Knowledge Process Outsourcing in India - New Concerns in an Uncertain World

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ABSTRACT

"Knowledge is a process of piling up facts; wisdom lies in their simplification"

- Martin H Fisher

These words truly depict the importance and impact of knowledge process outsourcing (KPO) services in the world today.

This article analyses why India is considered to be a perfect location for the knowledge process outsourcing or knowledge services but our major concern is can India ever become a hub for KPO services? Our analysis finds out that, in the past, India has enjoyed a major share of world's KPO market, but will the future be as bright as our past? The availability of employable workforce in KPO business is questionable. The cost advantage which was the major driver of the KPO business is slowly degrading due to inflation, appreciation of money and expected salary hikes in the recent times. So, if India wants to continue at the top position in KPO business, the Government of India has to take some landmark decisions to correct the shortcomings.

INTRODUCTION

Information is knowledge. Knowledge processing is a continuous process of creation and dissemination of information to create knowledge and see meaning in information and its context. Improved communication systems at much lower expenses and an attitudinal change to view the world as a single platform are globalizing businesses rapidly and leading to outsourcing of knowledge based businesses to locations that offer domain expertise, technical skills and operational efficiencies in the most cost-effective manner. Outsourcing is an arrangement where one company provides services to another company that would otherwise have been implemented in-house. It is the process of transferring responsibility of any of a 'company's recurring internal activities or processes' to another company for execution.

As a business practice, outsourcing is flourishing in almost every conceivable domain. Organizations today outsource software development, innovation, research and development efforts and even

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functional areas such as marketing, human resource administration, finance and accounting. Outsourcing of knowledge-intensive work is increasing at an astonishing rate. This Information-driven Knowledge Outsourcing in known as Knowledge Processing Outsourcing or KPO.

KPO helps companies to create huge business opportunities. Many new business concepts are being incorporated in Knowledge Processing Outsourcing Industry. KPO involves the outsourcing of knowledge intensive services which includes creating, sharing, maintaining, tracking and disseminating knowledge. It covers a variety of industrial segments like Financial Services, R&D in pharmaceuticals / biotechnology, design services, analytics, consulting, market research, statistical analysis, legal services, architecture, intellectual property, human resource, publishing, education, training, animation, and many more. Organizations can decide which functions or activities may be best suited for outsourcing by using a three-dimensional outsourcing selection Matrix. This is a model of the three key factors, or dimensions, which are involved in evaluating a business process for outsourcing: (1) process costs, (2) process productivity, and (3) process mission criticality.

History of KPO in India

KPO as an idea was initiated decades ago when McKinsey set up a knowledge centre in India. McKinsey and Company started its own captive centre (called McKinsey Knowledge Centre) in Delhi-Gurgaon, India, which started providing market research, business research and data analytics services to more than 6,000 of its consultants worldwide. During 1998-99, American Express' wholly owned subsidiary in Delhi-Gurgaon, India, started performing risk and credit analytics for several of its credit card divisions worldwide. KPO saw true acceptance in the year 2000 when companies like GE, Frost & Sullivan, Gartner and OfficeTiger established captive research and analytics, and third-party knowledge services from offshore facilities in India.

KPO Market Overview
Global Market Size

The Global KPO market was approximately USD 1.2 bn. in 2003-04 and nearly worth USD 4.4 bn. in 2006-07, with a CAGR of 54%, employing approximately 34,000 and 106,000 professionals in 2003-04 and 2006-07 respectively. The Industry is expected to grow to USD 16.7 bn. in revenue in 2010-11, at a CAGR of 39 % (during the next four years) and is expected to employ approximately 3, 50,000 professionals.

Indian Market Size

The Indian KPO market was approximately USD 1.08 bn. in 2003-04 and worth nearly USD 3.05 bn. in 2006-07, with a CAGR of 50.7% and employed approximately 9,000 and 75,400 professionals in 2000-01 and 2006-07 respectively. The Industry is expected to grow to USD 11.9 bn. in revenue in 2010-11, at a CAGR of 38.4 % (during the next four years) and employing approximately 2, 55,000 professionals.

Share of the Indian KPO sector in the global KPO market

In 2003 India enjoyed 56% of the global KPO market and only 44% was enjoyed by rest of the world. According to present market estimates, this trend would continue in the future too and India is expected to enjoy 71% of the global KPO market by 2010.

Distribution of KPO Business throughout the Globe

India has its presence in all the segments of the KPO services. It holds the top position in content, Financial services, IT, R&D and Pharma. Table (1) below gives us the picture of distribution of KPO Business throughout the Globe.

Table (1)

Segment	Country
Animation	Philippines, India, China
Content	India, Philippines
Financial services	India, China
Healthcare	Russia, India
IT/R&D	India, China, Russia
Legal	New Zealand, India
Pharma	India, Russia

Knowledge Process Outsourcing: The Big Game - http://www.sourcingmag.com/content/c060503a.asp

KPO Business in India

In 2003, the Indian KPO business generated USD 1.29 bn, of which engineering and design contributed maximum, i.e. USD 0.40 bn, followed by USD 0.30 bn and USD 0.28bn from Data search, integration and management and Biotech and Pharmaceuticals (CRO, Lead Optimization, and Manufacturing Processes), respectively. In 2010 it is expected that the Indian KPO business would generate USD 17.0 bn, of which data search, integration and management would contribute maximum, i.e. USD5.0 bn, followed by USD 3.0 bn from Biotech and Pharmaceuticals (CRO, Lead Optimization, and Manufacturing Processes). Engineering and design, remote education and publishing and research and development would generate USD 2.0 bn each. Table 2 gives the expected revenue from different segments in 2010.

Table 2
Revenue by segment (estimated) - 2010
Segment Estimated Revenue

Data Search, Integration and Management	33%
Pharmaceutical, Biotech, and Medical	20%
Animation & Simulation Services	9%
Remote Education & Publishing	13%
R&D (excluding Pharmaceuticals & Biotech)	6%
Engineering & Design	13%
Financial	3%
Legal	2%
HR & Comp	1%

Source: www.sourcingmag.com

Audit and research firm KPMG has forecasted high-end knowledge work, such as analytics, equity research, and actuarial services to reach $17 bn. by 2010, with the major share going to India. It is expected that few of the services, such as Equity, Financial, Insurance Research; Research and Information Services in HR; Paralegal Content and Services; Medical Content and Services and Remote Education and Publishing which were not being offered earlier by the KPO service providers in India, will help in revenue generation in the year 2010 and thereafter.

Why India is a preferred location for KPO service???

Cost advantage is incidentally one of the most significant drivers of KPO business in India. Cost savings, operational efficiencies, access to a highly talented workforce and improved quality are all underlying expectations in off shoring high-end processes to India. India's intellectual potential is the key factor for India being the favoured destination for K.P.O industry. Some of the factors fuelling growth in KPO are:

- Developed economies, such as the US, the UK, and countries in Western Europe are increasingly facing a shortage of highly trained and specialized professionals in various knowledge-intensive high-skill sectors, such as R&D in VLSI, engineering design, IT, financial risk management, etc.
- Buyers of off shoring services save more at the high end of the value chain, as compared to the low end on a per-job basis.
- High quality specialized vendors and successful captives have emerged as role models and created awareness for KPO, both in the West as well as in India.

Cost advantages, upto 40 to 50 percent in the areas of research and clinical trials can be enjoyed. Companies can save up to 50 percent of the cost to draft and file applications with the United States Patent and Trademark Office. Cost differential between PhDs/ engineers in the US and India is almost $60,000 to $80, 000.

Large human resource

The most critical driver is the deficit of skilled human capital in developed countries like the USA and UK by 2010 where there will be a shortfall of 5.6 million and 700,000 skilled professionals respectively.

India, with its enormous pool of talent could emerge as a global KPO hub as this sector requires specialized knowledge in respective verticals. India has a huge number of knowledgeable workers in various sectors which include pharmacy, medicine, law, biotechnology, education & training, engineering, analytics, design & animation, research & development, paralegal content and even intelligence services. Every year, nearly 19 million students are enrolled in high schools and 10 million in pre-graduate

degree courses across India. Approximately, 2.1 million graduates and 0.3 million post-graduates come out of India's non-engineering colleges. Of these, while 2.5-3 percent of them find jobs in other fields or pursue further studies abroad, the rest are opting for employment in the IT industry. This talent is soon discovered and tapped by leading businesses across the globe resulting in the outsourcing of high-end processes to low-wage destinations.

The detailed analysis of the above mentioned parameter can be done as mentioned in the table (3) given below:

Table - 3

Category	**Sub-Categories**	**Metrics**
Financial attrac tiveness (40%)	Compensation costs	Average wages
		Median compensation costs for relevant positions (representatives, analysis, Managers, IT Programmes
	Infrastructure costs	Rental costs
		Commercial electricity rates
		International telecom costs
		Travel to major customer destinations
	Tax and regulatory costs	Relative tax burden
		Currency appreciation or depreciation
People and skills availability (30%)	(Relative Experience) Remote services sector experience and quality ratings	Size of existing IT, BPO and KPO sectors
		Contact centre and IT centre quality certifications
		Quality ratings of management schools and IT Training
	Labour force availability	Total work force
		University educated work force
		Work force the ability
	Education	Scores on standardized education and languages tests
	Language	
	Attrition risk	
Business environ-ment (30%)	Country environment	Investor and analyst ratings of overall business and political environment

		Foreign Direct Investment
		Security Risk
		Regulatory burden and employment rigidity
		Government support for the information and communications technology (ICT) sector
	Infrastructure	Overall infrastructure quality Quality of telecom, Internet, and electricity,
	Infrastructure Cultural exposure	Personal interaction
	Security of intellectual Property (IP)	Investor ratings of IP protection and ICT laws
		Software piracy rates
		Information security certifications

Total score of the three categories which include, financial attractiveness, people and skills availability, and business environment was considered by A.T.Kearney. It has been found that India takes the top position among all the offshoring locations around the globe. In 2004 no other country was in the position to compete with India as it was far ahead in all the three categories. Hence, it was most preferred location for out sourcing.

If we examine the Global offshoring Location Index-2005, we find that India is still maintaining the top position among the countries, but the margin of difference among the countries has decreased. In China and Malaysia the people and skill availability has markedly increased. Countries like Philippines, Thailand and Brazil have moved up in the ranking list, giving an indication that they can become the choice for new offshoring locations.

If we further consider the ranking given by A.T.Kearney in 2007, it clearly shows that India is somehow maintaining itself on the top position but the concern is that if it continues in the same way for the next few years, we would find countries like China and Malaysia over taking India. Thus it would no longer remain the choice for offshoring operations. Now let us consider the leading indicators of infrastructure and technological competitiveness. This would help us further, to know about the infrastructure and infrastructural development in those countries.

The first one is National orientation (NO). An inter comparison of scores achieved by the competing countries over the last few years provides evidence that a nation is taking directed action to achieve technological competitiveness. These actions could take place in business, government or cultural sector or a combination of any of these.(Source: Science and Engineering Indicators 2008)

The National orientation in Malaysia is much better than the other countries. In India and China the (NO) is almost same, and India itself is maintaining a steady rise in the (NO). The second indicator is Socioeconomic infrastructure (SE), which assesses social and economic institutions that support and maintain physical, human, organizational, and economic resources essential to functioning of a modern, technology-based industrial nation. Here again Malaysia leads followed by China and Thailand. The position of Philippines and India are almost same and they are much below the other three nations. The third indicator is Technological infrastructure (TI), which assesses the institutions and resources that contribute to a nation's capacity to develop, produce, and market new technology. Here China shows a

tremendous growth and leads leaving the other countries far behind. India holds the second position with a steady growth.

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If we consider the overall picture now, China marches ahead in all the four parameters, thus showing that it has the best infrastructure, infrastructural development and technological advancements with respect to other countries. India and Malaysia have almost the same type of infrastructure, infrastructural development and technological advancements and hold positions following China. Thus from all the evidences and analysis given above, the real position of India as a preferred offshoring location can be easily determined.

It is very clear that India is still the preferred location for offshoring or outsourcing business. However, it can also be concluded that China is the nearest competitor and the major danger for India in the long run as it is also providing the similar benefits as India, and not to say some benefits better than India.

New Market Estimates

Some of the knowledge service and consultancy firms (RocSearch, a UK-based research services company) has gathered evidence suggesting that the KPO market may just about reach a size of $5 bn. by 2010, manned by 100,000 people instead of projections of a $12 bn. market supported by 250,000 employees. If the revenue per person in the industry stays more or less constant at US$55,000 per year over the next four years, the total knowledge services market in India is likely to be around a mere USD 5 bn. An estimated 30% shortfall is likely to emerge in the size of KPO business by 2012, which according to Associated Chambers of Commerce and Industry of India (ASSOCHAM) would stagnate at $10.5 bn. against projections of $15 bn., mainly on account of dearth of talented professionals in the absence of relevant institutions for imparting KPO skills in India.

A recent NASSCOM-MCKINSEY report predicts a shortfall of 500,000 knowledge workers by 2010. The oft-quoted figures for market size and labor employment in knowledge services in India may prove illusory. Labor market is entirely viewed from the supply side and the real demand has never been estimated. India's vast pool of technically qualified labor is in reality much smaller than expected. The availability of people with the right skills set is seriously constrained. As said before, on the supply side, there is an annual addition of over 3 million graduates and professional degree and diploma holders to India's existing talent reservoir of over 100 million. Every year, around 950 business schools in India produce nearly 90,000 graduates with MBA degrees. The corresponding number adds up to 13,500 in the UK. Over 400,000 engineering graduates and 1,500 PhDs are added to the Indian talent reservoir every year. An additional 55,000 specialists pass out of institutes with a masters in computer applications while around 25,000 pharmacists graduate from various institutes across the country.

Unfortunately, inspite of the impressive numbers of qualified professionals India produces every year, the actual talent pool which meets the sector's requirements remains much smaller than the total labour supply. The primary reason for it is low employability, apart from the competition from other sectors. On an average, only around 10% of Indian graduates passing out every year meet BPO industry expectations based on the communication skills requirements. Only 15-20% of qualified professionals in India, including engineers, chartered accountants, lawyers, IT and medicine professionals, are employed in multinational companies. These low levels of employability stem from the Indian education system's primary focus on knowledge at the expense of skillset development. This vicious circle has led to a situation wherein most candidates are simply not employable

in spite of possessing suitable degrees. This low employability could also be attributed partly to the mismatch between the industry's requirements and the academic curricula of most of the professional colleges. If this demand-supply mismatch is not addressed adequately, it could lead to a continual rise in the cost of services for a sector which is already reeling under the pressure of currency appreciation. Finally, a stage would be reached where the differential would get significantly whittled down, leading to a flight of demand to alternative sources of supply.

Table no. (4) represents the percentage of employable candidates passing out of various technical streams in India. These percentages are loosely based on numbers of unemployed in each category, RocSearch's experience in getting the right people and a study by McKinsey Global Institute on the Emerging Global Labor Market (June 2005) which states the total number of graduates that can be deployed in offshoring work is smaller than the raw numbers suggest.

(Table - 4)

Professional Area		Addition Per Year	Employable Candidates (%)	Employable Candidates (Approximate No.)
Ph.Ds		1,500	100	1,500
College Students	Post Graduate	3,00,000	15	45,000
	Graduate	21,00,000	10	2,10,000
CAs		10,787	25	2,696
Lawyers		15,000	25	3,750
Computer Professionals	MCA	54,200	10	5,420
Medicine	M.Pharm.	2,686	25	671
	B.Pharm.	24,672	15	3,701
	Doctors	12,000	25	3,000
Engineering Graduates	M.Tech.	32,600	25	8,150
	Diploma	2,65,400	25	66,350
	Degree	2,42,800	25	1,10,700
MBAs	Tier II**	84,200	50	42,100
	Tier I*	3,191	100	3,191

* Top 15 B-Schools including the six IIMs (Indian Institutes of Management)

** Other Govt. approved B-Schools (All India Council of Technical Education)

***Source**:* Knowledge Services Outsourcing-An insight into the impending workforce crunch in India' *a report published by RocSearch*

A hammer to the cost-effectiveness

Global HR consulting firm Hewitt Associates, industry observers and human resource executives suggest that salaries are spiralling upward. The average annual wage hike has been around 14% in India; rising to as high as 30% at the higher end of the knowledge services in 2006. Hewitt Associates has also forecasted an average 14.5 per cent wage hike in 2007. In the knowledge service industry the wage cost constitutes between 65-75% of the cost of operations, and if this continues, the impact of a substantial rise in wage costs could be lethal for organizations here. In table no. (5) given below, the percentage increase of salary in different countries is depicted, which shows that there is maximum increase in India. According to

Evalueserve, if this trend continues, the salaries (in constant dollars) are expected to increase 2.5 times the current by FY 2010.

(Table 5)

COUNTRY	% INCREASE IN SALARY
INDIA	14%
CHINA	8.10%
MALAYSIA	5.40%
PHILIPPINES	8.10%
SINGAPORE	4.00%
TAIWAN	4.20%
THAILAND	6.50%
AUSTRALIA	4.20%
HONG KONG	3.40%
JAPAN	2.80%
KOREA	7.10%

Source-Hewitt Associates global human resources services- annual Asia Pacific Salary Increase survey, 2006

This would reduce the cost-arbitrage benefit from the present 40 to 25 per cent. Due to this the low-end work may move to relatively cheaper countries like China, Philippines, the Czech Republic and Malaysia.

Inflation is one of the major issues of concern for India. On assuming an inflation rate of 5% in India and 2.5% in the US, and a wage hike of not more than 14% in India and 5% in the US, we find the although the cost gap narrows in some cases, it remains an attractive cost benefit. In this scenario the cost gap (w.r.t US) would narrow down further, making India less cost effective. Over a five-year period from 2005 to 2010, the average cost differential in the case of an engineer narrows down to 56% from 65%. The differential will narrow down faster in the case of high-end labour equipped with advanced degrees (such as a PhD). As compared to countries like Malaysia and China, the inflation in India is much higher. In Malaysia inflation jumped 5.1% this year. China's Inflation was 7.1% in January 2008. Appreciation of Indian Rupee when compared to US Dollar is gradually making Indian KPO companies less competitive with rising costs in India. The table (6) given below shows the inflation in different countries in October 2008.

(Table 6)

Inflation in different countries in October 2008

Country	Consumer Price Index Year-on-Year	Wholesale Price Index Year-on-Year
Germany	3	8.1
Japan	2.1	7.7
UK	5.2	8.5
USA	5.4	9.6
China	4.9	10.1
Singapore	6.4	16.6
Hong Kong	4.6	6.6
India	**8.3**	**11.8**
South Korea	5.1	11.3
Taiwan	3.1	6.6
Australia	4.5	8.7
Mexico	5.5	6.3
Brazil	6.3	14.9

Source: Bloomberg, IMF World Economic Outlook, October 2008, Business Standard-17 October, 2008

As per a survey, the attrition rate in the knowledge service firms is over 20%. The average career tenure of an individual ranges between 1-2 years in most of the companies. Those who are within the industry are moving from one company to another at a very rapid pace, thereby causing a lot of attrition. So, it would not be surprising if attrition alone could become the biggest problem for the Indian KPO sector within the next 2-3 years as other countries like China, the Philippines, Poland, Russia, etc. get a bigger share of the KPO market worldwide.

Conclusions

India is on the verge of losing the top position in the knowledge services market to countries like

China, Malaysia, Philippines, Russia and Indonesia which are emerging as strong contenders for the KPO business in view of low-cost advantages, domain expertise, location advantage, sales and marketing capabilities and data compliance. If India wants to remain a major player in the knowledge services, the government should focus on improving the quality of education and not merely increase the number of universities.

The state of training infrastructure within the Indian outsourcing domain is not up to the mark. A huge demand for training and development personnel is expected in the near term, not only for bridging the skills gap at the entry level, but also for skills advancement of existing employees in order to provide growth opportunities. The Indian educational system is yet to make a discernible transition from its traditional knowledge-based focus to hands-on skill development. Focus must be on industry-institution interface and partnerships. This would help to set up centralized and nodal training infrastructure along the lines of Industrial Training Institutes. Such 'Services Training Institutes' could be dedicated to specific outsourcing sub-sectors,and would operate under the aegis of an industry association. A common, nodal training centre could impart training for a common entry level skillset.

The future of KPO in India depends not only on how India moves up the value chain in terms of services and offerings but also on how India can retain its competitive advantage of cost arbitrage, pool of knowledge professionals and quality of deliverables.

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