

Global Outsourcing of IT and IT Enabled Services:
A Framework for Choosing an Outsourcee Country

Global Outsourcing of IT and IT Enabled Services: A Framework for Choosing an (Outsourcee) Country¹

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ABSTRACT

Global market for outsourcing of IT functions took off in late 1980s and for the last five years, global market for IT as well as IT Enabled Services has been growing steadily. IT functions include IS analysis, IS design, IS development, IS implementation and management of entire data centers. IT enabled service, also called Business Process Outsourcing, include functions like call centers, accounting, payroll, employee benefits, tax preparation, radiology analysis, films and cartoons production, and even research and development. Outsourcing location can be onshore, near shore, offshore or far shore. Outsourcing industry has been inventing itself in a myriad ways. This is a conceptual paper providing an outsourcing scope framework and also a model for selecting an outsourcing destination country.

Key words: Outsourcer country, outsourcee country, IT enables services, Business Process Outsourcing, offshore insourcing, offshore outsourcing, CMM level, ISO certification

GLOBAL MARKET FOR OUTSOURCING: PAST, PRESENT, AND FUTURE

In 1989, outsourcing was approximately a \$4 billion business (Lacity, Willcocks, and Feeny, 1996). In 2000, outsourcing of IT functions has reached \$56 billion per year, and by 2005, it is expected to reach \$100 billion per year (Casale, 2001). According to another forecast, IT Outsourcing is expected to grow to \$160 billion industry in the United States alone by 2005 (Vijayan, 2002). Over the years, offshore outsourcing is on the increase at an increasing rate. It has been reported that the cost of different types of IT work is anywhere from 20% to 50% LESS offshore (Hoffman, 2003). What about the market for IT Enabled Services (ITeS) or Business Process Outsourcing (BPO)? According to Gartner study (Gartner Dataquest, 2003); global market for BPO would touch US\$ 131 billion in 2004, US\$ 131 billion in 2007 growing at a compounded annual growth rate (CAGR) of 9.5%.

Over the years, India has been the primary destination for offshore outsourcing of IT as well as ITeS (BPO). Royal & Sunalliance, the UK general insurer, became the latest financial services group to embark on a major Asian outsourcing project yesterday, unveiling plans to move 1,100 jobs to India, adding to the 100 staff it already employs there (Daley, 2004). India Research Laboratory of IBM, the youngest of eight such research centres of the company worldwide, has grown to accommodate more than 90 engineers working on cutting edge technologies (Subramanoy, Oct 12, 2004). Google, the company which owns the popular web search engine of the same name, is looking at its Indian R&D centre in Bangalore to develop complete products; the centre was set up six months back (Subramanoy, Oct 14, 2004).

WHAT FUNCTIONS CAN BE OUTSOURCED?

Information Technology (IT)

IT functions were the first to be outsourced on-shore or off-shore. IT functions that can be outsourced are: IS development, IS maintenance and IS operation (selective outsourcing). Some organizations have

¹ This article is articulated based on a keynote speech delivered at the Third Annual International Outsourcing Conference in Dallas, TX on September 9, 2004.

outsourced entire IT function (total outsourcing) that includes acquisition and maintenance of IT infrastructure (hardware, systems software, telecommunications networks).

Accounting

The outsourcing of finance and accounting functions is primed for growth, with more than 70 percent of senior executives predicting that demand will become even more prevalent over the next three years, according to a study released today by Accenture and the Economist Intelligence Unit (EIU) on June 17, 2003. The study, which examined finance and accounting outsourcing, consisted of an online survey of senior executives from 236 companies representing a variety of industries across North America, South America, Europe and Asia. The survey was complemented by one-on-one interviews with senior executives at another 44 companies globally.

The global market for outsourcing finance and accounting (FA) functions is expected to grow at a 9.6% compounded annual growth rate (CAGR), and top \$47.6 billion in 2008, according to a report from IDC (Volume 2, Number 2, 2004). Altogether, the study presents the worldwide and U.S. finance and accounting (FA) business process outsourcing (BPO) market forecast and analysis by major region and distinct FA sub-processes, such as transaction management, finance, general accounting, treasury and risk management, and tax management, that make up the FA function. Spending on outsourcing of the transaction management function is expected to grow the fastest, at 9.8%, over the next five years, the market researcher pointed out.

Human Resources

In a recent survey by the Society for Human Resource Management (SHRM), HR professionals were asked if they outsource any HR functions, why do they outsource². Additionally, they were asked what functions do they outsource³. Reasons for outsourcing cited along with percentages are: 26 percent – Save money, 23 percent – Focus on strategy, 22 percent – Improve compliance, 18 percent – Improve accuracy, 18 percent – Lack experience in house, 18 percent – Take advantage of technological advances, 17 percent – Offer services we otherwise could not, 15 percent – Focus on core business, 5 percent – Other, and 47 percent – Do not outsource. Functions that were outsourced along with percentages are: 84 percent - 401 (k) administration, 84 percent – Employee assistance/counseling, 74 percent – Retirement planning help, 73 percent – Pension administration, 72 percent – Temporary staffing, 68 percent – Background checks, 57 percent – Training and management development programs, 54 percent – Executive development and coaching, 53 percent – Health care benefits administration, 49 percent – Employee benefit administration, 49 percent – Payroll, 46 percent – Risk management, 44 percent – Executive staffing, 41 percent – Employee relocation, 40 percent – HRIS selection/training/implementation, 32 percent – Recruitment, 17 percent – Executive compensation and incentive plans, 15 percent – Policy writing, 14 percent – Administration of compensation/incentive plans, and 11 percent - Wage and salary administration."

² The Reasons for Outsourcing survey was fielded during the week of July 22-29, 2003, and was based on the responses of 393 randomly selected human resource professionals. The margin of error is +/- 4.9 percent

³ The Functions Outsourced survey was fielded during the week of July 29-August 5, 2003, and was based on the responses to outsourcing questions of 360 randomly selected human resource professionals. The margin of error is +/- 5.15 percent.

From the results of above current survey, it is clear that several HR functions are being outsourced for a variety of reasons.

Research and Development

In fact, when AMR Research conducted a survey in 2003, it found that 50 percent of R&D groups in the auto, high-tech, aerospace and defense industries had no interest in outsourcing IT support; just 12 percent said they were outsourcing any IT projects related to R&D. Companies in the technology sector exhibited the least interest, according to Travis: Just 4 percent said they do any outsourcing of this function. Even when companies do consider outsourcing functions that require sharing proprietary or extremely sensitive data, they generally look within the United States -- or at a company that melds both onshore and offshore services, many industry executives said. "Because the biggest factor in most R&D groups about outsourcing is risk, they look to reduce risk by going with a global delivery model -- for example, split between on- and offshore," Travis said

It is estimated that the U.S. medical device and diagnostics industry currently outsources more than \$300 million in R&D. This figure has been growing at consistent rates for a number of years, and continues to accelerate. Though \$300 million may not seem like a large amount, when compared with the dollar totals of other industries and outsourced tasks the potential for growth is evident. Companies should consider these statistics:

- In 1998, U.S. pharmaceutical companies outsourced 15% of their manufacturing projects, 21.5% of their clinical evaluations, and 14% of their R&D endeavors.
- In the same year, electronics contract manufacturing services exceeded \$100 billion, and they continue to increase at a rate of more than 20% annually.
- Expenditures for outsourced information services (payroll administration, responding to claims, processing credit cards, completing financial transactions, etc.) reached the \$100-billion mark in 1999, and continue to grow at a rate of 12% per year.
- In November 1999, *The Wall Street Journal* reported that \$800 million per year is spent on software-application service providers for the installation and maintenance of software.

Why do companies outsource R&D services?: Companies choose outsourcing to reduce costs, minimize business risks, and hasten product market entry. The cost reduction may result from improved organizational effectiveness, shorter product development cycles, greater access to high technology, or restructured and improved use of resources. Outsourcing often leads to enhanced effectiveness by permitting the company to focus on core competencies and lessen its demands on tangible resources.

Organizational Effectiveness. Outsourcing can be used to redistribute internal resources from non-core to core activities, and can increase the firm's flexibility in responding to changes in the marketplace. Outsourcing is also used by some firms as a way to accelerate organizational change by eliminating out-of-date or inefficient assets.

Fast Market Entry. Outsourcing can help a manufacturer meet temporary product development needs without imposing a long-term commitment. It can also be used to pursue multiple projects with a limited staff, thereby yielding a richer product pipeline.

Access to Capabilities. Outsourcing allows companies to access technological and process innovations when size and/or time constraints prevent them from establishing these capabilities in-house. Obtaining the necessary expertise and skills outside can help a company move ahead of its competitors. In some cases, less-manageable functions are outsourced to more experienced firms.

Resource Utilization. Outsourcing can help reduce companies' up-front capital requirements and control their operating costs. Often, startups and companies with inexperienced or small staffs, limited facilities, or insufficient equipment outsource the projects they lack the time or funds to develop.

CRM and Call Centers⁴

Outsourcing means that client companies (outsourcers) do not have to invest vast amounts of money to employ, train, manage and maintain the latest advances in customer relationship management services and infrastructures with expensive in-house IT and service departments. Outsourcers are generally skeptical and concerned about entrusting their most important asset—their customers—to a third party. An experienced outsourcee should be able to interface with a legacy system and manage both existing and potential customer relationships in all areas. The outsourced call center can administer both the technology and human resource functions, increasing customer satisfaction and retention at a lower cost. A good barometer for measuring the success of an outsourcing agreement is the seamlessness of the line between the client and the customer relationship manager. The customer should not be able to distinguish that they are dealing with an outsourced call center as opposed to the client company's own employees. The outsourcee's sales and marketing associates must be trained to mirror the corporate culture of the institution they are serving, answering and generating calls precisely in the same manner that the client would. The outsourcee should not offer a one-size-fits-all package. Its infrastructure should be tailored to reflect the profile of the customer, not the reverse. Each service should entail a technology/training initiative specific to the client, culture, and product focus.

Take the example of the insurance industry. The insurance industry, like other industry sectors, has discovered that outsourcing reduces costs through improved use of facilities, higher productivity, and better personnel management. It allows agents and brokers to improve strategic service offerings and full-cycle customer interaction. An insurance agency must give the outsourcee sufficient access to its internal information systems. In addition, outsourcing usually improves an agency's contact services because the outsourcees are more motivated to stay abreast of all new product and service offerings to a degree that an agent or broker's employees might not. Insurance agencies are requiring the outsourced call-center staff to be flexible. So, the outsourced personnel must be able to switch from placing an outbound call to suddenly being available to receive an inbound call and handle both with aplomb. In the past, clients typically had divided the two functions, using one outsourcing group for inbound and another for outbound calls. But a call center should be able to turn off quickly the outbound route and turn on the inbound route to ensure that all functions are satisfied and no customer is turned away. Agents and brokers are increasingly outsourcing portions of their after-hours support functions as well. This is becoming highly popular with customers who often are more apt to telephone in the evening when it's more convenient for them rather than during normal working hours.

⁴ Significant information in this section came from an internet source (Chase, 2004)

Tax Preparation

According to a report from IDC (Volume 2, Number 2, 2004), spending on outsourcing of tax management is expected to grow by 9.3% per year over the next five years while spending on general accounting functions is expected to grow 8.3% per year over the same period. Reports of the scope and size of the outsourcing market for tax preparation vary greatly, but the largest outsourcing companies claim that thousands of returns were processed during the 2003 tax season. Estimates for the 2004 season indicate the total may now be well into the hundreds of thousands. CPA firms claim that it is increasingly difficult to find qualified part-time staff during tax season, and that there are significant cost savings from outsourcing. Various Indian websites claim that tax returns can be processed in India for 50% of the cost in the United States. Besides cost savings, other benefits include: (a) Improved turnaround time and increased productivity, because the return comes back in less than 48 hours; (b) Reduced tax preparation workload frees up a CPA firm's professional staff to find ways of offering their clients new value-added services; and (c) Tax outsourcing can serve as a catalyst for business transformation, enabling a firm to outsource other accounting functions, such as bookkeeping.

How does Tax preparation outsourcing work? Let us take the example of SurePrep. SurePrep electronically transmits tax information to preparers in India. Confidentiality of personal and financial data is a critical issue, as is the preparers' competence and skills. SurePrep responds to the latter concern by pointing out that Indian preparers are well educated, speak English, and are trained in U.S. tax law. The U.S. firm still interviews the client and collects all the information, which is encrypted and transmitted electronically to a secure server that the foreign accountant can access. Client source documents, including W-2s, 1099s, and K-1s, are also scanned for transmission. These electronic documents, and other relevant tax files, are uploaded to a data center in the United States; the outsourcing company accesses the documents using a web browser and organizes them into a web-based file. In India, Chartered Accountants (their equivalent to our CPA) access the files and prepare the tax returns using the firm's preferred tax software package. Once it is completed, the U.S. firm reviews the return and is responsible for its accuracy.

According to Mintz (march, 2004) there are several ethical concerns in regard to offshoring of tax documents. Four rules in the AICPA Code of Professional Conduct are of particular relevance to tax outsourcing: Rule 102, Integrity and Objectivity; Rule 201, General Standards; Rule 202, Compliance with Standards; and Rule 301, Confidential Client Information (*AICPA Professional Standards Volume II*; AICPA, New York, 2003).

Radiology Analysis and Medical Tourism

Teleradiology is a growing healthcare business niche that helps ease the shortage of radiologists and an increasing work load (due to unwillingness of US radiologists to work in the night shifts). That development, combined with a shortage of radiologists that has appeared over the past seven years or so, means providing radiological services around the clock has become a serious problem. On-call radiologists, who once were contacted at home perhaps once a night to read an X-ray or MRI, now find themselves dealing with four or five calls and getting little or no sleep -- only to have to report to work in the morning. Aside from the risk of having a tired radiologist read a crucial scan, there is the toll such sleep deprivation takes on a doctor's health and family life.

Technology that once produced only fuzzy images now permits Internet transmission of crystal-clear radiological scans, so more and more hospitals and radiology practices are contracting with so-called nighthawks -- radiologists who do not mind covering night shifts in the United States because where they are -- across the globe in Israel, Australia or Switzerland -- it is daytime.

NightHawk Radiology Services out of Coeur d'Alene, Idaho, established in 1994, coined the term "Nighthawk" because that was the nickname for pilots who flew night missions. Today, NightHawk Radiology provides overnight radiology services for hospitals and radiologist practices in 46 states. There are issues of credentialing, licensing, accuracy of the readings, liability and public perception -- based on recent reports linking nighthawk services with moving jobs out of the United States to foreign countries with cheaper labor and less-qualified staff. Most of these concerns already have been answered. They maintain strict requirements that all teleradiologists be U.S. trained, licensed and board certified. The gold standard is a nighthawk radiologist will relocate his or her own job overseas -- but still must hold a license to practice medicine in each U.S. state where contract clients are located and also be individually credentialed by each hospital for which the work is done. The technology has moved from more primitive e-mail delivery to having a private Web server to send scans to radiologists in Australia, Israel and Italy.

The United States has no jurisdiction outside its borders, so there are questions about what could happen if a teleradiologist in Australia, for example, were sued for malpractice. At this time, it appears that the hospital would be liable but the radiologist is under no obligation to come to the United States for trial.

According to the staff reporter (2003), Wipro Technologies of India has developed a model for clinical process outsourcing (CPO). As a first step in this process, radiologists working in India are examining scans of patients seeking care within the United States. The Indian doctors, are held to Western standards in determining results of the scans. The data from the scans are quickly shipped back to the hospitals, where patients are surely oblivious to the difference. The end result will be that healthcare costs are reduced, response time from testing are improved, and that the overall level of care is enhanced.

According to Lancaster (2004), Howard Staab learned that he suffered from a life-threatening heart condition and would have to undergo surgery at a cost of up to \$200,000 -- an impossible sum for the 53-year-old carpenter from Durham, N.C., who had no health insurance. So he **outsourced the job to India**. Staab flew in September, 2004 about 7,500 miles to the Indian capital, New Delhi, where doctors at the Escorts Heart Institute & Research Centre -- a sleek aluminum-colored building across the street from a bicycle-rickshaw stand -- replaced his balky heart valve with one harvested from a pig. Total bill: about \$10,000, including roundtrip airfare and a side trip to the Taj Mahal. Staab is one of a growing number of people known as "medical tourists" who are traveling to India in search of First World health care at Third World prices. In 2003, an estimated 150,000 foreigners visited India for medical procedures, and the number is increasing at the rate of about 15 percent a year, according to Zakariah Ahmed, a health care specialist at the Confederation of Indian Industries. Eager to cash in on the trend, posh private hospitals are beginning to offer services tailored for foreign patients, such as airport pickups, Internet-equipped private rooms and package deals that combine, for example, tummy-tuck surgery with several nights in a maharajah's palace. Some hospitals are pushing treatment regimens that augment standard medicine with yoga and other forms of traditional Indian healing. A recent study by the McKinsey consulting firm estimated that India's medical tourist industry could yield up to \$2.2 billion in annual revenues by 2012.

Taken as a whole, India's health care system is hardly a model, with barely four doctors for every 10,000 people, compared with 27 in the United States, according to the World Bank. Health care accounts for just 5.1 percent of India's gross domestic product, against 14 percent in the United States. On the other hand, India offers a growing number of private "centers of excellence" where the quality of care is as good or better than that of big-city hospitals in the United States or Europe, asserted Naresh Trehan, a self-assured cardiovascular surgeon who runs Escorts and performed the operation on Staab. Trehan said, for example, that the death rate for coronary-bypass patients at Escorts is .8 percent. By contrast, the 1999 death rate for the same procedure at New York-Presbyterian Hospital, where former president Bill Clinton recently

underwent bypass surgery, was 2.35 percent, according to a 2002 study by the New York State Health Department.

Films and Cartoons Production

Digital animation has become essential from Hollywood to Bollywood. India could become a outsourcing hub for animation cartoons, with Jaddoworks.com leading the way. For more than 95 years, the animated cartoons have entertained people in cinema houses and on television sets in every corner of the globe. The king of animation was Walt Disney, who gave us Mickey Mouse and several full-length cartoon feature films like Snow White and the Seven Dwarfs (1937), and classic films like Pinocchio, Fantasia, Dumbo, Bambi, Cinderella, all made before 1950. Technology evolved, with George Lucas stunning the world with Star Wars and Steven Spielberg with Close Encounters of the Third Kind in 1977.

Animation may be synonymous with cartoon films, but its applications are varied and ever increasing. The 2D and 3D animation productions are used not only for cartoon films but also in TV news, entertainment, advertising and for public service announcements. Remember the movie Twister, where the cow flew across the screen? Or Independence Day where the alien spaceship threatened the existence of planet Earth? 3D animation became a rage in America in the early 1950s. In 1953 Paramount's Famous Studios created two 3D cartoons, Popeye: The Ace of Space and Boo Man. India is coming of age in the animation field, and it is emerging as a new destination for the international animation and special effects industry. Although digital animation in India may still be in its infancy, it has been used here in filmmaking for three decades. Renowned animator Ram Mohan provided footage for Mrinal Sen's film Bhuvan Shome as early as 1969. It was the first Indian feature film which had animated footage as an integral part of the story. In 1977, Mohan also did animation for some scenes in Shatranj ke Khiladi, an unacclaimed film by Satyajit Ray.

With American, Canadian and European companies beginning to outsource their work to Indian animation companies, the business mood now in this IT-enabled service sector is upbeat. According to an independent trade survey conducted recently, the Indian animation industry, which is now pegged at \$550 million, is expected to grow at 30 percent annually in the next couple of years and reach a level of \$15 billion by 2010. Some notable companies in India in this field are: Pentamedia Graphics, based in Chennai, Jadoo Works in Bangalore, CD India in Chandigarh, UTV Toons in Mumbai, Moving Picture Company in Film City, Noida, Heart Entertainment Ltd. and Color Chips India in Hyderabad, and Toonz Animation India in Thiruvananthapuram. Pentamedia has unveiled **Sindbad: Beyond the Veils of the Mists**, the first full-length Indian animated 3D film using the technique of "motion capture." The film was completed in a record time of 18 months instead of the usual two years and more, and the total cost of the film was about \$14 million. The average cost of such productions anywhere else in the world is around \$40 million. The technology to make this possible was developed in India itself, something that Indian companies have to offer to Hollywood production houses. It remains to be seen if Hollywood takes the bait and starts looking seriously at India to outsource its special effects and animation requirements. UTV Toons, a premier animation studio founded five years ago in Mumbai, ranks among the country's top outsourcing destinations for both flash and traditional animation.

Latest in the saga of outsourcing revolution, is the first documented effort to produce a Hollywood film in Bollywood, "My Bollywood Bride" to be released in December, 2004. Says, Vivek Wadhwa (2004), executive producer of the film, "We have American producers. The script was written by Americans. We have an Indian director working side by side with an Indian director. The lead actor is American, and a few Indian actors. The movie has been shot almost entirely in Mumbai using local talent, with final production and editing in Los Angeles. The expected marketing cost in USA is \$300K. The budget of the film is

around \$1 million. I hope that it will gross many times that sum and deliver magnificent returns to the American investors, who will turn around and hand that money to money managers, accountants, and car dealerships – maybe even donate some to charity.”

WHERE CAN A FUNCTION BE OUTSOURCED?

On Shore

Onshore simply means outsourcing within the boundaries of one's country. This was the first era of outsourcing, starting with Kodak outsourcing to IBM its entire IT functions in 1988. Recent outsourcing contracts mirror that growth of the outsourcing strategy: Sabre outsourcing to EDS, DuPont outsourcing to Computer Science Corporation (CSC) and Andesesn Consulting, Xerox outsourcing to EDS – all for billions of dollars. Largest Business Process Outsourcing (BPO) deal recorded to date was signed in 2000 when Nortel Networks outsourced its Human Resources and Procurement functions to PriceWaterhouseCoopers (PwC) under a \$630 million (5 year) agreement.

Near Shore

From the vantage point of USA, Canada and Mexico form the near shore countries. A huge advantage for Canada is that NAFTA has created a large trading alliance between the US, Canada and Mexico. This trade zone allows the free flow of people, goods and services between the three nations and establishes a compatible legal framework for protection of property in all three nations.

Outsourcing to Canada is probably the least risky proposition. USA views Canada as a 51st state. Canadians, of course, think otherwise. But this fanciful notion has a basis in reality. Canada is the least risky country and most familiar place to outsource IT services to. The dominance of the US market is seen in the fact that Canada's top two outsourcing software services exporters - IBM and EDS - are both US firms. Canada's dependence on the US market is further highlighted by the fact that eighty-four percent of all information and communications technology products and services are exported to the US. Although Canada exported CN \$ 4,800 billion worth of software and computer services in 2002, most of that was from US firms, based in Canada, exporting goods back into the US. Canada has the same time zones as the US, its major cities are located near US major cities, English is the primary language (except for French in Quebec province) in Canada, and its culture and business practices are similar to the US's.

The Mexican Information Technology (IT) outsource software services sector is a USD \$30 million industry. Although the industry is quite small compared to behemoths such as India and Russia, Mexico has unique advantages which it can exploit to vault it into serious consideration for offshore software outsourcing. The chief among them is the proximity to the US market, the North American Free Trade Act (NAFTA), low-cost qualified personnel, and access to the Latin American market. The advantages of Mexico's proximity to the US is that not only is it easy to access Mexico from almost anywhere in the continental US, but many Mexican and American firms already have extensive experience working together. This familiarity breeds similar business cultures and allows for US firms to be comfortable in outsourcing key software processes to Mexican firms. Another big advantage for Mexico is NAFTA. NAFTA allows the free flow of goods and services between Mexico, Canada and the US. NAFTA also protects intellectual property rights in all three nations. This legal framework gives some assurance to US firms that the software developed by Mexican firms will not be misappropriated for other uses. A final advantage is that Mexico is an ideal point for accessing the vast Latin American market due to similar language, culture and knowledge of that market by Mexican firms. Even with all these advantages, there are reasons why Mexico only exports only USD \$30 million in software products.

These disadvantages can be summed up in Mexico's lack of experience, lack of English speaking skills, and lack of expertise. The vast majority of Mexican software services firms are very small and do not show up on the radar screen of IT executives who make outsourcing decisions. A second major barrier is proficiency with English - most Mexican programmers speak Spanish. Although Mexican firms have started to improve the English speaking skills of their employees, Mexico is still has a long way to go before it can catch up with Indian firms in language proficiency. Finally, Mexico itself has a serious marketing problem in that the country is not seen as a prime location for outsourcing software development work. Currently, most of the headlines go to places such as India, Russia and Philippines. Mexican software services industry has not done a good job of talking up its strengths and capabilities. Americans tend to view Mexico as a Third World country, which is technically the case. Less appreciated is Mexico's rank as the 11th-biggest economy in the world. With an important economy so close to the U.S., it's no surprise that Mexico is a player in the global market for IT outsourcing services.

Off Shore

Off shore category can be construed as countries in West Europe (from US perspective), who have similar culture and similar economic status. Countries in this category include Ireland, Israel, Belarus etc.

According to an Accenture report, the value of the outsourcing market in Ireland passed \$234 million in 2003. By 2007, it is set to reach \$357 million. Some of this figure accounts for the crew that outsource for blunt off-loading of non-core activities or functions, with an eye on cost reductions. For the rest however, outsourcing involves a much more fundamental redesign of their business, with radical results. According to Uldelfer (2003), both Ireland and Northern Ireland, which remains part of the U.K., are relatively close to the U.S., and their language, infrastructure, and inhabitants' culture and work ethic are all familiar and comfortable to the American eye. There's a catch, though: Companies that send IT work to Ireland pay a stiff premium for that comfort. According to Gartner Inc., Irish outsourcee companies have generally focused on the aggregation and implementation of packaged software applications, rather than on development and maintenance. There are some exceptions e.g., The Allstate Corp. in Northbrook, Illinois has developed 70 applications related to Allstate's property and casualty insurance, annuity products and even enterprise security from their Northern Ireland subsidiary since 1999. Both Northern Ireland and Ireland are a six-hour plane ride from the East Coast of the U.S., and there's plenty of overlap in the business days of U.S. and Irish workers. That makes it possible to pick up the phone and make a call when necessary, important considerations for companies like Allstate. Salaries in Ireland are more than 50% but less than 75% of contractor rates in the U.S." According to Computerworld's 2002 Salary Survey, the average contractor salary in the U.S. is about \$87,000. Irish IT salaries as about midway between those in the U.S. and those in India.

Prudential Financial, the Newark, N.J.-based financial services firm, launched an IT subsidiary in 2000 to develop and test applications and added an inbound call center for its property and casualty insurance business in 2001. The company employs about 400 people at its facility in Letterkenny. Prudential chose this remote town in County Donegal, three and a half hours from Dublin, to take advantage of their top-notch education system.

Salaries are Ireland's Achilles' heel. The country's low population (3.9 million in 2002, according to the CIA's *The World Factbook*), strong economy and early success as an offshore labor source have driven up costs. The outstanding universities and three-year technical programs in Ireland and Northern Ireland turn out only 11,000 or so computer science graduates each year, and there's a lot of competition for those fresh-

faced IT pros: IBM, Oracle Corp. and Microsoft Corp. are just a few of the U.S. high-tech giants that have major production and development facilities in Ireland.

Far Shore

Among far-shore countries, India clearly leads the way. Other offshore players are China, Russia, Philippines, Taiwan, Malaysia, Pakistan.

India essentially invented the modern offshore outsourcing industry, and it currently (2003) exports about USD \$9.875 Billion a year in software and IT Services, with growth rates of over 28%. Indian software companies initially concentrated their efforts by providing low level design, coding, testing, maintenance and support services for the export market. Although, Indian companies have moved up the value chain into areas such as systems integration, network and infrastructure management and system planning and design work, they do not have the name recognition that U.S. based consulting firms do; they are mainly seen as providing a low-cost, high-quality solution. U.S. companies estimate projected savings of 50% to 70%, compared to cost of doing similar IT projects in the U.S. Indian software industry also focuses strongly on quality software and processes. In software development, Carnegie Mellon Universities Capability Maturity Model (CMM) is a model, which prescribes standards in different stages of software development that firms at a given level of maturity must have. All the top-tier Indian vendors are certified at CMM Level 5, the highest level. In fact, of the 23 firms in the world that have been awarded CMM-5, 15 of them are Indian. India has effectively provided efficient software solutions to Fortune 500 companies. Citibank, Morgan Stanley, Wal-Mart, AT&T, General Electric, Reebok, General Motors, Sony, Boeing, Coca-Cola, Pepsi, Swissair, United Airlines, Philips, General Electric, IBM, Reebok, Lucas, British Aerospace, General Motors, and Sears are some outsourcer companies with India as the destination. A recent World Bank-funded study in the United States confirmed that vendors rated India as their number one choice for outsourcing.

Business process outsourcing is the fastest-growing sector in India's IT industry, with work like filing US tax returns, handling billing questions, telemarketing at call centers, et cetera making up the bulk of the outsourced elements. About 100,000 US tax returns were prepared in Mumbai and Bangalore this year. Indian call centers are offering services in languages like Spanish, French and German. It is something that some call centers are building up, as it will help them offer their services to a larger set of clients and markets.

This combination of large supply of top-notch low cost labor, high quality software processes, and the scale to handle all types of work has allowed the Indian software industry to become a global software powerhouse. However, Indian firms now face the threat of lower cost software developers from other far shore nations such as Romania, China and Russia. The next step for the Indian software firms are to move up the value chain and provide total solutions for their clients. Namely, the Indian firms are now concentrating on providing IT and business consulting services to their global clients, going head to head against global giants such as Accenture and EDS. This leap from writing back-end code to acquiring domain knowledge, business expertise and developing reusable code is a difficult transition. It will require a step up in gaining mindshare of the key decision makers in global corporations. The Indian software companies will have to make a large investment in hiring, training and retraining their employees to compete in a global market. They will also have to expand overseas and establish subsidiaries in the US and Europe. All these moves will increase their overall costs; while at the same time fend off lower cost competitors from Russia, China and Eastern Europe.

India, the pre-eminent location for offshore BPO delivery, is being increasingly challenged by the Philippines. The Philippines Government plans to develop and promote the country as a hub in the delivery of customer contact centre, medical transcription, animation, BPO and shared financial services. China is also challenging India, offering lower billing rates but only limited language capabilities. Offshore BPO, today accounts for only two percent of total business process service delivery contract value worldwide and is only expected to rise to six percent of the total by 2008.

According to Nelson Hall Research company nearly 60 percent of work done offshore is in customer management services such as technical support for software and hardware products, telemarketing, and basic customer care such as order taking. Some 64 percent of offshore work overall is voice-based, with 85 percent of customer management services being voice-based. Most offshore processes today involve either basic data entry or are rules-based, the research firm said. The firm predicts that the offshoring of 'judgmental' processes, more complex processes requiring agents to make informed decisions to fulfill requests, and 'analytical and expert services', highly complex processes requiring specialist knowledge and expert judgment - will only increase to 10 percent of offshore BPO activity by 2006.

Nelson Hall's market analysis found that the popular belief that call centre jobs are highly valued by offshore workers is actually a misconception. In fact, the firm found that staff attrition rates within BPO centers in India average 22 percent per annum, with attrition rates in voice-based services hitting 30 percent. Although average attrition rates in the US and Europe are higher, these figures indicate that offshore delivery centers suffer from the same human factors as anywhere else. To combat these high attrition rates and to ensure consistent service delivery quality to their clients, BPO companies are actively striving to raise the understanding and value of their company brand within the community and introducing incentive-based pay structures and 'quality of life' initiatives for workers.

The financial services industry accounts for 45 percent of total offshore BPO delivery contract value as these organizations seek to reduce costs in an increasingly competitive environment. Other significant opportunities exist within manufacturing and telecom sectors. Governance of offshore BPO delivery is critical, with companies requiring strong escalation procedures and the ability to closely monitor their in-country operations.

Northwest Airlines Corp. began outsourcing to the Philippines five years ago to augment staffing in its applications development and applications maintenance areas, as well as to cover temporary peaks in development demand. The St. Paul, Minnesota-based airline manages cultural differences through close communication, on-site presence from the vendor and regular visits by U.S.-based employees to the facility in the Philippines. "We find our offshore colleagues to be highly educated and process-focused," says Mary Stanik, a Northwest Airlines spokeswoman. "Our experience has taught us to expect quality development at lower hourly rates, but with higher management overhead," Stanik adds. "The offshore relationships have offered quicker access to critical skills -- quicker than hiring and training."

After emerging as the world's hottest manufacturing hub, China is joining English-speaking countries such as India and the Philippines as a key destination for outsourced service jobs. The Chinese Information Technology (IT) outsource software services sector is a USD \$1.5 billion market (2003) with an annual growth rate of 30%. The sector can be characterized as being in the same position as India was 12 years ago, with a large supply of low cost workers and a huge internal market in which to base a outsource services sector. The Chinese software services industry would like to follow the same development path that Indian firms took and leverage China's vast supply of cheap programming talent and growing English language skills. However, due to a lack of entrepreneurial, managerial, and technical skills in the software

sector, Chinese companies lag far behind larger, more established companies in India and the Philippines. Furthermore, there is a large demand for IT solutions from China's big domestic market, meaning that their foray into outsourcing market will be further delayed. China's software services market suffers from numerous problems: rampant software piracy, little experience in developing and maintaining complex software, lack of expertise in project management, lack of proficiency in English language, lack of quality standards and processes (only one Chinese company, Neusoft Co., has achieved CMM level 5), authoritarian political regime.

Going forward, China's software services industry's main international success has been in obtaining software outsourcing contracts from Japan. The industry recently has begun to develop relationships with Indian software outsourcing firms which have set up software centers in China. The Chinese industry would like to see the Indian companies outsource their cheaper work to China. The business would support the development of management and technical capabilities of the Chinese software industry, while allowing India to focus on higher value-added activities.

Russia is the most promising new entrant in the field of outsource offshore software services. It has many promising natural resources, including, a large well-educated low-cost workforce of scientists and engineers. Although, Russia does not have any dominant software firms, the Russian outsource software services sector has grown to USD \$200 million (2003) annually with a 50% annual growth rate. Unfortunately, there are obstacles to the continued growth of the market in Russia. These obstacles include immature marketing, poor sales and project-management skills, a scarcity of prospective employees with English-language skills, a decrepit telecommunications infrastructure, and a shortage of qualified managers.

SCOPE FRAMEWORK FOR GLOBAL OUTSOURCING

This framework is from Palvia (2003) and is being reproduced here with a brief explanation. **First dimension** is -- kind of company in the outsourcer country (the country that outsources products or services to offshore countries) like USA or another advanced country; the company can be either a client company (like JP Morgan Chase) or a vendor company itself (like IBM). **Second dimension** is -- kind of company in the outsourcee country (the country to which any product or service is outsourced to avail of cost-effective solutions) like India or China; the company can either be a foreign subsidiary of the a parent company in advanced nations or a foreign country headquartered company (like Wipro, Infosys, TCS in India). **Third dimension** is -- how the work moves between an offshore location and client/partner location in the outsourcer country; does it move electronically or physically? This dimension will be called delivery mode (physical or electronic delivery) referring to back and forth flow of work. Initially, above framework gives rise to 8 possibilities for global outsourcing as represented by the 8 boxes with check marks. However, there are four more possibilities representing outsourcing happening within the Outsourcer or Outsourcee country involving physical or electronic delivery. Examples for the first 8 possibilities have already been given above. For remaining four, examples are obvious. Buy decision for raw material or components within the context of a country means outsourcing in a country (outsourcer or outsourcee) with a physical delivery model. Similar two options exist for electronic delivery.

Outsourcee Country (e.g., India)	Outsourcer Country (e.g., U.S.A.)			
	First Dimension →		Client Company	Vendor Company
	Second Dimension ↓			
Foreign Subsidiary (Offshore Insourcing)	Physical Delivery (Manufacturing)	√	GM, GE	√ IBM, Microsoft, HP
	Electronic Delivery	√	GM, GE	√
Indigenous Company (Offshore Outsourcing) – like Infosys, Wipro, Satyam, HCL	Physical Delivery (Manufacturing)	√		√
	Electronic Delivery (by phone and over the internet)	√		√

Exhibit-1
Framework for Offshore Outsourcing Options

MODEL FOR CHOOSING AN OUTSOURCEE COUNTRY

Exhibit-2 is a conceptual framework. A very brief description of the factors is being provided here. Above model, recommends focusing on factors of political system, ICT infrastructure, regulatory regime, and workforce (quality and quantity), Judicial/Legal system, and Language/Culture at a macro level. Ultimately, these factors will distil into issues of costs, quality, and speed for both short and long terms of getting work done in another country. That would determine the country you want to outsource your work to.

(a) In terms of **political system**, it may vary across the 193 countries of the world from democratic capitalism (like USA) to democratic socialism (like India) to autocratic (like Singapore) to monarchy (like Saudi Arabia and Jordan) to communist (like China and Cuba). All things being equal, normally outsourcer and outsourcee countries would like to have homogeneous or near homogeneous political systems to forge outsourcing alliances. For such alliances to occur between countries of different political systems, other factors become more important. For example, USA as an outsourcer country and India as an outsourcee country have much in common. However, we see alliances between countries like the USA and China also.

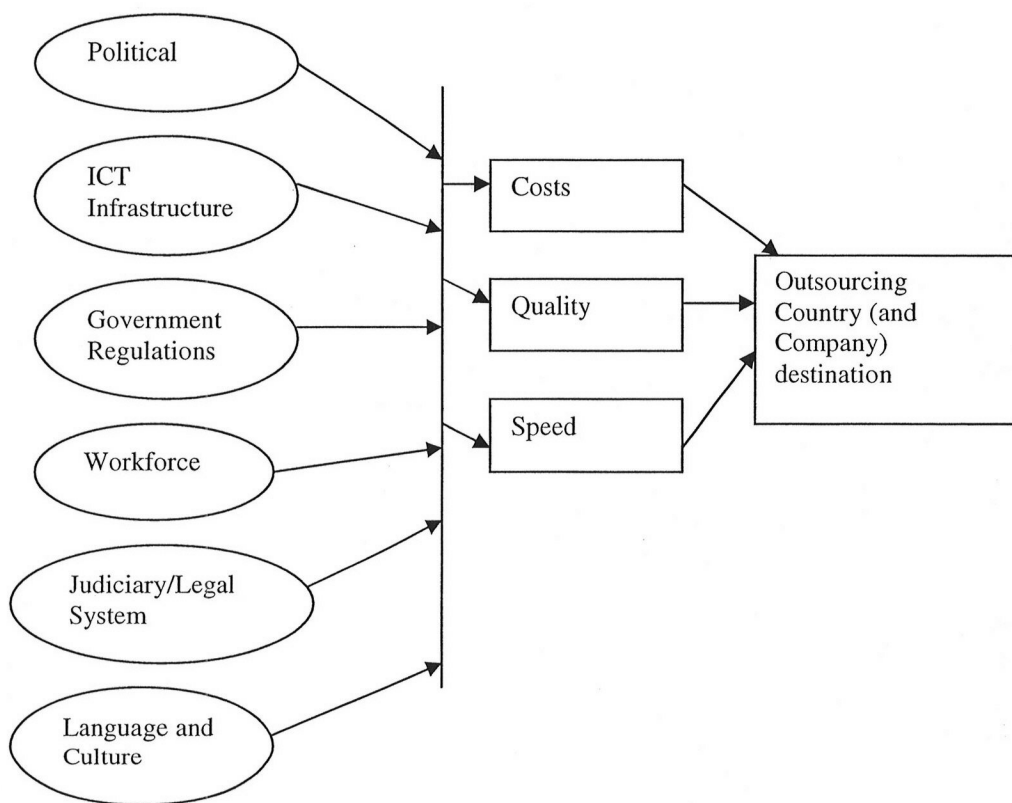


Exhibit-2: The Framework for Choosing an Outsourcee Country (and a company)

(b) According to 2001 data, the top ten nations of the world in the descending sequence of **ICT spending** are: USA, Japan, Germany, UK, France, China (PRC), Italy, Canada, Brazil, and Australia. For global communications and collaboration over the Internet, it is crucial that the outsourcer and outsourcee countries have similar level of ICT infrastructures. One question that will crop up is -- given the tremendous ICT spending gap between India and USA, how are they still able to engage in the largest amounts of outsourcing contracts and alliances. Part of the answer may be a better match on other criteria and also the fact that a better measure of ICT spending in this context is Internet penetration rate and Internet accessibility – which can be achieved by Internet accessibility through Internet cafes, libraries and other central locations within villages, towns, and cities.

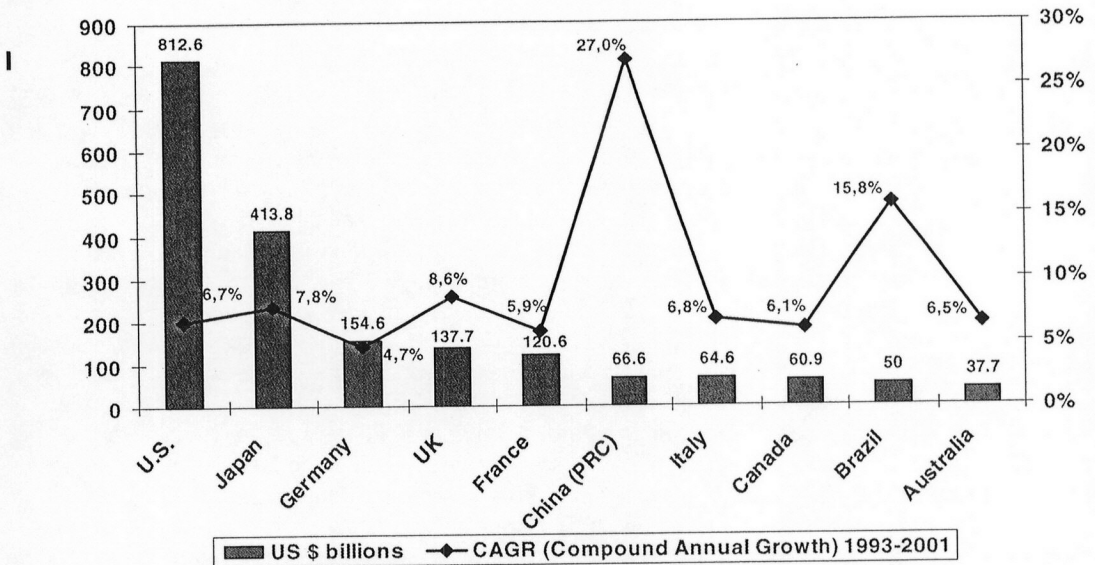


Exhibit-3: ICT Spending Among Countries

(c) **Government regulations** regarding tax incentives, foreign direct investment (FDI), repatriation of earnings, import duty, export duty, value added taxes (VAT) could be different in different countries. In general, more relaxed such rules, more attractive is that country as an outsourcee country.

(d) **Workforce quality and quantity** can be a key determinant in choosing an outsourcee country. Let us compare India and China on this factor.

India has many prestigious technical universities, including the distinctive Indian Institutes of Technology. India produces 75,000 IT graduates annually.. The Indian software industry boasts a large supply of over 415,000 IT professionals employed by export-only software companies⁵, with approximately 68,000 new entrants into the IT field each year⁶. Although wages for Indian software engineers is low compared to their Western counterparts, Indian engineers are well paid compared to Chinese and Philippine engineers. The average Indian IT programmers salary is approximately USD \$6,400 annually with advanced software engineers earning over USD \$20,000. One of India's core strengths is its education system, both at the University level and through its technical schools and IT training companies. The Indian Institute of Technology (IIT) is a collection of six elite engineering institutes which graduate the vast majority of India's best engineers. These schools set the tone for the rest of the educational system, with its emphasis on math and science. Building up on the strength of the Indian educational system, training institutes, such as NIIT and APTECH, have sprung up to provide software training throughout India. These training providers have fulfilled three important functions for the Indian software industry. First, they have given potential programmers the facilities to learn and practice their skills. Second, the training institutions serve as bases for training and certification of foreign software firms such as Microsoft and Oracle. Finally, they

⁵ <http://www.american.edu/initeb/js5518a/noteD6>

⁶ <http://www.american.edu/initeb/js5518a/noteD7>

provide a direct avenue for cheap labor on software related contracts such as consulting and setting up IT systems.

The **Chinese** software industry boasts a large supply of 400,000 IT professionals, with approximately 50,000 new entrants into the IT field each year. However, the supply of highly qualified computer and software graduates remains limited. Most Chinese universities do not teach software engineering, so software engineers are sought from Computer Science and Math departments. Most Chinese programmers are proficient in low-level coding and maintenance of existing programs. The Chinese IT industry's biggest labor problem is a real shortage of high-level systems architects, systems designers and project managers. University engineering programs continue to emphasize traditional engineering fields rather than computer science. As a result, Chinese programmers lack technical capabilities required for systematic analysis and design of software. This lack of technical skills impedes the presence of Chinese firms in the international software outsourcing business, in spite of relatively low wages. Wages for Chinese software developers are very low compared to international standards. The average Chinese IT programmers salary is approximately USD \$5,850 annually. With the growth of the domestic IT market, there has been growing demand for skilled labor. It is expected that as the software services industry matures, Chinese programmer will upgrade their skills to move up the skills value-chain and wages will increase. The economic forces driving work to China are powerful, though. There is huge demand inside China for skilled service workers to meet the needs of both the country's own booming economy and of the thousands of multinationals that have set up manufacturing bases on the mainland. Many companies in Greater China are, for instance, turning to outside providers for information technology needs rather than doing the work in-house. Chinese officials aim to give this burgeoning industry a push, by forging partnerships with multinationals to train information technology engineers. For example, IBM has contracts to train 100,000 software specialists in various Chinese cities over three years. Indian computer-training companies are teaching 20,000 students in more than 100 centers across China. Gartner figures China needs 4 million more IT professionals to meet future demand.

(e) I case of legal disputes and wrangling, stable **legal system** is needed in the outsourcee country. From the standpoint of countries like, USA and UK, India is a prime destination. India's legal/judicial system is based on that of the United Kingdom, as they ruled over India for over 200 years. India's stable legal infrastructure benefits potential outsourcees and helps free them from having to learn many idiosyncrasies of a different legal system.

(f) The greatest and oft cited reason for India's attractiveness as an outsourcee country is that nearly all educated people (with high school degree or more) are proficient in English. India produces over 2 million **English**-speaking graduates annually. In India, **English**, is taught to all students starting at an early age. That is not true for China. Any country's culture is essentially derived from the religious values it embraces, its heritage of role models, the political philosophy it practices, and its social customs.

According to a report prepared by global management consulting firm, AT Kearney, India ranks highest in an index of country attractiveness for offshore outsourcing of IT among 11 countries (1). India gets 7.3 marks (out of 10) with 3.4 in cost (out of 4), 1.6 in environment (out of 3), and 2.3 in people (out of 3). Canada is #2 with a total of 6.2 marks. Philippines, Ireland, Australia, and China have been respectively ranked as 5, 7, 8 and 11. Remaining six countries that were ranked are: Brazil, Mexico, Hungary, Czech Republic, and Russia.

Once an outsourcee country is selected, it is a relatively easy task to select a company within the country. Our model above shows distilling the above six factors into more tangible factors of cost, quality, and

speed of doing business in a country in the short term as well as in the long term. Furthermore, these three factors would also apply while choosing a company within the country. For selecting a company, the first step would be to narrow down the scope of an outsourcing project to call center, tax preparation, IS development etc. Once such a niche is defined, then it is relatively easy to identify 10-20 companies even in a country as large as India. Next step would be check out financial stability, prior track record based on reference checks. Finally, factors of cost, quality, and speed have to be according to outsourcer company's expectations. The following section provides some acceptable metrics available to assess quality of services and products from a country and then a specific company within a country.

QUALITY CERTIFICATIONS FOR ITO AND BPO

The considerations of cost, speed, and quality that emerge from the framework in Exhibit-2 need not be elaborated on in detail. Cost and speed are related to each other and must be estimated not just for the short term horizon of 1-2 years but for the long term horizon of 5-10 years. Exhibit-4 depicts country attractiveness based on the dimensions of cost and quality.

According to information available on www.nasscom.org, ISO 9000 certifications started in a big way in India since 1993 (first stage) with all major outsourcing vendors getting these certificates of commitment to quality. The quality of a software can be defined as "the extent to which the product satisfies its specifications," (17). The second stage started using include SEI's (Software Engineering Institute at Carnegie Mellon University (CMU)) CMM (Capability Maturity Model) levels, starting at 1 (lowest) to 5 representing the best software development practices. India now has far more SEI CMM Level 5 companies than any other country in the world. The third stage was driven by the desire to institute processes, metrics and a framework for improvement in all areas including those relating to sales, billing and collection, people management and after sales support. This was characterized by companies aligning their internal practices with the People CMM framework and by the use of the Six Sigma methodology for reducing variation and assuring "end-to-end" quality in all company operations.

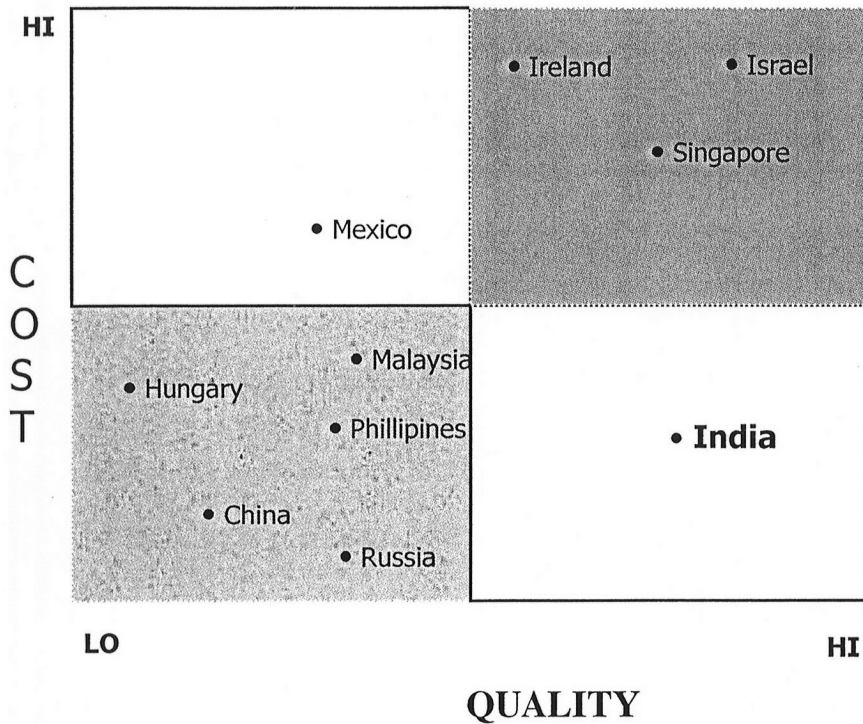


Exhibit-4
Country Attractiveness Based on Cost and Quality
(© 2001 Jupiter Media Metrix, Inc.)

SEI Quality Assessment	No. of Companies as on 31 Dec. 2002
SEI CMMI	2
SEI CMM Level 5	48
SEI CMM Level 4	23
SEI CMM Level 3	22
SEI CMM Level 2	1
PCMM Level 5	5
PCMM Level 4	1
PCMM Level 3	5
PCMM Level 2	3

Exhibit-3
Status of Indian Companies on Capability Maturity Model Levels

In the ITeS or BPO space also, the importance of quality certifications is fast emerging. Primary certifications on the horizon are British certification BS-7799 and COPC from Purdue University. Several companies in India are scrambling for such certifications (10).

A comparison of another metric CMM for Outsourcing Management is described in Bahli (2004).

	CMM	CMMOM
Level 1	Chaos	Chaos
Level 2	Repeatable Level	Defined Service Outcome
Level 3	Defined Level	Measurement
Level 4	Managed Level	Managed
Level 5	Trust	Trust

SUMMARY

I hope that the above analysis reinforces the argument that for any outsourcer company in USA considering offshore outsourcing, it ought to decide on the country first followed by choosing an outsourcee company in that country based on a sound analysis of a fit between the needs of the outsourcer company and the niche of the outsourcee company. This is what I have advocated in a few interviews that I have given to few newspapers and journals during the year 2003-04.

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