

## SECTION TECHNOLOGY ENABLED MARKETING DEVELOPMENTAL PERSPECTIVE OF TECHNOLOGY ENABLED MARKETING A CASE STUDY OF BANGALORE, SILICON VALLEY OF INDIA

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### **I**NTRODUCTION

*ECONOMIC* development is, characterised by an increase of the share of the services in the GDP and total employment. This trend tends to increase the international trade in services. Many of the fastest growing sectors are services (Telecommunications, Health care, Finance and Software developments). The share of services in world trade and investment has been increasing. Following global trend India also witnessed a boom in service exports in the recent year.

India is now home to home grown billion dollar companies run by the million dollar wage earners. Now India is the fourth largest economy in the world in terms of purchasing parity terms. 44 million high income house holds, 300 million middle class and adds 1.5 million cell phone users every month, 3.63 million PC and 1 million passenger car every year!

Exports of software and IT-Enabled Services recorded a strong growth of 34.4 per cent to reach US \$ 17.2 billion in 2004-05. Notwithstanding increasing competitive pressures, India remains an attractive source of software exports because of low cost of operations, high quality and skilled manpower. Additionally, a favorable time zone difference helps organisations to run internal operations and render customer service round the clock. India's software industry has progressively enhanced its market share in global IT spending from 1.5 per cent in 2000-01 to an estimated 2.2 per cent in 2004-05. Domestic software, ITES and BPO market is growing at 30.7% and exports have grown at the rate of 37% during 1999-2005 as against the target of 34.7%.

### **Offshoring of Service**

Developments in the telecommunications market, with better services at lower costs, have made offshoring possible, while substantial differences in wages paid to workers with comparable skills have made offshoring profitable. A software developer costs about \$60 an hour in the United States, but only \$6 in India. By offshoring to India, a US firm can save about 50 per cent in the cost base for a particular service. The estimated value of exports due to offshoring to India in the recent past was \$7.7 billion, while offshoring to Israel and the Philippines had a value of \$3 billion and \$0.3 billion respectively. The number of US jobs offshored is estimated to be about 400,000.

It is also estimated that for each dollar value of outsourcing, there is a net gain of 14 cents to the US economy due to increased competitiveness and productivity. So far, offshoring has mainly been a phenomenon among English-speaking countries, as a common language appears to be crucial for these services. The business services being offshored are back-end processing, call centers, accounting, software maintenance and development, product design, Telemarketing, procurement and research and

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consultancy services. The United States accounts for about 70 per cent of offshoring and the major host countries are Canada, India, Ireland and Israel, while Australia, South Africa and the Philippines are emerging as major hosts to such services as well

India has great potential in a variety of services. The large number of scientists, professional and skilled and semi-skilled personnel working abroad is indicative of India's potential in several fields. The socio-economic and political implications of certain services, generally, subject to various types of national restrictions. Protective measures include visa requirements, investment regulations, restrictions on repatriation, marketing regulations, restrictions on the employment of foreigners, compulsion to use local facilities etc. International trade in many services including software development and maintenance involve international factor mobility. There are a number of international transactions involving temporary-factor-relocation services such as those requiring temporary residence by foreign labor to execute service transactions. In general, International trade in services involves intricate issues like right to establish the factor mobility

### India as Prime Destination for Outsourcing

India is a leading destination for outsourcing of Information Technology Enabled Services (ITES) and other related Business Process Outsourcing (BPO) activities. Currently, India renders more than two-thirds of all offshored ITES worldwide. The BPO activities encompass not only ITES but also a wide range of areas comprising services relating to manufacturing, banking, insurance, sales, marketing, utilities and human resources. Based on the survey conducted by neoIT (US based outsourcing consultancy firm) in October 10, 2005, India ranked as a premium ITES destination owing to its skilled labor pool, mature level of service followed closely by China, Canada, Poland and Ireland in the list

India's comparative advantage in the outsourcing business is on account of availability of well developed telecommunication network and advanced technological infrastructure, skilled yet low cost labor force, widespread use of English language, and India's location in a different time zone from the United States (US) enabling a 24-hour service. The BPO activities have benefited India by generating substantial job opportunities in the country and augmenting export earnings. India is expected to maintain its lead as the best offshore outsourcing destination, particularly for the US and European companies

The offshoring of software development and, later, back-office and call centre services, has driven India's rapidly expanding service exports. During the past decade, the value of exports of software and other services jumped from less than a \$0.5 billion to \$12 billion in 2003-2004, according to the National Association of Software and Service Companies (NASSCOM). In parallel, the export intensity of the Indian software and service industry rose from 58% to 78%, and the share of these services in total exports from India increased from 3% to 21% between 1996 and 2003. Table 2 shows the service lines and employment generation capabilities of ITES.

**Table 2: Service Lines in IT-enabled Services in India**  
(Number of employees and millions of dollar)

Service line	2001-2002		2002-2003		2003-2004	
	Employment	Revenue	Employment	Revenue	Employment	Revenue
Customer care	30000	400	65000	810	95000	1200
Finance	15000	300	24000	510	40000	820
Human resources	1500	30	2100	45	3500	70
Payment services	7000	110	11000	210	21000	430
Administration	14000	185	25000	310	40000	540
Content development	39000	450	44000	465	46000	520
Total	106000	1475	171100	2350	245500	3580

Source: World Investment Report, 2004

According to a NASSCOM-McKinsey report, annual revenue projections for India’s IT industry in 2008 are US \$ 87 billion and market openings are emerging across four broad sectors, IT services, software products, IT enabled services, and e-businesses thus creating a number of opportunities for Indian companies (Table 3). In addition to the export market, all of these segments have a domestic market component as well. Other key findings of this report are: Software & Services will contribute over 7.5 % of the overall GDP growth of India .IT Exports will account for 35% of the total exports from India .Potential for 2.2 million jobs in IT by 2008 .IT industry will attract Foreign Direct Investment (FDI) of U.S. \$ 4-5 billion. Market capitalization of IT shares will be around U.S. \$ 225 billion and Exports of \$50 billion in 2008 (Table 3)

**Table 3: Projected Revenue of IT Based Services – 2008**

(\$ US billion)

	India Based	India Centric	Sub Total (International)	Domestic	Total	1998
IT Services	23	7	30	8.5	38.5	2.1
Software Products	8	2	10	9.5	19.5	0.6
IT-enabledService	15	2	17	2	19	0.4
E-business	4	1	5	5	10	0.2
Total	50	12	62	25	87	3.3

Source: NASSCOM McKINSEY Report, 2004

According to Confederation of Indian Industry, India is set to become the most preferred destination for knowledge process outsourcing as it grows 46 per cent to touch the \$17 billion mark by 2010. In its recent study – India in the new knowledge economy – the CII said the services sector would grow at a more than eight per cent and its contribution to GDP would be above 51 per cent. This, the study said, affirmed that India’s transition from being a business process outsourcing destination to a KPO destination was imminent.

Areas with significant potential for KPO include pharmaceuticals, biotechnology, technology, legal services, intellectual property, research and design, and development of automotive and aerospace industries. India could emerge as a global KPO hub as the business requires specialized knowledge in respective verticals and the country’s engineering and technical institutes are geared to address the manpower demand.

The health care sector is projected to account for 7-8 per cent of GDP and provide employment to around nine million people. India’s spending on the sector is to the tune of \$22.7 billion. India has the opportunity to provide the best of western and eastern health care systems, adding that more than 70 per cent Americans preferred a natural approach to health and spend around \$25 billion on non-traditional medical therapies and products, thus making India one of the most preferred destinations because of ayurveda and yoga. The CII research estimate around \$31 billion of investment would be required in the health care sector in the next 10 years. In the pharmaceuticals sector, Indian companies were offering custom synthesis services at a competitive price, lower by as much as 50 per cent than global costs, and clinical trials for as low as \$25 million compared with \$300-350 million elsewhere.

### **Bangalore, The Silicon Valley of India**

Bangalore, India’s Silicon Valley is on a high growth path enormously aided by the reform measures and a vibrant economy. Today top notch companies in integrated chip design, communication software, and system software and world renowned R&D centers have made Bangalore the fourth largest technology cluster in the world. It capital of India has in its fold 612 MNCs,66 global fortune 500 companies, and 1566 IT companies 50 per cent of India’s SEOI CMM level 5 companies. The number of It companies

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registered with STPI is 1566 and they exported software and services of worth US\$ 6.27 billion during 2004-05. They grew by 52 per cent over 2003-04. While ITES/BPO grew from 28 during 2001-02 to 138 during 2004-05 and exports from hardware sector touched US\$ 405 million during 2004-05. Investment in IT sector has been consistently showing an upward trend from US\$ 122 million in 1999 to US\$ 640 million during 2004-05.

With 2.85 lakh IT professional and 20,000 bio-tech professionals steering the course of development, Bangalore's IT boom has pushed real estate development to a new high in 2005-06. A salubrious climate, cosmopolitan outlook, availability of skilled man power with 40,000 engineers graduated every year, and investor friendly attitude have propelled Bangalore to the forefront of technological capital of India. During 2004-05 out of 305 companies registered, 129 are foreign companies with an investment of US\$370 million.

IT boom has helped real estate, retailing, automobile, entertainment and transport sector to come up very well. IT companies on average pay out Rs. 10,700 crores annually and it is estimated that Rs. 5350 is channeled to varied investments. The average age of an IT employee is less than 25 and earning potential nudges investment from lower needs to higher order needs. It is estimated that 750 new vehicles are adding every day to the existing stock of 27 lakh vehicles on road.

The city's 70-80 per cent of office/market transactions in Bangalore is related to IT/ITES sectors. Besides commercial property, the IT growth has led to an unprecedented demand for residential property and other sectors like hospitality, healthcare and service apartments during 2005-06. Further US techies voted Bangalore as their alternate home in India during a recent survey conducted in California and New York in September 2005. IT industry is expected to generate additional 5.25 lakh new jobs by the year 2010. The liberalization of FDI norms convinced 20 foreign companies like Tiechman, Blackstone, JP Morgan Stanley and so on to invest in township projects along with local player HDFC and ICICI banks. On an average, every second day a new company entered in Bangalore and set up premises. The city demands 7 million square feet with in next 12 months as the top 15 IT companies would employ 1lakh people at the current recruitment level. Further IBM entered the city with just 1lakh sq.ft five years ago and today it is occupying 8 lakh sq.ft

Even more exhilarating is the pace of innovation, as tech hubs like Bangalore spawn companies producing their own chip designs, software, and pharmaceuticals. "I find Bangalore to be one of the most exciting places in the world," says Dan Scheinman, Cisco Systems Inc.'s senior vice-president for corporate development. "It is Silicon Valley in 1999." Beyond Bangalore, Indian companies are showing a flair for producing high-quality goods and services at ridiculously low prices, from \$50 air flights and crystal-clear 2 cents-a-minute cell-phone service to \$2,200 cars and cardiac operations by top surgeons at a fraction of U.S. costs. Some analysts see the beginnings of hypercompetitive multinationals. "Once they learn to sell at Indian prices with world quality, they can compete anywhere," predicts University of Michigan management guru C.K. Prahalad.

However the race plays out, Corporate America has little choice but to be engaged – heavily. Motorola illustrates the value of leveraging both nations to lower costs and speed up development. Most of its hardware is assembled and partly designed in China. Its R&D center in Bangalore devises about 40% of the software in its new phones. The Bangalore team developed the multimedia software and user interfaces in the hot Razr cell phone. Now, they are working on phones that display and send live video, stream movies from the Web, or route incoming calls to voicemail when you are shifting gears in a car. "This is a very, very critical, state-of-the-art resource for Motorola," says Motorola South Asia President Amit Sharma.

As perceived by Mr. Stephen S. Roach, MD and Chief Economist, Morgan Stanley, USA in October 28, 2005 India's economy is more balanced than China's and the country can sustain over 7 per cent

growth over a long period as the private consumption is driving the country's growth. Domestic private consumption in India accounts for 65 per cent of India's GDP, while it's only 42 per cent in India.

Look at the India's biggest telecom deal and largest single foreign investment announced in 28th October, 2005. Vodafone would pick up a 10 per cent stake in Bharti Tele Ventures for US\$ 1.5 billion. The venture capitalist Warburg Pincus finally made US\$1.6 billion from his investment of US\$300 million in 1999 from Bharti Tele Ventures. And in India where bandwidth cost is hardly \$3 per month, the mobile service comes at an average of around \$10 per month, local companies like Bharti Tele Ventures recorded growth rate of 35% on a year to year sales in 2005.

Ford India has received \$75 million fresh equity infusion from its parent in 2005 Cisco also pumped \$1.1 billion to its Bangalore R&D division in 2005 in addition to the earlier allotment of \$750 million in the same year. The paradox of the Indian market is seeing techies in India creating solutions for the developed world while MNCs are innovating their products for the market here. For example, Microsoft will be launching an operating system in January 2006 which is very specific to Indian market (adding 9 Indian languages along with English). Bill Gates is scheduled to visit Bangalore in December 2005 in connection with Microsoft's 30 year anniversary celebration and hold talks with Indian companies.

Indians are playing invaluable roles in the global innovation chain. Motorola, Hewlett-Packard, Cisco Systems, and other tech giants now rely on their Indian teams to devise software platforms and dazzling multimedia features for next-generation devices. Google principal scientist Krishna Bharat is setting up a Bangalore lab complete with colorful furniture, exercise balls, and a Yamaha organ – like Google's Mountain View (Calif.) headquarters – to work on core search-engine technology. Indian engineering houses use 3-D computer simulations to tweak designs of everything from car engines and forklifts to aircraft wings for such clients as General Motors Corp. and Boeing Co. Financial and market-research experts at outfits like B2K, Office Tiger, and Iris crunch the latest disclosures of blue-chip companies for Wall Street. By 2010 such outsourcing work is expected to quadruple, to \$56 billion a year. Nokia Corp. is building a major campus to make cell phones in Madras, and South Korea's Pohang Iron & Steel Co. plans a \$12 billion complex by 2016 in Orissa state. But it will take India many years to build the highways, power plants, and airports needed to rival China in mass manufacturing

## **Face The Challenge**

ITES industry has placed tremendous stress on the local infra structure in the city. The recent conflict between the local government and IT industry in Bangalore stresses the need for the private public partnership in the infrastructure development. The current quarterly employment level in the ITES industry is matching with five year aggregate employment base in the manufacturing industry in the City. Several large companies in the ITES have benefited from the government policies for the land use and corporate tax holidays, now it's time to pay back to the public in proportion to the benefits they have accrued.

Further local citizens in the city are opposing the idea of investing tax payers' money for the benefit of few companies where local employment generation is marginal. Hence, the present situation is not inconceivable for large headcount cost centric business like BPO who are worrying about staff shortage caused by severe staff attrition. Having established as the pre-eminent global destination for value added world class IT services, it is critical for Bangalore to move up in the value chain like intellectual property led business such as product development, productized solutions, IP centric business in IT and drug research in pharmaceutical industry to consolidate its position. The more labor intensive, cost sensitive manufacturing has already moved out of Bangalore to lower cost locations and the local government policies also supported this migration. As the McKinsey study indicates, competition from other low cost global destinations will put a lot of pressure in to the current business which in turn transform by moving up in the value chain in a manner that reduces dependence on head count or migrate to destinations with access to lower cost skilled man power.

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The recent strain on the system such as employment retention, spiraling hiring cost and infrastructure breakdown indicates that scaling growth from this point on would demand extra ordinary bold and new thinking from business and government to go to the next level. Local business and government are faced with stark choices: evolve to higher value activities or lose out in the future

## Conclusion

To summarize, liberalization of services provide the glue that holds the economy together and low-cost and efficient services improve the workings and productivity of both the national and global economy as a whole. Since the developed world is expected to face a human resources shortage fall of 6 million people by 2050, efforts are on to ensure liberalization of market access to enable them to tap potentials. Currently emphasis is on mode-4 which pertains to temporary movement of professionals to deliver services and mode-1 which covers trade channel like outsourcing.

American business isn't just shifting research work because Indian and Chinese brains are young, cheap, and plentiful. In many cases, these engineers combine skills – mastery of the latest software tools, a knack for complex mathematical algorithms, and fluency in new multimedia technologies – that often surpass those of their American counterparts. As Cisco's Scheinman puts it: "We came to India for the costs, we stayed for the quality, and we're now investing for the innovation."

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