

A Study of the Performance of the Indian IT Sector

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Executive Summary

The Electronics industry has emerged as the fastest growing segment of the Indian industry both in terms of production and exports. This growth has had significant economic and social impacts. Today the local and global impact of the electronics industry has been due to its modern incarnation viz., the Information Technology (IT) Industry. By definition the IT industry includes the hardware “backbone” from the electronics industry and software.

The present study looks at the IT industry focussing on the environmental, health and labor issues associated with its rapid growth.

Emerging from the study is this report which, has been developed based on interviews with industry, industry associations, government officials, academicians and civil society. The report also draws from a field visit to Bangalore – the Silicon City – and review of literature and studies carried out by other researchers in this sector.

The Indian IT industry has a prominent global presence today largely due to the software sector. Promotion of the software industry and protection of the hardware industry from external competition has resulted in this skewed growth. More recently however, policy changes have led to a tremendous influx of leading multinational companies into India to set up manufacturing facilities, R&D Centres and offshore software development facilities. The domestic market for both software and hardware is getting revitalized. All these developments have had a significant impact not only on the economy but also the environmental and social milieu.

A number of new policy initiatives are on the anvil to enhance and sustain the growth of the IT industry – this time the focus being both on hardware and software. Given these developments, some questions that emerge are: What has been the environmental and social impact of this industry and how has it been managed? What are the likely impacts due to the envisaged growth? How can accountability and responsibility of this rapidly growing industry be ensured?

The report tries to answer these questions through a situation analysis of the IT industry in terms of its structure and evolution, the existing and emerging environmental and social issues and the associated regulatory framework. Drawing from the findings of the situation analysis, a set of recommendations are provided on how policy and governance measures can ensure accountability and environmental and social responsibility of the IT industry.

The report is composed of five chapters with the opening chapter presenting a preamble that positions the electronics industry and the IT industry. This puts the focus of the study in perspective.

The structure and evolution of the IT industry presented in Chapter 2.0 indicates that policy has played a very crucial role in shaping the industry. Protectionist policies for the hardware industry and support for establishment of a strong technical and scientific educational system led to software dominated IT industry. This also led to extensive export of the skilled labor force to service the international market and the presence of a grey market in hardware.

The hardware industry meanwhile was relegated to the background. Trends changed with liberalization of the Indian economy. Markets opened and policies supporting foreign investments led to an influx of multinational companies (MNCs)– hardware and software.

More recently, the software industry has begun slowly moving up the value chain from programming to systems analysis and design. More offshore work is being carried out in India. R&D Centres and manufacturing (albeit only assembling of components) facilities are being set up in India by MNCs. New policies and plans with fiscal incentives, modifications in export-import policies, support for infrastructure are now promoting foreign investment and focussing on providing impetus to software and hardware sectors of the IT industry – both domestic and export. This is also creating changes in the grey market. Infrastructure and finance however appear to be the main deterrents to growth.

Given how the industry has evolved and the likely trend for future growth, Chapter 3 identifies the significant environmental and labor issues. While manufacturing in the Indian IT industry is primarily assembling, some component manufacture does take place for non-IT applications. Software development dominates the domestic IT industry with increasing off shore work being carried out in India and the emergence of IT enabled services.

As a result of these developments the main environmental and social issues facing the existing and emerging IT industry are: (I) solid and hazardous waste management both during manufacturing and at the end of the IT products' useful life; (II) phasing out ozone depleting substances from the electronics sector; (III) implications of the increasing energy demands given the power scarcity in the country and (IV) congestion and pressure on local infrastructure such as land, roads, housing, water and power. The magnitude of some of these issues like hazardous and solid waste management in manufacturing are not as high as they would be in countries where there are fabrication facilities but in India solid and hazardous waste management at the end-of-life stage could very soon become a significant issue.

The labor issues facing the industry are: (I) challenges of retaining the intellectual property in the country; (II) prevailing and changing working conditions, health and safety at the work place, wages and (III) the role of collective bargaining in the Indian IT industry. The Indian IT industry is unique in that there is almost no unionization.

Industry's response is distinctly differentiated by whether they are MNCs or domestic players. Corporate codes of conduct are largely adopted by the MNCs for environmental

management while for the domestic players environmental issues are not a priority at present.

To understand how significant the environmental, social and labor issues really are, the legal framework that regulates management of these issues is discussed in Chapter 4.0. While comprehensive environmental laws exist, enforcement is an issue. Moreover, till very recently the electronics industry has been considered non-polluting. As a result regulatory controls have been low. Emerging regulatory framework does address some of the issues but also aims to simplify the laws for the IT industry.

The elaborate labor laws are undergoing reforms. For the IT industry however a number of labor laws are being simplified to promote investments in this sector and to enable the Indian IT industry to face competition from the more relaxed labor markets of South East Asia.

Given this scenario, policy and governance related recommendations have been developed to enhance accountability and environmental and social responsibility of the industry. The report suggests that policies be developed to: (I) strengthen enforcement through monitoring, measurement and reporting thereby improving accountability; (II) ensure uniform zoning country-wide of hardware and software facilities placing the onus of operating and maintaining these zones on industry and industry associations; (III) provide incentives for resource efficiency in the IT industry; (IV) promote proactive and preventive approaches to environmental management as well as product stewardship and asset recovery; (V) ensure a balance between flexibility and worker rights while carrying out labor reform; (VI) promote studies and R&D to provide technology support to the industry; (VII) create awareness and strengthen civil society to increase industry accountability and (VIII) increase stakeholder engagement.