

ISAS Brief

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Worries and Hopes for India's IT Industry

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Information technology (IT) industry has been one of India's greatest success stories since the 1990s. The combined revenues from IT software, IT services and information technology enabled services (ITES) industries in India touched US\$47.8 billion in 2006-07; this was 5.4 per cent of India's Gross Domestic Product (GDP) in that year. India is the top location in offshoring of service work. Estimates made in 2005 indicated that India accounted for 44 per cent of the total value of outsourcing by IT and ITES industries worldwide.¹ For all these, however, the road ahead is not entirely hassle-free for this industry in India. The latest cause of worry has been the appreciation of the Indian Rupee in relation to the US dollar. This reduces India's IT firms' export earnings, two-thirds of which are derived from the United States.

India made its entry to the software industry way back in the early 1990s. The country's advantage then was its vast pool of English-speaking engineers, many of them skilled in the UNIX computing environment. Most of the work by Indian IT companies in the early years of the boom in software production in India was in the form of 'body shopping'. This involved Indian engineers travelling on temporary visas to the client's site in foreign countries, and carrying out simple software jobs like fixing the 'Y2K' problem. Today, Indian IT companies are dealing with larger and more complex projects. Over 300 *Fortune 500* companies outsource software services from India. There are 74 organizations worldwide which have received SEI-CMM (Software Engineering Institute, Capability Maturity Model) at level 5, a well recognized quality certification in the software industry; 50 of these are Indian companies.² Leading Indian companies such as Tata Consultancy Services (TCS) are rapidly expanding their presence abroad. Of TCS's 83,000 employees, approximately 28,000 work in foreign countries, which include 10,000 employees in the United States and 4000 employees in the United Kingdom.³ For India's big IT firms, deployment of employees in foreign countries is part of a strategy to gain greater competence in customer markets abroad while carrying out much of the routine work in India.

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¹ Statistics provided by India's National Association of Software and Service Companies (NASSCOM) (<www.nasscom.in>)

² See Joseph, K.J. (2006), *Information Technology, Innovation System and Trade Regime in Developing Countries*, Palgrave Macmillan, Houndmills, Basingstoke.

³ See the article 'A New Twist to India IT Outsourcing Growth Strategy' by Peter Marsh in *Financial Times*, 31 January, 2007, p.10.

India was ranked the most attractive location for offshoring according to A.T. Kearney 2004 ranking of offshoring global locations. Attractiveness was measured by three criteria: “financial structure”, “business environment” and “people’s skills and availability.” India’s National Association of Software and Services Companies (NASSCOM) reports that India accounts for 28 per cent of the total pool of employees with the relevant qualifications available across all offshoring locations. According to NASSCOM, costs savings resulting from offshoring to India are in the range of 40-50 percent. IT sector salaries have been rising in India, yet the country maintains its advantage, partly due to fall in telecom and other overhead costs.

Thus there are indeed many signs of optimism, but there are also good reasons to worry about the future. In fact, the most recent instance of slow down owing to appreciation of the Indian Rupee points to a much deeper problem for the IT industry in India. This relates to it’s over reliance on export markets, particularly the US market. In 2006-07, export revenues accounted for as large as 80 per cent of the total revenues from India’s software and IT enabled services industries.

Such extreme dependence on export markets causes Indian IT firms to compete with each other in low-end activities. Success then depends on retaining a large work force and offering cheap IT services, not on improving productivity. An environment like this discourages inter-firm linkages and innovation in the Indian IT industry.⁴

Inter-firm rivalries to retain employees push up salaries, and this is another cause for concern in the industry. In recent years, salary increases of Indian executives have been in the range of 10 to 14 per cent, the highest in the Asia-Pacific region.

There is also high degree of polarization among firms in the Indian IT industry. NASSCOM points out that although there are more than 700 Indian IT firms, bulk of the export revenues accrue to a few large ones. The top three Indian IT companies – Infosys, TCS and Wipro -- accounted for 41 per cent (or \$9.5 billion) of total IT services exports from India in 2006-07, up from a share of 26 per cent of total IT services exports from India in 2003-04.⁵ This implies that the vast majority of small and medium-sized Indian IT companies are facing difficult conditions for survival.

Other problems that plague India’s IT industry include high labour turn over and shortage of workers with the necessary expertise levels. Although the supply of engineering graduates in India exceeds 500,000 today, some estimates show that only around 25 per cent of these graduates possess the required skills to start work in an MNC or a major Indian IT company immediately after graduation.

India’s position as the favourite location for offshoring of service work is also under challenge. A number of cities across the world including Bona ziu, Bucharest, Buenos Aires, Moscow, St. Petersburg, Prague, Mexico City, Sao Paulo, Santiago, Dalian, and Ho Chi Minh City are emerging as potential locations for offshoring. Countries like Romania, where

⁴ See the paper by Anthony P. D’Costa titled ‘Exports, Institutional Architecture, and Innovation Challenges in Bangalore’s (and India’s) IT Industry’, presented at *New Asian Dynamics in Science, Technology and Innovation*, Gilleleje, Denmark, September 27-29, 2006.

⁵ See the article ‘Survival Strategies for Second and Third-Tier Offshore Providers’, by John C. McCarthy and Sudin Apte, NASSCOM Newline Issue, No.65, March 2007.

salaries are only slightly higher than in India, will give India a run for its money in the offshoring business.⁶

But not everything is gloomy on the Indian side. India is becoming a favoured destination for outsourcing of highly skilled, knowledge-intensive activities as well. High-skilled jobs offshored to India are in diverse fields including investment banking, aircraft engineering, pharmaceuticals research, automobiles, chemicals, and telecommunications. Indian companies like HCL and Wipro are developing new product designs for multinational business giants like Boeing, in a case of “outsourcing for innovation”.⁷ Global technology companies like IBM, Motorola, Hewlett-Packard, Cisco Systems and Google have set up research and development (R&D) centres in many Indian cities, prominently in Bangalore, Hyderabad, Gurgaon and Pune. For many of these companies, Indian centres have emerged as their respective global centres of excellence. For General Electric (GE), its research centre in Bangalore equals in importance to its global research headquarters in New York. Cisco Systems will have 20 per cent of its top talent moving to India before 2012. Since 1992, IBM has reduced its workforce in the United States by 31,000 while its employee strength in India rose from zero to 52,000.⁸

Indian IT industry’s extreme reliance on export markets may be a problem as shown by its recent unease following the appreciation of Indian Rupee. However, offshoring business to India is moving beyond simple IT services to highly advanced R&D activities. And this is a welcome signal for a country preparing to become the next economic superpower.

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⁶ See the article ‘India’s IT Groups Start to Move to ‘Near-Sourcing’, by Joe Leahy, *Financial Times*, 2 November 2006, p.24.

⁷ See the article ‘Outsourcing Innovation’, by Pete Engardio and Bruce Einhorn, *Business Week*, 21 March 2005.

⁸ See the article ‘India’s Edge Goes beyond Outsourcing’, by Anand Giridharadas, *New York Times*, 4 April 2007, p.1.