What is Information Technology

Definition from http://www.answers.com
Information technology (IT), as defined by the Information Technology Association of America (ITAA), is "the study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." IT deals with the use of electronic computers and computer software to convert, store, protect, process, transmit, and securely retrieve information.

Why IT:

- Globalization
- Cost Effectiveness
  - Improving Resource Utilization
  - Reducing Manpower Requirements
- Creation of Jobs
- Competitive Advantage
- Bridging Cultural & Communication Gap

Pre - liberalization Story:

- IBM commenced business in India in the 1930s and set up manufacturing in 1951.
- Its business interest in India was focused on product sales.
- The business operated successfully until the mid-1970s.
- India's Foreign Exchange Regulation Act (FERA) required foreign owned companies to reduce their equity ownership to (in IBM's case) 26%.
- IBM was unwilling to take that course of action and in 1978, the company ceased its operations in India.
- In 1968 Tata Consultancy Services - established in SEEPZ, Mumbai by the Tata Group - were the country's largest software producers during the 1960s.
- On 18 August 1951 the minister of education Maulana Abul Kalam Azad, inaugurated the Indian Institute of Technology at Kharagpur in West Bengal.
- The National Informatics Centre was established in March 1975.
- The inception of The Computer Maintenance Company (CMC) followed in October 1976.
- During 1977-1980 the country's Information Technology companies Tata Infotech, Patni Computer Systems and Wipro had become visible.
- The 'microchip revolution' of the 1980s had convinced both Indira Gandhi and her successor Rajiv Gandhi that electronics and telecommunications were vital to India's growth and development.

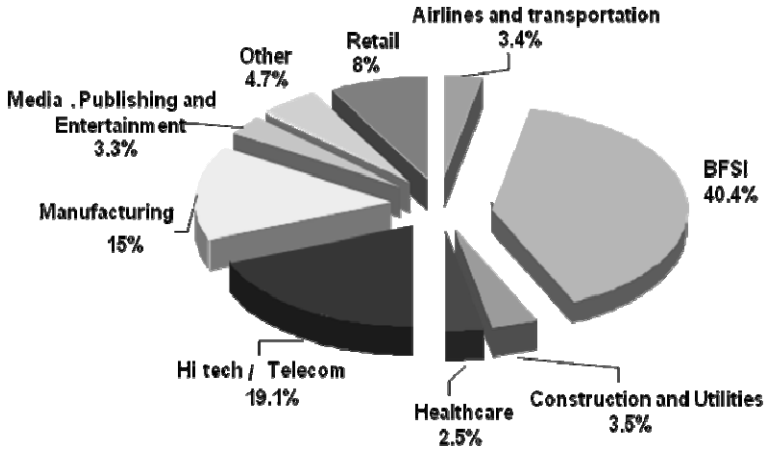
Growth & Evolution of IT in India:

Pre 1991	Reforms	Post 1991
• Import restrictions • Forex controls • Distrust among policy makers • Underdeveloped capital markets • Capital shortage for infrastructure • Poor telecom infrastructure	• Reforms increased the velocity of decision making • Decentralized power to regional and state centers • Abolishing of licenses • Rationalization of taxes • Export incentives	• A number of initiatives and innovations • GDM • Globalization and information revolution • India becomes the premier offshore destination for offshore services

Key Highlights during FY2011:

- The IT - BPO sector in India is estimated to aggregate revenues of USD 100 billion in FY2012, where export and domestic revenue stood at US$69.1 billion and US$31.7 billion respectively, growing by over 9%
- The industry continues to be a net employment generator - expected to add 230,000 jobs in FY2012, thus providing direct employment to about 2.8 million, and indirectly employing 8.9 million people.
- As a proportion of national GDP, the sector revenues have grown from 1.2 per cent in FY1998 to an estimated 7.5 per cent in FY 2012.
- Contribution to GDP stands at 7.5 % in FY 2012 - 13 (YTD)

Growth Verticals:



IT Hubs in India:

- Bangalore
- Chennai
- Hyderabad
- Pune
- Kolkata
- NCR
- Mumbai
- Bhubaneswar

What drives India?

- **Stable economy** – political parties committed to economic reform
- **Language Comfort** – huge pool of highly qualified English speaking professionals
- **Supportive government policies** – Technology Parks, Tax breaks, Anti- Piracy laws, Infrastructure ramp-up
- Extensive pool of **technical workers / software engineers**. 500,000 graduates every year are engineers
- **Modern, world class telecom infrastructure** built in the last decade ensures no backlog of outdated technologies. Government encourages pvt. participation

Segments:

- **IT:** Information Technology
- **ITES:** Information Technology Enabled Services
  - **BPO:** Business Process Outsourcing
  - **KPO:** Knowledge Process Outsourcing
  - **EPO:** Education Process Outsourcing
  - **LPO:** Legal Process Outsourcing
- **Hardware**

IT Consulting Firms:

Information technology consulting (IT consulting, Computer consultancy, Computing consultancy, technology consulting or business and technology services) is a field that focuses on advising businesses on how best to use information technology to meet their business objectives. In addition to providing advice, IT consultancies often implement, deploy, and administer IT systems on businesses' behalf. Services:

- Custom Application Development and Business & Financial Solutions
- IT Maintenance and Testing
- IT Consulting
- System Integration
- R&D Services
- Deploy & Support
- IT Education & Training

Industry Trends - ITES (IT enabled services):

- Indian ITES-BPO exports grew from USD 6.3 billion in FY 2005-06 to USD 8.4 billion in FY 2006-07 & USD 10.5-11bn in FY08.
- Starting with basic data entry tasks, Vendors have moved up the value-chain to offer higher-end research and analytics services to their MNC clients (KPO) .
- Sector growing at approx. 45-50% for last three years.
- ITES-BPO employee base grew to 553,000 in FY 07 from 415,000 in FY 06

Advantage India (ITES):

- Vast pool of English speaking skilled work force (high rating on Qualification, Ethics, capability & quality)
- Advancement in Telecom & physical infrastructure
- Strong cost / value proposition (Savings upto 40-60%)
- Environment (Govt. policies) conducive to the growth of ITES-BPO

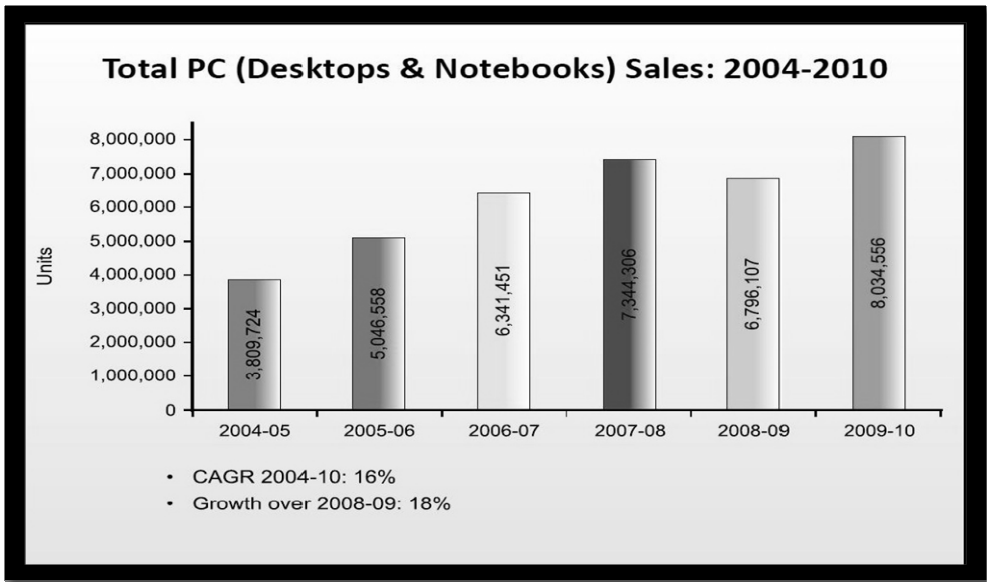
Issues of Concern for BPO:

- ITES is primarily call centre based industry where revenues per hour have come down by 50%. Need to focus on Data processing and knowledge processing also to retain profits.
- Outsourcing by US companies will be the biggest concern for India due to the change in US administration
- Cost competition among Indian BPO companies making them concentrate on cost rather than acquiring skills or growing up in value chain.
- 70% of value in BPO sector is created by Non-Indian companies (e.g. GE, Accenture, CSC etc.)
- High Attrition Rates

IT Enabled Services (KPO):

Knowledge Process Outsourcing (KPO) is the outsourcing of high-end business functions in an organization. These functions include both core and non-core activities e.g. Research & Development, Animation & Design

Hardware Industry:



India-Hub of Electronics and Hardware Manufacturing:

- India has become one of the favored destinations pertaining to the electronics and hardware
- The Government policies are also helping the growth of the electronics and hardware industry
- The Policies pertaining to investments are attracting foreign players in this industry
- The manufacturing of the semiconductor is the most important area pertaining to the electronics and hardware industry
- The semiconductors are used in all kinds of electronic equipments such as cell phone, personal computers, laptops, other implementations in automobile sector, medical equipments, etc
- India Semiconductor Association (ISA) is the apex agency pertaining to the semiconductor companies and chip design firms in India

Advantages of Indian Electronics and Hardware Industry:

- Multinational corporations can provide to the growing electronics market in India at lower costs by manufacturing semiconductors in India
- India has the potential to come up as the next electronics and hardware destination in the world
- India is growing up to be one of the biggest markets for electronic instrumentations
- The consumption value of electronic equipment in India in 2005 is estimated as US$ 28.2 billion
- The main factor pertaining to the success of the Indian Electronics and Hardware Industry is the growth in the market demand
- The growth in the manufacturing of semiconductor is the key driver in the emergence of India as one of the leaders

India GDP - Rising Steps:

- Role of Electronics and Hardware Industry in India GDP growth has been phenomenal
- India provides immense opportunities for electronic instrumentation manufacturing
- The projected production within the year 2015 would worth US$ 155 billion
- The development of the electronics and hardware consumers ensures the growth of the industry

Challenges to India:

- **Can we stay Competitive?** In the recent past we have seen that the **Globalization 3.0** has resulted in Outsourcing and Off-shoring spreading to various other countries like **China**, **Vietnam**, **Philippines** and the **Eastern European countries**. In the wake of such competition can we still remain competitive? The answer is pretty much yes. We know that our assets are the talented pool of people who are not only competent technically but also linguistically better at English compared to the other competitors. Also the government support, labor pool, **infrastructure**, educational system, cost, political and economic environment, cultural compatibility, **global and legal maturity**, and **data** and **intellectual property security and privacy** give Indian IT companies and edge. But contradicting this is the Nasscom survey, which states that majority of the graduates coming out of the colleges today are unemployable. We need to introduce training programs in colleges to train the talent pool of students not only **technically but also on soft skills**. The training should also be imparted to the faculty to generate a better equipped talent force. These measures have already being taken by the IT companies, which also helps in reducing the training costs incurred by the IT companies after recruitment.
- **Dependency on the US:** In the wake of the Sub-Prime crisis and subsequent economic recession in the US, the companies there started cutting down costs and one of them being **IT expenditures**. Because the majority of the IT companies in India have an export driven business model and majority of it is to the US, the companies have been facing a lot of heat. Some of the clients of these IT companies have gone bankrupt; some others have incurred heavy losses (**Citigroup, Bear Sterns, and HSBC** etc.) The IT companies should therefore explore options in Europe, the western Asia and Asia-Pacific and reduce direct dependency on the US.
- Though it seems paradoxical but recession in the US is only going to make the Industries over there outsource more, primarily to reduce their costs by efficient application of IT, cheaper labor and cost effectiveness.
- **Indian IT firms outsourced and Off-shored! :** It is observed that competitive markets have emerged in Latin **America, Eastern Europe and South East Asia**. Moreover there are emerging economies present in these areas like Brazil, Russia etc. The IT companies have already forayed in these countries for two primary reasons: **First**, it provides them to take advantages of **cost-effectiveness** in these areas due to new talent pool, Lower wages and greater advantage by making their **exports cheaper and competitive**. Second, places like **Mexico** have emerged as a major outsourcing and offshore development centre for the IT companies due to the proximity to their **major business clientele in the USA**. This not only provides cost-effectiveness, but also helping the client in round the clock service providing environment.
- **Rupee Appreciation and FII:** In the wake of US crisis it was observed that the rupee appreciated due to the weakened US economy, Federal bank interest cuts and subsequent FII inflows in the country. Due to this IT companies in India incurred lower profit margins. On the flipside it surely gave them a wake-up call to effectively utilize the resources and bench strength. FII inflows and FDI in the IT sector surely helps in rolling out further expansion plans but excess FII also make the exports incompetent. So the govt. should take steps to manage excess FII inflows into the country and hedge the export driven sectors against the rupee appreciation.
- **IT SEZ's:** To further make the IT fraternity competitive, the govt. should take steps to develop **IT Sez's**. This will reduce the excess tax burden on these IT companies. Moreover **STPI (Software Technology Parks of India)** have already enabled the IT companies and new startups to carry out the documentation and licensing and tax payment hassles through a single window system. Moreover the govt. should also relax norms for **DTA (domestic Tariff Areas)** to promote IT spending in the country itself at a lesser cost leading to development of the country.
- **Diversification in Verticals:** In the wake of US crisis, one of the Indian IT company suffered major drop in profits because majority of its clientele in the **BFSI (Banking Financial Sector and Insurance).** This was the sector which took the brunt of the recession. And the company' BFSI clients cut down on their IT spending leading to lower profits. Thus the companies should balance their presence in various verticals which will surely make them immune to unforeseen events.
- **Telecom and 3G:** The roll out of 3G of mobile phones in India should be seen as a positive development for the IT companies. In the long run it is going to provide basic communication facilities in the rural areas of the country. Unlike the US where 3G brings luxury, In India it is going to provide basic communication and broadband access to the rural youth. This will result in dissemination of information and creating further talent pool for the country. We have already seen the IT industry moving to Tier-II and Tier-III cities to tap local talent and maintain cost-effectiveness. Moreover Growth in Telecom industry also demands greater IT application in terms of **VAS (Value Added Services), Telecom Billing Solutions, IVRS** etc.
- **Domestic Markets:** Dalian in China has been growing as the major IT hub there. If actually compared China's IT spending is five times that of India, most of it being domestically. This could be also seen in the organization of retail sector in China showcasing the presence of Retail majors like Wal-Mart there. Hence IT companies should also focus more on the domestic markets with major projects lining up inside the country as well for instance the **Railways ERP project**, the **BSNL systems integration**, **networking projects**, **IT work from**

ministry of finance and private telecom companies, **banks** and others are offering multi-year contracts that are over **US$ 100 million.** Moreover multinationals have been lining up in India further strengthening the IT growth in India.

Future Focus:

- Building Talent pool for IT services / BPO / KPO.
- Increase in telecom and internet penetration
- India needs to focus on education in the direction of R&D since a lot of IT companies are considering India as an excellent option for setting up their R&D units here.
- Domestic IT market to grow faster than exports
- Tier-II and Tier-III cities to emerge as new BPO hubs to offer services in Indian languages for Telecom, Aviation sector
- Pre-empting this change in demand, few Indian vendors have already started expanding the breadth of their service offerings to include new service lines such as package software implementation, systems integration, R&D engineering and network management. In the domestic market too, Indian companies have started outsourcing core area functions such as finance, supply-chain management and procurement to US MNCs using IT as a competitive differentiator for conducting business.
- Consequently, global players are also stepping up their presence in India, not only to use the local delivery centers to service their offshore business but also to target the fast paced India IT services market.

Expected GD Topics

1. India leads in software, China leads in hardware
2. IT Industry - creating jobless growth
3. Computerization has led to a de-humanization of society
4. Where are BPOs heading?
5. Does Section 66 (a) of the Information Technology Act need to be changed?