PROBLEMS AND CHALLENGES OF IT INDUSTRY
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In this chapter the investigator made attempts to present the challenges and problems of IT Industry

1. **Inadequate quality and skills of employees**

Hurdles ahead the sector would have to overcome several problems, including inadequate quality and skills of graduates, rising salaries and weak infrastructure, which resulted in frequent power shortages, low level of PC use and internet penetration, low level of domestic technology development, limited bandwidth, inadequate availability of venture capital and limited domestic market for knowledge based technology and products. Indian Government has a continued role to play in addressing such issues. The new IT policies enunciated through the new Indian IT Bill (May 2000) should help create the legal framework within which these issues can be addressed better. The bottom line, however, is new investment in high speed data networks, improved telecom and power infrastructure and sustained improvement of the human capital infrastructure - in the schools and technical institutions (Baru, 2006).

2. **Labor and bankruptcy laws**

India's labor and bankruptcy laws could be counterproductive in the IT sector as in other sectors of the economy. A report in 2000 of the Subject Group of Knowledge-Based Industries in the Prime Minister's Council had recommended the exemption of the IT sector from some of the draconian provisions of labor laws. Whether or not it is wise to exempt one sector from dysfunctional law rather than repealing it is arguable. In any case, political support for a repeal is not there yet. However, some de facto exemptions do exist. For example, in ITES, states often exempt call centers and the like from working hour type restrictions, allowing women to work at night. Also, it is likely that programmers in large firms are not subject to the same provisions as industrial workers. Along with increased presence of Indian IT companies across
the globe, new services lines are emerging and the Industry has reached the next level in services offered. Mergers and acquisitions by Indian players is also a key trend. Inspite, of the growth seen so far, it is estimated that less than 10 percent of the addressable market for globally sourced IT-ITES has been captured till date, indicating significant headroom for growth

3. **Less English speaking workers**

   India is not the only country with a pool of English speaking workers for employment in the IT/ITES sector. Other countries include Bangladesh, Ireland, Pakistan, Sri Lanka and the Philippines. Except for Bangladesh, the wages costs are higher than India’s in the other countries. English speaking ability can, of course, be acquired and, as such, potential future competition for India from countries currently without a significant pool of English speaking workers cannot be ruled out.

4. **Lack of development of manufacturing industry**

   Despite India’s emphasis on import-substituting industrialization, it has not developed a robust, world-class manufacturing industry, and this includes IT hardware. Much of India’s hardware industry consists of assembly tasks, almost entirely for the domestic market. India’s software industry is, of course, more robust - at least in certain areas. While selling packaged software to consumer (and most business) markets requires economies of scale and scope, as well as marketing and customer support muscle, project-oriented components of software development do not do so, to quite the same degree. To some extent, therefore, India’s software industry remains narrowly focused. For example, of India’s 2001-02 software and services exports of Rs.365 billion, two thirds came from IT services, and close to 88% of that amount came from custom application development and application outsourcing.

5. **Challenges to Long Term Growth:**

   Long run growth in Indian software services exports requires better project management skills and better business strategies or managerial capabilities.
a) Project management expertise is scarce, because the industry is still young in India and large-scale projects where project managers are trained are still relatively rare. This problem is exacerbated by a large number of experienced professionals who emigrate to the U.S.

b) Management capability is weak. It is likely that many of the existing firms will fail the challenge of moving beyond low-end services. However, this should not be a major problem for the industry as a whole because some Indian firms are already looking outside of their boundaries and even outside India to get the managers they need.

c) Software talent is still plentiful but experienced engineers and managers are not. Although Indian software firms complain the shortage of engineers, many engineers working in the industry are under-utilized: much of the work does not require extensive engineering knowledge. Rather, it requires familiarity with standard platforms, software languages such as VB, C++ and Java as well as familiarity with development environments and tools that can be acquired on the job or through specialized courses (offered by private firms like NUT and Aptech). In addition, many of the existing engineering colleges have added IT and software development courses to their curricula and there are both public and private initiatives to increase the supply of skilled software engineers. However, as the industry continues to grow, the shortage of skilled and experienced software engineers and project managers will become increasingly evident. The industry will have to tap new sources of supply and better utilize the existing engineering talent.

6. Human resources

There are several constraints besides a potential manpower shortage that could preclude their realization in full. Reliable electric power, efficient and inexpensive telecommunications and access to venture capital are essential infrastructures for the IT sector. Although telecommunications infrastructure has vastly improved there are still some unresolved issues relating to the authority of the regulatory agency (Telecommunications Authority of India (TRAI)) vis-a-vis Department of Telecommunication and the state-owned providers. The situation regarding electric power continues to be abysmal. In
fact, the large IT firms, like other large enterprises, had to invest in their own captive power generation facilities. To the extent that the unit cost of power from small scale captive plants is much higher than what it would have been had their supply come from an efficient large-scale utility, the failure of India's public power system adds an avoidable cost and dampens the competitiveness of its IT sector.

7. **Customer service**

IT suffers a bad reputation when it comes to satisfying customer needs. Unfortunately, it is often well deserved. Frequently, the work is done incorrectly or not to the customer's satisfaction — and it is the customer who ultimately determines what is good and what is not. My dad recently needed a new hard drive installed and he asked to have his personal Quicken files removed from the old drive. He received the computer with a new drive and a hefty service fee but without the critical files he asked for. It left me wondering for the computer repair shop couldn't accomplish my dad's simple request.

Corporate IT has similar challenges with its customer service. There may be a lot of truth to the statement "The customer needs to be told what they want." However, the tone of the "recommendation" by the computer expert often comes across as arrogant. The customer may be ignorant but they are not stupid — and they don't like being treated as such. A little better treatment and offering education and choice preferable to a simple "you need this" approach to customer service.

8. **Productivity**

First came the mainframes, then the minicomputers, PCs, and the Internet. Each was a tremendous technological leap that greatly increased user productivity. What will be the next great productivity innovation? The cloud? Mobile computing? Can these technologies deliver real, significant productivity gains? The law of unintended consequences warns that issues will arise with the introduction of any new technology. To name a few, security and privacy for cloud services and increased stress and burnout for employees tethered to
mobile devices 24x7. Until these concerns are resolved, any productivity gains must be carefully weighed against the negatives before mainstream adoption.

9. **Complexity**

If you look at the progress of software from the introduction of the IBM PC to today’s systems, one obvious trend is irrefutable: The IT world has gotten increasingly complex. The complexity is rapidly reaching a point of critical mass, where one single developer can no longer know everything needed to be proficient at his or her job. Because of this, teamwork is more important than ever. Forget KISS — it’s a complex world and it is getting more complicated every day.

10. **Obsolescence**

Everything from the PC we are using to the skills needed to perform our job may become obsolete in three to five years. As costs continue to be scrutinized, IT needs to find a way to reduce the costs of obsolescence. Expect Microsoft to continue the trend of planned obsolescence as it adheres to a regular release cycle. But upgrading to every new release of Windows may be one of the first costs to go. It is getting harder for companies to justify the costs without real documented productivity increases.

Obsolescence poses another problem: Whether the development software will be around 10 years from now? Pick the wrong horse and you may be faced with the same challenge as those who were still supporting OS/2 in the late 1990s. OS/2 experts were as rare as original IBM PCs by then, but IBM was more than willing to help — for a considerable price.

11. **Budgets**

Meeting budget constraints is tough even in the best of times. It is especially challenging during hard times. Most IT budgets are expected to grow in 2011, but they continued to be tight. The growth of cloud computing and mobile technology will require more attention and resources. Managers will be faced with the tough decisions of how best to meet existing budget needs while still planning for the future.
12. Marketing/public relations

Apart from a handful of tech companies like Apple and Google, IT suffers from a poor public relations image. It may be an honest assessment for Microsoft CEO Steve Ballmer to state, "If people want to wait they really can. But I’d definitely deploy Vista." But when a statement like that leads to headlines like "Ballmer says it’s okay to skip Windows Vista," you have a problem. Analytical thinkers make poor marketers.

Hiring a PR firm can be well worth the expense, but even then a nasty faux pas can occur. South by South West Interactive engaged Ink PR to meet its marketing needs. Ink PR came up with this speaker’s tip for South By South West Interactive 's green rooms: "A speech should be like a woman’s skirt: long enough to cover the topic, yet short enough to be interesting." It has been said that any publicity is good publicity. But ask South By South West Interactive if it thinks Ink PR's marketing gaffe was good for its corporate image.

13. Multinational operations

The global economy depends upon us. It is increasingly common to find offices and data centers in countries halfway around the world. And with this transition come a number of challenges. Travel, language, and time zone differences are all issues that must be addressed. But far and away the greatest challenge will likely be overcoming the cultural differences and changing the "us versus them" mindset. Emotions run high for those who have been affected by outsourcing. Salary differences between countries can lead to resentment. Both are to solve the problems of the people.

14. The mobile generation

In 10 high-tech gadgets we can live without, we noted our dislike for mobile devices. we didn't like the electronic leashes that constantly tied me to work when we needed some downtime. The mobile generation appears to be poised to overtake the PC generation as users spend more time using their mobile devices. However, a caveat should be included in any discussion of the onset of the mobile generation. Any productivity gains achieved using mobile
technology in the workplace may be more than offset by the additional burdens placed on the IT workforce during nonworking hours.

15. Data storage and retrieval

It is not obvious since most data needs are short-term, but there is trouble lurking in those data archives. Perhaps you are an unknowing victim of this silent crisis in the making. If you have important files on those old 5 1/4-inch floppies and you need to go back and retrieve one, you may be out of luck. Chances are that that the data is no longer readable and the device you need to read the media has long since been tossed into the trash bin. Or, as in my case, turning on the old antique microcomputer to read my single-sided, single-density floppies might lead to a fire and the quick end of your weekend data retrieval project.

THE NEW CHALLENGES FOR INDIAN IT SECTOR

The world is flat. But more often than not we tend to forget what goes into flattening the world. When a company decides to go global to expand its business, it faces plenty of obstacles in its way.

Same is true for Indian IT (Information Technology) firms. In this article, we are going to highlight some of the new challenges that have emerged for the Indian IT companies as they become larger players on the global stage. The challenge lies particularly in terms of the workforce employed by the companies. As they expand their global footprint, companies have to look beyond the borders of India to recruit talent.

The first major problem that the Indian IT firms have started to face in recent times is that they are now subject to different legal laws and norms. Each country has its own set of rules. For example not recruiting older employees was fine in India. But they can no longer reject people on the grounds of their age. A case in point is the recent lawsuit filed against Infosys, wherein an individual alleged that the company declined employment to him just on the grounds that he was old. While Infosys has reiterated that they do not discriminate on age, however, they were unable to give a plausible reason for rejection. There are
many more such cases that Indian IT companies now face as they expand global operations.

Another major problem that has cropped up is the issue of anti-outsourcing. Indian IT industry has thrived on the work outsourced to them particularly by the developed nations. However, as the developed world faces the brunt of the global crisis, they have started raising their voices against the migration of jobs to India. In recent times, many have imposed stricter visa norms and legal fees. For example, US visa rejection rates for Indian techies have doubled from around 4% to over 8% over the past nine months. As a result, sending IT personnel to onsite locations has become increasingly difficult and expensive for the companies. This would start to have an impact on their margins in times to come.

Also as Indian IT firms go global they need to develop the optimum mix of employees. A big dilemma that they face is to get the balance correct in terms of recruiting from the local markets or to assign the jobs to Indian counterparts. The decision is critical as the wrong mix could have an adverse impact on employee morale and productivity. It also has a serious impact on the company’s operating costs. Companies like Infosys and TCS have been opening offices in countries outside of India. As a result this problem becomes even more magnified for them. Companies like Wipro who rely more on inorganic growth through acquisitions, also face the same problem.

Hence it is clear that Indian IT companies are facing multi faceted problems. Japanese Auto major Toyota too had to face the same issue when it was expanding its business in USA. Indian IT firms will do well to learn from Toyota, which has effectively dealt with such issues.

Will there be any material impact of these new challenges on the business of Indian IT firms? Only time can answer this question.
Economic policy has undergone substantial revision driven by this sector, and India began to open up. Foreign exchange reserves are high, markets greatly influence policy, and a string of coalition governments have not deviated from economic liberalization. Benefits are uneven, though, as the very poor have been little affected. High unemployment continues, and huge bureaucracies still yield to corruption. While problems remain, India is an emerging economy fueled by techno-savvy manpower and a world-class information technology (IT) industry.

Indian software firms quickly moved up the value chain, from performing low cost programming abroad to providing comprehensive software development services from India for overseas clients. An abundant pool of Indian technical manpower, due to early government investment in technical education, created a series of elite technical and management institutes that responded to a severe global shortage of technical manpower. English-speaking, trainable and hungry for higher wages, Indian firms sent staff to onsite client facilities in the United States.

Indian professionals in Silicon Valley built personal networks and valuable reputations and used their growing influence within US companies to help Indian companies get a foot in the door of the expanding opportunity of outsourced IT work. Once the potential of software exports was demonstrated, Indian Government helped build a high-speed data communication infrastructure, which allowed overseas Indians to return home and set up offshore sites for U.S. clients. The Indian “brand” image for affordable speed and quality grew.

Intense quality and productivity improvements built client value and today these Indian companies deliver a wider range of software development tasks, as well as benefits in new service segments such as product design and information science (IS) outsourcing. Many firms have met top certification requirements for quality standards in demand around the world. New frontiers in data protection practices are moving quickly to the top of the agenda.
Indian government played a facilitating role in advancing the industry and enabling offshore work in India. Recognizing the growth potential of the software industry, the government in the 1980s took key policy actions to open up the sector. Further policy reforms enacted since the late 1990s have facilitated development of telecommunications and other infrastructure required for offshore work. A policy change in 1998 that effectively ended a monopoly on internet service provider (ISP) gateways, allowed India’s private sector to offer needed bandwidth to the growing industry. Two years ahead of the World Trade Organization (WTO) commitment, India liberalized international long distance in 2002. In 1990 the government created software technology parks (STPs) in 39 locations across India to provide software companies with access to high speed data communications and single-window clearance for regulatory compliance. While few of the larger firms have made use of the STP’s, they have provided opportunities for new firms to launch, and smaller firms to grow, with little investment.

India’s public investments in technical education beginning in the 1960s provided the foundation for growth of the IT industry. Lack of adequate opportunities for Indian engineers in the domestic economy has ensured an abundant supply of high quality and cost effective workers for India’s export software industry.

In the 1960s the government created a series of elite institutes for higher education in engineering and management, in collaboration with leading universities in the United States. Five Indian institutes of technology (IIT) and two Indian institutes of management (IIM) were set up in the 1960s. The IITs were setup through technical collaboration with the most industrialized countries of the time. At current prices, the cost of setting up an IIT was perhaps 10 billion Indian rupees (US$200 million).12

The IIMs were set up with active collaboration from two leading business schools in the United States. The cost of setting up an IIM at current prices would
be approximately 1.5 billion rupees (US$30 million). The annual cost of undergraduate education at IIT Delhi is 150,000 rupees per student (US$3,000 excluding the capital investment and depreciation) and that of graduate education at IIMA is 280,000 rupees (US$5600) per student. Both types of institutions attracted a large number of U.S. trained Indian faculty. Subsequently, most state governments set up regional engineering colleges (REC) that attracted students from all parts of the country.

Professional education in India attracts large numbers of applicants. Most of the IIT, REC and IIM admissions programs are able to choose one out of 100 or more applicants. This selectivity and reasonably good training produced the high calibre engineers that formed the backbone of the software industry in its early years. A unique feature of these high-calibre engineers was their willingness to work as programmers, partly due to the shortage of lucrative jobs in a closed economy. IIT engineers who moved to the United States and those who worked for companies in India in the 1970s and 80s built a reputation that helped Indian companies procure software development contracts in the initial years.

Subsequent expansion of technical and management education in India helped fuel the numbers needed for the high growth. India has a large higher education system with about 253 universities and nearly 13,000 colleges producing 2.5 million graduates every year. Nearly 300,000 engineering degree and other graduates enter the workforce every year. Since engineers from any specialty are willing to work in the software industry, so far supply has kept pace with the demand. Many initiatives by the human resource development (HRD) ministry (discussed later) helped to multiply technical institutions and technically qualified graduates.

The Indian government gave the importance to IT industry in its ninth five year plan for the first time. In the ninth five year plan the government
started the Special Action Plan (SAP) to cover the areas of social infrastructure, agriculture, information technology, and water policy.

The Ninth Five-Year Plan had a total public sector plan outlay of Rs 8,59,200 crores. The Ninth Five-Year Plan also saw a hike of 48% in terms of plan expenditure and 33% in terms of the plan outlay in comparison to that of the Eighth Five-Year Plan.

The prime focus of this plan was to increase growth in the country with an emphasis on social justice and equity. The Ninth Five-Year Plan placed considerable importance on combining growth oriented policies with the mission of achieving the desired objective of improving policies which would work towards the improvement of the poor in the country through the development of IT industry in India. And in ninth five year plan the majority portion of the budgeted amount was allotted to the service sector and the rate of success also quoted by the service industry i.e 7.8%.
REFERENCES


