

## KNOWLEDGE PROCESSING OUTSOURCING (KPO): OPPORTUNITIES IN PHARMACY RESEARCH AND DEVELOPMENT

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**ABSTRACT**

Knowledge Process Outsourcing (KPO) is one-step extension of Business Process Outsourcing (BPO). Knowledge process may be defined as high added value process chain where the achievement of objective is highly dependent on skills, domain knowledge and expertise of people out actually. Thus KPO involves transfer of knowledge intensive business processes that require significant domain expertise to other geographical locations. For global corporation looking to move their higher end research as market research, analytical based services, IPR, legal services, pharmaceutical R&D, data mining services etc. India is the location of owing to country large latent pool, quality IT training, friendly government policies, low labor cost etc. In India KPO is envisaged as having high potential not restricted to IT or ITES but also to publishing, supply chain management, business intelligence, remote education and e-learning etc. However some challenges faced by KPO include high initial investment, maintaining higher quality standards enhanced risk management, ensuring information security and confidentiality of the client. Despite above challenges, KPO has a bright future in term of both IT and non-IT sectors and India will emerge as a global leader. The presentation will deal with future of KPO's in India.

**KEY WORDS:** KPO, BPO, Pharmaceutical Industries.

### INTRODUCTION

**K**nowledge process outsourcing refers to the outsourcing of complex tasks and processes like market research, investment research and patent filling amongst others, Knowledge Process Outsourcing (KPO) is an extension of globalization in which knowledge-related and information-related work is carried out by workers in a different company or by a subsidiary of the same organization, which may be in the same country or in an offshore location to save cost. In a simple language it can described as process of "consultation". It has emerged as an efficient platform for the candidates with technical and analytical skills in different fields including engineering, pharmacy, architecture, finance and economics. KPO, thus represents the globalization of knowledge of the professionals who are technically sound in their respective fields and possess analytical thinking and right aptitude.

The research areas of a KPO include:

- Intellectual property investigation
- Legal research services
- Data research & data analysis services
- Market research
- Financial market research
- Data base development service
- Medical writing services
- Content development services
- Animation and simulation technology

Knowledge process outsourcing (KPO) is a form of outsourcing, including legal process outsourcing. These are both high-value-added forms of business process outsourcing (BPO). KPO firms provide domain-based processes and business expertise, rather than just process expertise and actually make many low level business decisions - typically those that are easily undone if they conflict with higher-level business plans. It is being claimed that KPO is one step extension of Business Processing Outsourcing (BPO) because BPO Industry is shaping into Knowledge Process Outsourcing because of its favorable advantageous and future scope. But, let us not treat it only a 'B' replaced by a 'K'. In fact, Knowledge process can be defined as high added value processes chain where the achievement of objectives is highly dependent on the skills, domain knowledge and experience of the people carrying out the activity. And when this activity gets outsourced a new business activity emerges, which is generally known as Knowledge Process Outsourcing. The countries, which have established the greatest number of knowledge process outsourcing firms, are India, Philippines and China. These countries possess extensive knowledge banks and enough professionals in different fields for fulfilling the knowledge process needs of businesses in the USA. The work of knowledge process outsourcing firms requires profound analytical and highly specialized skills. It is estimated, that knowledge process outsourcing is rather prospective and is going to grow in the next few years. Most probably, the area of information technology services, which is currently provided by knowledge process outsourcing firms will expand and include such services as intellectual property services, clinical research, legal research, business research, analytics and publishing. Right now, knowledge process outsourcing firms specialize in the fields of content writing and rewriting, research and development, patent research, pharmaceutical technology, equity research, market research, data research, database management, finance modeling, design and development in various industries, animation, medical reports and services, distance education. Engineers, doctors, attorneys and many other professionals are becoming more and more popular.

Experts of the market research industry have already evaluated all the benefits produced by knowledge process outsourcing firms and have started to outsource the fields in which technology and IT solutions can seriously improve the research process. The researchers are highly profitable as they are really cost effective. Even small companies can make use of them, not having to increase their budget spending. Therefore, knowledge process outsourcing is a really proven method of quickly boosting the productivity and cost savings in the field of market research. The evolution and maturity of the Indian BPO sector has given birth to yet another wave in the global outsourcing scene: KPO or Knowledge Process Outsourcing. The success in outsourcing business process operations to India has encouraged many firms to start outsourcing their high-end knowledge work as well. 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. (Parthasarathi S. 2005). The major benefits of the KPO outsourcing services are described below.

- Cost reductions.

- Standard operational efficiency.
- Expert man-power.
- Time Saving.
- Profit Increments.
- Large man-power without raising costs

Some of the KPO Outsourcing Services are listed as below:

- Knowledge Processing Outsourcing Services
- Intellectual Property Research
- Animation & Simulation Services
- Data Research And Analytics
- Litigation Services
- Medical Content And Services
- Pharmaceuticals Services
- Writing / Content Development Services
- Database Development Services

#### **FUTURE PROSPECTS FOR KPO IN INDIAN PHARMACY:**

According to a report by Global Sourcing Now, the Global Knowledge Process Outsourcing industry (KPO) is expected to reach USD 17 billion by 2010, of which USD 12 billion would be outsourced to India. In addition, the Indian KPO sector is also expected to employ more than 250,000 KPO professionals by 2010, compared with the current figure of 25,000 employees. A report by Evalueserve predicts that India will capture more than 70 percent of the KPO sector by 2010. Apart from India, countries such as Russia, China, the Czech Republic, Ireland, and Israel are also expected to join the KPO industry. (Tiwana A, 2002)

#### ***India - The Ideal KPO Watering hole***

With its firepower of Diploma and graduate pharmacist, M. Pharm's, research analysts, scientific researchers and PhDs, India is well positioned to address the global KPO need. The ready access to a large intellectual pool with domain expertise in specialized areas, coupled with operative English language skills.

India has become the most attractive location for KPO activities. Companies like Bain & Company have their own knowledge centers in India by the name BCC (Bain Capability Centre) and McKC (McKinsey Knowledge Centre) respectively. According to a survey by Evalueserve, the expected revenue of KPO industry in India in year 2013-14 is \$10 billion, which is around 59% of the Global KPO industry. The figures suggest the job potential that KPO industry holds in India. Presently, global pharma companies and consultancies like MarketRx, Frost & Sullivan, TNS and ZS Associates have set up their KPO's in India. (Sveiby K.E. 2002)

#### ***The Mainstay – The Indian Education System***

The ideal KPO employee possesses domain specialization, computer skills & English proficiency. With the Indian way of education, which lays great emphasis on higher education & specialization, a talent pool with specialized knowledge in any field is readily available. There is also tremendous emphasis on mathematics and science, resulting in a large number of sciences and Pharmacy graduates.

#### ***The English Advantage:***

In all good educational institutions, from kindergarten to graduation & beyond, the preferred medium of education is English resulting in a significantly large population of educated & qualified professionals being conversant if not proficient in the English language.(

#### ***Government Policies That Will Aid KPO***

The Indian government has recognized that knowledge processes will influence economic development extensively in the future and has taken remarkable measures towards liberalization and deregulation. Recent reforms have reduced licensing requirements, made foreign technology accessible, removed restrictions on investment and made the process of investment much easier.

### **Knowledge Parks**

The last five years have seen vast development in Knowledge Parks, with infrastructure of global standards, in cities like Chennai, Bangalore and Gurgaon. Multi-tenanted 'intelligent' buildings, built-to-suit facilities, sprawling campuses are tailor made to suit customer requirements. International Long Distance, National Long Distance and Basic Telephone services have been opened up for free competition. ISPs have been granted licenses freely to establish their own international gateways and submarine cable landing stations. Internet telephony too has been allowed. Tax holidays and concessions for companies involved in scientific R&D are just some of the steps to create a pro-growth environment.

### **KPO opportunities in Pharmacy Research and Development:**

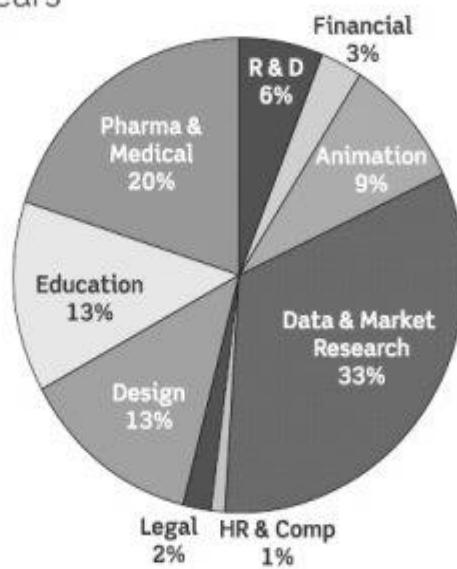
The process of outsourcing pharma information helps the global pharmaceutical industry face the challenges of drug development and forge ahead in the competitive environment. This results in high demand of pharmacy professionals in KPO sector. The desirable qualities in a prospective KPO employee include knowledge in the areas of information search, analytical interpretation and technical skills. Persons capable of judgement and decision making are more sought after. Nature of work done at KPO includes legal back-office process, intellectual property or patent research, R&D in pharmaceuticals and biotechnology, data mining, database creation, high-end customers/technical support and a range of analytical services such as equity research, competitive intelligence, industry reports and financial modeling. Pharmacists can visualize their future in KPO sector as a: Pharmacy Sector Analyst: it includes data analysis on drug design, drug invention and the latest trends in the medical science. To be a good analyst, one should have a very good quantitative aptitude and writing skills. Medical Transcription (MT): it includes obtaining narration from medical practitioner and documenting it. Knowledge of medical terminologies, ability to quickly follow the different languages, speed and accuracy, good typing skills, good command over English language, good listening skill, time management skills and editing skills are the desirable qualities of a medical transcriptionist. More than \$40 billion are spent on new Drug research and development, pharma companies are having tough time in finding quality people to speed-up their research and development. Generally it takes about 14 years for a new drug to come to market, the drug companies are in constant pressure to cut down their time to market. Because of this drug companies are now considering offshoring their drug research and development to countries like India and China. These countries offer unique advantage to western drug companies in clinical studies with their vast pool of diverse and multicultural patients to carry out the work successfully. Following are some the tasks that have been outsourced in this category:

- Clinical Trial Management
- Clinical Regulatory Support
- Drug Discovery & Chemical Research
- Electrocardiogram (ECG) Interpretation Services

The future prospects for KPO in India are immense because KPO is applicable to multiple industry sectors in which India's highly-skilled workers and technically educated professionals have developed particularized expertise. These sectors include finance, **pharmaceuticals**, healthcare, biotechnology, insurance, electronics, software, aerospace, automotive, textiles, industrial machinery, entertainment, media and publishing, education, law, and engineering.

Two examples of KPO in India are worth noting. In the pharmaceutical industry, global pharmaceutical companies such as AstraZeneca, GlaxoSmithKline, Pfizer, Novartis and Eli Lilly have moved portions of their clinical drug testing to India in an effort to tap into India's vast and diverse population and pool of highly-skilled, but lower-wage demanding, scientists. This can significantly accelerate the trial time and time to market for new drugs, and offers potential cost savings of up to 40-60 percent relative to the U.S. India's vibrant local pharmaceutical sector and its recently amended patent laws<sup>6</sup> granting patent protection to drugs and chemical products, on top of the process protection historically provided, have also attracted global pharmaceutical companies to offshore Research and Development to India. India's attractiveness as an offshore destination for clinical research is further enhanced by investment incentive policies ranging from tax holidays to duty exemptions as well as India's acceptance of the International Conference on Harmonization Guidelines for Good Clinical Practices. With the cost of bringing a new drug to market continuing to increase in the U.S., with the latest estimates approaching US\$1 billion, the possibility of potentially reducing the cost of clinical trials and drug discovery by up to 50 percent by moving those processes offshore cannot be ignored. Increasing pressure on pharmaceutical companies to improve productivity and profitability without sacrificing quality to sustain competitive advantage makes KPO a compelling strategic route.

KPO India – Next 5 Years



#### ***India's intellectual potential***

Evolution and maturity of the Indian BPO sector has given birth to yet another wave in the global outsourcing scene. The success in outsourcing business process operations to India has encouraged many firms to start outsourcing their high-end knowledge work as well. 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. The myth that Indian companies can only provide "software coolies" is soon changing to the reality of Indian companies being capable of almost anything, even rocket science! India has a large pool of knowledge workers in various sectors ranging from Pharmacy, Medicine, Law, Biotechnology, Education and Training, Engineering, Analytics, Design & Animation, Research & Development, Paralegal Content and even Intelligence services. This talent is soon being discovered and tapped by leading businesses across the globe resulting in the outsourcing of high-end processes to low-wage destinations. Hence Knowledge

Process Outsourcing involves off shoring of knowledge intensive business processes that require specialized domain expertise.

A new wave of global outsourcing to India known as knowledge process off shoring, or "KPO," is following on the heels of the remarkably successful Indian market for information technology outsourcing (ITO) and business process outsourcing (BPO). Like ITO and BPO, KPO allows companies to realize substantial cost reductions by off shoring domestic business functions to lower cost foreign venues. KPO differs, however, in also helping companies gain strategic advantage over competitors by virtue of the type of off shored processes and functions it involves. KPO offers significant potential benefits, but with possible greater reward comes risk, and KPO involves a number of key issues and risks that must be carefully evaluated when considering a KPO transaction in India. KPO involves the offshore outsourcing of knowledge-driven or "high end" processes that require specialized domain expertise, such as Research and Development, insurance underwriting and risk assessment, financial analysis, data mining, investment research, statistical analysis, tax preparation, engineering and design, animation, graphics simulation, medical services, clinical trials, legal services and more. Unlike the ITO and BPO market sectors, which create cost savings solely through leveraging economies of scale and "rules based" process expertise, KPO accesses the global talent pool to carry out processes that demand specialized analytical and technical skills as well as the exercise of judgment and decision-making. The strategic driver for KPO is to add value by providing high quality business expertise and superior productivity through improved time to market in addition to realizing the traditional cost reductions through arbitrage of labor markets that have made ITO and BPO successful.

Although there are vast first-mover benefits to U.S. and European participants in KPO, meaningful challenges exist that must be addressed and navigated knowledgeably so as to achieve and maximize the strategic incentives the KPO model offers. Potential KPO customers must overcome the natural and understandable hesitation to relinquish control over the outsourced processes. These processes and their associated data are often critical, and companies have legitimate concerns about data security, intellectual property protection, quality assurance, regulatory compliance, and cost, to name just a few concerns. In addition, KPO, by definition, involves a deeper investment by the customer in the host country's educated workforce and a dependence on that workforce that far exceeds BPO and ITO, and a greater dependence on the stability and predictability of the underlying governmental and social structure of the host country. As a result, a deeper understanding of the host country's business, regulatory, and legal framework becomes imperative. Companies such as AstraZeneca and GlaxoSmithKline have recently set up drug discovery centers at low-cost destinations to offshore Research and Development activities.

### **THE CHALLENGES IN KPO**

KPO delivers high value to organizations by providing domain-based processes and business expertise rather than just process expertise. These processes demand advanced analytical and specialized skill of knowledge workers that have domain experience to their credit. Therefore outsourcing of knowledge processes face more challenges than BPO (Business Process Outsourcing). Some of the challenges involved in KPO will be maintaining higher quality standards, investment in KPO infrastructure, the lack of talent pool, requirement of higher level of control, confidentiality and enhanced risk management. Comparing these challenges with the Indian IT and ITES service providers, it is not surprising that India has been ranked the most preferred KPO outsourcing destination owing to the country's large talent pool, quality IT training, friendly government policies and low labor costs. India is well equipped to meet this emerging sector's challenges and all set to be the global KPO hub.

### ***Attraction of India's "Knowledge Class" for KPO and First Mover Advantage***

The reward of successfully implemented KPO is truly enormous. The global KPO market is poised to grow over 45 percent per annum to \$17 billion in 2010. India is emerging as the global KPO "hotspot" and is expected to capture over 70 percent of the market share going forward. The major KPO domains expected to grow in India over the next five years and their respective estimated value pie distribution are reflected in the chart below.<sup>2</sup> India has a large reservoir of English-speaking, knowledge-based professionals<sup>3</sup> who are available at extremely competitive salaries, and a rapidly evolving legal and regulatory environment that is based on a western model and is increasingly friendly to foreign investment. Unlike ITO and BPO, which are almost exclusively cost-based and benefit from a virtually unlimited, relatively quickly trainable labor pool in developing countries such as India and China, KPO depends on a more limited, albeit currently vast, resource of highly-skilled, educated workers. These workers, over time, will certainly demand more economically rewarding compensation packages as competition for their skills increases. Successful KPO participants, accordingly, should not only leverage existing resources but should also consider investing, and visibly participating, in education and training systems in an effort to assure a predictable future supply of highly-skilled workers and to develop first-mover branding of the company in Indian society, as many companies (AstraZeneca and GlaxoSmithKline to name a few) already are doing. Because of this market timing consideration inherent in tapping into India's increasingly developing worker base, first mover considerations are therefore not insignificant with respect to KPO strategy.

### ***KPO Delivery***

When it comes to the KPO delivery model, one size does not fit all. Currently, three key KPO delivery models exist, which are (i) off shoring through affiliated legal entities in India, which can be thought of as "Captive KPO," (ii) contracting with unaffiliated third party vendors, or what can be called "Third Party KPO," and (iii) partnering with local entities to share control of local operations used for delivery of KPO services, or "Joint Venture KPO." Each model has its own advantages and risks, and should be evaluated carefully so as to identify and assess the relative pros and cons for a particular KPO strategy. Businesses should adopt different delivery models for different situations, taking into account variables such as the nature and scope of the activities to be off shored, previous offshoring experience, concerns about security and control of intellectual property (IP), risk tolerance, tax considerations, and budgetary constraints. For example, Third Party KPO can be more quickly implemented and often can offer greater flexibility in access to talent, scalability and cost structure. But it also yields to the third party more control over day-to-day operations and the handling of sensitive data and IP, and creates more reliance on the foreign host country's legal regime and the timely enforcement of contracts. In comparison, a Captive KPO model usually requires more time to implement and provides less flexibility to ramp up or down quickly, but it ensures substantially more control over the management of the offshore operations and the company's sensitive data and IP, and less dependence on foreign enforcement of contract rights. A KPO customer should consider adopting the Captive KPO strategy if the scope of KPO involves a substantial transfer to India of the customer's critical proprietary technology, IP, or data, and the enterprise cost of possibly losing control over some meaningful component of any of those assets is high.

In India, KPO initially took hold in captive centers through the establishment of local subsidiaries and reportedly over 50 percent of offshore business in India is currently Captive KPO. But as the Indian KPO market matures and the business, legal and regulatory environment there continues to advance and stabilize; businesses can be expected to increasingly leverage the Third Party KPO model in light of the advantages that model offers in terms of flexibility, scalability, and range of expertise. Regardless of the delivery model, KPO invariably requires the customer to disclose

and share knowledge-intensive processes with the offshore provider, which knowledge may be in the form of proprietary technology, software, chemical entities, specifications, product designs, business processes, methodologies, drug formulations, or other sensitive data. Accordingly, the substantial benefits that KPO in India offers must be seen as "hand in hand" with the unique and heightened risks inherent in the transfer of customer-owned knowledge to India. These risks must be carefully considered upfront and mitigated to realize the full benefit of KPO to India.

## CONCLUSION

KPO to India can not only yield enormous cost savings and increased efficiencies but can also leverage India's vast knowledge class to perform "high end" skill- and judgment based services and functions. The potential KPO customer must be aware; however, that KPO presents a number of risks, particularly with regard to controlling intellectual property and protecting sensitive data that must be considered and addressed. These risks can be managed, however, through appropriate due diligence, planning, and a well-crafted KPO contract that properly identifies and addresses the risks and provides real and practical protections and enforcement mechanisms. In the future, it is envisaged that KPO has a high potential as it is not restricted only to Information Technology (IT) or Information Technology Enabled Services (ITES) sectors, and includes other sectors like Intellectual Property related services, pharmaceutical Research and Development, Pharmacy Analytical Research, Clinical Research, Market Research (Market research KPO).

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