tr>
<tr>
<td>2007-08</td>
<td>15,870</td>
<td>23.98</td>
</tr>
<tr>
<td>2008-09</td>
<td>13,490</td>
<td>-14.99</td>
</tr>
<tr>
<td>2009-10</td>
<td>14,970</td>
<td>10.97</td>
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<tr>
<td>2010-11</td>
<td>15,210</td>
<td>1.61</td>
</tr>
<tr>
<td>2011-12</td>
<td>16,690</td>
<td>9.73</td>
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<tr>
<td>2012-13</td>
<td>9,376</td>
<td>0.99</td>
</tr>
<tr>
<td>2013-14</td>
<td>17,484</td>
<td>1.85</td>
</tr>
<tr>
<td>2014-15*</td>
<td>18,691</td>
<td>1.98</td>
</tr>
</tbody>
</table>

* estimated


Above table indicates the production of Computer Hardware during last ten years. It is very clear from the table that the production shows continuous increasing trend during the financial year 2005-06 to 2014-15 except the financial year 2008-09. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. ' 18,691. The growth in per cent shows fluctuating during last ten years. First time it goes into negative i.e. -14.99 in financial year 2008-09. Here, production in rupees has shown the increasing trend except financial year 2008-09 whereas the growth in percentage has shown the fluctuating trend during last ten years.
1.7.7 Communication and Broadcast Equipment Production Profile:

Communication Technology is a key driver for development and growth. India is third largest in the world in terms of gross telephone subscribers, and second largest in Asia. The gross telephone subscribers in the country reached 787.28 Million at the end of December, 2010. Total wireless subscribers are 752.19 million as of December, 2010. The total Wire line subscribers are 35.09 million as of December, 2010. The overall Tele-density in India reached 66.16 per cent in December, 2010 with overall urban and rural tele-densities being 147.88 and 31.18 respectively. The total broadband (256 kbps download) subscriber base of India is 10.92 million in December, 2010. The FM radio
policy has been well received and there are a total of 248 channels operated by 42 operators in 84 cities at the end of September, 2010.

Besides the free DTH service of Doordarshan, there are 6 private DTH licensees, offering their services to the DTH subscribers. As on 30.9.2010, their reported subscriber base is 26.44 million. It is set to overtake the US as the largest DTH market in the world by 2012. This segment is expected to add 10-12 million subscribers every year. DTH with its digital picture and sound quality is able to deliver a much better performance vis-a-vis the analog cable operators. The growth is from both the urban area (where subscribers are moving away from cable) and rural area (where cable has not reached). Local manufacturing of Set-Top Box has now commenced and is meeting about 25 per cent of the total requirement of the DTH industry. Number of Set Top Boxes (STBs) installed in CAS notified areas of Delhi, Mumbai, Kolkata and Chennai increased from 7,70,519 in June-2010 to 7,75,876 in September-2010.

Table No. 1.7
Production Profile of Communication and Broadcast Equipment

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
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<td>2005-06</td>
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<td>2006-07</td>
<td>9,500</td>
<td>35.71</td>
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<td>2007-08</td>
<td>18,700</td>
<td>96.84</td>
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<td>2008-09</td>
<td>26,600</td>
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</tr>
<tr>
<td>2009-10</td>
<td>31,000</td>
<td>16.54</td>
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<tr>
<td>2010-11</td>
<td>32,550</td>
<td>5.00</td>
</tr>
<tr>
<td>2011-12</td>
<td>35,400</td>
<td>8.76</td>
</tr>
<tr>
<td>2012-13</td>
<td>46,000</td>
<td>7.06</td>
</tr>
<tr>
<td>2013-14</td>
<td>26,650</td>
<td>4.09</td>
</tr>
<tr>
<td>2014-15*</td>
<td>18,900</td>
<td>2.90</td>
</tr>
</tbody>
</table>

* estimated
Above table reveals the production of Communication and Broadcast Equipment during last ten years. It is very clear from the table that the production shows continuous increasing trend during the financial year 2005-06 to 2014-15. Financial year 2007-08 recorded the drastic increment in the Production of this segment. Year on year basis it has increased and also in financial year 2011-12 it will increase and it will reach at its highest point in 35,400 INR. The growth in per cent shows increasing trend except last three consecutive years. Here, production in rupees has shown the increasing trend during last ten years whereas the growth in percentage has shown the fluctuating trend during last ten years.

**Chart 1.7**

![Production Profile of Communication and Broadcast Equipment](image)

**1.7.8 Strategic Electronics Production Profile:**
The strategic electronics segment envelops satellite based Communication, navigation and surveillance system, radars, navigational aids, sonar, underwater electronic system, infra-red based detection and ranging system,
disaster management system, internal security system, etc. The Indian strategic
electronic industry has been able to meet the bulk of the requirements of
India’s defense and paramilitary forces. India’s defense, aerospace and nuclear
sectors are poised for substantial growth on the back of economic growth and
the need to maintain national and energy security. The role of IT in defense is
expanding with the new focus on cyber security.

Driven by geo-political considerations, India is expected to be one of the top-5
markets for defense equipment by 2015. Similarly, economic growth and a
focus by commercial aircraft manufacturers on low cost countries are expected
to create growth in the aerospace market in emerging markets in general and
India in particular. The civilian nuclear agreement between the US and India
will enable commerce and cooperation, in particular allowing India to
collaborate with global companies on nuclear projects. India has an
opportunity to play an important role in this global phenomenon.

Table No. 1.8
Production Profile of Strategic Electronics

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>3,200</td>
<td>25.70</td>
</tr>
<tr>
<td>2006-07</td>
<td>4,500</td>
<td>40.63</td>
</tr>
<tr>
<td>2007-08</td>
<td>5,700</td>
<td>26.67</td>
</tr>
<tr>
<td>2008-09</td>
<td>6,840</td>
<td>20.00</td>
</tr>
<tr>
<td>2009-10</td>
<td>6,980</td>
<td>2.05</td>
</tr>
<tr>
<td>2010-11</td>
<td>7,680</td>
<td>10.03</td>
</tr>
<tr>
<td>2011-12</td>
<td>8,970</td>
<td>16.80</td>
</tr>
<tr>
<td>2012-13</td>
<td>9,000</td>
<td>11.75</td>
</tr>
<tr>
<td>2013-14</td>
<td>13,800</td>
<td>18.02</td>
</tr>
<tr>
<td>2014-15*</td>
<td>15,700</td>
<td>20.50</td>
</tr>
</tbody>
</table>

* estimated

Government of India, Ministry of Communication and Information
Technology, New Delhi.
Above table shows the production of Strategic Electronics during last ten years. It is very clear from the table that the production shows continuous increasing trend during the financial year 2005-06 to 2014-15. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. 15,700. The growth in per cent shows fluctuating trend during last ten years. Here, production in rupees has shown the increasing trend during last ten years whereas the growth in percentage has shown the fluctuating trend during last ten years. The growth percentage falls between 2.05 in financial year 2009-10 and 40.63 in financial year 2006-07. It is estimated that in coming financial year this segment will grow at 16.80 percentages.

Chart 1.8

Production Profile of Strategic Electronics
1.7.9 Electronics Components Production Profile:

The electronic component segment caters to the consumer electronics, telecom, defense and IT verticals. The growth in these segments is key determinants for the growth of electronic components. The key constituents include semiconductor, capacitors, and resistors, picture tubes, x-ray tubes and cathode ray tubes.

The demand in consumer electronics and mobile segment in India has maintained its growth trend in the year 2010-11. The growth in electronic components is led by the increase in domestic consumption of IT products from residential, commercial and enterprise. Further, the e-Governance initiatives of the government boost the demand for the segment.

The growth in this segment has been driven by growth of semiconductors.

Semiconductor manufacturing extends beyond wafer fabs to include Assembly, Test, Mark and Packaging facilities (ATMPs), solar photovoltaic, optical LEDs, displays, display panels, storage devices and advanced micro and nanotechnology products. These products and other semiconductor devices are used in several applications, such as telecommunications for ubiquitous accessibility in electronics and consumer applications for product quality (e.g. PCs, mobile phones and TV sets), and in the automotive industry for safety, energy saving and driver assistance.
Table No. 1.9
Production Profile of Electronics Components

<table>
<thead>
<tr>
<th>Year</th>
<th>Production</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>8,700</td>
<td>0.90</td>
</tr>
<tr>
<td>2006-07</td>
<td>8,800</td>
<td>1.15</td>
</tr>
<tr>
<td>2007-08</td>
<td>9,630</td>
<td>9.43</td>
</tr>
<tr>
<td>2008-09</td>
<td>12,040</td>
<td>25.02</td>
</tr>
<tr>
<td>2009-10</td>
<td>13,610</td>
<td>13.04</td>
</tr>
<tr>
<td>2010-11</td>
<td>21,800</td>
<td>2.85</td>
</tr>
<tr>
<td>2011-12</td>
<td>24,800</td>
<td>3.24</td>
</tr>
<tr>
<td>2012-13</td>
<td>26,645</td>
<td>3.48</td>
</tr>
<tr>
<td>2013-14</td>
<td>32,102</td>
<td>4.19</td>
</tr>
<tr>
<td>2014-15*</td>
<td>39,723</td>
<td>5.19</td>
</tr>
</tbody>
</table>

* estimated


Above table shows the production of Electronics Components during last ten years. It is very clear from the table that the production shows continuous increasing trend during the financial year 2005-06 to 2014-15. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. `39,723. The growth in per cent shows fluctuating trend during last ten years. Here, production in INR has shown the increasing trend during last six years whereas the growth in percentage has shown the fluctuating trend during last ten years. The growth percentage falls between 0.90 in financial year 2005-06 and 25.02 in financial year 2008-09. It is estimated that in coming financial year this segment will grow at 10.35 percentages.
1.8 Exports of Indian IT Products

The export potential of India's IT industry has been recognized by all developed nations across the world. As per the NASSCOM-McKinsey report, IT export from India in the year 2012 is projected to be 35% of total Indian exports. According to this report, the products and services of IT sector will account for more than 7.5% of the total growth of GDP in India in the 2011 fiscal28. The IT and IT enabled sectors, the online businesses, and the software products of India are renowned all over the world for their quality and cost efficiency. With its huge growth potential, the information technology sector of India has emerged as a preferred investment area for the IT biggies across the world.
1.8.1 Exports of Software and Services

The Information Technology – Business Process Outsourcing (IT-BPO) Industry in India has today become a growth engine for the economy, contributing substantially to increase in the GDP, employment and exports. This sector has continued to increase its contribution to India’s economic development. In 2010-11 the IT-ITeS industry has witnessed remarkable rebound. Amidst speculation and an uncertain global economic environment, the Indian IT-BPO industry once again exhibited buoyancy and maturity, reflected through a strong customer demand. The Indian

Growing strong for the past few years, it is expected that the emergence of the KPO market will offer high-value services in off shoring and help the Indian ITeS Industry to climb the global value and knowledge chain. Skilled manpower and multilingual capabilities combined with the advantages of lower costs can help the country to emerge as a front-runner in KPO globally. India has a large pool of skilled manpower like chartered accountants, doctors, MBAs, lawyers, research analysts, etc., which would add value to the global KPO business and its high-end processes like valuation research, investment research, patent filing, legal and insurance claims processing, online teaching, media content supply, etc. The transition from the BPO to the KPO, which offers a high quality of human capital and ICT enablement, can be relatively smooth as our IT-ITeS companies are well established.

Indeed, the phenomenal growth of the Indian IT-ITeS sector has had a perceptible multiplier effect on the Indian economy as a whole. In addition to the direct positive impact on National Income, the sector has grown to become the biggest employment generator and has spawned the mushrooming of several ancillary industries such as transportation, real estate and catering. Consequently, this sector has created a rising class of young consumers with high disposable incomes, triggered a rise in direct tax collections and propelled an increase in consumer spending.
Table No. 1.10
Exports of Software and Services

<table>
<thead>
<tr>
<th>Year</th>
<th>Export</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1,04,100</td>
<td>29.83</td>
</tr>
<tr>
<td>2006-07</td>
<td>1,41,100</td>
<td>35.54</td>
</tr>
<tr>
<td>2007-08</td>
<td>1,64,400</td>
<td>16.51</td>
</tr>
<tr>
<td>2008-09</td>
<td>2,16,190</td>
<td>31.50</td>
</tr>
<tr>
<td>2009-10</td>
<td>2,37,000</td>
<td>9.63</td>
</tr>
<tr>
<td>2010-11</td>
<td>2,68,610</td>
<td>10.91</td>
</tr>
<tr>
<td>2011-12</td>
<td>3,32,769</td>
<td>13.52</td>
</tr>
<tr>
<td>2012-13</td>
<td>4,12,191</td>
<td>16.75</td>
</tr>
<tr>
<td>2013-14</td>
<td>5,27,292</td>
<td>21.42</td>
</tr>
<tr>
<td>2014-15*</td>
<td>6,12,144</td>
<td>24.87</td>
</tr>
</tbody>
</table>

* estimated


Software and Services Industry (excluding hardware) is estimated to grow by 19 per cent, with aggregate revenues of US $ 76 billion in 2010-11. The IT-ITeS industry has geared itself by increasing its cost efficiencies, utilization rates. It has diversified into new verticals and shifted its business and pricing models. India is regarded as the premier destination for the global sourcing of IT-ITeS, accounting for almost 55 per cent in 2010 up from 51 per cent in 2009, of the global sourcing market. Indian IT-ITeS exports are well diversified across a wide range of mature and emerging vertical markets. Banking, Financial Services & Insurance (BFSI) remains the largest vertical market accounting for over 40.8 per cent of the Indian IT-ITeS exports in year 2010-11 as compared to 40 per cent in 2009-10. The emerging verticals (retail, healthcare, media, utilities and transport) are growing faster around 21 per cent and accounting for over 24 per cent of total exports in 2010-11. Other
verticals including hi-tech/ telecom and manufacturing has also witnessed double digit estimated growth of around 21.42 per cent and 24.87 per cent respectively during 2014-15.

**Chart 1.10**

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (value in Crore)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>104100</td>
</tr>
<tr>
<td>2006-07</td>
<td>141100</td>
</tr>
<tr>
<td>2007-08</td>
<td>164400</td>
</tr>
<tr>
<td>2008-09</td>
<td>216190</td>
</tr>
<tr>
<td>2009-10</td>
<td>237000</td>
</tr>
<tr>
<td>2010-11</td>
<td>268610</td>
</tr>
<tr>
<td>2011-12</td>
<td>332769</td>
</tr>
<tr>
<td>2012-13</td>
<td>412191</td>
</tr>
<tr>
<td>2013-14</td>
<td>527292</td>
</tr>
<tr>
<td>2014-15*</td>
<td>612144</td>
</tr>
</tbody>
</table>

1.8.2 Electronics and IT Exports:

Electronics and Information Technology is proving to be the growth engine in the current day economies of the world. The liberalized policy initiatives of the Government of India in the last decade have propelled the Indian IT industry on to a path of development and prosperity. Over the years, the Electronics Hardware Industry has evolved to offer several innovative products for the convenience of the mankind. Electronics devices have become integral part of human life and are playing a major role in their everyday routine activities. The electronics hardware industry is identified as one of the fastest growing segment in terms of international trade. The Electronics Hardware and Computer Software / Services industry, a comparatively new entrant in India’s export horizon, has emerged as a forerunner among all industries and has been consistently treading on a high
growth path in recent years. India has embarked on a policy agenda, which aims to restructure its economy with enhanced global participation. Foreign Direct Investment (FDI) to supplement domestic investment for achieving a quantum jump in growth rate is now an integral part of government of India policy initiative.

Imparting greater transparency to business procedures and integration with global market place are seen as the hallmark of the new industrial, trade and fiscal policies. Salient features of the industrial policy for the Electronics and IT sector are:

- Licensing virtually abolished except for manufacturing aerospace and defense equipment. Private sector entry into defense manufacturing is permitted.
- There is no reservation for public sector enterprises in the electronics industry and private sector investment is welcome in every area except aerospace and a few strategic defense industries.
- Electronics and IT units can be set up anywhere in the Country subject to clearance from the authorities responsible for control of environmental pollution and local zoning and land use regulations.
- Industries exempted from licensing are only required to file information in the prescribed Industrial Entrepreneurs Memorandum (IEM) with the Secretariat for Industrial Assistance (SIA), Ministry of Industry and Government of India.

The Information Technology (IT) industry has shaped up as a major success story in India’s economy. Exports of computer software and IT enabled services have become a large component of the exports of the country. This is also an area where the Government’s role has been very different from that in some other industries. The important contribution of the Government in the growth of this industry consist of telecom policies, which enabled low cost
computer networking in the country and investments in human capital such as through the IITs.

Table No. 1.11
Exports of Electronics and IT

<table>
<thead>
<tr>
<th>Year</th>
<th>Export</th>
<th>Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-06</td>
<td>1,13,725</td>
<td>29.96</td>
</tr>
<tr>
<td>2006-07</td>
<td>1,53,500</td>
<td>34.97</td>
</tr>
<tr>
<td>2007-08</td>
<td>1,77,600</td>
<td>15.70</td>
</tr>
<tr>
<td>2008-09</td>
<td>2,47,420</td>
<td>39.31</td>
</tr>
<tr>
<td>2009-10</td>
<td>2,62,900</td>
<td>5.88</td>
</tr>
<tr>
<td>2010-11</td>
<td>3,09,010</td>
<td>6.91</td>
</tr>
<tr>
<td>2011-12</td>
<td>3,75,396</td>
<td>8.40</td>
</tr>
<tr>
<td>2012-13</td>
<td>4,56,191</td>
<td>10.20</td>
</tr>
<tr>
<td>2013-14</td>
<td>5,73,996</td>
<td>12.84</td>
</tr>
<tr>
<td>2014-15*</td>
<td>6,48,836</td>
<td>14.51</td>
</tr>
</tbody>
</table>

* estimated


Above table reveals the Exports of Electronics and IT Segment of Indian IT industry during last ten years. It is very clear from the table that the exports shows continuous increasing trend during the financial year 2005-06 to 2014-15. Year on year basis it has increased and also in financial year 2014-15 it will increase and it will reach at its highest point i.e. `6,48,836. The growth in per cent shows fluctuating trend during last ten years. Here, Exports in rupees has shown the increasing trend during last ten years whereas the growth in percentage has shown the fluctuating trend during last ten years. The growth percentage falls between 5.88 in financial year 2009-10 and 34.97 in financial year 2006-07. It is estimated that in coming financial year this segment will grow at 15.31 percentages.
1.9 Challenges before Indian IT Industry

- At present there are a number of challenges that are facing the information technology industry of India. One of the major challenges for the Indian information technology industry was to keep maintaining its excellent performance standards.

- The experts are however of the opinion that there are certain things that need to be done in order to make sure that India can maintain its status as one of the leading information technology destinations of the world. The first step that needs to be taken is to create an environment for innovation that could be carried for a long time.

- The innovation needs to be done in three areas that are connected to the information technology industry of India such as business models, ecosystems and knowledge. The information technology 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 information technology industry.

The Indian information technology industry also needs to co-ordinate with the academic circles as well as other industries in India for better performance and improved productivity. The experts are of the opinion that the business process outsourcing 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 information technology industry concerns the human resources aspect. The problems with outsourcing in countries like the United States of America are posing problems for the Indian information technology 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 like Missouri, Connecticut, Wisconsin and Maryland. These states are also supposed to be considering these laws and their implementation. This is supposed to have an adverse effect on the outsourcing that is the source upon which the information technology industry of India thrives. The information technology 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.

1.10 Future of Indian IT Industry:

The current scenario in the IT industry of India and the tremendous growth registered in recent years has generated much optimism about
the future of the Indian Information technology industry. Analysts are upbeat about the huge potential of growth in the Information Technology industry in India.

- The major areas of benefit that the future growth in the IT industry can generate for the Indian economy are –

(A) Exports - The IT industry accounts for a major share in the exports from India. This is expected to grow further in coming years. The information technology industry is one of the major sources of foreign currency for India.

(B) Employment - The biggest benefit of the IT industry is the huge employment it generates. For a developing country like India, with a huge population, the high rate of employment in the IT sector is a big advantage. The IT industry is expected to generate employment of 4.6 million by the end of 2012 which is expected to increase significantly in coming years.

(C) FDI (Foreign Direct Investment) - High inflow of FDI in the IT sector is expected to continue in coming years. The inflow of huge volumes of FDI in the IT industry of India has not only boosted the industry but the entire Indian economy in recent years.

- The NASSCOM- McKinsey report on the IT industry of India projects that the Indian IT industry will reach 110 billion US Dollars by the end of 2011. 4.2 million Employment is expected to be created in the IT industry according to this report. The report also projects 90 billion US Dollars of IT exports from India by the end of 2011.

- Software exports from India are expected to grow in coming years. New markets for software exports from India have opened up in the Middle East, South and Southeast Asia, Africa, and Eastern Europe. The reputation that India has earned as a major destination for IT outsourcing has opened further possibilities. Many developing countries are now using the Indian model for growth in the IT sector.
Another important area of future growth for the IT industry of India is the domestic market. While exports dominate the IT industry at present, there is huge scope of growth in the domestic market which can be tapped in the future.

The US recession has had its share of negative impacts on the Indian IT industry. However, the industry has faced the challenges posed by the global market and is sustaining its rate of growth\textsuperscript{37}. The focus for the future is to ensure that the benefits of the IT industry percolate to the grassroots levels.

1.11 Initiatives in Indian Information Technology Sector:

The Information, Communication Technology and Electronics (ICTE) is the world’s largest and fastest growing industry. ICTE is increasingly finding applications in all sectors of the economy and thus is accepted as a key enabler in development. Today, India is a large, vibrant and one of the fastest growing economies in the world. As a result of impressive growth of the economy, steadily increasing buying power of the people and aspirations of the young, the consumption of electronic gadgets in the country is growing fast. India is one of the World’s fastest growing electronic hardware markets. The domestic demand of electronics hardware is estimated at US$ 400 billion by 2020\textsuperscript{38}.

1.11.1 National e-Governance Plan (NeGP)

The National e-Governance Plan was approved by the Government in May 2006 with a vision to provide Public services to the common man in his locality at affordable cost. The NeGP is a multi stakeholder program which primarily focuses on making critical public services available and promoting rural entrepreneurship. The objective of NeGP is to transform traditional processes and service delivery mechanisms and create an environment that is citizen-centric, with rights based approach to governance while making interaction with Government easier, effective and transparent. NeGP is unique
in itself. It is not restricted to Government or Industry, or Public alone, but has expanded its reach to all strata of society especially at the grassroots. NeGP’s endeavor has been to improve the quality of life, by facilitating socio-economic development across the nation by giving access to crucial services and information in particular to the underserved population. Out of the 27 Mission Mode Projects, 24 have been approved by the Government. 15 MMPs have gone live and are delivering services electronically, though may not be in the entire country or the entire set of services. As the delivery of G2C services remain an ever moving target, the goal of NeGP is to ensure that relevant technologies are used to ensure maximum outreach of services and optimal utilization of scarce resources.

1.11.2 State Wide Area Networks (SWANs)

State Wide Area Network (SWAN) is envisaged as the converged backbone network for data, voice and video communications throughout a State/UT and is expected to cater to the information communication requirements of all the Departments. A SWAN has two components, typically Vertical Component and Horizontal Component. The vertical component of SWAN is implemented using multi-tier architecture (typically, three-tier) with the State/UT Headquarter connected to the District Head Quarter which in turn is connected to the Block Head. Each SHQ, DHQ and BHQ is called a Point of Presence (PoP), which is a bandwidth aggregation point. The bandwidth provision for network connectivity is minimum of 2 Mbps up to the block level. For the horizontal component, 20 Horizontal offices at State/UT (HQ) and 10 Horizontal offices at each district and 5 Horizontal offices at each block level would be connected to these respective PoPs.

1.11.3 State Data Centers (SDCs)

State Data Centre has 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 Centers in various States/UTs so that common secured data storage could be maintained to serve host of e-Governance applications. The broad policy guidelines for technical and financial assistance to the States for setting up of State Data Centers were finalized and circulated to the States including scheme of implementation and financial outlays. Under the SDC Scheme, it is proposed to establish Data Centers in all the States/UTs so that common secure IT infrastructure is created to host state level e-Governance applications/Data to enable seamless delivery of Government to Government (G2G), Government to Citizen (G2C) and Government to Business (G2B) services duly supported by State Wide Area Network and Common Service Centers established at the village level.

1.11.4 Common Services Centers (CSCs)

The Government has approved the Common Services Centers (CSCs) Scheme for providing support for establishing 100,000 Common Services Centers in 600,000 villages of India. The objective 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 remotest corners of the country through a combination of IT-based as well as non-IT based services. The Department has approved CSC proposal of two States (Karnataka and Goa) and two Union Territories (Andaman & Nicobar Islands and Chandigarh). The CSC Project is under implementation in thirty-one States.

1.11.5 Implementation of State Portal, State Service Delivery Gateway (SSDG) & Electronic Form application

This project creates State Portals that will host electronic forms to offer convenient and easy services to citizens. This project leverages the existing e-Governance infrastructure like CSCs, SDCs and SWANs. This project intends to provide easy, anywhere and anytime access to Government Services (both
informational & transactional). The project aims to reduce number of visits of citizens to a Government office/Department for availing the services. It also aims to reduce administrative burden and service fulfillment time & costs for the Government, Citizens and Businesses and creating a more efficient communication through portal. The major components of this project include the State Portal, electronic forms, the services delivery gateway, gap infrastructure and training. Guidelines have been formulated to provide Technical and financial assistance to the States for setting up State Portals, State Service Delivery Gateways (SSDGs) and Electronic Forms and financial assistance is being provided to the States/ UTs for creation of State Portal, SSDGs and Electronic Forms and meeting the operational expenses for a period of 3 years.

1.11.6 Capacity Building Scheme (CBS)

Capacity Building is one of the important components of NeGP for establishing internal capacity within the Government framework essentially at the State level to mitigate the major managerial and technological challenges towards implementation of the e-Governance projects. The consistent strategies for integration, resource optimization, prioritization and resolving conflicts and overlaps also require for effective implementation of e-Governance projects. Thus specialized skills are required at the States/UTs to provide technical support to the policy & decision making process; the overall management of the program and leveraging the external industry resources etc. The scheme is mainly for providing technical & professional support to State level policy & decision making bodies and to develop specialized skills for e-Governance.

1.11.7 State e-Governance Mission Team (SeMT)

Setting up of SeMT on wet leasing in 27 States / UTs has been completed and rests are under process. Capacity Building Management Cell under NeGD of
the Departments central agency has already initiated the process for creation of SeMTs centrally from open market on contract basis and from Central / State Governments/PSUs on deputation basis. Total 215 persons have been short listed and 90 on hold during the interviews conducted from 30th August to 16th September 2010 and all are in the process of positioning in 29 States/UTs.

### 1.11.8 Open Technology Center (OTC)

The Government has initiated the setting up of an Open Technology Center through NIC aimed at giving effective direction to the country on Open Technology in the areas of Open Source Solutions (OSS), Open Standard, Open Processes, Open Hardware specifications and Open Course-ware. This center is based in Chennai. This initiative will act as a National Knowledge facility providing synergy to the overall components of Open Technology initiative that are being taken by various communities and strengthen the support on the Open Technology. The OTC will provide the requisite support to the Standardization activity for e-Governance.

### 1.11.9 E-District

E-District is a State Mission Mode Project under the National e-Governance Plan. The Project aims to target certain high volume services currently not covered by any MMP under the NeGP and to undertake backend computerization to enable the delivery of these services through Common Services Centers. The Department has approved 16 Pilot e-District projects covering 41 districts. Pilot projects have been launched/ gone live in 18 districts across 6 States in Uttar Pradesh, Tamil Nadu, Kerala, Bihar, West Bengal and Assam. The pilot project is in advance stage of implementation in 8 States - Maharashtra, Madhya Pradesh, Haryana, Punjab, Uttarakhand, Mizoram, Orissa and Jharkhand.
1.11.10 e-Bharat

The Department has been carrying out dialogue with World Bank for possible programmatic support for NeGP under the Bank’s Development Policy Lending arrangement. Subsequent to an agreement with the World Bank to take forward this project initiative, intensive deliberations between the Department and World Bank are currently underway as part of preparatory activities for this project including identification of policy actions in the area of e-Governance for the purpose of this lending. On satisfactory completion of Bank’s appraisal the loan funding will be approved and disbursed by the Bank.

1.12 History and Development of HCL Infosystem

HCL Infosystems Ltd is one of the pioneers in the Indian IT market, with its origins 1976. For over quarter of a century, we have developed and implemented solutions for multiple market segments, across a range of technologies in India. We have been in the forefront in introducing new technologies and solutions. **HCL Infosystems** (HCLI) draws its strength from 30 years of experience in handling the ever changing IT scenario, strong customer relationships, ability to provide the cutting edge technology at best-value-for-money and on top of it, an excellent service & support infrastructure. Today, HCL is country's premier information enabling company. It offers one-stop-shop convenience to its diverse customers having an equally diverse set of requirements. Be it a large multi-location enterprise, or a small/medium enterprise, or a small office or a home, HCLI has a product range, sales & support capability to service the needs of the customer. Last 30 years apart from knowledge & experience have also given us continuity in relationship with the customers, thereby increasing the customer confidence in us.

Strengths of HCL Infosystems can be summarized as:

- Ability to understand customer's business and offer right technology.
- Long standing relationship with customers.
- Pan India support & service infrastructure.
- Best-vale-for-money offerings.

1.12.1 Vision and Mission of HCL Infosystems:

- **Vision:** A Global corporation enriching lives and enabling business transformation for our customers, with leadership in chosen technologies and markets. Be the first choice for employees and partners with commitment to sustainability.

- **Mission:** We enable business transformation and enrichment of lives by delivering sustainable world-class technology Products, Solutions & Services in our chosen markets, thereby creating superior shareholder value.

1.12.2 Products and Services of HCL Infosystems

HCL has been touching lives in the ICT space through a wide bouquet of products designed to meet diverse needs of different customers. HCL has constantly innovated to offer a wide range of products, including: Computing products; Office Automation; Imaging & Printing solutions; Display products; Office Automation Telecom & AVSI solutions; Digital Lifestyle products & solutions; Storage solutions; Networking products; Software licenses; POS, ATM, KIOSK; Customer Service; Counter products and Software solutions. We have pioneered the home PC market in India – we launched Beanstalk Media Centre, India’s first Multimedia enabled PC for home users; HCL Infosystems also introduced path breaking products like Ezeebee, Busybee brand of PCs and ME Laptops in the personal computing space. Leveraging three decades of expertise in total technology solutions, HCL Desktops and Laptops offer increased security, ultra-efficient manageability and maximum productivity for a smart business landscape. As enterprises have unique needs for their computing platforms, HCL range of business Desktops and Laptops
comes with unique features that enhance productivity while reducing TCO. For our Enterprise & SMB customers, we offer customized built-to-order range of ME Laptops and Desktops.

1.12.3 Solutions Portfolio of HCL Infosystems

- **Systems Integration:**

  With a strong legacy and over thirty years of expertise in this domain, we offer turnkey ICT solutions and Systems Integration services that integrate best-in-class products and solutions to meet the business needs of Enterprise.

- **ICT Networking Infra Consultancy & Facilities Management Services**

  Our Consulting Group has extensive experience of working with corporate and public sector organizations on the rollout of technology infrastructure and business transformation based on ICT solutions.

- **ICT Products**

  We offer an entire range of ICT products, which include PCs, Notebooks, Servers, Imaging & Printing Solutions, Voice & Video Solutions, Networking Products, TV and FM Radio Broadcasting Solutions, Communication & Security Solutions and ATMs & Kiosks.
- **IT Audit, Security Compliance & Risk Management**
  
  We assist customers in evaluating processes and technology to secure their infrastructure and to minimize the risk to meet their requirements.

- **ERP Consulting & Services**
  
  Through strategic associations with Oracle, SAP, Microsoft and other Software & ERP companies, we offer state-of-the-art IT consulting services to align their IT strategy with their business strategy.

- **Strategic Outsourcing Services**
  
  We offer a one-stop shop for strategic outsourcing of information systems, leading to an overall advantage for the customer in reduction of deployment time, access to a pool of technical expertise and lowering the cost of total ownership.

- **VPN & Managed Network Services**
  
  These are provided through HCL Infinet Ltd., which is the Networking Services arm of the HCL Infosystems. The company holds an all India license to operate as a Class "A" ISP, ITSP and NLD service provider.

- **Homeland Security Products & Solutions**
  
  HCL Security Ltd is a 100% subsidiary of HCL Infosystems Ltd. With the core objective of addressing end-to-end solution requirements in the Security & Surveillance domain and leveraging on world-class alliances, HCL Security Ltd offers the best of deeply integrated global technologies to ensure safety & security of infrastructure.

### 1.12.4 Awards and Recognitions

**DQ-IDC:** Ranked No. 1 in the Best Employer Survey 2009, among the IT companies in India  
**Frost & Sullivan:** ‘India Manufacturing Excellence Award (IMEA) 2008’, Gold
Award in the “IT & Automation Hardware” Category

**CISCO PAL:** Awarded the “Gold Star” rating for customer satisfaction excellence survey

**DQ CSA:** Ranked No. 1 IT services company in 2009 for the second consecutive year

**Computer Active:** Best Desktop PC Category award

**Infocus:** Emerald Award for best all-round performance

**HDFC Standard Life Insurance Co. Ltd.:** Platinum Certificate of Excellence award in appreciation of its contribution & efforts towards the continued success of HDFC SLI

**Dun & Bradstreet Rolta Corporate Award for the year 2009:** In computer hardware and peripherals category

**ELCINA-Dun & Bradstreet Award:** For ‘Outstanding achievement in Quality for the year 2009’

‘**The Electronics Company of the Year 2009:**’ Recognition by EFY

**Green peace’s ‘Guide to Greener Electronics’:** HCL Infosystems was ranked amongst the top five green electronic companies in the world

**Ranked number one in the Best Employer Study 2009:** Conducted by IDC – Dataquest

‘**HCL ME:**’ Ranked amongst the top 10 brands by a Business Standard survey ‘Brand Durby 2009’

1.12.5 **Sales and Profit of HCL Infosystem for last 10 years**

The sales and Profit of HCL Infosystem Limited for last 10 financial years has been presented below with the help of chart.
The above chart shows the Sales & Services and Profit of the company for last 10 Years. Figures in the brackets represent the Profit for the respective year. It is very clear from the above chart that company has got low sales during first six year i.e. from 2005-06 to 2009-10. It has got the highest Sales and Services in last financial year 2007-08. Whereas the company was having highest Profit in the financial year 2002-03. It has been observed that after the financial year 2005-06 there was a drastic increase in the sales as well as profit of the company. In last four financial years i.e. from 2006-07 to 2009-10 company showed and increasing trend.

1.13 History and Development of HCL Technologies

HCL Technologies is a leading global IT services company, working with clients in the areas that impact and redefine the core of their businesses. Since its inception into the global landscape after its IPO in 1999, HCL focuses on ‘transformational outsourcing’, underlined by innovation and value creation, and offers integrated portfolio of services including software-led IT solutions, remote infrastructure management, engineering and R&D services and BPO. HCL leverages its extensive global offshore infrastructure and network of
offices in 26 countries to provide holistic, multi-service delivery in key industry verticals including Financial Services, Manufacturing, Consumer Services, Public Services and Healthcare. HCL takes pride in its philosophy of ‘Employees First, Customer Second’ which empowers our 73,420 transformers to create a real value for the customers. HCL Technologies, along with its subsidiaries, had consolidated revenues of US$ 3.3 billion (Rs. 15,160 crores), as on 31 March 2011 (on LTM basis).

HCL Technologies is a relatively young company formed, 15 years ago, in 1998. During this period, HCL has built unique strengths in IT applications (custom applications for industry solutions and package implementation), IT infrastructure management and business process outsourcing, while maintaining and extending its leadership in product engineering. HCL has also built domain depth through a microverticalization strategy in industries such as Financial Services, Hi-tech and Manufacturing, Retail, Media and Entertainment, Life Sciences, and Telecom. HCL has created the ability to distribute value across the customer's IT landscape through its well-distributed services portfolio, significant domain strengths, and locally relevant geographic distribution. HCL has the widest service portfolio among Indian IT service providers, with each of its services having attained critical mass. Five mature lines of business are R&D and Engineering, Custom Applications, Enterprise Applications, IT Infrastructure Management, and BPO Services. In addition, HCL has recently launched its Enterprise Transformation Service offerings comprising of Business, Technology, Application and Data Transformation – the four broad needs of any enterprise. Our ability to synergistically integrate these service lines across the entire IT landscape creates new zones for value creation. Additionally, HCL has created unique service leadership in each of these areas through best-of breed unique propositions. HCL’s leadership in these service areas has been recognized by several leading independent analysts.
1.13.1 Services offered by HCL Technologies

Customer centric value offerings establish the difference between services and services. The difference comes from unique customer insights and value propositions backed by competencies and validated by customer experience. HCL believes in the good practice of regularly re-structuring and re-energizing its diversified portfolio of service offerings. By re-evaluating and realigning this portfolio from time to time, HCL is able to develop a robust and resilient business model. No single service line contributes more than 32% to the total revenue even while maintaining a leading edge in key verticals where HCL chooses to focus.

- **Custom Application Services (CAS)**

  The Custom Application Services division at HCL leverages a domain-driven approach to design, and implements scalable, reliable, robust, secure, and easily maintainable applications that provide our customers with business differentiation through IT. Service offerings include application development, management, support, re-engineering, modernization, migration, and independent verification and validation. With more than 10,000 domain and technology experts supporting more than 100 clients across geographies, this group contributes over 29% of HCL’s revenues, and services at least two of the top five players in various industries like retail, banking, insurance, media & publishing, gaming and life sciences.

- **Engineering and R&D Services (ERS)**

  HCL is one of the few Indian companies with significant focus on engineering services. Contributing to over 19% of the company’s revenues, this group brings a balance to the service portfolio unlike some of our peers. The ERS group offers end to end engineering services and solutions in hardware, embedded, mechanical and
software product engineering to industry leaders across Aerospace & Defense, Automotive, Consumer Electronics, Industrial Manufacturing, Medical Devices, Networking & Telecom, Office Automation, Semiconductor, Servers & Storage and Software Products. HCL well understands the importance of Research & Development (R&D) in augmenting its customers’ businesses and is committed to providing these world-class services to them. Over a decade of operating in complex multi-vendor environments and customer value chains, we have the ability to seamlessly integrate into their existing R&D ecosystem, working with other innovation partners, captive centers, universities, industry bodies and manufacturing partners. The group has recently started a business unit with a dedicated team to focus on Defense, Space & Security (DSS).

- **Enterprise Application Services (EAS)**

  HCL’s Enterprise Applications Services (EAS) division provides best-in-class services and solutions to customers in ERP, SCM, CRM, HCM, EPM, BI and Middleware. This is enhanced by leveraging strong strategic partnerships with SAP, Oracle and Microsoft. The EAS division accounts for over 22% of HCL’s revenue and is one of the key areas of growth. HCL’s EAS service line is completed by its Microsoft group. This team enjoys a pivotal partnership with Microsoft’s Business Solutions group. It has built capabilities on key Microsoft Dynamics product lines, particularly Microsoft Dynamics AX and Microsoft Dynamics CRM.

- **Enterprise Transformation Services (ETS)**

  HCL’s Enterprise Transformation Services assists customers in developing a transformation roadmap by aligning business with IT strategy. HCL partners with customers and helps them identify the
initiatives driving change, manage the transformation process, and implement supporting technology solutions that add value to the organization. HCL’s ETS offers an integrated approach for enabling transformations through the “Advise to Execute” services portfolio. The service portfolio consists of Process Transformation Services, Data Management Services, Integration Services, Architecture Services, Disruptive Technology Services (Including Cloud related services) and IT Strategy and Change Management services. This is offered through the bouquet of best-in-class services in key areas including Middleware & SOA, Data Warehousing & Business Intelligence Services, Enterprise Content Management & Portals, Independent Verification & Validation, Mainframe and Midrange Services, Business Consulting and Technology Consulting.

**Infrastructure Management Services (IMS)**

HCL’s Infrastructure Management Services group is the fastest growing business line and contributes to over 22% of HCL Technologies’ total revenues. Through its differentiated value proposition - “Industrialized IT Management and co-sourcing model”, this practice has been able to carve a credible growth story and solid foundation for the future. Today, it has close to 200 customers globally, out of which, 100 are G/F 1000 companies - world leaders in their own space. The IMS division has been recognized as the leader in Global Delivery of Infrastructure Management by several Industry analysts, and is said to be the “leading light in RIM” by NASSCOM. HCL was the co-founder of the “NASSCOM IMS forum”, which comprises of the leading industry players. David G Thomson in his global best seller, “Blueprint to a Billion” has compared HCL’s Infrastructure Services’ Division (ISD) growth story to world leaders like Cisco, Microsoft and Google.
Business Process Outsourcing (BPO)

HCL’s BPO Business Services accounts for over 6% of the company’s revenues. This division of HCL Technologies is heading towards a maturity level where a new form of BPO called ‘Transformational BPO’ is evolving which constitutes Full Process and Multiple Process outsourcing. With over 11,000 professionals operating out of India, Northern Ireland and USA, it serves customers in Telecom, Retail, and Media Publishing Entertainment (MPE), Energy Utility & Public Services, Banking & Financial Services, Insurance, and Healthcare. HCL BPO Business Services runs 25 delivery centers across India, UK and USA and offers 24x7 multi-channel, multi-lingual support in eight European and eight APAC languages. It also services various operations across Customer Relationship Management, Technical Support Services, Knowledge Process Management, Finance and Accounting Outsourcing (FAO), Human Resources Outsourcing (HRO), and other niche services.

1.13.2 Vision and Mission

Vision:

To be the most preferred and significant software led global IT services Provider in our chosen markets.

Mission:

To establish technology partnerships with end-to-end users and OEM organizations on a global basis, to deliver the highest quality and most cost-effective software engineering solutions for the emerging markets.
1.13.3 Awards and Recognition

As Company pursues excellence relentlessly, your Company is delighted to receive phenomenal share of recognitions and awards this year, not just from the media, but also from analysts, governing bodies, academic institutions, partners and even customers. Some of the key accolades received during last few years include:

- Ranked No. 1 among the top 50 best managed global outsourcing vendors of 2009 by Brown & Wilson’s Black Book of Outsourcing.
- Chosen from among more than 188 corporate entries, your Company won the prestigious ‘Golden Peacock Innovation’ award for its MTaaSTM (a Business Service Management centric service delivery platform) offering in the IT Sector category.
- Ranked No.1 amongst the 2009 Top Cross-Industry BPO Vendors by the Black Book of Outsourcing.
- Ranked No.1 in the traditional IT Outsourcing space by Data monitor’s, lack Book of Outsourcing 2009-10.
- Ranked No. 1 in the RIMO (Remote Infrastructure Management Outsourcing) space and scores highest in 18 significant ITO criteria and 13 significant RIMO criteria surveyed.

1.13.4 Sales and Profit of HCL Technologies for last 10 years

- HCL AXON rated a leader in the Forrester Wave for SAP Implementation Providers making it a serious contender across all phases of the SAP implementation life cycle.

The Sales and Profit of HCL Technologies Limited for last 10 financial years have been presented below with the help of chart.
The above chart shows the Sales & Services and Profit of the company for last 10 Years. Figures in the brackets represent the Profit for the respective year. It is very clear from the above chart that company’s Profit and Sales consistently increasing from financial year 2005-06 to 2014-15. It has been also observed that after the financial year 2005-06 there was a drastic increase in the sales as well as profit of the company. The company has got the highest sales in the financial year 2009-10 and it has got the highest profit in the financial year 2006-07. It can be concluded from the above chart that the company was stable in terms of its operations.

**1.14 History and Development of Infosys**

Infosys Technologies Ltd. was started in 1981 by seven people with US$ 250. Today, we are a global leader in the "next generation" of IT and consulting with revenues of US$ 6.04 billion. Infosys defines designs and delivers technology-enabled business solutions for Global 2000 companies. Infosys also provides a complete range of services by leveraging our domain and
business expertise and strategic alliances with leading technology providers. Infosys offerings span business and technology consulting, application services, systems integration, product engineering, custom software development, maintenance, re-engineering, independent testing and validation services, IT infrastructure services and business process outsourcing.

Infosys pioneered the Global Delivery Model (GDM), which emerged as a disruptive force in the industry leading to the rise of offshore outsourcing. The GDM is based on the principle of taking work to the location where the best talent is available, where it makes the best economic sense, with the least amount of acceptable risk. Infosys has a global footprint with 64 offices and 63 development centers in US, India, China, Australia, Japan, Middle East, UK, Germany, France, Switzerland, Netherlands, Poland, Canada and many other countries. Infosys and its subsidiaries have 130,820 employees as on March 31, 2011. Infosys takes pride in building strategic long-term client relationships. 98% of our revenues come from existing customers.

1.14.1 Vision, Mission and Values:

**Vision:**

We will be a globally respected corporation.

**Mission:**

To achieve our objectives in an environment of fairness, honesty, and courtesy towards our clients, employees, vendors and society at large

**Values:**

Infosys believes that the softest pillow is a clear conscience. The values that drive their underscore their commitment to:

- **Client Value:** To surpass client expectations consistently
Leadership by Example: To set standards in our business and transactions and be an exemplar for the industry and ourselves

Integrity and Transparency: To be ethical, sincere and open in all our transactions

Fairness: To be objective and transaction-oriented, and thereby earn trust and respect

Excellence: To strive relentlessly, constantly improve ourselves, our teams, our services and products to become the best

1.14.2 Services offered by Infosys

Infosys' IT solutions, Technology and Business Process Outsourcing services help you accelerate innovation and maximize value from your IT investments. Our business solutions and services help accelerate innovation, increase productivity, reduce costs, and optimize asset utilization.

IT Services

Infosys create IT-enabled business solutions for our clients by leveraging our domain and business expertise along with a complete range of services.

Engineering Services

Infosys provide concept-to-market R&D and engineering services to improve your product operations. Our services address the complete engineering value chain spanning various industry verticals.

Consulting Services

Infosys consulting services ensure that one become stronger, more competitive and capable of managing global business
BPO Services

Infosys BPO combines domain expertise, process skills and technology to deliver world-class process outsourcing.

Products and Platforms

Infosys products and platforms provide a holistic and integrated transformation approach, complete with solutions and services.

Cloud + Services

As a Cloud ecosystem integrator, we offer enterprises single point accountability, rapid time-to-value and improved customer experience. Infosys Cloud + Services helps you orchestrate and integrate Cloud services with your existing enterprise investments.

1.14.3 Sustainability of Infosys

Infosys has always adopted a sustainable approach to business. We are aware that growth is inextricably linked to the well being of our ecosystem - employees and business partners, local communities and the environment. As the world gets flatter, we have a larger responsibility to achieve a sustainable tomorrow. Our sustainability policy guides interactions with stakeholders and influences day-to-day actions. As a responsible corporate citizen, we collaborate with customers and governments to develop sustainable solutions and governance frameworks. We engage with the United Nations Global Compact for coordinated action towards sustainable development. Every year, we publish a Sustainability Report based on the guidelines of the Global Reporting Initiative. The reports focus on our activities - business-as-usual as well as beyond business - and share our progress in the pursuit of sustainable growth. The report for 2009-2010 delineates our sustainability agenda in three areas:
❖ **Social Contract**

We are committed to an equitable society. Our employees make a difference by taking up social causes in healthcare, education, art and culture, rural rehabilitation and inclusive growth.

❖ **Resource Efficiency**

We are responsible consumers of energy and natural resources. Our long-term vision is to become water sustainable. We are reducing our ecological impact even as we grow our global operations.

❖ **Green Innovation**

We develop sustainable solutions to reduce the carbon footprint of our customers. We combine sustainability with engineering to develop smart and green products.

1.14.4 Awards and Recognition

Infosys pursue excellence relentlessly; it is delighted to receive several global recognitions and awards.

❖ Ranked among the best in investor relations in the APAC region
❖ Received the Gold Award for Investor Relations in Technology in the U.S. in the ‘Asset Triple A Corporate Awards’
❖ Ranked as the most sought-after company in India by Business Today Survey
❖ Received the award for excellence in inclusivity instituted by the American Society for Training & Development (ASTD)
❖ Honored with the Oracle Titan Partner Award at Oracle® Open World 2009 event
❖ Received the Excellence Award for Diversity Hiring Initiatives for Infosys BPO
❖ Listed on Forbes Asian Fabulous 50 for the fourth consecutive year
- Recognized as one of ‘India's Best Companies to Work For’ in a survey conducted by Great Place to Work® Institute
- Listed in Fortune's 100 fastest-growing companies
- Ranked as the Best Outsourcing Partner by the Waters Rankings 2009
- Listed among best companies for leaders by Hay Group and Chief Executive Magazine
- The sole company from India to be featured in the Top 25 list of Business Week's InfoTech 100
- Received the distinction of having one of the ‘Best Ranked Online Annual Reports in Greater China & Asia / Pacific’ at IR Global Rankings 2009.

1.14.5 Sales and Profit of Infosys for last 10 years

The sales and Profit of Infosys for last 10 financial years have been presented below with the help of chart.

Chart 1.16

Sales and Profit of Infosys Technologies Ltd.
The above chart shows the Sales & Services and Profit of the company for last 10 Years. Figures in the brackets represent the Profit for the respective year. It is very clear from the above chart that company’s Profit and Sales consistently increasing from financial year 2005-06 to 2014-15. It has been also observed that after the financial year 2006-07 there was a drastic increase in the sales as well as profit of the company. The company has got the highest sales in the financial year 2009-10 and it has got the highest profit in the financial year 2008-09. It can be concluded from the above chart that the company was stable in terms of its operations.

1.15 History and Development of Rolta India Limited

Rolta is a global market leader and provider of solutions that deliver insight and impact based upon innovative information technology solutions, services and software. We have a heritage of providing unique geospatial and enterprise IT solutions for the Defense, Homeland Security, Government, Utilities & Communications, Transportation, Process and Power and Financial Services sectors. Over the years, Rolta has successfully executed multi-million dollar contracts across a broad spectrum of industries in over 40 countries. Rolta serves these markets by providing innovative solutions - Enterprise Geospatial and Defense Solutions (EGDS), Engineering Design and Operation Solutions (EDOS) and Enterprise IT Solutions (EITS). The Company's EGDS Division, through a combination of its own IP, innovative R&D and technologies acquired from world leaders, develops and provides state-of-the-art Defense, Homeland and Maritime security solutions. Rolta’s intellectual property repository contains a unique solutions framework for enterprise-level integration – Rolta Geospatial Fusion TM, and other cutting-edge software for earth sciences, providing the foundation for C4ISTAR information systems, Military Communications, Digital Soldier, and Vehicle Systems, covering the entire “sensor to shooter" chain, and sophisticated Homeland Security Solutions. The EGDS Division meets the needs of the Utilities and
Communications industry, and city/municipal governments by providing solutions based on Rolta Geospatial Fusion TM that are focused on operational excellence including enterprise-level spatial business intelligence, mobile field operations, web mapping solutions and data services.

Rolta's EDOS Division provides comprehensive Engineering, Procurement and Construction Management (EPCM) services for the entire lifecycle of plants in Oil & Gas, Power and Chemical/Petrochemical industries. Rolta One View is an innovative business intelligence solution for the process industry that enhances operational decision making in critical work processes such as production operations, safety, reliability, and maintenance and cut-over.

Rolta's EITS Division addresses IT requirements like enterprise business systems, enterprise performance monitoring, business intelligence and application integration. The division is focused on developing and upgrading the Company's IP to enhance its value proposition to customers, and strengthening its standing in the market by offering unique technological solutions such as the Rolta perspective Suite. This is a rapid application development workbench that brings innovation to enterprise application integration, cloud computing and the automatic building and deployment of web services.

1.15.1 Vision and Mission of Rolta India Limited

Vision:

To continuously innovate and provide knowledge based IT solutions that deliver remarkable insights and lasting impact in the way our world operates

Mission:

To develop innovate solutions that dramatically change market place. Deliver valuable insights that enable the best decision
making. Create measurable and relevant impact by always executing with the end result in mind

1.15.2 Services offered by Rolta India Limited

- **Enterprise Geospatial and Defense Information Solutions:**

EGDS enables customers to extract insights through a spatial view into business and operational data. These insights strengthen strategic and operational decision-making that can generate a significant impact on operational performance. Our spatial business intelligence solutions, based upon Geospatial Fusion™, transform our customers’ ability to manage operations and achieve previously unattainable levels of performance. Our team has countless years of experience in providing Geospatial, Photogrammetric and Imaging services for commercial and defense customers. Through the innovative fusion of business and spatial information, Rolta provides new insights that strengthen strategic and operational decision-making and deliver great impact to a diverse range of Governmental, Utility, Communications, Economic Development, and Transportation and Defense agencies. The excellence of our geospatial solutions and data service offerings is rooted in our deep knowledge of the industry, excellence in global sourcing, knowledge of engineering IT applications, disciplined project execution and Rolta intellectual property that is used for enterprise integration, visualization, data conversion and quality assurance. Rolta’s unique IP includes: the OGC compliant Rolta Geospatial Fusion™ - a solution that provides enterprise wide fusion of spatial and business information that is powered by Rolta On Point™ - an enterprise geospatial web application, Rolta One View Mobile™ - which synchronizes office and field workforce for enhanced productivity, Rolta Geo Imaging Suite – an integrated system for
Remote Sensing and Image Processing consisting of Rolta Geo Imaging Accelerator - an automated image processing system enhancing speed and efficiency, Rolta Geo Conference – a real time geospatial collaboration system, and Rolta Photogrammetric – a comprehensive suite of 3D digital Map production solutions with multi-sensor support.

❖ Defense & Homeland Security

Enterprise Design and Operation Solutions

Rolta has an exceptional combination of Engineering and IT expertise with 1,100 person team of Engineers, developers and consultants. This combination uniquely enables us to provide comprehensive solutions for EPCs and Owner-Operators (O/O), from concept to completion of new plants and then solutions for ongoing operations. EDOS provides Asset Design solutions (including FEED and Detail Design, Data Validation and Handover, Model and Data Migration, Software & Technology Tools and Asset Information Management) as well as Asset Performance Solutions (including Structure Plant Data Model, Visual Views of Asset and Operational Data, Engineering Fusion and Industry-Specific BI solutions based on Rolta’s One View™ software). Our EDOS solutions enable O/Os within the process and power industry to view plant operations, capital projects and asset information as a single, fully integrated ecosystem.

Enterprise IT Solutions

Rolta EITS has some of the world’s most knowledgeable technology and business experts and the depth of experience that can only be gained through many years of successful projects. EITS has advanced to a world class organization through the merger of Rolta’s IT Consulting Division with the acquisitions of TUSC, Whittmanhart Consulting and Piocon Technologies. Each organization brings significant credentials to Rolta EITS. TUSC, known as “the Oracle experts," has a stellar track record of successful projects and very technically innovative solutions. Whittmanhart Consulting was widely known for Hyperion expertise and EPM solutions for the Financial Services Industry. Piocon has deep roots in Oracle and Business Intelligence projects. Rolta for many years has been a leading provider of IT infrastructure management solutions based on CA products. This
broad range of complementary, cutting edge technical expertise is the
foundation for EITS solutions; solutions which provide lasting value.
EITS has the breadth and depth to implement, build, manage and
support the IT applications, databases, systems and infrastructures that
are at the core of successful business operations. Enterprise IT
Solutions provides products and solutions for Commercial, Oil, Gas,
Power, Petrochemicals, Government, Defense, Homeland Security,
Utilities, Telecom and Financial Services industries. These solutions
are based on deep expertise in Business Intelligence, Enterprise
Performance Management, Oracle Enterprise Business Suite, Oracle
Database Management & Administration, Security and enterprise IT
Management. Rolta’s solution offerings bring together the latest
thinking in Cloud Computing, EAI, SOA, Enterprise GIS and Business
Intelligence. Rolta's unique ability to see more than meets the eye,
deep knowledge of IT, combined with hands-on industry knowledge,
backed by world-class infrastructure ensures that it provides highly
relevant state-of-the-art solutions for its customers.

1.15.3 Awards and Recognitions

Rolta's transformation has not gone unnoticed. The following are a few of the
recognitions that have been awarded to the company:

- 7 Oracle Titan Awards for excellence in solving real-world customer
  challenges and for development and deployment of Oracle technology
- “The Great Mind Challenge for Business 2010” award by IBM for
  building the most innovative solution using IBM’s Rational Suite
- Microsoft Partner Network IMPACT Award for Data Management
  Solution of the Year category
- Rolta was at the 2nd position as a preferred employer, and at the 4th
  position in overall ranking in the DQ-IDC IT Best Employer's Survey
Rolta ranked 26th among the 500 best performing midsize firms in India by Inc. magazine. Rolta has been included in the S&P Global Challengers List™ 2008 by Standard & Poor's (S&P).

- "Geospatial Award of the Year" by Geospatial Today
- "Technology Leadership Award in the Hydro Carbon Industry" by Chemtech Foundation
- "Amity Corporate Excellence" award by Amity International Business School
- Rolta was ranked 11th amongst "India's most investor-friendly companies" by Business Today
- Forbes Global "200 Best Companies" outside US - 4 times in 6 years
- Amongst the 500 fastest growing technology companies in Asia Pacific - Deloitte Tochê Tohmatsu

1.15.4 Sales and Profit of Rolta India Limited for last 10 years

The sales and Profit of Rolta for last 10 financial years have been presented below with the help of chart.

<table>
<thead>
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<th>Year</th>
<th>Sales (values in Crore)</th>
</tr>
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<td>1273</td>
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<td>2012-13</td>
<td>3145</td>
</tr>
<tr>
<td>2013-14*</td>
<td>2837</td>
</tr>
</tbody>
</table>

The above chart shows the Sales & Services and Profit of the company for last 10 Years. Figures in the brackets represent the Profit for the respective year. It
has been observed from the above chart that company has got the highest Sales and Services in last financial year 2009-10. Where as the company was having highest Profit in the financial year 2007-08. The sale of the company showed continues increasing trend during last 10 years. It can be concluded that after the financial year 2006-07 the company’s sales and profit has increased drastically. It has been noted here, that there was a positive correlation between sales and profit. The Sales reached the highest point in the financial year 2009-10.

1.16 History and Development of TATA Consultancy Services

Established in 1968, TATA Consultancy Services a member of the TATA Group has grown to its current position as the largest IT services firm in Asia based on its record of outstanding service, collaborative partnership, innovation and corporate responsibility.

It was founded by Jamsedji Tata in 1848 and it is one of India’s most respected institutions today. Their mission reflects the Tata Group’s longstanding commitments to providing excellence. To help customers achieve their business objectives by providing innovative, best – in – class consulting, IT solutions and services, and to actively engage stakeholders in a productive, collaborative and mutually beneficial relationship.

TCS’ ability to deliver high quality services and solutions is unmatched. They are the world’s first organization to achieve an enterprise – wide maturity level 5 on both CMMI and P-CMM, using the most rigorous assessment methodology – SCAMPISM. Additionally, TCS Integrated Quality Management System (QMS) integrates process, people and technology maturity through various established frameworks and practices including IEEE, ISO 9001:2000, CMMI, SW-CMM, P-CMM and 6 Sigma.

It is largest IT employer in India. It provides services to wide range of segment like Banking & Financial Services (BFS) sector. TCS’s enhanced
scale and expertise will be providing services improvements to city and city’s customer. CGCL has more than 12000 employees located in India and expected to generate revenues of approximately $278 million in 2008.

TCS delivered real result to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting – led, integrated portfolio of IT and IT- enabled services delivered through its unique Global Network Delivery Model, recognized as the benchmark of excellence in software development. TCS has over 143,000 of the world’s best trained IT consultants in 42 countries.

Tata Consultancy Services announced the launch of TCS BANcS Core Banking Release 12.0 at the annual flagship event for banking and capital markets, SIBOS 2011, in Toronto.

1.16.1 Products and Services offered by TCS

- **Technology Products**
  - Exegesis intelligent Document
  - Support Central – Business Social Productivity Platform
  - TCS digital Certification Services / Public Key Infrastructure (PKI) Suite
  - TCS Tax Mantra Integrated Tax Solution
  - TCS Data Cleansing Framework
  - TCS Business Rules Engine
  - TCS Experience Based KM (Knowledge Management)
  - TCS Call Management Solution
  - TCS Certificate Validation Server
  - TCS File Authentication Solution
  - TCS e-Learning Effectiveness Measurement Solution
  - TCS Code Generator Framework
  - TCS Saakshi (Time Stamping Solution)
• TCS Form Authentication Solution
• TCS eVOLv Multimedia Authoring Solution
• TCS Direct Metal Deposition CAM
• TCS Stand Alone Post Proccessor
• TCS Web FACTORe (Web – enabled Plant Maintenance Management Tool)
• TCS Enterprise Integration and Control Environment
• TCS Smart Box (Next Generation Industrial Controller Development Framework)
• TCS Sevak – Self Service Terminals
• TCS Rapid Sigma (Six Sigma Solution for Continuous Improvement)
• TCS Teamcenter for Medical Services

➢ Other Products:
  • TCS Clin – e2e
  • TCS Hospital Management Solution
  • TCS Silicone Ambulatory ECG Device and Solution
  • TCS Enterprise Integration and Control Environment Solution / Energy and Utilities
  • TCS Bio – Informatics Solution
  • VERICUT – Machine Simulation Software

➢ Services:

◆ IT Services:
  • Custom Application Development
  • Application Management
  • Migration & Re-Engineering
  • System Integration
  • Testing
  • Performance Engineering
Infrastructure Services
- Infrastructure Readiness Assessment
- IT Service Desk
- Data Center Management
- End User Computing Services
- Database Services
- Application Management Services
- Command Center Services
- Managed Security services

Enterprise Solution:
- Supply Chain Management
- Master Data Management
- Customer Relationship Management
- RFID
- Call Management
- Oracle
- SAP

Consulting Services:
- Business Consulting
- IT Consulting
- Business Solutions

Business Process Outsourcing:
- Customer Interaction Management (CIM)
- Finance and Account
- Human Resources Outsourcing
- Knowledge Process Outsourcing
- Supply Chain Management
- Reconciliations
- Benefits Administration
- Payroll
• Industry – Specific Offerings

❖ Business Intelligence & Performance Management
  • Business Intelligence
  • Business Process Management
  • Enterprise Data Management
  • Integration Services
  • Knowledge Management / Enterprise Content Management

❖ Engineering & Industrial Services:
  • New Product Development Solution
  • Product Lifecycle Management
  • Plant Solution & services
  • Geospatial Technology Solution
  • Industry – Specific Offerings

❖ Achievements and Recognition:
  • In 2014 – TCS was honored by Lumity as the 2014 Community Corps Corporate Champion
  • TCS wins Prestigious Association of Management Consulting Firms Award
  • TCS recognized as World’s fastest growing global IT service Brand
  • TCS UK wins Gold Award for ‘Innovation in Learning’
  • TCS is the only IT services organization to be a part of ISO 15926 real time interoperability network grid (iRING) version 1.0.0.
  • TCS achieves Gold Status in Business in the Community’s (BitC) Corporate Responsibility index (CRI) 2007-08
  • Largest IT Services Firm in Asia
  • They are the world’s first organization to achieve an enterprise – wide Maturing Level 5 on both ‘CMMI and P-CMM’, using the most rigorous assessment methodology – SCAMPISM
- TCS’ Integrated Quality Management System (QMS) integrates process, people and technology maturing through various established frameworks and practices including IEEE, ISO 9001:2000, CMMI, SW-CMM, P-CMM and 6 Sigma
- TCS tops the DataQuest DQ Top 20 list of IT services provides in India for 2008
- TCS Ranked among top 25 in Business Week’s 2007 Information Technology 100
- TCS Awarded Top Position in 2007, ‘Global Services’, 100 ‘Top 10 best Performing IT Services Provider’s Category’
- TCS was Awarded the Business Process Outsourcing Service Provider 2011 at the frost & Sullivan Asia Pacific ICT Award Ceremony hosted in Singapore
- TCS recognized as a Leader in Insurance IT Services for fifth consecutive year by Everest Group

1.16.2 Vision and Mission of TCS

(A) Vision and Mission:

In 2014 TCS announced to set up largest Corporate Learning Center in Thiruvananthapuram with a capacity to train 50,000 IT professionals every year.

1.17.3 Opportunities and Threats of TCS

(A) Opportunities
- Emerging Markets
- Product market e.g. domain targeted offerings
- Repeat business from existing clients

(B) Threats
- Attrition and Employee loyalty
- Bigger MNC’s entering India and competing for global clients
Focusing on organic growth

1.16.4 Sales and Profit of TCS for last 10 years

The sales and Profit of Tata Consultancy Services for last 10 financial years has been presented below with the help of chart.

The above chart shows the Sales & Services and Profit of the company for last 10 Years. Figures in the brackets represent the Profit for the respective year. It has been observed from the above chart that company has got the highest Sales and Services in the financial year 2013-14. Where as the company was having highest Profit in the financial year 2013-14 The sales of the company for first six years shows the increasing trend expect the financial year 2010-11 and for the last four years company’s sales was decreasing. It has been noted here, that although the sales was decreasing but the profit of the company showed an increasing trend.
1.17 History and Development of Wipro Limited

Wipro IT Business, a division of Wipro Limited, is amongst the largest global IT services, BPO and Product Engineering companies. In addition to the IT business, Wipro also has leadership position in niche market segments of consumer products and lighting solutions. The company has been listed since 1945 and started its technology business in 1980. Today, Wipro generates USD 6 billion of annual revenues. Its equity shares are listed in India on the Mumbai Stock Exchange and the National Stock Exchange; as well as on the New York Stock Exchange in the US. Wipro makes an ideal partner for organizations looking at transformational IT solutions because of its core capabilities, great human resources, commitment to quality and the global infrastructure to deliver a wide range of technology and business consulting solutions and services, 24/7. Wipro enables business results by being a ‘transformation catalyst’. It offers integrated portfolio of services to its clients in the areas of Consulting, System Integration and Outsourcing for key-industry verticals. With more than 100,000 associates from over 70 nationalities and 72 plus global delivery centers in over 55 countries, Wipro’s services span financial services, retail, transportation, manufacturing, healthcare services, energy and utilities, technology, telecom and media. Wipro’s unwavering focus has been on business transformation with matchless innovation in service delivery and business models. More than 800 active clients that include governments, educational institutes, utility services, and over 150 Global Fortune 500 enterprises have benefited from this approach. One of the world’s largest third party R&D services provider, Wipro caters to product engineering requirements in multiple domains. Most of the technology that you come across in daily life - airplanes, automobile navigation systems, cell phones, computing servers, drug delivery devices, microwaves, printers, refrigerators, set top boxes, TVs - will find a Wipro component in them. Our service portfolio includes product strategy and
architecture, application and embedded software, electronic and mechanical hardware, system testing, compliance and certification and product sustenance and support.

1.17.1 Vision and Mission of Wipro Limited

Vision:

Wipro has a vision that Practicing Values to create values.

Mission:

Wipro’s mission is understanding and responding to the needs of our community— Employees, Customers, Shareholders and the society at large.

1.17.2 Services provided by Wipro Limited

❖ Delivering strategic BPO services

Business Process Outsourcing optimizes business performance to attain value creation. There has been a tremendous upsurge in the outsourcing industry in many developing countries, like India which aid in reducing costs and increasing service quality. Wipro Business Process Outsourcing (BPO) is a leading provider of BPO services focusing on the complex, voice and non-voice based segment of customer care services. The integrated solution approach provides enhanced value to the customers through process standardization, process simplification and process optimization. Customer services are provided from outsourcing companies in North America, Central and Eastern Europe, India, China and Latin America.

❖ Enterprise BPO

The technology dependency across industry domains has increased with each passing year. At Wipro BPO we have leveraged our range of
enterprise services to enable diverse domains meet existing technology and functional requirements. Our best-in class solutions provide you with a platform to take your enterprise to the next level of operational excellence.

❖ Domestic BPO

With nearly 500 players, India’s domestic business process outsourcing (BPO) market is set to touch USD 6.82 billion (around Rs 31,700 Crore) by 2013. The domestic BPO market is evolving into third-party ‘transformational outsourcing’ relationships from the existing captive dominated market structure. This implies that rather than merely running isolated processes for customers, BPOs would engage more deeply to identify and transform core business processes to add greater market value in the ‘creation and delivery of end products and services’.

❖ Consulting Services

At Wipro Consulting, we help companies think ahead. Business today is evolving faster than at any other time in history, and tomorrow there are going to be challenges we can't even imagine today. And opportunities But to survive and thrive, we must imagine that future. We must anticipate it. Even while we're helping you solve your business challenges today, we're thinking about the future - and how we can take you there.

❖ Total Outsourcing

Global competitiveness is driving market growth across domains and as your business expands, the need to focus on core capabilities becomes increasingly critical. You require the best resources to be devoted across your enterprise as you grow. With IT infrastructure emerging as an important element of defining and achieving your
business objectives, you also need to be technologically ready to take on strategic challenges that can fuel your growth. Balancing these business and technology requirements would unnecessarily burden your organizational resources. With this in mind, outsourcing is the key to taking care of IT infrastructure and application needs while allowing you to concentrate on your business competencies. Across domains, IT is an integral part of organizational process and growth and Wipro is that partner who can help you achieve technology competence of the highest level. Wipro Total Outsourcing (TOS) services are targeted at achieving maximum value by providing end-to-end best of breed IT practices for your business. From technology optimization to mitigating risks, we fulfill your constant IT infrastructure and application demands while evaluating, deploying and managing flexible, responsive and economical solutions. Through our acknowledged quality processes and program governance frameworks, we help you achieve and sustain business momentum. Based on service level agreements (SLAs), we meet every need and objective of your business by providing IT infrastructure solutions that seamlessly align with organizational processes and practices.

1.17.3 Awards and Recognitions

- Awarded with REMMY (the Recruitment Marketing) Award by The Times Group
- Outsourcing Excellence Award for Best IT Enablement in BPO
- BPO Excellence Award for Operational Excellence & Quality
- BPO Excellence Award for Use of Technology for Operational Excellence
- BPO Excellence Award for Fun at Work
- BPO Excellence Award for outstanding work in Utilities Company in UK
- Awarded with DL Shah National Quality Award
- "Company Of The Year - International", Economictimes.com BPO Industry Award
- Ranked 2nd in the Dataquest IDC BPO Satisfaction Survey
- Ranked #3 Top BPO Employers, NASSCOM Survey 2009-10
- Wipro receives Most Outstanding Alliance Partner of the Year Award in Asia- Pacific and Japan from HP. This is the third time in the last five years that Wipro Technologies has been recognized by HP Software and Solutions.
- Bharat Gaurav Award, 2010 for Nagarajan A., VP, Business Operations, Wipro Arabia for excellence in keeping Indian Flag high in other countries.

1.17.4 Sales and Profit of Wipro for last 10 years

The sales and Profit of Wipro for last 10 financial years has been presented below with the help of chart.

Chart 1.17
The above chart shows the Sales & Services and Profit of the company for last 10 Years. It is very clear from the above chart that company’s Profit and Sales consistently increasing from financial year 2005-06 to 2014-15. It has been also observed that after the financial year 2005-06 there was a drastic increase in the sales as well as profit of the company. The company has got the highest sales in the financial year 2009-10 and it has got the highest profit in the financial year 2009-10. It can be concluded from the above chart that the company was stable.
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