

Direct and Indirect Benefits of Business Process Outsourcing on Indian Economy

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Abstract

With the development of information technology (IT), computers and telecom networks based services are playing a significant role in many developing economies. Business process outsourcing (BPO) industry is a product of this revolution. Growth of the BPO industry has helped the economies of many developing countries, especially in Asia, and India is prominent amongst them. Unlike the software industry, BPOs (though are export oriented) do not demand highly skilled labor. Therefore, the industry has played a major role, besides earning foreign exchange, in reduction of educated unemployment in many of these countries. This paper examines the direct and indirect benefits of the industry on Indian economy together with the major concerns. In particular it discusses how computer knowledge can be spread to the hitherto computer illiterate regions through commercial endeavors relating to the outsourcing industry. India being a prominent player in this segment Indian experience is expected to provide important insights to the other similarly placed nations.

Keywords: Business process outsourcing, IT enabled services, balance of payment.

Introduction

Information technology is an essential aspect of infrastructure that helps a developing economy to effectively compete in an information-intensive global economy and move along the path of development. It is now well recognized that information and communication technology (ICT) if appropriately deployed, can be a powerful tool in achieving the economic and social developmental goals of these economies (World Bank, 2003; Qureshi, 2005). Many sectors in the developing nations suffer from lack of information regarding technology, marketing possibilities and so on. Information technology in general and Internet based services in particular can indeed provide this much needed information. For this to happen, ICT needs to be appropriately linked to various sectors of the economy, in particular, to the agriculture sector to stimulate productivity and marketing of products (Cecchini & Scott, 2003), to the small and medium enterprises sector to provide the necessary marketing and technology related information (Moyi, 2003; Qureshi) and so on. Furthermore, those nations that suffer from backwardness of the social sectors as well, can use ICT for the sectors like health and education. In the field of education, ICT can offset remoteness, help alleviate shortages of teachers or can expand distance-learning opportunities

(Roy, 2005). In politics and governance, e-governance can bring in transparency, the lack of which is the root cause of many corrupt practices (Sangita & Dash, 2005). Thus, to sum up ICT could be considered as a revolutionary technology as it enables diffusion of a general purpose technology for wide range of applications (Cohen, Garibaldi & Scarpetta, 2004)

However, successful use of ICT in a number of areas that can benefit a large section of population depends on the extent of its penetration. A well-developed IT industry may aid this process but not act as a sufficient pre-requisite. India is a case in point here. Concentrating on India, we observe that as a developing nation it displays high potential in the information technology (IT) sector. In fact, India's IT industry exhibits a very high growth in terms of revenue and export, showing a compound annual growth rate (CARG) of revenue to the tune of 46% in the years 1998 to 2001-02 with an export potential of around US\$50 billion by 2008 (National Association of Software and Service Companies (NASSCOM)¹–McKinsey Report, 2002). More importantly, it has been argued that the impact of Indian IT industry is not confined to the software industry alone. As Hanna(1994) states it to be a source of dynamism and a major channel for modernization and technological change throughout the economy. Notwithstanding India's success in the IT industry sector, the country as a whole, like most developing nations, has yet to benefit fully from the many advances of ICT². The bottlenecks lie in the lack of infrastructure and adequate investment in IT sector (Kunda, 2000) and slow diffusion of technology, which indeed shows low penetration of information technology. The question that we ask in this context is that whether the IT-enabled services sector instill any hope in this regard?

In fact, the IT-enabled services sector has shown enormous potential as a driver of growth for many developing countries. In particular, in India, BPO has consistently been acquiring a larger and larger share of the IT–ITES segments in India (presently its share being above 25%). The sector is growing in terms of revenue at about 45% growth rate, even though from a smaller base (NASSCOM, 2005). Not only in India, this industry is coming to play an important role in the other developing nations like Mexico, Philippines and in particular in the south Asian nations such as Pakistan, Bangladesh and Sri Lanka.

As software and hardware segments are highly knowledge intensive, it is difficult to diffuse IT knowledge through these industries per se. On the other hand, the ITES segment being less knowledge-intensive, at least the working knowledge of information technology can diffuse through it comparatively easily. For example, India has experienced mushrooming of a large number of computer training schools even in the remote areas, mainly to cater to this industry. Thus this recent development of the BPO industry sector may hold some hope for diffusion of technology. It can thereby create other socio-economic developmental impacts. While the significance of the IT Industry has been well discussed³ (Roy, 2005; Saith & Vijayabhaskar, 2005; Heeks, 1996), possible impacts of the recent rise of BPO industry on the society as a whole has not been well explored.

¹ NASSCOM: A major private organization for the development of IT industry.

² For example, in India as of December 2006, only 3.5 % of population is internet user while the same percentage increases to 10 for China (website: <http://www.internetworldstats.com/asia.htm>)

³ For a comprehensive study of export orientation of Indian IT industry see Heeks (1996).

The issues that we take up for discussion in this study pertain to what the social, economic and other developmental impacts of this important segment of the IT industry may have, to a developing nation like India. No doubt one major role of the sector is to provide the much needed forex revenue to the nation; but it is essential to examine whether the export earnings has the potential to help, either directly or indirectly, the other developmental activities. Commercial endeavors, based on the software industry proper, being highly-knowledge intensive are slow in diffusing IT knowledge. As mentioned above, the ITES segment, on the other hand, being less knowledge-intensive can help diffuse IT knowledge amongst ordinary people. Thus, does the commercial initiatives taken up in connection with the BPO industry in turn have the potential to reduce the digital divide? If so what are the state initiatives needed for further development of this industry so that it can address some of these developmental issues. Such initiatives have to be based on the constraints the industry face today. Therefore it is necessary also to identify our constraints in this segment.

Though the study pertains to India, it has relevance for other similarly placed nations like Pakistan, Bangladesh or Sri Lanka. These countries too are resource constrained and have a thrust for earning foreign exchange revenue through the industry. In addition they too face the similar problems like unemployment, digital divide, low social development and so on. As India is somewhat an experienced player in the outsourcing market and India's government policies and experiences can provide insights for other similarly placed nations to draw important lessons.

With this objective the paper is arranged as follows. The next section discusses briefly the research design. The section that follows provides a background of BPO industry in India. Its contribution to balance of payment is considered in the following section. The IT and IT enabled services sectors have helped considerably in reducing educated unemployment. This aspect together with other direct and indirect benefits of BPO industry is taken up in Section 5. Major State initiatives and concerns are discussed briefly in the two subsequent sections followed by a brief section on the lessons learnt. A concluding section follows thereafter.

Research Design

The study is based on both secondary level information and primary data collected through field surveys. Contributions to the balance of payment (BoP) account are computed using mainly secondary level data from the International Monetary Fund (IMF) manuals. Econometric techniques used are discussed in the respective sections. Discussions on other contributions of this sector, especially in reducing educated unemployment, are based on a survey of BPO employees that we recently carried out⁴ in four metros that are well known for this industry, viz., Bangalore, Delhi-Gurgaon, Mumbai and Chennai. The sample size is 200 and the sampling technique is multi-stage. First, a company is selected and then 10 employees (at agent level, selected at random) are interviewed using a structured questionnaire. Data are processed later using an SPSS package. It may be noted in this context that we have written to a large number of

⁴ Some of the findings reported here are observed during our larger survey for the BPO sector done through the funding of the Ministry of Commerce and Industry, Government of India. We thank the Ministry for their support.

companies for interviews and reminders were sent repeatedly. Few companies that replied positively and gave access to their employees are interviewed⁵.

Business Process Outsourcing Industry in India

Business process outsourcing (BPO) generally refers to the operation of letting out the task of performing certain functions of an enterprise to another enterprise. These functions are usually non-strategic and non-core in nature though they can be very critical for a business enterprise. Business process outsourcing activities can be defined as the delegation of one or more *business processes* to an *external provider* who, in turn, *owns, administers, and manages* the selected process (es), based upon *defined and measurable* performance metrics to *improve overall business performance* (Oracle Telesystem, n.d., Bhide, Vani & Rajeev, 2006).

Outsourcing of some activities to a distant location has become possible due to the development of information technology (IT). Such cross-border IT-based services, usually termed *IT enabled services*, are functions that are provided from one location to another over telecommunication or data networks (through wire-line or wireless devices) and are either externally contracted (*third party outsourcing*) or provided by a remote subsidiary of the same company (*captive BPO*).

Being participants in a competitive market economy, pressure to outsource non-core operations and concentrate on core business functions have always been characteristics of large companies of developed nations. Initially, this resulted in the hiving off of certain operations to be undertaken by specialized, local firms in the developed countries themselves and this trend still continues. The change now is that, with the increasing availability of cheap and better or larger network technology, communications infrastructure and bandwidth, many of these services can be managed and provided from off shore locations (Figure 1). Many developing countries are taking advantage of this advancement of technology and India is prominent amongst them.

Though BPO industry is of recent origin in India, already it has attracted the attention of academics, business barons and administrators equally due to its phenomenal growth. As mentioned above, within the IT and enabled services sectors exports, ITES/ BPO contributes above 25% and this share is increasing rapidly. In the Indian context, this process could establish its roots to the encouraging supply and demand factors in the country. During the mid-nineties the unemployment rate among the skilled graduates was increasing and the demand for only a few specific types of jobs was showing a rising trend. Job seekers also preferred jobs in a particular wage bracket and that was difficult to come by through domestic employers. At the same time, the multi national companies abroad required technical manpower at a distant location and were ready to offer attractive pay packets. They could satisfy their needs with the availability of skilled manpower in India, as competent manpower was amply available. The experiment began with the

⁵ It has been generally experienced by many researchers that getting access to these companies is rather difficult. A number of such attempts by researchers have failed. Under the circumstances this study at least have been able to get information through structured questionnaires from 200 employees across India.

establishment of wholly owned subsidiaries by the likes of GE Capitals and British Airways (captive players). Consequently, the advantageous atmosphere propelled the vigorous growth of BPO services in India. Third party players then started investing in the market with the backing of venture capitalists and met with considerable success.

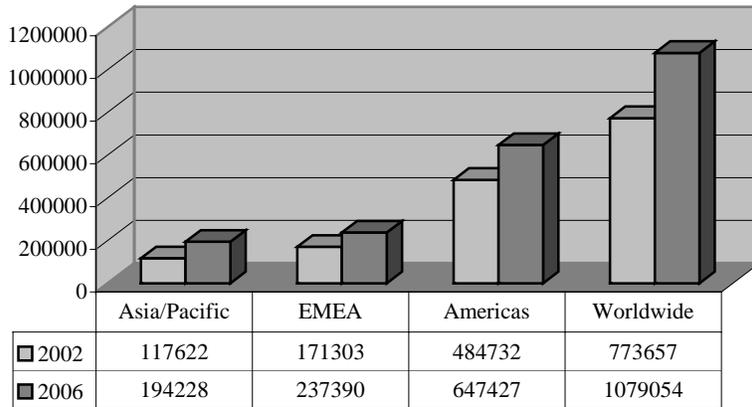


Figure 1. Worldwide ITES-BPO spending by region, 2002-06, US \$ ml
(Source: Indian ITES-BPO Fact Sheet, 2006, NASSCOM)

The ITES services sector soon started showing substantial growth over the years (Figure 2).

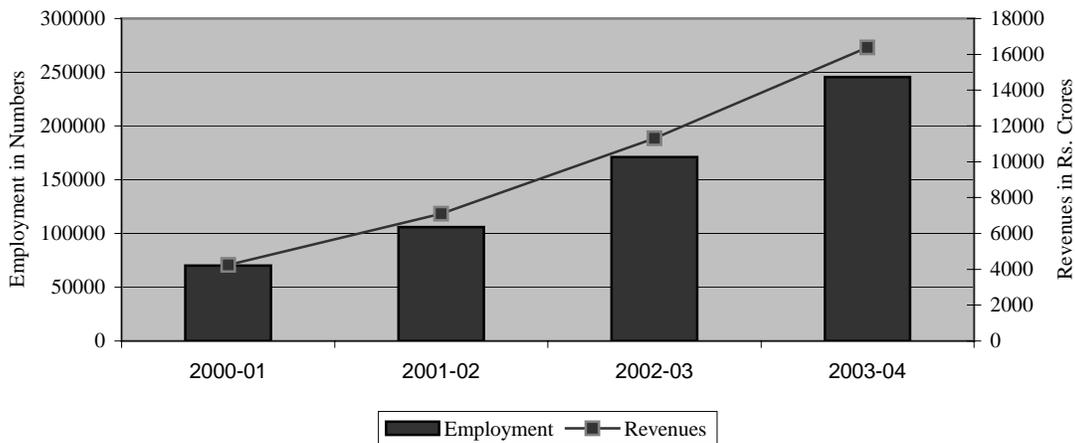


Figure 2. Trends in employment and revenue in the Indian ITES sector
(Source: Compiled from NASSCOM fact sheet on ITES-BPO, 2004, www.nasscom.org)

India has a number of advantages compared to many other developing countries. Historically, Indian government has invested heavily in higher education, which resulted in creation of a large pool of educated manpower. In the post independence era private educational institutions⁶ too have played a major role in producing a large number of scientific and technical manpower. In addition, current emphasis on IT education, both by the government and private institutions, ensuring advancement of IT industry has helped ITES sector too to develop at a rapid pace. Traditionally, English language skill⁷ is high amongst the Indian population as well, compared to many other Asian countries. More crucially, given the rupee-dollar exchange rate coupled with a large supply of skilled manpower, Indian labor turned out to be considerably less expensive for the US business enterprises. According to a case study prepared by Outsource Partners International, it costs a typical regional US CPA firm \$255 to prepare an average individual tax return. On the other hand, outsourcing intermediaries such as Xpitax charge between \$75 and \$110 to prepare a tax return in India. These numbers translate into a savings of 57% to 71% per tax return processed (Pinto, 2005). Such recognitions have further enhanced the attractiveness of India as an off-shoring location.

Contribution to the Economy: Balance of Payment

Services sector is increasingly having greater contribution to the Indian economy. However, segregation of contribution of BPO sector is not easy. It is well recognized in the literature that there is a dearth of hard data on the global outsourcing market. Though several estimates based on primary surveys of the global players are available, they differ considerably from one another and from year to year. In this respect the Balance of Payments Statistics (BoP) yearbook published by the International Monetary Fund (IMF) can be considered an authentic source, which is also comparable across countries. Notwithstanding the problems of isolating the off-shoring services from BoP data, we have made an attempt to base our estimates on the statistics provided by IMF. More precisely, our estimates are based on International Monetary Fund's (IMF) balance of payments (BoP) data and NAASCOM estimates for Indian BPO market. In order to get an estimate of the volume of outsourcing services we concentrate on the other private services category (IMF). Within the other services category the sub-classes are:

- Communication
- Construction
- Insurance
- Financial
- Royalties and License fees
- Personal cultural and recreational
- Government, not included elsewhere
- Computer and information
- Other business services

⁶ It includes private organizations, private religious bodies and in recent years private corporate bodies and others.

⁷ Christian missionary schools too have facilitated the growth of English language skill and use in the post independence era.

According to the IMF manual⁸ the last category viz., ‘*other business services*’, includes management fees, professional, technical and consultancy services, legal services, market research agencies and R & D. Exports and Imports under this category and the ‘*computer and information services*’ category together include a large part of off-shored services (Amiti & Wei, 2004)

If we examine the *share of other business plus computer and information services* in the total imports of OECD countries under these two heads, we observe that more than 80% of trade in other business services are confined within the OECD countries only (in the year 1990). India’s share was only about 2% and China’s share was around 1% in that period. The shares of some of the other competing countries (in the BPO segment) are presented in the Table 1.

Table 1. Country-wise shares of other business and computer and information services exports in OECD’s imports of these services

Countries	1990	2002
Australia	1.22	0.76
Canada	6.09	3.41
China	0.73	3.40
India	1.57	5.73
Indonesia	0.21	0.00
Ireland	0.61	4.74
Malaysia	0.71	0.72
Mexico	0.32	0.08
Netherlands	7.25	6.62
Philippines	1.73	0.08
Singapore	4.59	4.01
Thailand	0.50	1.11

Source: Compiled from the Balance of Payments Statistics Year Book, IMF.

From Table 1 we observe that subsequently, after 1990, the export share changes considerably for India as it raises its share to 6% in the global market in 2002. Ireland and China’s shares too increased to 5% and 3% respectively from about 1%. The share of the Philippines on the other hand has fallen and become almost negligible.

In fact, India is showing significant export growth in general in other business services (IMF classification, which incorporate IT and ITES exports). The following table depicts relative comparative advantages (RCA) ratios for India vis-à-vis few other Asian nations.

⁸ Balance of Payments Statistics, IMF, Part 2 and 3, Year Book 2003, pp 296,410,443

Table 2: RCA⁹ (of computer & information and other business services) of India vis-à-vis other selected nations

Year	India	Philippines	Singapore	Canada	Ireland	China	Australia
1991	2.8	4.8	3.3	2.9	1.8	2.0	0.8
2001	5.1	0.5	3.0	2.2	4.0	1.9	0.9
2002	5.5	0.6	3.2	2.2	4.0	2.0	1.1

Source: Computed using IMF BoP data

This clearly reveals increasing comparative advantage of India over time in other business services category.

So far we have looked at the other business and information services as an indicator of BPO services. We next use NASSCOM data on ITES exports to arrive at an estimate of the share of this segment. We intend to do this by using the share of ITES exports in total export under other business and information services.

Projection of India's Export Revenue from ITES Segment

The BPO industry is of recent origin and the industry has indeed taken shape only in the current decade. Thus forecasting the export potentials of the industry using rigorous econometric technique is not possible due to lack of available data. Notwithstanding this fact however, there are a number of estimates available in the literature. These estimates, mainly provided by the private market research organizations, differ from each other. More importantly, the data and the methodology used for forecasting are also not made public. Thus one is not sure how one can arrive at these figures. Given this background the current paper made a modest attempt to arrive at potential export revenue on the basis of the hard data provided by the international monetary fund on exports of these services. It must be mentioned at the outset that due to limited data points the estimates have comparatively larger standard errors.

The methodology used for our projections is as follows. From the IMF source we have data on other business and computer and information services for India from 1990 to 2002 and as mentioned above BPO services are a part of these services. Using this data we have estimated a semi-log growth trend¹⁰ of the form

$\ln(Y_t) = a + b t + \varepsilon$, where t is the index for time, Y represents the export revenue for India from these specific services and ε is the usual white noise. The estimated equation takes the following form:

$$\ln(Y_t) = 6.7073 + 0.2243 t, R^2 = 0.85 \dots\dots\dots (1)$$

⁹ $RCA_{India} = \frac{\{\text{India's export of other services} / \text{World's export of other services}\}}{\{\text{India's total export of services} / \text{World's total export of services}\}}$

¹⁰ Using best fit criterion; this functional form implies constant rate of growth for the exports.

The estimation results are presented below.

<i>Regression Statistics</i>	
Multiple R	0.923
R Square	0.852
Adjusted R Square	0.839
Standard Error	0.380
Observations	13.000

<i>ANOVA</i>	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	9.158	9.158	63.433	0.000
Residual	11	1.588	0.144		
Total	12	10.746			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>
Intercept	6.707	0.224	30.004	0.000	6.215	7.199
X Variable 1	0.224	0.028	7.964	0.000	0.162	0.286

Using equation (1) we project the value of exports for India under these two service heads from 2003 to 2010, which is represented by the upper curve in Figure 3 below.

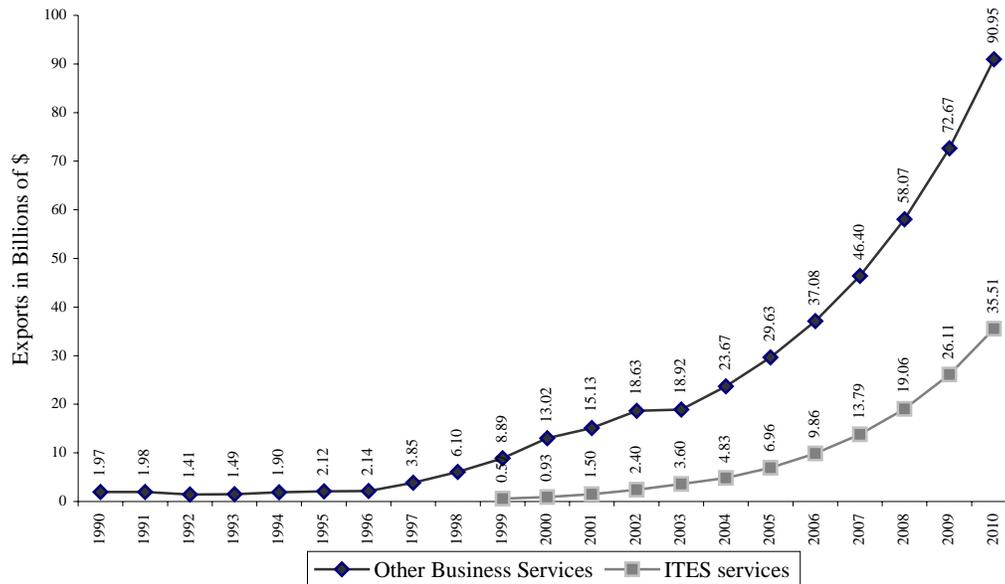


Figure 3. Projected export revenue from ITES sector (India)

Next, based on the NASSCOM estimates we have the size of the BPO export revenue for India from 1999 to 2003 (the average growth rate is observed from NASSCOM figures to be 36.89%¹¹). Using these figures we find the **share** of ITES export revenue in the total export revenue of other business and computer and information services of India from 1999 to 2003. Scatter plot of the shares showed an exponential trend. Using this trend (with estimated average growth rate of 27%) we projected shares for the future years. Projected shares are used in turn to arrive at the projected ITES revenue for 2008 and 2010. As shown in Figure 3 above, for the year 2008 our projection of the total BPO market for India is around \$ 19 billion and for 2010 this figure increases to around \$35.5 billion (the **lower** curve in Figure 3). We note that these estimates are derived using constant average growth rate and they would improve if appropriate varying growth rates were used for the forecast which can be attempted in future when more data would be available on this industry. Further, It must be noted in this context that if global demand changes due to technological innovation or change in preferences and so on, then these estimates may also need modifications¹².

Significant flow of foreign exchange revenue would no doubt expand India's foreign exchange reserves and has potential to improve BoP situation as well. This in addition to having direct impact on the economy would allow a developing economy to go for less restrictive international trade policies. Until early 1980s India's trade policy was motivated by the objective of 'import substitution' through domestic production. In 1991 reforms triggered by severe foreign exchange problem marked a major shift from the earlier conservative policy regime. For example, in addition to removing a number of quantitative restrictions, monopoly of government agencies for imports of 50 odd commodities were abolished (Srinivasan, 2001). Both tariffs and non-tariff barriers were reduced and foreign direct investment allowed for a number of commodities. Notwithstanding these measures, India's international trade policies still remained restrictive compared to many similarly placed Asian countries. An improved foreign exchange reserve and BoP situation through some of the emerging sectors like IT would help to adopt liberalized measures for other sectors as well. This in the long run may improve total factor productivity growth at least in certain sectors and increase competitiveness of India. It must be noted that these impacts are not unique to India. Other similarly placed nations like Pakistan or Bangladesh is also experiencing increase in foreign exchange earning emanating from the development of this sector. Improved BoP situation would help development of other sectors of the economy.

Other Direct and Indirect Benefits

Problem of Educated Unemployment

The post-liberalization growth in India is often known as *jobless growth*, which expectedly is a matter of concern for policy makers (Deshpande, Sharma, Karan, & Sarkar, 2004). The rate of growth of employment was of the order 2.04% per annum during 1983 and 1993-94, which

¹¹ By fitting an exponential trend

¹² This is a first hand estimate. Due to lack of data it is difficult to arrive at more rigorous estimates at this stage. However, this is the first attempt in India to use hard data from IMF to arrive at a reasonable forecast of the export volume of BPO sector.

unfortunately declined to 0.98% in 1993-2000 (Datt, 2003, pp. 9). Unemployment rate is not only high amongst unskilled workers; it is also significant amongst the educated youths (Table 3). Sustained unemployment of the skilled workers can have significant adverse consequences on society. Though the manufacturing sector has little to offer in terms of job creation, the services sector holds forth some promise for the economy. While the IT sector generated employment for highly skilled labor, the BPO sector provided quality employment even for graduates and non-graduates in terms of working conditions and wages. A NASSCOM study reports that in 2002, the BPO industry provided jobs for over 100,000 young people and this figure may rise to about 11,00,000 in 2008. Thus development of this sector can have significant and direct impact on the economy through employment generation. Few important findings from this survey are worth mentioning.

Table 3. Unemployment rates by level of education

Education Level	1999-2000
Not literate	0.2
Literate up to primary	1.2
Middle	3.3
Secondary	5.5
Higher Secondary	7.8
Graduate & above	8.8
Educated (Secondary & above)	7.1
All	2.2

Source: Datt (2003)

Employment generation for educated class

- As far as educational qualification of the employees are concerned they are graduate, postgraduate and other technical degree holders. In other words, there are very few high school students opting to work in this industry. Thus, the allegation against the industry may lure the youths and instigating them to discontinue their studies is not found to be true in general.
- Monthly salary on an average ranges between Rs 8000 to Rs 10,000 for a beginner, which is reasonably high, compared to salaries earned in other sectors, which will be not higher than Rs 6000¹³.
- Above 45% of the employees are female. Thus gender discrimination is not found to be present in the industry.

Interestingly, 42% of the respondent employees have expressed that they are not sure whether they would have got *any* meaningful employment in the absence of development of this sector. Another 13% also revealed similar concerns and felt that they may have had to start some small business for survival. Thus, 55% of the respondent may not have gained meaningful employment

¹³ Current exchange rate is approximately \$ 1 = Rs 40.

in the absence of this sector. Interestingly, both graduates and post-graduate level degree holders have voiced similar concerns. While about 38% of the graduates that are currently working in the BPO sector feel that they may not get employment otherwise, 31% of the employees with post-graduate level degrees also feel the same (Figure 4).

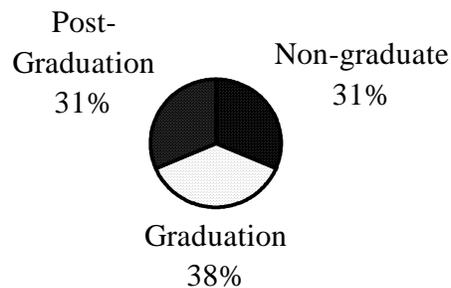


Figure 4. Percentage of employees not sure of their employment opportunities in the absence of BPO industry: Classified according to level of education.

Education Level of the Employees

Our survey reveals that only 8% of the work forces are below the graduate level (Fig.5). Thus only a small proportion of employees have entered the sector after the school level. Usually, BPOs encourage school and college dropouts to join the sector and provide them employment opportunities. Whether the graduates (or the non- graduates) would have pursued higher education in the absence of this industry is a matter of debate.

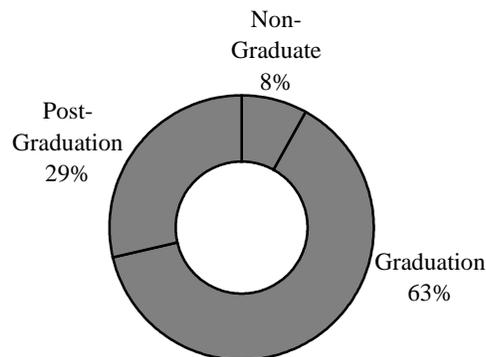


Figure 5. Education level of the employees in BPO sector.

As the industry demands good English language skills it is expected that more employment would be created for those who have studied in English medium schools (Table 4). However a large percentage of them being from private schools is possibly a reflection of the availability of educational facilities in Indian society.

Table 4. Type of schools in which the current BPO employees studied

Medium	Percentage of Employees	Public/Private	Percentage of Employees
English	80.5	Government	34
Regional language	19.5	Private	66

Source: Field Survey

As far as the economic backgrounds of the employees are concerned, we observed that highest percentage of employees paid school fees¹⁴ under Rs 5000. Thus they come from *moderately* expensive private schools. Further, the average annual family income (parents' income) of the respondents ranges from Rs 0.1 million to 0.3 million (85.4% of the employees fall within this range of family income, Fig.6). In fact, more than 50% of the employees come from family income below Rs 0.1 million category. Thus they do not belong to the relatively upper middle-income class in Indian society.

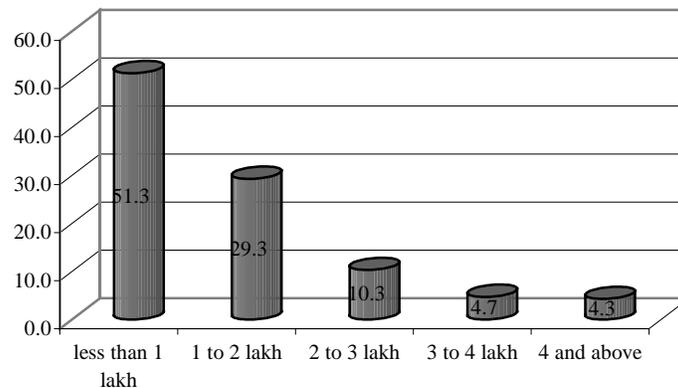


Figure 6. Annual family income of the employees. Source: Field Survey

Thus the sector has been able to generate sufficient employment opportunities for *educated* youths from lower middle class income background. Even though many BPOs demand night-time work, participation of female employees is significant in this sector. In fact a number of state government have amended their labour regulations to enable potential female workers to get employed in this sector. This experience of India sends important messages for other developing nations facing the severe unemployment problem, in particular educated unemployment problem leading to social unrest.

¹⁴ In 12th Standard

Employment for lower income category

In addition to this, BPOs employ a number of persons for lower category jobs and thereby generate employment for lower income category as well. Most BPOs provide transport facility to its employees and some bigger BPOs like Mphasis have above 800 private vehicles for transportation. This in turn provides employment opportunity to the lower category jobs like drivers. Similarly BPOs have substantial demand for security persons who are recruited on contract basis. They pay much higher than market wages (as efficiency wages) to these lower category contract workers (Rajeev, 2005).

Diffusion of IT Knowledge and Formation of Human Capital

Due to the BPO revolution, there have been a large number of computer and English language and communication training centers coming up all over the country including in smaller towns and rural areas. They train a substantial number of students. This in turn helps diffusion of IT knowledge in the comparatively remote regions. This is in fact an important development due to the growth of BPO industry. Furthermore, one of the drawbacks of even technical graduates from semi urban areas is the lack of communication skill. Mushrooming of the training centers and the expansion of the industry to smaller towns have indeed helped in skill formation and human resource development. This process can be further intensified by emphasizing development of this industry in smaller towns and sub urban locations.

Impact on Infrastructure

From our field survey it has been revealed that 70% of the clients from developed countries visit a BPO firm before signing a contract. General infrastructure of a city plays important role in attracting such potential clients. Therefore there is substantial pressure on the state governments to improve infrastructure. Such commercial source of demand for public good like infrastructure may significantly influence government policies. Furthermore, human capital formation and developed infrastructure would not only raise productivity level of BPO sector, but would have spill over effects on productivity of other sectors as well.

Balanced Regional Development

Unlike a standard manufacturing firm, technology involved in a BPO is such that a firm need not locate itself in a particular region (e.g. near the source of raw materials). Given the telecom network and internet facility, it can operate from any location. Different state governments have come up with 2 or 3-tier city development programs for IT and BPO industry. In particular, technology parks have been established in smaller cities, which provide telecom broadband facility. Our survey also shows that operating from a smaller town can reduce cost to 20 to 30% and thereby help a firm to remain competitive. In fact the current BPO wages in the metros have exceeded corresponding wage levels of China, a potential competitor for India in near future (see Bhide, Vani & Rajeev, 2006). Few well-known BPO companies like Mphasis, HSBC and others have already opened their operations in 2-tier cities. Such trends not only reduce operating costs for the firms and help them remain competitive, also facilitate smaller towns and cities to grow

and thereby bringing a reduction in regional imbalances. Other similarly placed countries may also learn lessons from Indian experience and through directed endeavors of the state should try to develop smaller regions.

Indirect benefits to other businesses

Higher disposable income and significant consumption propensity (between 70% to 80%, as revealed during the survey) of the BPO employees in turn helped other businesses to boom in cities. In addition, as mentioned above, there are a large number of English medium training organizations coming up to support the BPO industry, even in rural areas, that helped providing teaching and other related opportunities.

Knowledge Process Outsourcing (KPO)

As the BPO industry in India slowly matures in traditional services like customer care or medical transcription, it gradually moves towards the higher-end more knowledge-intensive outsourcing applications. Taking advantage of high quality manpower, a few multinational companies (like GE capitals) have already established their research and development center in India. Few other sectors in KPO category are equity research, tele-radiology, CADD-CAM and so on. These firms pay their employees salary at par with any developed country and hence can *check brain drain*.

While from the point of view of employment opportunities and generation of income for the unemployed youths in a labour surplus economy is crucial, there can be other social impacts of development of the ITES sector. This may arise due to constant contacts with the Western consumers and odd working hours etc. Thus while rejoicing foreign exchange revenue earning and employment generation capabilities one should also be aware of these impacts.

Certain Social Impacts: Cultural Influence and Stress

Though these employees are usually not from the higher end of the economic strata, does constant contact with the western society have a cultural influence on them? Our interactions with the employees show that the unique work environment of this industry may have some influence on most of them. In this context, it is observed that 75% of the employees are unmarried and live with their parents. However, they have been able to save only 20 to 25 % of their income even though their food, transport and other needs are usually taken care of by the company. Further inquiry into the matter reveals that some employees do hand out part of their income to their parents and the migrants spend on house rents. However, a large part goes for outing and jolly trips, eating out with friends and buying most modern electronic gadgets (sometime even for the family). This has not been a common trend a generation earlier. Buying new outfits at frequent intervals also adds to their expenditure. Moreover, mobile phone and fuel charges constitute a large portion of their regular expenditure (table 5).

Table 5. Percentage of income saved by the BPO employees

Nil	3.00
10%-20%	3.50
20%-30%	73.10
30%-50%	12.40
50% & above	8.00

As far as stability of marriage is concerned, while 88% of the unmarried employees desire to continue working in the same sector after marriage, if we look at the disaggregated picture of employees earning different levels of income, this percentage increases to a total of 100% for the higher income level i.e., earning Rs 125,000 and more. Of the currently unmarried employees, 88% plan to continue working in this sector even after marriage, while only 12% (mostly women) reported that they may stop working. Thus, largely marriage of employees may not affect the industry but whether the industry would affect such marriages is yet to be seen.

Professional Stress: As many as 45% of employees, mainly from the customer care segment, reported experiencing work-related stress, mainly due to odd working hours, monotonous work and having to face deadlines. As people who work for financial BPOs and other higher end segments need not work in night shifts, they do not face significant stress-related problems.

Manifestation of this stress can be seen in several ways, viz., voice loss, general nervousness, constant of boredom, backache, nervousness due to deadline constraints, sleeplessness and feeling overburdened with work (Figure 6).

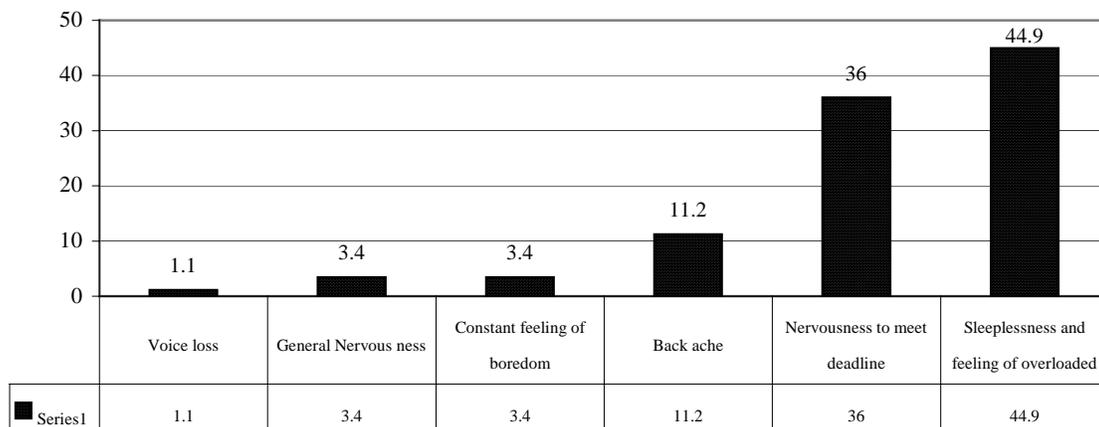


Figure 6. Manifestation of stress. Source: Field Survey

Our company-level survey reveals that companies constantly introduce new HR- management techniques to overcome such stress-related problems. In addition, jobs are made to be skill enhancing and employees are encouraged to develop new ideas. Further it must be noted in this context that unemployment also creates enormous stress in ones life. Thus while BPOs may not be the first best option of a developing nation, it certainly aids the economy in more than one-way.

Lessons Learned

“Enthusiasm for the benefits of the information revolution is boundless; it promises to provide economic opportunity, growth and democratic communication. Yet these promises are fulfilled only to those with access and competence to use these new technologies” (Mariscal, 2005). Spread of the ITES industry to the smaller locations can carry the technology to comparatively remote areas and spread the knowledge of IT in a commercially viable way (Guice and Eischen, 2002). In India (and other developing nations), IT knowledge is mainly concentrated in a few selected metros, though different state governments are now taking initiatives to develop suburban areas. The first step therefore is to take IT/ITES to smaller towns/suburban regions in a substantial manner, where a large proportion of the population lives. A large share of India’s urban population comes from small metro towns and spread of IT to these towns would generate a spillover effect not only in income and employment generation, but also in knowledge build up. To effectively carry out such plans, IT plans need to be integrated with overall economic planning. In this connection Indian planners and the planners of other similarly placed nations can learn from the integrated plans that Singapore has adopted (Yap, 1994).

For the industry point of view also, smaller towns are cost-effective and have better developmental potential. Policy makers therefore should facilitate development of smaller towns as BPO hubs through technology parks, infrastructure etc. Such endeavors are currently on, but not in a substantial manner. This would naturally help more educational and training institutions to come up in these areas. Policy initiatives can further facilitate this process by establishing institutes that spread IT knowledge. Academics have an essential role to play in these institutions. Another key mode in which the state can support generation and diffusion of ICT is through public investment in the use of ICTs (Saith & Vijayabhaskar, 2005). The practitioners of IT for development can then take advantage of this spread for their developmental work to assist small-scale entrepreneurs, micro finance institutions and others. The corporate sector could be associated with such responsibility, which they may take up as a part of their overall corporate discipline¹⁵.

In other south Asian nations also large part of population live in the rural and suburban regions and substantial inequality prevails between larger towns and smaller regions in terms of infrastructure, opportunities etc. Directed efforts to develop the industry in smaller towns would not only help the BPOs to become cost effective but also help diffusion of IT knowledge in the otherwise less prominent regions.

¹⁵ For example, Infosys Foundation, the philanthropic arm of Infosys Technologies Ltd., a prominent IT company in India, came into existence on 4th December 1996 with the objective of fulfilling the social responsibility of the company by supporting and encouraging the underprivileged sections of society. In a short span of time, the Foundation has implemented numerous projects in its chosen areas. The Foundation has undertaken various initiatives in providing medical facilities to remote rural areas, organizing novel pension schemes and in aiding orphans and street children. It has undertaken a large rural education program titled "A library for every school" under which 5500 libraries have been set up in government schools spread across many villages. (http://www.infosys.com/media/corporate_social_responsibility.asp).

It has been generally argued by the scholars (see Bajpai & Radjou, 2000) that Indian IT development strategies have mostly focused on attracting foreign investment into the local IT industry and exploring market opportunities in the western hemisphere. Such export led strategies have neglected the domestic market. To spread the benefit of IT revolution to over 1000 million people of India, government should take initiatives to spread IT knowledge and usage in the domestic market. Such endeavor will not only ensure development but also provide much needed human resources to the industry. Thus the possibilities are very many. The need of the hour is to take them forward.

Conclusion

Indian ITES-BPO segment besides growing is also maturing rapidly. This sector is generating significant tax revenue for the government and in turn putting pressure on the state to provide better physical infrastructure. As a by-product one observes significant improvement in telecommunication network of the country (Dossani, 2003), which has positively impacted both rural and urban economy. Better infrastructure in turn would induce further economic growth through higher investment. Such experience is necessarily not unique to India. Other nations that are trying to develop BPO industry will observe demand for infrastructure coming from the corporate sector. Such pressure in turn would indeed help development of infrastructure in these nations.

Unemployed educated youth is a threat to any nation. This can create social unrest. By providing employment at an early age it rules out several potential ill effects on society and economy. Voices have sometimes been raised against working condition of the BPO employees as the work is often monotonous and strenuous and shift of work creates additional problems. However, a second best option like this is better than no option for employment.

A globalized economy demands efficiency in production and there is no running away from rigorous work culture. Monotonicity and shift problems would comparatively reduce as a country moves to higher end work like data analytics, tele-radiology or other research based work where there is no direct one to one conversation with a consumer.

The Global BPO market is rather huge and only a small proportion of the work is currently outsourced to off shore locations. It has been forecasted that the size of the global BPO market by 2007 would be \$173bn, of which \$24.23bn would be outsourced to offshore contractors (Web site: <http://www.indobase.com/bpo/global-market-of-bpo.html>). Thus potentially there is a very huge market to capture. If India is successful in capturing a considerable proportion of this market, economy can gain significantly through both direct and indirect effects.

Acknowledgements:

This paper has benefited from a project done by the authors entitled 'India's Export of Selected BPO Services: Understanding Strengths and Weaknesses' for the Ministry of Commerce and Industry, Government of India. The authors are grateful to the Ministry for the support. We also thank Shashank Bhide for many useful suggestions.

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